DRAFT

ENVIRONMENTAL ASSESSMENT OF INSTALLATION DEVELOPMENT AND MODERNIZATION PROJECTS

UNIQUE IDENTIFICATION NUMBER (EAXX-007-57-UAF-1736259122)

KEESLER AIR FORCE BASE
BILOXI, MISSISSIPPI

PREPARED FOR:

Department of the Air Force

June 2025

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Draft
Environmental Assessment of Installation Development and Modernization Projects

Keesler Air Force Base
Biloxi, Mississippi

Responsible Agencies: Air Education and Training Command, 81st Training Wing, Keesler Air Force Base, Mississippi

Affected Location: Keesler Air Force Base, Harrison County, Mississippi

Proposed Action: Implementation of 15 installation development and modernization projects at Keesler Air Force Base in Biloxi, MS

Report Designation: Draft Environmental Assessment

Responsible Agency: Department of the Air Force

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Abstract: This Environmental Assessment evaluates the potential environmental impacts of the Proposed Action on both human and natural environments. It analyzes 15 construction projects, along with associated demolitions, under the Action Alternative. It also analyzes impacts of the No Action Alternative. Eight of these projects have two location options. One project includes an option to renovate existing facilities. Eight of the construction projects are situated on a 100-year floodplain. The EA analysis concludes that implementing the Proposed Action would not result in significant adverse effects under the Action Alternative options. Under the No Action Alternative, however, the analysis identifies significant adverse effects related to airfield operations, hazardous materials and wastes, and safety and occupational health.

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ABBREVIATIONS AND ACRONYMS

81 TRW	81st Training Wing
85 EIS	85th Engineering Installation Squadron
AADT	average annual daily traffic
ACAM	Air Conformity Applicability Model
ACM	asbestos-containing materials
AETC	Air Education and Training Command
AFB	Air Force base
AFFF	aqueous film forming foam
AFI	Air Force instruction
AFMAN	Air Force manual
AFPD	Air Force Policy directive
AMSL	above mean sea level
ANO	airport noise overlay
APE	area of potential effects
AQCR	air quality control region
ATCT	air traffic control tower
BASH	bird/wildlife aircraft strike hazard
BEM	Base Environmental Manager
BGEPA	Bald and Golden Eagle Protection Act
BMP	best management practice
C&D	construction and demolition
CAA	Clean Air Act
CDC	Child Development Center
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COC	community of comparison
CRMP	Cultural Resources Management Plan
CSU	Colorado State University
CWA	Clean Water Act
DAF	Department of the Air Force
dB	decibels
dBA	A-weighted decibels

dbh	diameter at breast height
DNL	day-night sound level
DoD	Department of Defense
DoDI	Department of Defense instruction
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EISA	Energy Independence and Security Act
EO	Executive Order
ESA	Endangered Species Act
EUL	enhanced use lease
FEMA	Federal Emergency Management Agency
FONPA	finding of no practicable alternative
FONSI	finding of no significant impact
ft	foot, feet
GAC	granular activated carbon
GCR	General Conformity rule
GHG	greenhouse gas
HASP	Health and Safety Plan
HQ	headquarters
HUC	hydrologic unit code
HVAC	heating, ventilation, and air conditioning
HWMP	Hazardous Waste Management Plan
I-	Interstate
IDP	Installation Development Plan
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
INRMP	Integrated Natural Resources Management Plan
IPAC	U.S. Fish and Wildlife Service Information for Planning and Consultation
ISWM	Integrated Solid Waste Management
LBP	lead-based paint
LCGP	Large Construction General Permit
L_{eq}	equivalent sound level
LID	low impact development
Lmax	maximum sound level
LOS	level of service
$\mu g/m^3$	micrograms per cubic meter
MAHG	Department of the Air Force project number prefix
MCL	maximum contaminant level
MCTC	Mississippi Cyber and Technology Center

MDAH	Mississippi Department of Archives and History
MDEQ	Mississippi Department of Environmental Quality
MDI	mission dependency index
MDMR	Mississippi Department of Marine Resources
mgd	million gallons per day
MNHP	Mississippi Natural Heritage Program
MOA	memorandum of agreement
MS	Mississippi
MS4	municipal separate storm sewer system
MSA	metropolitan statistical area
mtpy	metric tons per year
N_2O	nitrous oxide
N/A	not applicable
NAAQS	National Ambient Air Quality Standards
NCO	noncommissioned officer
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	notice of intent
NPDES	National Pollutant Discharge Elimination System
NPS	Non-Prior Service
NRHP	National Register of Historic Places
NSA	New South Associates, Inc.
NSR	New Source Review
O_3	ozone
OSHA	Occupational Safety and Health Administration
Pb	lead
PCB	polychlorinated biphenyl
PCPI	per capita personal income
PFAS	per- and polyfluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
PGA	peak ground acceleration
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
PM_{10}	particulate matter less than or equal to 10 microns in diameter
PME	professional military education
PP Dorm	permanent party dormitory

POL	petroleum, oil, and lubricants
ppb	parts per billion
PPE	personal protective equipment
ppm	parts per million
RFA	reasonably foreseeable action
ROI	region of influence
SCGP	Small Construction General Permit
SDS	Safety Data Sheet
SF	square foot, square feet
SO_2	sulfur dioxide
SOP	standard operating procedure
SPCC	spill prevention, control, and countermeasures
SWMP	Storm Water Management Plan
SWPPP	Stormwater Pollution Prevention Plan
TCP	traditional cultural place
TPI	total personal income
tpy	tons per year
U.S.	United States (adjective only)
U.S.C.	United States Code
UFC	Unified Facilities Criteria
unique ID	unique identification number
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VAMC	Veterans Administration Medical Center
VOC	volatile organic compound
VQ	visiting quarters
WOTUS	Waters of the United States

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1.0 PURPOSE OF AND NEED FOR ACTION

1.1 Introduction

The Department of the Air Force (DAF) has prepared this Environmental Assessment (EA) to evaluate potential environmental effects associated with implementing 15 installation development and modernization projects, which stem from the 2015 Installation Development Plan (IDP) at Keesler Air Force Base (AFB) in Biloxi, MS (Keesler AFB 2015a). The Proposed Action would provide the facilities and infrastructure necessary for mission activities.

Procedurally this EA was developed in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended by Public Law 118-5; the Fiscal Responsibility Act of 2023 (FRA) (Title 42 United States Code [U.S.C.] § 4321 *et seq.*). The unique identification number for the EA is EAXX-007-57-UAF-1736259122.

1.2 Background

Keesler AFB is home to the 81st Training Wing (81 TRW) of the Air Education and Training Command (AETC), the base's host wing, which comprises the 81st Training Group, 81st Medical Group, and 81st Mission Support Group. Also home to the Second Air Force, Keesler AFB is a lead Joint Training Installation for the DAF and the Department of Defense (DoD), providing combat-ready Airmen and Guardians for Air and Space Force Expeditionary Forces as well as instructing Army, Navy, Marine Corps, Coast Guard, National Guard, and civilian federal agency personnel. The base hosts the 403rd Wing (Air Force Reserve Command), the 85th Engineering Installation Squadron (85 EIS), the Mathies Noncommissioned Officer Academy, and a Marine Corps detachment.

Keesler AFB was established in 1941 as an Army Air Corps Station Aviation Mechanics School with over 1,500 acres of land donated by Biloxi, MS and officially redesignated as an AFB in 1948 (Keesler AFB 2021a). Development of the installation's property has been continual since Keesler AFB's establishment. That ongoing process provides the base with facilities and infrastructure meeting DAF goals for mission capability, sustainability, readiness, and modernization.

Keesler AFB is located on the Mississippi Gulf Coast, within the City of Biloxi in Harrison County, MS (Figure 1-1). The base occupies 1,719 acres on a narrow peninsula bordered by the Biloxi Back Bay on the north and the Gulf of Mexico on the south. The main base consists of 1,504 acres and is densely developed (Traweek 2024, personal communication). U.S. Highway (U.S.) 90 parallels the southern border of the base and provides access to Interstate (I-) 10 via U.S. 49 and I-110. Keesler AFB is a significant vital economic engine for the surrounding regional area and is one of the largest employers in both the City of Biloxi and Harrison County (GRPC 2017).

Figure 1-1. Keesler Air Force Base Location Map.

Keesler AFB's primary mission as the DAF's Electronics Training Center of Excellence is to provide technical training. The 81 TRW fulfills that mission by providing training in over 160 career field specialties (Keesler AFB 2024a), including weather; basic electronics; communications-electronic systems; communications-computer systems; air traffic control; airfield management; command post; air weapons control; precision measurement; information management; manpower and personnel; and radar, ground radio, and cyber systems technical coursework (Keesler AFB 2015a). Overall, Keesler AFB trains more than 30,000 students annually, with a daily average of 3,000-plus students (Keesler AFB 2024a).

Installation development is guided by the DoD required master planning process. An installation master plan establishes patterns and rules for land use and development, architectural forms, and transportation networks on military installations. Master planning is a continuous analytical process that involves evaluating factors affecting the present and future physical development and operation of an installation. A DAF installation master plan is developed in accordance with

Air Force Instruction (AFI) 32-1015, *Integrated Installation Planning* (2025), and Unified Facilities Criteria (UFC) 2-100-01, *Installation Master Planning* (2022).

The 2015 IDP is the current base-wide Keesler AFB master planning document that identifies priorities for installation improvement to be implemented for the next 10–20 years (Keesler AFB 2015a). Its content, especially regarding future development planning and plan implementation, was developed in a collaborative process with key stakeholders at Keesler AFB. The IDP identifies requirements for improving the physical infrastructure and functionality of Keesler AFB, including current and future mission and facility requirements, improvement constraints and opportunities, and land use relationships. The IDP also identifies five planning districts on Keesler: (1) Airfield, (2) Base Support, (3) Community Support, (4) Housing, and (5) Training (see Figure 1-2) (Keesler AFB 2015a). Each district was formed based on framework plan elements, relationships to the existing transportation network, and established land use patterns. Within these planning districts, future planning areas are defined where appropriate to focus future analyses or development studies.

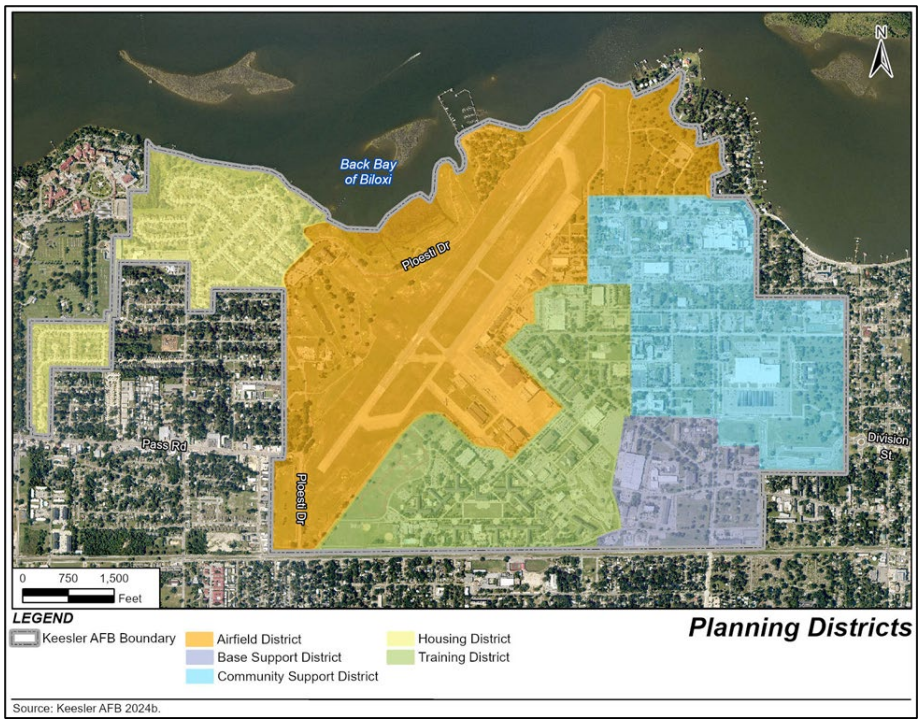

Figure 1-2. Keesler Air Force Base Planning Districts.

The 15 projects analyzed in this EA stem from the 2015 IDP. The proposed projects would be phased in based on their mission dependency index (MDI), status, and funding. The MDI is a measure of how critical an asset is to meeting the base mission or how the consequence of the failure of the asset would impair mission operations (Keesler AFB 2021a).

1.3 Purpose and Need

The purpose of the Proposed Action is to maintain Keesler AFB's mission capabilities through development and modernization of its facilities.

The Proposed Action is needed to address the condition and capability of base facilities and infrastructure that do not meet current and projected mission requirements. The buildings and

infrastructure systems either are outdated and in poor condition or lack the functionality required to accomplish the mission. Some of the facilities also are failing to meet DoD standards for safety and security and access. The facilities and infrastructure require maintenance, renovation, expansion, or replacement to remain operable and to accommodate future mission execution. The deficiencies would be addressed by implementing the proposed projects. Table 2-1 in Section 2.0 presents a purpose and need for each of the projects included.

1.4 Decision to be Made

This EA evaluates the social and environmental effects of implementing the Proposed Action at Keesler AFB. Based on the analysis in this EA, the DAF will make one of three decisions regarding the Proposed Action:

- Determine that the Proposed Action and alternatives would have no significant environmental impacts and issue a signed Finding of No Significant Impact (FONSI) and Finding of No Practicable Alternative (FONPA).
- Initiate preparation of an Environmental Impact Statement and publish in the *Federal Register* a notice of intent (NOI) if it is determined that implementing the Proposed Action or alternatives would result in significant environmental impacts.
- Select the No Action Alternative, whereby the Proposed Action would not be implemented.

The Proposed Action involves construction in a floodplain, as defined by Executive Order (EO) 11988, *Floodplain Management*. Therefore, a FONPA has been prepared alongside the FONSI to document that no other practicable alternatives exist for implementing the Proposed Action outside a floodplain.

1.5 Agencies and Intergovernmental Coordination / Consultation

1.5.1 Cooperating Agencies

At this time, the DAF anticipates no cooperating agency involvement with the Proposed Action because it would affect only DAF property and resources; it would take place on previously disturbed lands; and the DAF is committed to coordinating with and consulting other agencies and implementing appropriate mitigation.

1.5.2 Advance Public Notice

On September 18, 2024, the DAF published an advance public notice in the *Biloxi Sun Herald* informing the public that it was preparing this EA. The notification initiated a 30-day advance public comment period, which ended on October 18, 2024. In accordance with EO 11988, the advance notice was prepared to inform the public of the Proposed Action's potential effects on 100-year floodplains. The DAF received no comments from the public. The advance public notice is included in Appendix A.

1.5.3 Interagency and Intergovernmental Coordination and Consultation

On September 18, 2024, the DAF distributed Interagency and Intergovernmental Coordination for Environmental Planning (IICEP) letters to the Mississippi Department of Archives and History (MDAH), Mississippi State Historic Preservation Officer, Mississippi Department of Marine Resources (MDMR), U.S. Fish and Wildlife Service (USFWS), other interested agencies and

organizations, and stakeholders. A complete list of the agencies to which the letters were sent is included in Appendix A.

Also on September 18, 2024, the DAF distributed government-to-government consultation letters signed by the Keesler AFB Deputy Base Civil Engineer and Tribal Liaison Officer to four federally recognized Native American Tribes known to each have a historical connection to the land on the base. They are the Choctaw Nation of Oklahoma, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, and Tunica-Biloxi Tribe of Louisiana.

Consistent with the National Historic Preservation Act of 1966, as amended (NHPA) (54 U.S.C. § 300101 *et seq.*) and NHPA implementing regulations (36 CFR Part 800); Department of Defense Instruction (DoDI) 4710.02, *DoD Interactions with Federally Recognized Tribes*; AFI 90-2002, *Interactions with Federally Recognized Tribes*; and Air Force Manual (AFMAN) 32-7003, *Environmental Conservation*, federally recognized Tribes that are historically affiliated with the geographic region or might have potentially affected tribal properties of cultural, historical, or religious significance have been invited to consult on the Proposed Action.

The DAF received responses from the Choctaw Nation of Oklahoma, MDAH, MDMR, Mississippi Natural Heritage Program (MNHP), and U.S. Army Corps of Engineers (USACE). The responses the DAF received are provided in Appendix A and summarized here:

- Choctaw Nation of Oklahoma noted that the Proposed Action lies in their area of historic interest and expressed concerns regarding potential effects of the ground disturbance on archaeological resources. They requested a copy of the archaeological survey report for review.
- MDAH concurred with the previous National Register of Historic Places (NRHP) ineligibility determination of Buildings 2804, 2816, 2901, 2902, 4209, 4230, 4430, 4431, and 4440 and concurred that demolition of Buildings 7503, 7504, 7505, and 7506 has been mitigated via additional documentation submitted to MDAH.
- MDMR stated that the Proposed Action does not include activities regulated under the Coastal Wetlands Protection Act or activities subject to review under the state's approved Coastal Program.
- MNHP provided the list of state- and federally listed species and species of special concern that occur within 2 miles of the site of the Proposed Action.
- USACE responded that the Proposed Action would not require a Department of the Army permit pursuant to Section 404 of the Clean Water Act (CWA) or Section 10 of the Rivers and Harbors Act of 1899 because all proposed activities would occur within uplands and/or previously developed areas.

In September and October 2024, New South Associates (NSA), contracted by DAF, conducted a cultural resources survey on Keesler AFB for the Proposed Action. The survey comprised a Phase I archaeological survey of eight separate areas and an architectural history inventory of five historic buildings (Buildings 1201, 3821, 3823, 4106, and 7701) (see Figure 3-10). In accordance with Section 106 consultation requirements, in January 2025, the DAF shared the draft survey report with the consulting parties. Between January 2025 and May 2025, the DAF and the MDAH engaged in correspondence regarding Section 106 consultations.

In a letter dated May 9, 2025, MDAH concurred with the final cultural survey report that the nine archaeological sites are ineligible for listing in the NRHP and that no further work is needed and that Buildings 3821 and 3823 also are ineligible for the NRHP. MDAH also stated that Building 4106 is outside its purview because of the structure's status as a World War II building on an active military installation (ACHP 1986). In the same letter, MDAH did not concur that Building

1201 is ineligible for listing in the NRHP, having determined that it is eligible under Criterion C: Architecture, as a notable example of New Formalist design. Consequently, the DAF will consider Building 1201 as an NRHP-eligible structure and will adhere to Section 106 guidelines whenever detailed plans for the building are proposed (Lanier 2025). In a separate e-mail communication with Keesler AFB on March 18, 2025, the MDAH concurred that Building 7701 is not eligible for the NRHP.

On April 11, 2025, the Choctaw Nation of Oklahoma, responded via email to receiving the draft survey report, stating that the Tribe has no affiliation with the archaeological sites uncovered during the survey and deferring eligibility decisions to MDAH and other consulting parties. Furthermore, the Choctaw Nation requested that work be halted and their office contacted immediately if any Native American artifacts or human remains are discovered.

Appendix A provides copies of the letters the DAF sent and responses it received.

1.5.4 Public and Agency EA Review

The DAF meets the NEPA requirement for public notification and input regarding potential environmental impacts by implementing a 30-day public comment period, thereby promoting transparency. To facilitate this, the DAF publishes a Notice of Availability (NOA) for the Draft EA, Draft FONSI, and Draft FONPA in the Biloxi Sun-Herald. Additionally, the NOA is distributed to relevant agencies and the four federally recognized Native American tribes.

For public access, the NOA and draft documents are available for review and comment on the DAF website at https://www.keesler.af.mil/about-us/resources/environmental-information/. Copies of these documents can also be reviewed at the Biloxi Library, located at 580 Howard Ave, Biloxi, MS 39530.

All public comments received during this period will be considered and integrated into the Final EA, FONSI, and FONPA. The DAF will provide explanations on how the feedback was addressed or resolved in the final documents. Copies of these documents can also be reviewed at the Biloxi Library, located at 580 Howard Ave, Biloxi, MS 39530.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This section of the EA describes the Proposed Action, project alternatives, and the No Action Alternative.

2.1 Proposed Action

Under the Proposed Action, the DAF would implement 15 construction projects and associated demolition projects at Keesler AFB. Construction projects would be implemented (1) as replacement in place after demolition or (2) in other previously disturbed open areas.

The facilities construction would include all necessary utility connections, pavements (roads, equipment pads, parking areas, and building aprons), communication support, exterior lighting, security and fire protection systems, cooling systems, and other elements necessary to provide complete and usable facilities. It is assumed that backup generators would be required for all facilities. All facilities would comply with UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings;* UFC 1-200-01, *DoD Building Code*; UFC 1-200-02, *High Performance and Sustainable Building Requirements*; UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*; and UFC 3-600-01, *Fire Protection Engineering for Facilities*. The DoD and DAF principles for high performance and sustainable building requirements would be incorporated into the design and construction of each project in accordance with federal laws and EOs. Low impact development (LID) also would be included in project design and construction, as appropriate. Site preparation would include earthwork/ excavation, stormwater management, erosion control, and LID measures. Paving and site improvements would include grading, parking facilities, fencing and gates, installing native drought-resistant plants, increased landscape area, pervious surfaces, improved design reducing heat islands, and light pollution-reducing fixtures.

After Hurricane Katrina, the Keesler AFB developed new construction requirements, which include a 20-foot (-ft) elevation above mean sea level (AMSL) for all finished first floors of new permanent facilities. Additionally, all structures must be built on land at least 16 ft AMSL (Keesler AFB 2024c).

The DAF anticipates that construction of the projects would be phased in starting in Fiscal Year (FY) 2027 and beyond based on their MDI, status, and funding.

2.2 Alternatives

Based on the IDP, the DAF considered environmental sustainability, energy use, asset optimization and space use, 81 TRW and tenant initiatives, and mission needs and requirements in identifying project locations.

2.2.1 Action Alternative

Implementation of the 15 projects is the Action Alternative. Eight of the 15 projects have two location options each (see Figure 2-1 and Table 2-1):

- Project 1: Air Traffic Control Tower
- Projects 2, 3, and 4: Permanent Party Dormitories
- Project 6: Professional Military Education Center
- Project 7: Headquarters Center

- Projects 15 and 16: Visitors Quarters Lodging Facilities

Project 5, New Student Fitness and Resiliency Center, has three location options. [Note: *The Section 106 consultation for the Proposed Action resulted in MDAH's determination that Building 1201 is eligible for listing in the NRHP. Consequently, the DAF will eliminate Project 5B and exclude the building's demolition and construction in its footprint from the current Proposed Action.]*

Project 17, Resiliency Pool and Pool (Bath) House, has an option in which the current pool and building would be renovated.

Table 2-1 lists the proposed projects by EA project number and DAF project number, with a prefix of "MAHG," which is the DAF's designated Installation Control Code for Keesler AFB 81 TRW, followed by a six-digit number. The table also summarizes alternative project locations for nine of the projects.

Project 10/MAHG073001 and Project 12/MAHG093004 were deleted through the DAF planning process; however, to maintain consistency with contract documents, the subsequent EA project numbers were not changed.

The Action Alternative inherently incorporates multiple site options to address the varying needs of the proposed projects. These options provide flexibility in the execution of the Proposed Action to support the selection of the most suitable project locations and approaches. The options outlined in Table 2-1 provide details for implementing the Proposed Action at various project locations. Option A consists of using the preferred location for each project. Option B or C involves implementing the Proposed Action using location options for the projects that have more than one viable site. For Project 17B specifically includes the renovation of the existing pool and building.

The flexibility provided by this approach ensures that the final execution can adapt to site-specific conditions, operational constraints, and logistical needs. By integrating these variations, the Action Alternative offers a practical, adaptive solution that achieves project goals while streamlining the assessment process. Likewise, the Action Alternative analyzes the implementation of all 15 projects and their underlying options. Ultimately, the DAF will have the decision to implement all, some, or none of the 15 projects while selecting from the various options explained above. Analyzing all 15 projects as one action alternative similarly streamlines the assessment process.

2.2.2 No Action Alternative

The No Action Alternative would not meet the purpose of and need for the Proposed Action because it would not be implemented. The base would continue operating in noncompliant facilities in poor condition, with inefficiencies and safety and access issues, all of which would affect Keesler AFB's mission. The facilities eventually would fail, more severely affecting the mission.

The No Action Alternative analysis includes the consequences of not undertaking the Proposed Action and serves to establish a comparative baseline for the other alternatives.

Note: The Section 106 consultation for the Proposed Action resulted in MDAH's determination that Building 1201 is eligible for listing in the NRHP. Consequently, the DAF will eliminate Project 5B and exclude the building's demolition and construction in its footprint from the current Proposed Action.

Figure 2-1. Proposed Project Locations.

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Table 2-1. Project Descriptions and Location Options

EA Project Number[a], MAHG Project Number	Project Title	Project Type	Project Description	Purpose and Need	Location Option	Execution Year
Project 1, MAHG233000	Air Traffic Control Tower	Construction and demolition	Build a multistory air traffic control tower (ATCT) that would include the following: • Approximately 48,000 SF of construction. • Demolition of Buildings 4209 (existing ATCT; 3,583 SF), 4215 (storage shed; 240 SF), and 4230 (Flying Training Classroom; 786 SF), totaling 4,609 SF. • 480-kilowatts backup generator. • Elevator.	**Purpose:** To comply with AETC requirements, build a new ATCT with appropriate line-of-sight access to the runway and other areas within the airfield proper; that meets fire and safety codes, complies with hurricane zone construction requirements, and is capable of meeting current technology requirements. To provide first-of-its-kind training cab, the glass-enclosed area of an ATCT in which the air traffic controllers are stationed, below the active cab for DAF air traffic controllers in support of Keesler AFB's AETC mission. **Need:** A new ATCT is needed to support the mission at Keesler AFB. The tower supports numerous missions, from test pilot training to operational C-130 squadrons (Hurricane Hunters). The height and configuration of the existing ATCT do not meet operational and life safety requirements per DAFMAN 32-1084, *Standard Facility Requirements;* UFC 3-260-01, *Airfield and Heliport Planning and Design*; UFC 4-133-01, *Air Traffic Control and Air Operations Facilities*; or the National Fire Protection Association. Lack of space in the existing ATCT negatively impacts mission operations. Cab windows are not appropriately rated for winds of 50+ knots, which hinders post-hurricane response and contingency support mission. The existing Equipment Room is at full capacity with no room for expansion.	**1A–Preferred:** Locate in the flight line. **1B:** Locate approximately within the footprint of the existing ATCT. **No Action Alternative:** Continue with the existing ATCT. It will not meet the safety and operational requirements of a DAF airfield. Training programs scheduled to be conducted will operate at reduced and/or curtailed capabilities. Aircraft will continue to relocate during tropical storms.	2026
Project 2, MAHG193000 Project 3, MAHG143000 Project 4, MAHG103000	Permanent Party Dormitories (PP Dorms)	Construction	Build three 3-story dormitories. Each dormitory would include the following: • Approximately 60,000 SF of construction with private bedrooms and bathrooms with communal space. • A commons facility to support leisure and recreational activities, outdoor basketball and volleyball courts, and a picnic pavilion. • 150 parking places.	**Purpose:** To provide unaccompanied enlisted personnel with housing conducive to their proper rest, relaxation, and personal well-being that meets DoD Force Protection standards per UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*, and reduces energy consumption. **Need:** New dormitories to aid in the retention of highly trained Airmen. The existing dormitories negatively impact mission support because the lack of space does not accommodate modern living quarters, which provide a level of privacy. Other significant deficiencies include outdated mechanical and electrical systems mold issues. Additionally, the existing housing does not meet DoD Force Protection standards.	**2A, 3A, and 4A–Preferred:** Locate alongside Building 6223 east of the base exchange and south of the tennis/volleyball courts. **2B, 3B, and 4B:** Locate west of the base exchange and south of the gas station. **No Action Alternative:** Continue using existing dormitories that do not meet DoD Force Protection standards. Modern living quarters that allow a level of privacy will not be available, resulting in degradation of morale, productivity, and career satisfaction for unaccompanied personnel executing critical DAF mission. Continued status quo conditions might negatively impact DAF retention.	Projects 2 and 3 (2028); Project 4 (2029)

EA Project Number[a], MAHG Project Number	Project Title	Project Type	Project Description	Purpose and Need	Location Option	Execution Year
Project 5, MAHG043002	New Student/ Fitness and Resiliency Center	Construction and demolition	Build a 2-story fitness and resiliency center that would involve the following: • Approximately 75,000 SF of construction to include indoor pool and recreation center. • Demolition of Buildings 7503 (Vandenberg; 38,373 SF) and 7504 (Triangle Fitness Center; 12,935 SF), totaling approximately 52,000 SF.	**Purpose:** To provide easily accessible physical fitness training year-round to Airmen and their families and enhance their quality of life. Also to consolidate fitness center requirements for the base as well as community and counseling space. **Need:** A new resiliency center to provide the required and appropriate space for physical conditioning that accommodates the climate in southern Mississippi. Existing buildings do not meet mechanical and electrical standards. The Student Center is unable to support the total existing student population. The three existing fitness centers on-base provide only 55% of the required space under DAFMAN 32-1084 and do not have the room to add an indoor pool or track.	**5A–Preferred:** Build approximately within the footprint of Buildings 7503 and 7504, which would be demolished. **5B:** Build approximately within the footprint of Building 1201 (Blake Gym; 29,723 SF), which would be demolished. *[Note: The Section 106 consultation for the Proposed Action resulted in MDAH's determination that Building 1201 is eligible for listing in the NRHP. Consequently, the DAF will eliminate Project 5B and exclude the building's demolition and construction in its footprint from the current Proposed Action.]* **5C:** Build approximately within the footprint of Building 4106 (Dragon Gym; 15,308 SF), which would be demolished. **No Action Alternative:** Continue with existing facilities. If those facilities are not replaced and brought up to standard, the quality of life and physical conditioning of the student population will be seriously impacted. The existing facilities will continue to deteriorate and become unusable.	2028
Project 6, MAHG213000	Professional Military Education (PME) Center	Construction and demolition	Build a 2-story training facility that would involve the following: • Construction of approximately 50,000 SF, including an auditorium, a library, and administrative support space. • Demolition of Buildings 2901 (Mathies Hall; 20,820 SF) and 2902 (NCO PME Center; 20,755 SF), totaling approximately 42,000 SF.	**Purpose:** To provide an enhanced multipurpose training facility for students and conferences and to consolidate all PME functions. **Need:** A new PME center to provide a more structurally sound building for classes, seminars, and conferences. Current buildings have been decimated by termite damage throughout the years and repairs are becoming increasingly extensive.	**6A–Preferred:** Build approximately within the footprint of Buildings 2901 and 2902, which would be demolished. **6B:** Build at the vacant location of former Building 3101. **No Action Alternative:** Continue with existing facilities. However, the structure of Buildings 2901 and 2902 will eventually fail and no other space is available on Keesler AFB for classes if those buildings become uninhabitable.	2028
Project 7, MAHG223000	Headquarters (HQ) Center	Construction and demolition	Build a new 2-story facility that would involve the following: • Approximately 35,000 SF of construction. • Demolition of Buildings 2804 (Second DAF HQ; 21,017 SF) and 2816 (81 TRW HQ; 16,604 SF), totaling approximately 38,000 SF.	**Purpose:** To build a new facility to consolidate the Second Air Force and 81 TRW HQ functions into one facility. **Need:** Existing facilities are 1940s-era buildings with inadequate infrastructure and termite issues. Additional repairs cannot be made without compromising the load-bearing structure.	**7A–Preferred:** Build approximately within the footprint of Buildings 2804 and 2816, which would be demolished. **7B:** Build at the empty lot north of Building 826 (Aeromedical Squadron Staging Facility) and south of the CDC. **No Action Alternative:** Continue with the existing facilities. However, the structure of Buildings 2804 and 2816 will eventually fail. No other space is available on Keesler AFB to house the two commands and their staffs if the buildings become uninhabitable. This would affect Keesler AFB's ability to continue its mission.	2026
Project 8, MAHG083001	Training Facility-Hewes Hall Replacement	Construction	Build a 2-story, 135,000-SF facility with modern infrastructure to replace Hewes Hall.	**Purpose:** To build a new training facility for the advancement of the academic, technical, and occupational education of military personnel to enhance their potential in the service. Also to provide space for classrooms, administrative offices, a learning center, educational counseling, and testing facilities. **Need:** The previous facility providing this function already has been demolished.	**8A—Preferred:** Build at location of Buildings 4430, 4431, 4432, 4434, and 4440 (see Project #13 for demolition). **No Action Alternative:** Continue without a facility to replace the previous building. Keesler AFB's overall mission would be affected without a new replacement space.	2029

EA Project Number[a], MAHG Project Number	Project Title	Project Type	Project Description	Purpose and Need	Location Option	Execution Year
Project 9, MAHG273001	Training Facility-Wolfe Hall Replacement	Construction	Build a 2-story, 135,000-SF training facility with modern infrastructure to replace Wolfe Hall.	**Purpose:** See Project 8. **Need:** A new facility is needed because Keesler AFB requires a 21st century facility for new-generation cyber training, and Wolfe Hall, which was built in the 1950s, has reached the end of its life expectancy.	**9A–Preferred:** Build at location of Buildings 4430, 4431, 4432, 4434, and 4440. **No Action Alternative:** Continue with Wolfe Hall. Keesler AFB's overall mission would be affected without a new space that accommodates modern infrastructure to support new-generation cyber training.	2030
Project 11, MAHG053002	Training Facility-Allee Hall Replacement	Construction	Build a 2-story, 135,000-SF facility with modern infrastructure to replace Allee Hall.	**Purpose:** See Project 8. **Need:** A new facility is needed because Keesler AFB requires a 21st century facility for new-generation cyber training and Allee Hall, which was built in the 1950s, has reached the end of its life expectancy.	**11A–Preferred:** Build at location of Buildings 4430, 4431, 4432, 4434, and 4440. **No Action Alternative:** Continue with Allee Hall. Keesler AFB's overall mission will be affected without a new space that accommodates modern infrastructure to support new-generation cyber training.	2030
Project 13, MAHG113001	Transportation Complex	Construction and demolition	Build a 42,000-SF vehicle maintenance shop for lubrication, inspection, general repair, and replacement of major parts and painting. The project would involve the following: • Demolition of Buildings 4430 (Pump Station Sanitary Sewage; 27,528 SF), 4431 (Vehicle Operations Administration; 5,000 SF), 4432 (Vehicle Maintenance Shop; 1,800 SF), 4434 (Vehicle Operations Heated Parking; 2990 SF), and 4440 (Five-Stall Carport; 1,227 SF), totaling approximately 39,000 SF.	**Purpose:** To build a facility in the base's planned industrial area for maintenance of all vehicles assigned to the base, including vehicles of tenant organizations. The project would align new facilities in the Base Support District for functional use. **Need:** The existing aging transportation complex is adjacent to the Non-Prior Service (NPS) student dormitory area, which would be better used for training.	**13A–Preferred:** Build in the vacant area north of Building 4002 (Taylor Logistics), bounded by Chappie James Avenue to the north and X Street to the east. **No Action Alternative:** Continue use of existing aging transportation complex in an incompatible functional area adjacent to the NPS student dormitory area.	2030
Project 14, MAHG123002	Relocate 85 EIS Facility	Construction and demolition	Build a 75,000-SF facility that would involve the following: • Demolition of Buildings 7701 (Maltby Hall; 61,158 SF) and 7704 (Maltby Annex; 15,300 SF), totaling approximately 76,000 SF.	**Purpose:** To consolidate 85 EIS functions and industrial and training operations, which are geographically separate from the main installation. **Need**: A consolidated 85 EIS facility for operational efficiencies and functional adjacencies. Additionally, existing facilities are reaching the end of their life expectancy and failing structurally due to termite infestation and damage.	**14A–Preferred:** Build at the southeast corner of the installation bounded by the railroad track to the south and west of Larcher Avenue. **No Action Alternative:** Continue using the existing 85 EIS located in a geographically separated area from the main installation.	2028
Project 15, MAHG093002 Project 16, MAHG103001	Visiting Quarters Lodging Facilities	Construction and demolition	Build two facilities for visiting unaccompanied enlisted personnel and civilian employees of the DAF. The project would involve the following: • Demolition of Buildings 3821 (Shaw House; 50,856 SF) and 3823 (Simmons Manor; 46,048 SF), totaling approximately 97,000 SF. • Each facility would be a 2-story, approximately 45,000-SF building with private bedrooms and bathrooms with communal space. • A commons facility to support leisure and recreational activities, and outdoor basketball and volleyball courts	**Purpose:** To meet short-term housing requirements for unaccompanied enlisted personnel and civilian employees on temporary duty or traveling on official business. **Need:** Facilities to replace the existing aging buildings, which have plumbing deficiencies. Additionally, there are problems with the elevators and equipment to repair them will be obsolete in the next 3 years.	**15A and 16A–Preferred:** Build at the current location of Buildings 3821 and 3823, which would be demolished. **15B and 16B:** Locate west of the base exchange and south of the gas station and south of the Option A location for Projects 2, 3, and 4. **No Action Alternative:** Continue using Buildings 3821 and 3823, which have deficient plumbing and elevators. Existing elevator problems will render the four upper floors inaccessible for visitors with handicaps.	2030

EA Project Number[a], MAHG Project Number	Project Title	Project Type	Project Description	Purpose and Need	Location Option	Execution Year
Project 17, MAHG201031	Resiliency Pool and Pool (Bath) House	Construction and demolition	Build a 75,000-SF pool and pool house next to the student/ fitness and resiliency center (Project 5). The project would involve the following: • Demolition of Buildings 7505 (Consolidated Swimming Pool; 21,000 SF) and 7506 (Swimmers Bath House; 2,100 SF), totaling approximately 23,000 SF.	**Purpose:** To provide an adequately sized pool and pool house to house recreation and training for all enlisted personnel and officers. **Need:** Maintenance of the existing facility is problematic because of low return on investment and repair parts becoming, if not already, obsolete.	**17A–Preferred:** Build approximately within the footprint of Buildings 7505 and 7506, which would be demolished. **17B:** Renovate Buildings 7505 and 7506. **No Action Alternative:** Continue using the existing pool and bathhouse. Enlisted personnel and officers would have no suitable facility where they can physically train in a water environment.	2026

Sources: Keesler AFB 2024d, n.d.(a), n.d.(b), n.d.(c), n.d.(d), n.d.(e), n.d.(f), n.d.(g), n.d.(h), n.d.(i), n.d.(j), n.d.(k), n.d.(l), n.d.(m), n.d.(n).
Notes: CDC = Child Development Center; Department of the Air Force Manual = DAFMAN; NCO = noncommissioned officer; SF = square feet; VQ = visiting quarters
[a] Project 10/MAHG073001 and Project 12/MAHG093004 were deleted through the DAF planning process; however, to maintain consistency with contract documents, the subsequent EA project numbers were not changed.

Table 2-2 lists the proposed projects with their demolition and construction areas.

Table 2-2. Proposed Construction and Demolition Square Footage

EA Project Number[a]	Project Name	Construction SF	Renovation SF	Demolition – Building Number(s)	Demolition SF
Project 1A	Air Traffic Control Tower	48,000	N/A	None	-
Project 1B	Air Traffic Control Tower	48,000		4209, 4215, and 4230	4,609
Project 2A Project 3A Project 4A	PP Dorms	60,000 (per building) – total 180,000; 150 parking places for each	N/A	None	-
Project 2B Project 3B Project 4B	PP Dorms	60,000 (per building) – total 180,000; 150 parking places for each	N/A	None	-
Project 5A	New Student/ Fitness and Resiliency Center	75,000	N/A	7503 and 7504	52,000
Project 5B[b]	New Student/ Fitness and Resiliency Center	75,000	N/A	1201	29,723
Project 5C	New Student/ Fitness and Resiliency Center	75,000	N/A	4106	15,308
Project 6A	PME Center	50,000	N/A	2901 and 2902	42,000
Project 6B	PME Center	50,000	N/A	None	-
Project 7A	HQ Center	35,000	N/A	2804 and 2816	38,000
Project 7B	HQ Center	35,000	N/A	None	-
Project 8A	Training Facility-Hewes Hall Replacement	135,000	N/A	None	-
Project 9A	Training Facility-Wolfe Hall Replacement	135,000	N/A	None	-
Project 11A	Training Facility-Allee Hall Replacement	135,000	N/A	None	-
Project 13A (associated demo in a different location)	Transportation Complex	42,000	N/A	4430, 4431, 4432, 4434, and 4440	39,000
Project 14A (associated demo in a different location)	Relocate 85 EIS Facility	75,000	N/A	7701 and 7704	76,000
Project 15A Project 16A	VQ Lodging Facilities	45,000 (per building) – total 90,000	N/A	3821 and 3823	97,000
Project 15B Project 16B	VQ Lodging Facilities	45,000 (per building) – total 90,000	N/A	None	-
Project 17A	Resiliency Pool and Pool House	75,000	N/A	7505 and 7506	23,000
Project 17B	Resiliency Pool and Pool House	None	23,000	None	-
	TOTAL	**1,075,000**	**23,000**		

Notes: HQ = headquarters; N/A = not applicable; PME = professional military education; PP Dorms = permanent party dormitories; SF = square feet; VQ = visiting quarters.

[a] Project 10/MAHG073001 and Project 12/MAHG093004 were deleted through the DAF planning process; however, to maintain consistency with contract documents, the subsequent EA project numbers were not changed.

[b] The Section 106 consultation for the Proposed Action resulted in MDAH's determination that Building 1201 is eligible for listing in the NRHP. Consequently, the DAF will eliminate Project 5B and exclude the building's demolition and construction in its footprint from the current Proposed Action.

Table 2-3 lists the proposed projects with the approximate ground disturbance areas associated with each project alternative. The ground disturbances were estimated based on UFC 1-200-01, *DoD Building Code;* UFC 1-200-02, *High Performance and Sustainable Building Requirements;* and *Army Cost Analysis Manual* 2020 (Army 2020).

Table 2-3. Total Ground Disturbance Square Footage

EA Project Number	Project Name	Building SF	Number of Stories	Footprint SF	Staging Area SF	Parking SF	Landscaping SF	Utilities SF	Total Ground Disturbance SF
Project 1A	Air Traffic Control Tower	48,000	10	4,800	960	14,400	1,200	480	21,840
Project 1B		48,000	10	4,800	960	14,400	1,200	480	21,840
Project 2A	PP Dorms	60,000	3	20,000	4,000	18,000	5,000	2,000	49,000
Project 2B		60,000	3	20,000	4,000	18,000	5,000	2,000	49,000
Project 3A	PP Dorms	60,000	3	20,000	4,000	18,000	5,000	2,000	49,000
Project 3B		60,000	3	20,000	4,000	18,000	5,000	2,000	49,000
Project 4A	PP Dorms	60,000	3	20,000	4,000	18,000	5,000	2,000	49,000
Project 4B		60,000	3	20,000	4,000	18,000	5,000	2,000	49,000
Project 5A	New Student/ Fitness and Resiliency Center	75,000	2	37,500	7,500	22,500	9,375	3,750	80,625
Project 5B[a]		75,000	2	37,500	7,500	22,500	9,375	3,750	80,625
Project 5C		75,000	2	37,500	7,500	22,500	9,375	3,750	80,625
Project 6A	PME Center	50,000	2	25,000	5,000	15,000	6,250	2,500	53,750
Project 6B		50,000	2	25,000	5,000	15,000	6,250	2,500	53,750
Project 7A	HQ Center	35,000	2	17,500	3,500	10,500	4,375	1,750	37,625
Project 7B		35,000	2	17,500	3,500	10,500	4,375	1,750	37,625
Project 8A	Training Facility-Hewes Hall Replacement	135,000	2	67,500	13,500	40,500	16,875	6,750	145,125
Project 9A	Training Facility-Wolfe Hall Replacement	135,000	2	67,500	13,500	40,500	16,875	6,750	145,125
Project 11A	Training Facility-Allee Hall Replacement	135,000	2	67,500	13,500	40,500	16,875	6,750	145,125
Project 13A	Transportation Complex	42,000	1	42,000	8,400	12,600	10,500	4,200	77,700
Project 14A	Relocate 85 EIS Facility	75,000	2	37,500	7,500	22,500	9,375	3,750	80,625

EA Project Number	Project Name	Building SF	Number of Stories	Footprint SF	Staging Area SF	Parking SF	Landscaping SF	Utilities SF	Total Ground Disturbance SF
Project 15A	VQ Lodging Facilities	45,000	2	22,500	4,500	13,500	5,625	2,250	48,375
Project 15B		45,000	2	22,500	4,500	13,500	5,625	2,250	48,375
Project 16A	VQ Lodging Facilities	45,000	5	9,000	1,800	13,500	2,250	900	27,450
Project 16B		45,000	5	9,000	1,800	13,500	2,250	900	27,450
Project 17A	Resiliency Pool and Pool House	75,000	1	75,000	15,000	22,500	18,750	7,500	138,750

Notes: HQ = headquarters; PME = professional military education; PP Dorms = permanent party dormitories; SF = square feet; VQ = visiting quarters.
[a] The Section 106 consultation for the Proposed Action resulted in MDAH's determination that Building 1201 is eligible for listing in the NRHP. Consequently, the DAF will eliminate Project 5B and exclude the building's demolition and construction in its footprint from the current Proposed Action.

Table 2-4 lists the buildings that would be demolished under the proposed projects and construction years of those buildings.

Table 2-4. Construction Years of Buildings Proposed for Demolition

EA Project Number	Building Number	Building Name	Construction Date
Project 1A or 1B	4209	Air Traffic Control Tower	1980
Project 1A or 1B	4215	Storage Shed	1993
Project 1A or 1B	4230	Flying Training Classroom	2004
Project 5A	7503	Vandenberg Recreation Center	1953
Project 5A	7504	Triangle Fitness	1963
Project 5B[a]	1201	Blake Gym	1974
Project 5C	4106	Dragon Gym	1941
Project 6A	2901	Mathies Hall	1941
Project 6A	2902	Professional Military Education Center	1941
Project 7A	2804	Second Air Force Headquarters	1941
Project 7A	2816	Wing Headquarters	1977
Project 13[b]	4430	Pump Station Sanitary Sewage	1981
Project 13[b]	4431	Vehicles Operations Admin	1981
Project 13[b]	4432	Vehicle Maintenance Shop	1981
Project 13[b]	4434	Vehicle Operations Heated Parking	1981
Project 13[b]	4440	Carport (5 stalls)	2001
Project 14[b]	7701	Maltby Hall	1959
Project 14[b]	7704	Maltby Annex	1988
Project 15A	3821	Shaw House	1966
Project 16A	3823	Simmons Manor	1970
Project 17A	7505	Consolidated Swimming Pool	1963
Project 17A	7506	Bath House	1965

Note: [a] The Section 106 consultation for the Proposed Action resulted in MDAH's determination that Building 1201 is eligible for listing in the NRHP. Consequently, the DAF will eliminate Project 5B and exclude the building's demolition and construction in its footprint from the current Proposed Action.
[b] Associated demolition in a different location.

2.3 Alternatives Eliminated from Further Consideration

In April 2024, the DAF conducted a planning charrette for the air traffic control tower that evaluated four locations for the project, three to the east of the runway and one to the west (AETC and AFRC 2024). The location to the west of the runway was removed from consideration because it would be within the explosive safety arc of the ammunition supply point and potential sun glare posed by the southern cab orientation. Of the three remaining locations, the EA analyzes the Option A, the preferred, and Option B which comprise the areas of two sites evaluated during the charrette (see Figure 2-1).

2.4 Summary of Potential Environmental Consequences

Table 2-5 summarizes the potential effects associated with Action Alternative Options A and B, and the No Action Alternative.

The summary is based on information discussed in detail in Section 3.0, “Affected Environment and Environmental Consequences,” and includes a concise definition of each issue addressed in the narrative and the potential environmental effects associated with each option.

Table 2-5. Summary of Environmental Consequences by Resource Area

Resource Area	Action Alternative, Option A (Preferred)	Action Alternative, Option B	No Action Alternative
Airfield Operations	Less-than-significant adverse effects on airfield operations are anticipated from construction and beneficial effects from operations. Project 1, Air Traffic Control Tower, would be designed and constructed per FAA and DoD UFC. Temporary construction airfield waivers are required for Project 1.	Similar to Option A.	Long-term, significant adverse effects would continue; base facilities and infrastructure would not meet current and future mission requirements. Without a new ATCT, the base would continue to operate the existing tower, which does not meet operational and life safety requirements and does not have appropriate line-of-sight access to the runway or other areas within the airfield proper.
Land Use	Effects on land use would range from less-than-significant adverse to beneficial from either a continuation of land uses or realignment with compatible land uses.	Similar to Option A. Project 7 would require a land use designation change from medical to administrative. Less-than-significant adverse effects are anticipated, however, because similar colocation of medical and administrative land uses exist on-base.	Long-term, less-than-significant adverse effects; Projects 7 and 14 would remain in areas of incompatible land uses, continuing the existing inefficiencies.
Visual Resources	Short-term, less-than-significant adverse effects are anticipated from an increase in construction and demolition activities; no construction off-base and most would occur in the base's core operational area. No long-term effects would result; the visual environment on-base would not change appreciably.	Similar to Option A.	No effects.
Air Quality	Short- and long-term, less-than-significant adverse effects on air quality are anticipated from emissions generated during construction, and long-term effects would be caused by operational emissions. However, Option A would not generate emissions that would exceed the General Conformity rule insignificance threshold values or contribute to a violation of any federal, state, or local air regulation.	Same as Option A.	Long-term, less-than-significant adverse effects would continue; reductions of emissions from efficient energy facilities would not be realized.

Resource Area	Action Alternative, Option A (Preferred)	Action Alternative, Option B	No Action Alternative
Noise	Less-than-significant adverse effects are anticipated from construction and operation activities, all of which would occur on-base. Construction activity effects on sensitive receptors would be intermittent and short term. Operational noise levels would align with existing on-base activities. Project 1 would be located within the 70-dB noise contour of the runway; the design of the tower would reference Keesler AFB Air Installation Compatible Use Zones Report to attenuate the noise levels. Project 14 demolition would affect the Biloxi National Cemetery and construction would affect the Old Biloxi Cemetery. However, the effects would be temporary, intermittent, and less than significant.	Similar to Option A. Construction of Project 7 would result in perceptible increases in noise at the CDC outdoor playground area during peak construction activities. The DAF and its contractors would implement appropriate measures to protect the health and safety of the children who might be in that area.	No effects.
Earth Resources	Short-term, less-than-significant adverse effects on soils and topography are anticipated during construction; final restoration of excavated areas would be backfilled to grade; and the site topography would be restored to allow drainage of stormwater to the Keesler AFB system.	Similar to Option A.	No effects.
Water Resources	Long-term, less-than-significant adverse effects would be expected on water resources. SCGP and LCGP and stormwater management requirements would minimize soil loss and sediment discharges from the site. Facility design would incorporate LID controls to maintain flow rates, flow volumes, and durations present before development. Demolition of existing facilities and construction of new ones would result in a net addition of 3 acres of impervious surface. Eight of the construction projects would be located on a 100-year floodplain, within uplands and/or previously developed areas. Finished first floors of the projects in the 100-year floodplain would be at or above 20 ft AMSL. If contaminated groundwater is encountered during construction, including PFAS, installation or contractor personnel would manage it in accordance with CERCLA and RCRA and DAF, MDEQ, and USEPA guidance, including dewatering permit requirements. Before discharging PFAS to the treatment works, the Keesler AFB Water Resource Manager must notify the Harrison County Utility Authority and obtain the required dewatering permit for sanitary sewer discharge.	Similar to Option A.	No effects.

Resource Area	Action Alternative, Option A (Preferred)	Action Alternative, Option B	No Action Alternative
Biological Resources	Long-term, less-than-significant adverse effects would occur; live oaks over 24 inches dbh would require Wing Commander's approval; but tree removal would not substantially reduce or affect the viability of local populations of the affected tree species. The DAF would implement the BMP of any tree removal for the projects to occur only between July 16 and Apr 30, outside the May 1–July 15 pup season of the TCB. Similarly, the DAF would avoid building demolition during the bat maternity period of May 1–August 30 if bats are thought to occupy those buildings. USFWS concurred with the DAF's determination that, with implementation of the BMPs, the Action Alternative may affect, but is not likely to adversely affect, the TCB.	Similar to Option A. On Building 17, the DAF would avoid large-scale renovations to roof and wall areas during the TCB maternity period of May 1–August 30.	No effects.
Cultural Resources	The DAF conducted Section 106 consultation with the MDAH and four Native American Tribes. MDAH concurred with the previous NRHP-ineligibility determination of Buildings 2804, 2816, 2901, 2902, 4209, 4230, 4430, 4431, and 4440 and concurred that demolition of Buildings 7503, 7504, 7505, and 7506 has been mitigated via additional documentation submitted to MDAH. The DAF conducted a cultural resource survey for the Proposed Action. MDAH concurred that the nine archaeological sites are ineligible for the NRHP and that no further work is needed. MDAH also concurred that Buildings 3821, 3823, and 7701 are ineligible for the NRHP. The agency also stated that Building 4106 was outside its purview because of the structure's status as a World War II building on an active military installation. The agency also determined that Building 1201 is eligible for listing in the NRHP under Criterion C: Architecture, as a notable example of New Formalist design. Consequently, the DAF will consider Building 1201 as an NRHP-eligible structure and will adhere to Section 106 guidelines whenever detailed plans for the building are proposed. The Choctaw Nation of Oklahoma responded via email to the government-to-government letter, stating that the Tribe has no affiliation with the archaeological sites uncovered during the survey and deferring eligibility decisions to MDAH and other consulting parties. Furthermore, the Choctaw Nation requested that work be halted and their office contacted immediately if any Native American artifacts or human remains are discovered. Construction activities would have short-term, less-than-significant adverse effects on off-base NRHP-listed or -	Similar to Option A. The Section 106 consultation for the Proposed Action resulted in MDAH's determination that Building 1201 is eligible for listing in the NRHP. Consequently, the DAF will eliminate Project 5B and exclude the building's demolition and construction in its footprint from the current Proposed Action.	No effects.

Resource Area	Action Alternative, Option A (Preferred)	Action Alternative, Option B	No Action Alternative
	eligible resources; however, the effects are not anticipated to affect their NRHP status. No long-term adverse effects are anticipated because the new construction would reflect the style, layout, and materials of the existing structures.		
Hazardous Materials/Hazardous Wastes	Construction would result in short-term, less-than-significant adverse and long-term beneficial effects, and operations would result in no effects. All construction activities would be conducted in compliance with established management plans for hazardous materials and wastes and for spill prevention and response. Construction BMPs would be implemented at all sites. If contaminated groundwater is encountered during construction, including with PFAS, installation or contractor personnel would manage it in accordance with CERCLA and RCRA and DAF, MDEQ, and USEPA guidance, including dewatering permit requirements. Demolition of structures with ACM, LBP, PCBs, and other hazards would result in beneficial effects because future threats to human health and the environment would be eliminated.	Similar to Option A. Project 17 renovations would result in a beneficial effect from removal of ACM, LBP, PCBs and other hazards.	Long-term, significant adverse effects would occur. Residential buildings such as the PP Dorms would continue to have mold issues and to be noncompliant with DoD Force Protection standards. The existing facilities would continue to deteriorate and become unusable. Additionally, the base would continue to use buildings with ACM, LBP, PCBs, and other hazards.
Infrastructure and Utilities	Less-than-significant adverse effects would be expected on utilities and the Keesler AFB stormwater system, which has sufficient available capacity to meet the increased demand. Reduction in infiltration and runoff increase would be similar to or less than from the previous development at the site. Approximately 30,300 tons of demolition waste would be generated, 40 percent of which would be diverted for reuse.	Similar to Option A, but with less demolition waste than Option A.	Long-term beneficial effects of new energy-efficient buildings would not be realized, and the DAF would continue to operate energy-inefficient buildings.
Transportation and Traffic	There would be short-term, less-than-significant adverse effects on transportation and traffic during construction. The effects would be caused by additional vehicles on nearby roadways during construction. No long-term effects on transportation and traffic are anticipated because there would be no change to the base operational workforce. Relocation of 85 EIS personnel from the current location to the main base would result in slight traffic reduction in the residential areas but would have no noticeable effect on main base traffic.	Similar to Option A.	No effects.

Resource Area	Action Alternative, Option A (Preferred)	Action Alternative, Option B	No Action Alternative
Safety and Occupational Health	Short-term, less-than-significant adverse effects from construction activities would be minimized by implementing established industry-accepted safety practices and SOPs. No long-term effects would be expected by following industry-accepted safety practices and SOPs.	Similar to Option A.	Long-term, significant adverse effects would be expected. The existing ATCT would continue as noncompliant with fire and safety codes. Residential buildings such as the PP Dorms would continue to be used with significant deficiencies, including in the mechanical and electrical systems, as well as mold issues and noncompliance with DoD Force Protection standards. The existing facilities would continue to deteriorate and become unusable. Additionally, the base would continue to use buildings with ACM, LBP, PCBs, and other hazards present.
Greenhouse Gas Emissions	There would be less-than-significant adverse effects on GHG emissions. Estimated total aggregated GHG emissions from construction and operations would be approximately 2,576 tpy.	Similar to Option A.	No effects.
Socioeconomics	Short-term, less-than-significant beneficial economic effects and long-term, less-than-significant beneficial quality-of-life effects would be expected. Construction activities would generate jobs during the construction period, contribute to local earnings and induced spending, and contribute to local purchasing of goods and services. Those effects would be temporary, however, occurring only for the duration of the construction period. The quality of life for Keesler AFB Airmen and their families would be improved by the availability of new or improved airfield, base support, community support, and training facilities. These effects would be permanent and long term.	Same as Option A.	Long-term, less-than-significant adverse effects on quality of life would be expected from continued operation of facilities that either do not meet current UFCs or are in poor condition and at the end of their life cycle. The cost of maintaining the aging facilities would increase.

Resource Area	Action Alternative, Option A (Preferred)	Action Alternative, Option B	No Action Alternative
Protection of Children	Short-term, less-than significant adverse effects would be expected from construction activities on the protection of children. Construction activities would be required to comply with applicable federal and state air quality, noise, and water quality regulations and established industry-accepted safety practices to protect workers and the general public. The construction sites would be secured with temporary construction fencing. Adverse effects from construction on transportation and traffic would be temporary and end with the construction phase and with the use of construction traffic management measures. Operation of the facilities would have long-term, less-than-significant effects on transportation and traffic and water resources, negligible effects on air quality and noise, and no effects on safety.	Same as Option A.	No effects.

Notes: ACM = asbestos-containing materials; APE = area of potential effects; ATCT = air traffic control tower; BMP = best management practice; CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act; CDC = Child Development Center; dB = decibels; dbh = diameter at breast height; FAA = Federal Aviation Administration; GHG = greenhouse gas; LCGP = Large Construction General Permit; LBP = lead-based paint; MDEQ = Mississippi Department of Environmental Quality; PCB = polychlorinated biphenyl; PFAS = per- and polyfluoroalkyl substances; RCRA = Resource Conservation and Recovery Act; SCGP = Small Construction General Permit; SOPs = standard operating procedures; TCB = tricolored bat; USEPA = U.S. Environmental Protection Agency.

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3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section describes relevant existing environmental conditions at Keesler AFB and potential effects resulting from implementing the Proposed Action and alternatives. In accordance with guidelines established by NEPA, the impact analysis in this EA focuses only on aspects of the environment potentially affected by the Proposed Action and alternatives. This EA evaluates those effects and environmental consequences on the following resources: airfield operations, land use, visual resources, air quality, noise, earth resources, water resources, biological resources, cultural resources, hazardous materials and wastes, infrastructure and utilities, transportation and traffic, safety and occupational health, greenhouse gas (GHG) emissions, socioeconomics, and protection of children.

The DAF analyzed the affected environment and degree of the potential effects of the Proposed Action to determine whether they would be significant. The analysis of effects included considering short- and long-term effects; whether they are beneficial or adverse; their impact on public health and safety; and whether the action would violate federal, state, tribal, or local laws or regulations that protect the environment. This EA characterizes the level of effects as follows:

- None—No effects are expected to occur.
- Negligible—The effect would not be readily perceptible when compared to existing conditions.
- Less than significant—The effect would be readily perceptible when compared to existing conditions, but not severe, widespread, or prolonged.
- Significant—The effect would be severe, widespread, or prolonged or exceed a regulatory threshold. The effect would be considered significant unless mitigable to a less-than-significant level.

3.1 Section Organization

To facilitate review of the affected environment and environmental consequences, Section 3.0 focuses on the projects under the Proposed Action that would affect a given resource area. Therefore, while the presentation of that information for each resource area follows a general format, the discussion succinctly describes the affected environment of the project(s) to be affected or created by the Action Alternative options under consideration.

As discussed in Section 2.2.1:

- Action Alternative, Option A consists of implementing the Proposed Action using the option A location of each project. Option A is the DAF's preferred option.
- Action Alternative, Option B or C consists of implementing the Proposed Action using the option B or C location of the projects that have more than one location. In the case of Project 17B, the project would consist of renovating the existing pool and building.

3.2 Resource Areas Dismissed from Further Analysis

The purpose of the scoping process is to de-emphasize insignificant issues and focus the scope of the environmental analysis on significant issues. After considering information gathered during scoping, factors used to evaluate the potentially affected environment, and the degree of effect of the alternatives, the DAF determined that the following resources would not experience any measurable effects: airspace, geology (earth resources), and wetlands (water resources),

as described below. Accordingly, no further discussion of these resource areas is included in the EA analysis.

Airspace. The Proposed Action would not make any change to the airspace above or adjacent to Keesler AFB.

Earth Resources—Geology. The project areas are essentially flat and previously disturbed from past development activity. The Proposed Action would not alter the geology of the area any further.

Water Resources—Wetlands. No wetlands exist on any of the proposed project locations. All wetlands on the base occur along the Back Bay of Biloxi, with the nearest proposed project, Project 1A, approximately one-third mile northeast of the area (Keesler AFB 2024c).

3.3 Reasonably Foreseeable Actions

The DAF evaluated reasonably foreseeable actions (RFAs) in the areas and/or pertaining to resources that would be affected by the Proposed Action and alternatives under consideration. Reasonably foreseeable environmental trends are discussed as appropriate in each of the individual resource areas.

For the purposes of this EA, the DAF conducted a review of recently completed, in-progress, and planned or programmed construction and demolition (C&D) projects. Figure 3-1 shows the three RFAs planned or programmed at Keesler AFB within a similar time frame as and/or proximity to the Proposed Action projects in this EA.

Note: The Section 106 consultation for the Proposed Action resulted in MDAH's determination that Building 1201 is eligible for listing in the NRHP. Consequently, the DAF will eliminate Project 5B and exclude the building's demolition and construction in its footprint from the current Proposed Action.

Figure 3-1: Reasonably Foreseeable Actions.

3.3.1 On-Base RFAs

3.3.1.1 Pass Road Gate Construction and Operation

Keesler AFB would construct and operate a new antiterrorism/force protection-compliant gate at Pass Road on the west side of the base. The proposed location for the new gate is north of the existing Pass Road Gate at the termination of Pass Road on the base. In addition, the project would involve roadway realignment and a new intersection, rerouting of a portion of the I-81 running track, and a new drop-off area for schoolchildren living in Bayridge, the on-base military family housing community, to replace the existing school drop-off area. Keesler AFB completed an EA for the project, and the FONSI was signed in December 2023 (Keesler AFB 2023a). Pass Road Gate construction is programmed for 2026, the same year as the anticipated construction of Project 1 in this EA (Keesler AFB 2024e).

3.3.1.2 Mississippi Cyber and Technology Center Enhanced Use Lease

The DAF would enter an enhanced use lease (EUL) with Mississippi State University Research and Technology Corporation for a 50-year EUL to lease a 15-acre parcel on which to build and operate the Mississippi Cyber and Technology Center (MCTC). The facility would house event space, classrooms, administration facilities, parking for 271 vehicles, and associated infrastructure. Keesler AFB completed an EA for the project and the FONSI was signed in October 2024 (Keesler AFB 2024f). MCTC EUL construction is anticipated to be completed in early 2026, the same year as the anticipated construction of Project 1 in this EA.

3.3.1.3 Back Bay 2.5-Mile Living Shoreline to Enhance Community and Military Coasts

This Proposed Action involves constructing a 2.5-mile living shoreline along the southern edge of Biloxi's Back Bay, which is shared by Keesler AFB, the Biloxi Veterans Administration Medical Center (VAMC), and the City of Biloxi's Hiller Park. This initiative aims to enhance water quality, boost installation resilience, protect existing infrastructure, and create a more diverse habitat (Keesler AFB 2025).

The project will be executed in three phases, with the first phase starting in 2025. The final phase, scheduled for Year 3, will focus on constructing breakwaters along the Keesler AFB shoreline. Although there may be some temporal overlap with other projects analyzed in this EA, cumulative effects are not expected. This is because the living shoreline project will be conducted on the water and none of the projects analyzed in this EA are in the same area. Therefore, the living shoreline project has not been analyzed for cumulative effects.

3.3.2 Off-Base RFAs

Similarly, the DAF reviewed major projects in the City of Biloxi to identify any that should be analyzed in this EA for reasonably foreseeable effects. Based on the locations and status of major public improvement projects as of January 2023 and the Restore Biloxi Infrastructure Repair Program, no projects were identified in the vicinity of the projects (City of Biloxi 2023, 2024).

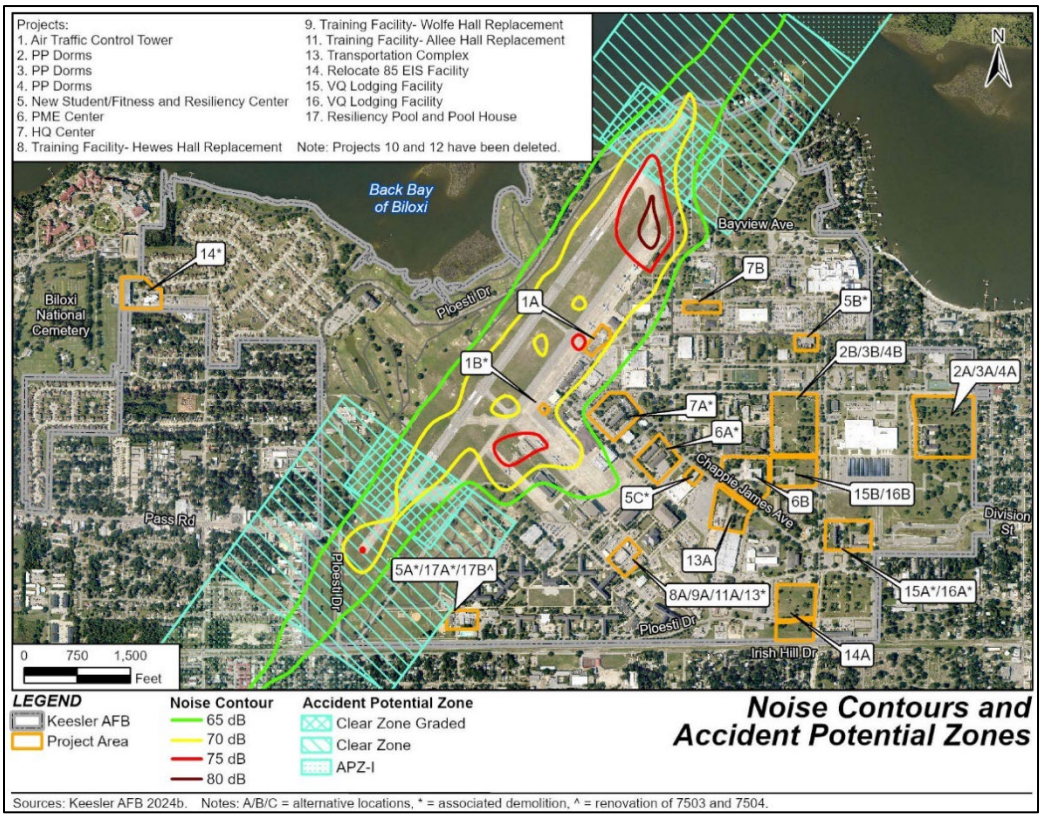
3.4 Airfield Operations

The region of influence (ROI) of a military airfield refers to the geographic area surrounding the airfield where its operations, activities, and the presence of military aircraft can significantly affect or be monitored. It encompasses both the physical and operational scope of a military airfield's activities, extending in various dimensions depending on the specific roles and missions of the airfield. A significant impact on airfield uses and management would result if the

Proposed Action undermined the safety of military, commercial, or civil aviation; caused unacceptable conflicts, congestion, delays, or economic hardship for nonparticipating aircraft that would otherwise freely use that airfield; or contributed to a violation of federal regulations.

3.4.1 Affected Environment

Projects 1A and 1B are in the flight line of the Keesler AFB airfield (see Figure 3-2). The existing air traffic control tower (ATCT), the proposed location of Project 1B, is in the airfield.



Note: The Section 106 consultation for the Proposed Action resulted in MDAH's determination that Building 1201 is eligible for listing in the NRHP. Consequently, the DAF will eliminate Project 5B and exclude the building's demolition and construction in its footprint from the current Proposed Action.

Figure 3-2. Noise Contours and Accident Potential Zones.

3.4.2 Environmental Consequences

3.4.2.1 Action Alternative, Option A (Preferred)

Less-than-significant adverse effects on airfield operations are anticipated from construction and beneficial effects from operations. Under Project 1A, the ATCT would be designed and constructed in accordance with Federal Aviation Administration (FAA) and DoD UFC guidelines.

Construction. Less-than-significant adverse effects on the airfield are anticipated from implementing Project 1A. Design and construction of the ATCT would adhere to FAA Order 6480.4B, *Airport Traffic Control Tower Siting Criteria*, and UFC 3-260-01*, Airfield and Heliport Planning and Design.* As specified in UFC 3-260-01, approval of the new cab height and orientation would be required (AETC and AFRC 2024). The DAF would coordinate with the FAA on the required notification and waiver. A temporary construction airfield waiver would be

required for construction of the new ATCT. Keesler AFB Airfield Operations would be provided required notification for construction activities.

Operations. A new ATCT building would have beneficial effects on airfield operations, which would comply with AETC requirements and have appropriate line-of-sight access to the runway and other areas within the airfield proper, meet fire and safety codes, and meet current technology requirements. It also would provide the first-of-its-kind training cab below the active cab for DAF air traffic controllers in support of Keesler's AETC mission.

3.4.2.2 Action Alternative, Options B and C

Effects on airfield operations under Project 1B would be like those under Project 1A. It also would require a temporary construction airfield waiver.

No airfield operations effects are anticipated under Projects 5B and 5C because they would not be in the airfield area.

3.4.2.3 No Action Alternative

Under the No Action Alternative, there would be long-term significant adverse effects because the Proposed Action would not be implemented, so those base facilities and related infrastructure would not meet current or future mission requirements. Specific to airfield operations, without a new ATCT, the base would continue to operate the existing tower, which does not meet the operational and life safety requirements and does not have appropriate line-of-sight access to the runway or other areas within the airfield proper.

3.4.3 Reasonably Foreseeable Actions

Construction of the Pass Road Gate would require a permanent airfield waiver to replace the existing one. No effects on airfield operations would be expected. No cumulative effects on the airfield would be expected because the Proposed Action requires only temporary construction airfield waivers.

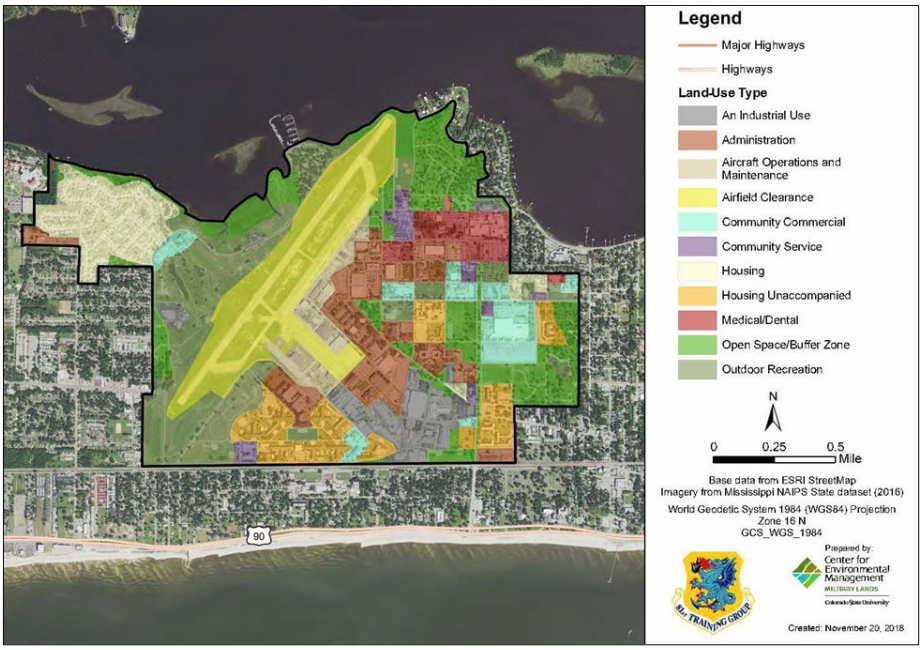
3.5 Land Use

The ROI for land use encompasses the land within Keesler AFB and surrounding communities in the immediate vicinity. Effects on land use would be considered significant if the Proposed Action violated an applicable federal, state, or local land use or zoning regulation or created an environment incompatible with an existing land use to the extent that public health or safety was threatened.

3.5.1 Affected Environment

The total land area of Keesler AFB and its privatized housing developments is 1,719 acres. The base proper includes 225 buildings with an aggregate total of approximately 6.0 million square feet (SF) (Traweek 2024, personal communication). The main base operational area features a single runway and encompasses approximately 2.3 square miles (1,504 acres) (Traweek 2024, personal communication).

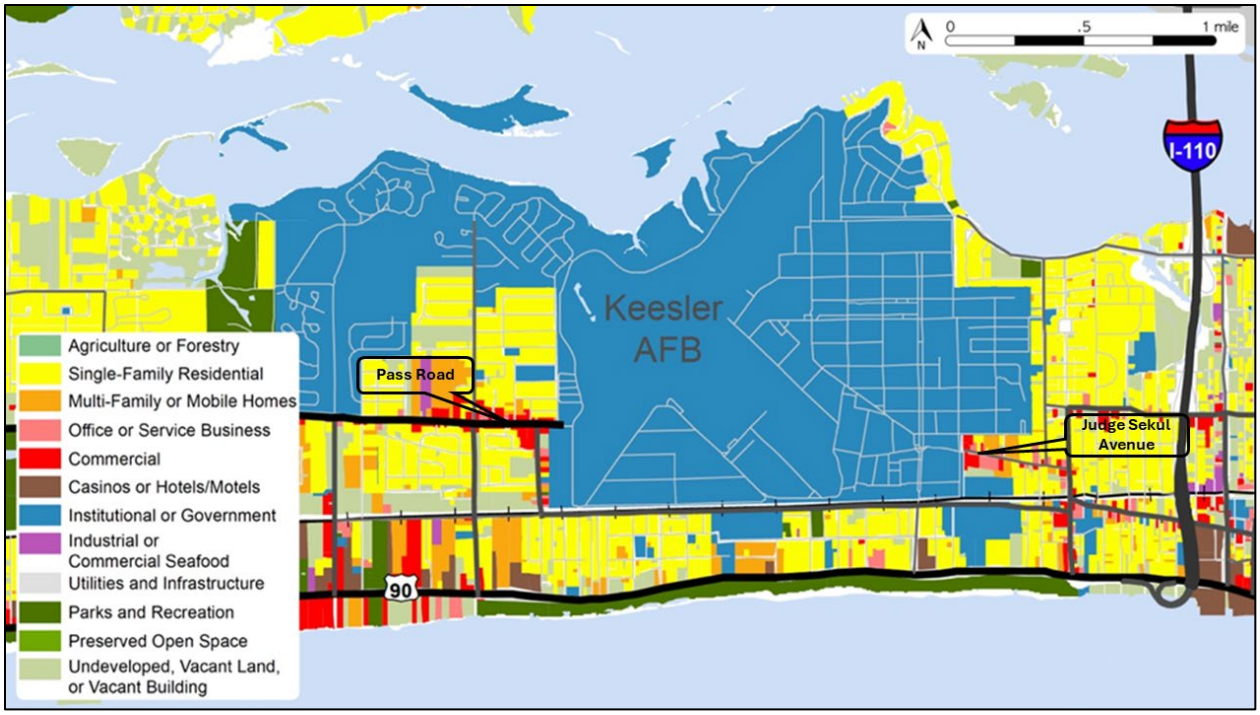
The base is located north of U.S. 90 and west of I-110. The nearest population center is the surrounding City of Biloxi. Keesler AFB abuts the City of Biloxi on its east, south, and west; the Back Bay of Biloxi forms the base's northern boundary. Figure 3-3 shows the land use types on Keesler AFB.



Source: Keesler AFB 2024c.

Figure 3-3. Existing On-Base Land Use Types.

The primary land use adjoining and in the immediate vicinity of the base is single-family residential (yellow on Figure 3-4). Commercial districts and higher density residential development are located along U.S. 90. Pass Road and Judge Sekul Avenue to the west and east of the base, respectively, feature lower density commercial development. Running along the southern boundary of Keesler AFB is the CSX Corporation and National Railroad Passenger Corporation, Amtrak, railroad line, which separates the installation from the residential area on the south side of Irish Hill Drive. Land uses adjacent to the proposed Project 14 location include historic cemeteries on lands owned by the City of Biloxi, low-density commercial, and single-family residential. Development in the greater Biloxi area offers a blend of residential, commercial, and public uses, providing residents and visitors access to parks, recreation, and preserved open space.



Source: City of Biloxi 2009.

Figure 3-4. Existing Off-Base Land Use Types.

3.5.2 Environmental Consequences

3.5.2.1 Action Alternative, Option A (Preferred)

Short-term, less-than-significant adverse effects on land use would result from increased C&D activities, primarily in the base's core operational area. Over the long term, land use on-base would not change appreciably, as post-construction use would be compatible with the replacement of existing structures.

Construction. Short-term, less-than-significant visual effects would be expected from heavy equipment, new buildings, dust, cranes, and temporary laydown areas, mostly within the base. Projects 5A, 14A, and 17A would be noticeable at or beyond the base boundary but would be short term.

Projects 2A, 3A, and 4A sites would change the land use from open space to unaccompanied housing. This change is expected to have minimal adverse effects, as the new dorms will be adjacent to Biloxi Hall in an area already designated for unaccompanied housing. The existing open space has no functional use that would be lost. Project 13A would relocate the existing facility from an incompatible functional area adjacent to the Non-Prior Service student dormitory area to the compatible industrial area. Similarly, Project 14A would relocate the existing facility from being next to a residential land use area and in a geographically separate area to the industrial area. Therefore, those projects would result in beneficial effects on land use on-base.

Operations. Option A would be compatible with existing and approved future land uses on and surrounding the base. There would be no conflicts with established land uses on- or off-base, no land acquisition, and no conflicts with land use control plans.

3.5.2.2 Action Alternative, Options B and C

Under Option B or C, effects on land use would be mostly similar to those under Option A. This section discusses the effects that would be different.

Projects 2B, 3B, and 4B would change the land use designation from open space to unaccompanied housing. Less-than-significant adverse effects are anticipated, however, because the PP Dorms would be adjacent to unaccompanied housing and the base exchange. Additionally, the open space has no functions that would be lost because of the change in land use designation.

There would be no effects on land use from Project 5B and Project 5C because those locations currently also have similar facilities in Blake Gym and Dragon Gym, respectively.

The Project 6B location would remain administrative and would not require a change in land use designation.

Project 7B would require a land use designation change from medical to administrative. Less-than-significant adverse effects are anticipated, however, because the Aeromedical Squadron Staging Facility of the 403rd Wing Air Force Reserve Command is the only facility within the area and similar colocation of medical and administrative land uses exist on-base. Additionally, the location of Project 7B is currently an open area with a few trees and has no functions that would be lost because of the change in land use designation.

Projects 15B and 16B would require land use designation change from administrative and open space to unaccompanied housing. Less-than-significant adverse effects are anticipated, however, because the facilities would be adjacent to an area of similar land use with Visiting Airman Quarters and Inns of Keesler Cole Manor and Brungard Manor. Additionally, the open space has no functions that would be lost because of the land use designation change.

3.5.2.3 No Action Alternative

Under the No Action Alternative, there would be long-term, less-than-significant adverse effects because the Proposed Action would not be implemented, and, therefore, Projects 7 and 14 would remain in areas of incompatible land uses, continuing the existing inefficiencies.

3.5.3 Reasonably Foreseeable Actions

The two RFAs would either maintain existing or have compatible land use. The new Pass Road Gate would be built in the vicinity of the existing gate and there would be no changes to land use. The MCTC would be built in a developed area and change in land use from unaccompanied housing to administration would be compatible and less than significant because it would be collocated with administrative land use south of it. No cumulative effects on land use would be expected because the changes associated with the Proposed Action would continue to be similar to existing development within Keesler AFB and would have less-than-significant effects.

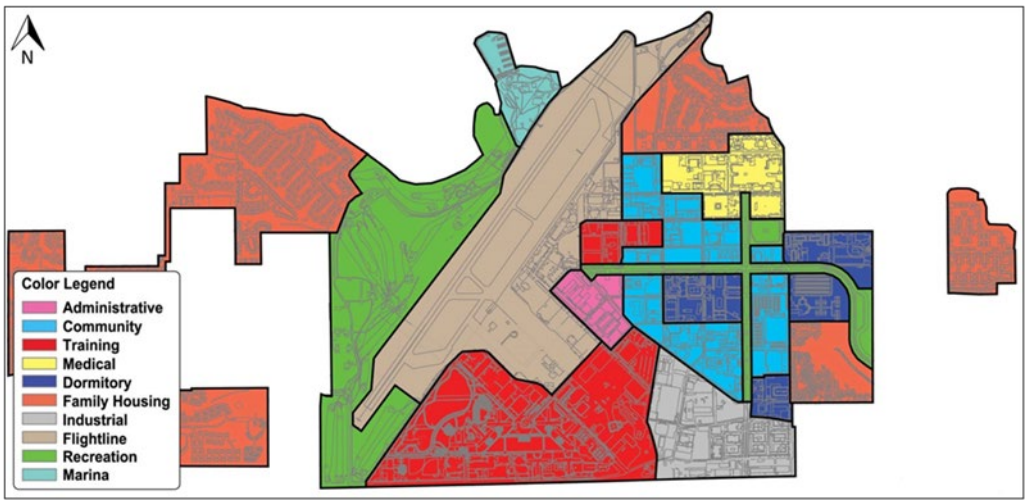
3.6 Visual Resources

The ROI for visual resources encompasses the land within Keesler AFB and surrounding communities in the immediate vicinity. Effects on visual and aesthetic resources would be considered significant if the Proposed Action violated an applicable federal, state, or local building, landscape, street, or transportation standard or regulation; introduced an incompatible element; or removed an existing feature within sight of an existing visually sensitive resource. Visual resources are natural and man-made features that give a particular “landscape” (visible

features of an area of land) or "viewshed" (view on an area from a vantage point) its character and aesthetic quality. Special consideration is given to actions within visually sensitive locations and viewpoints from visually sensitive locations. A protected area, such as a national park, national monument, or historic district, is an example of a visually sensitive location.

3.6.1 Affected Environment

Five buildings on Keesler AFB require consultation under Section 106 of the NHPA—Buildings 4116, 4330, 4331, 6901, and potentially 1002 (see Section 3.12). Figure 3-5 presents a map delineating the distinct visual districts of the base, which generally correspond to the base's planning districts; however, it provides more detailed classification, featuring 10 distinct visual categories. Figure 3-6 shows an aerial view of the base's boundaries and surrounding private development between the Mississippi Sound and the Back Bay of Biloxi. Proposed Project 14 is located east of the Biloxi National Cemetery, which is within the Biloxi VAMC Historic District boundary (see Figures 3-6 and 3-10).



Source: Keesler AFB n.d.(o).

Figure 3-5. Visual Districts On-Base at Keesler AFB.

Source: Google Maps 2024.

Figure 3-6. Aerial View of Keesler AFB Boundaries and Surrounding Area.

3.6.2 Environmental Consequences

3.6.2.1 Action Alternative, Option A (Preferred)

Short-term, less-than-significant adverse effects on visual resources would result from an increase in C&D activities. Most construction would occur in the base's core operational area and none would occur off-base. Long term, the visual environment on-base would not change appreciably. Post-construction, the visual conditions on the base would ultimately be restored to conditions similar to its preexisting visual conditions because the projects are replacements of existing structures, each located within or adjacent to the demolished facility.

Construction. Short-term, less-than-significant adverse effects on visual resources would result from an increase in C&D activities.

The visual effects during the anticipated execution timeline would result from the large number of facility C&D actions. Figure 2-1 shows the locations of the proposed facilities and related actions, and proposed dormitories, lodging, and training facilities make up the bulk of the new facilities.

Construction of those facilities and infrastructure would result in short-term, less-than-significant visual effects because of the presence of heavy construction equipment, new buildings in various stages of C&D, and possibly increased dust. Cranes used during construction and temporary construction laydown areas also would create short-term, less-than-significant visual effects but would not be out of character for Keesler AFB. Most of these projects would be in the interior of the base.

C&D activities for Projects 5A, 14A, and 17A would be noticeable at or beyond the Keesler AFB boundary. Those activities would be short term, however, and similar to past construction activities and other developed areas on-base.

Operations. Post-demolition and -construction, no long-term visual effects are anticipated. Development would be driven by function and purpose, resulting in structures visually compatible with the existing built environment. Many of the proposed buildings serve as supporting facilities or replacements for existing structures, with demolition actions integrated into the project scope. These developments are situated within or adjacent to their associated facilities and are unlikely to be noticeable to casual observers.

Of the 15 proposed projects, Project 1A would be most visible because of the multilevel structure. Less-than-significant effects are anticipated, however, because the ATCT would be centrally located at least 3,000 ft from the base's boundaries. Further curtailing the visual impacts of the ATCT are the surrounding physical developments on- and off-base, which would limit sight lines to the proposed tower.

3.6.2.2 Action Alternative, Options B and C

Potential effects on visual resources under Option B or C would be similar to those of Option A.

3.6.2.3 No Action Alternative

Under the No Action Alternative, baseline conditions would remain unchanged, and, consequently, no effects on visual resources, either on- or off-base, would occur.

3.6.3 Reasonably Foreseeable Actions

The two RFAs would align with the visual character for a military installation. The new Pass Road Gate would be built in the Recreation Visual District and in the vicinity of the existing gate. The MCTC would be built in a developed area within the base Industrial Visual District. Visual landscape in either case would not change appreciably because of the developed nature of the sites. Construction would result in short-term, less-than-significant adverse cumulative visual effects because construction projects are inherently visually unappealing. The short-term, less-than-significant adverse visual effects of construction projects would disappear, however, once the construction projects are completed and the areas are revegetated and landscaped.

3.7 Air Quality

The air quality ROI is the Mobile-Pensacola-Panama City-Southern Mississippi Interstate Air Quality Control Region (AQCR), within which Keesler AFB is located (40 CFR § 81.68). Effects on air quality would be considered significant if the Proposed Action were to generate emissions that did not meet Clean Air Act (CAA) conformity determination requirements or were to contribute to a violation of any federal, state, or local air regulation. As a resource, air quality includes air pollution within a region, sources of air emissions, and regulations governing air emissions. Air pollution is the presence of one or more contaminants (e.g., dust, fumes, gas, mist, odor, smoke, or vapor) in the outdoor atmosphere in quantities and duration that could harm human, plant, or animal life or unreasonably interfere with the enjoyment of life and property.

3.7.1 Affected Environment

3.7.1.1 National Ambient Air Quality Standards and Attainment Status

The U.S. Environmental Protection Agency (USEPA) Region 4 and Mississippi Department of Environmental Quality (MDEQ) regulate air quality in Mississippi. The CAA assigns USEPA the responsibility for establishing the primary and secondary National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50), which specify acceptable concentration levels of six criteria pollutants: particulate matter (measured as both particulate matter less than or equal to 10 microns in diameter [PM_{10}] and particulate matter less than or equal to 2.5 microns in diameter [$PM_{2.5}$]), sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), and lead (Pb) (see Table 3-1). Short-term NAAQS (over 1-, 8-, and 24-hour periods) have been established for pollutants contributing to acute health effects, while long-term NAAQS (annual averages) have been established for pollutants contributing to chronic health effects. While each state has the authority to adopt standards stricter than those established under the federal program, the State of Mississippi has accepted the federal standards (MDEQ 2024a).

Table 3-1. National Ambient Air Quality Standards

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
CO		Primary	8 hours	9 ppm	Not to be exceeded more than once a year
			1 hour	35 ppm	
NO_2		Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Primary and secondary	Annual	53 ppb	Annual mean
O_3		Primary and secondary	8 hours	0.070 ppm	Annual fourth highest daily maximum 8-hour concentration, averaged over 3 years
Particulate matter	$PM_{2.5}$	Primary	Annual	9 µg/m^3	Annual mean, averaged over 3 years
		Secondary	Annual	15 µg/m^3	Annual mean, averaged over 3 years
		Primary and secondary	24 hours	35 µg/m^3	98th percentile, averaged over 3 years
	PM_{10}	Primary and secondary	24 hours	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Pb		Primary and secondary	Rolling 3-month average	0.15 µg/m^3	Not to be exceeded
SO_2		Primary	1 hour	75 ppb	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

Sources: 40 CFR Part 50; USEPA 2024a.
Notes: µg/m^3 = micrograms per cubic meter; ppb = parts per billion; ppm = parts per million.

3.7.1.2 Existing Emissions and Permitting

Federal regulations designate AQCRs in violation of the NAAQS as “nonattainment areas” and AQCRs with levels below the NAAQS as “attainment areas.” USEPA has designated Harrison County (and, therefore, all areas associated with the Proposed Action) as in attainment for all criteria pollutants (USEPA 2024b). Since the area is in attainment for all criteria pollutants, the General Conformity rule (GCR) does not apply. The GCR ensures that federal actions cause no new violations of the CAA in nonattainment areas.

Keesler AFB operates under a Synthetic-Minor Operating Permit granted by MDEQ (Permit No. 1020-00006), which was renewed November 20, 2023. Primary sources of air emissions include boilers, generators, and paint booths. The permit requirements include annual periodic inventory of all significant stationary sources of air emissions for each of the criteria pollutants of concern as well as monitoring and recordkeeping. Table 3-2 lists annual emissions from significant stationary sources on the base.

Table 3-2. Keesler AFB Annual Emissions for Significant Stationary Sources as of 2023

Pollutant	Emissions (tpy)
CO	10.32
NO_2	13.75
VOCs	2.86
$PM_{2.5}$	0.99
PM_{10}	0.98
SO_2	0.07

Source: APIMS 2023.
Notes: tpy = tons per year; VOCs = volatile organic compounds.

New stationary sources of air emissions, such as boilers or backup generators, would require permits to construct. If not subject to major source requirements, new sources of air emissions are required to be evaluated against state regulations and applicability to those standards.

3.7.2 Environmental Consequences

The DAF estimated through the Air Conformity Applicability Model (ACAM) the total reasonably foreseeable net direct and indirect emissions associated with the action on a calendar year (CY) basis, beginning with the start of the action and continuing until "steady-state" emissions are reached—no net gain or loss occurs—and the action is fully implemented. ACAM is a robust computer model developed and used primarily by DAF planners in analyzing environmental impacts. The ACAM model accommodates all these activities, provides a consistent method for evaluating potential emissions.

3.7.2.1 Action Alternative, Option A (Preferred)

Short- and long-term, less-than-significant adverse effects on air quality would be expected from implementing Option A. Short-term effects would be caused by air emissions generated during construction, and long-term effects would be caused by operational emissions from implementing the 15 proposed projects and supporting infrastructure. Option A would not (1) generate emissions that would exceed the GCR insignificance threshold values or (2) contribute to a violation of any federal, state, or local air regulation.

Criteria pollutants are expected to remain below *de minimis* levels and meet permitted limits when combined with existing facility-wide emissions under Option A. None of the estimated annual net emissions from these actions would exceed insignificance indicators; therefore, the action would not cause or contribute to a conformity exceedance.

Construction. ACAM was used to calculate emissions from constructing and demolishing facilities, grading land, and construction-related transportation, including construction workers commuting. These air emissions were compared to the GCR's *de minimis* threshold values to assess potential effects on air quality. Each project was analyzed for conformity as required by AFMAN 32-7002, *Environmental Compliance and Pollution Prevention*; the GCR (40 CFR 93 Subpart B); and the DAF Air Quality Environmental Impact Analysis Process (EIAP) Guide October 2024 (AFCEC 2024).

ACAM standardizes and simplifies emissions calculations based on the proposed activities incorporating default assumptions for emissions from construction equipment and personnel. ACAM offers summary and detailed outputs that include the assumptions and equations used to

calculate emissions. This section provides a summary of the ACAM analysis and Appendix C provides the conformity analysis.

Construction emissions were estimated for fugitive dust, on- and off-road diesel equipment and vehicles, worker trips, architectural coatings, and paving off-gases. Criteria air pollutant emissions for the projects implemented under the aggregated proposed projects were estimated for the activities quantified in Table 3-3 using ACAM.

The DAF included in the ACAM assumptions site grading for each construction site related to the Proposed Action to account for air emissions from C&D activities. According to USEPA, C&D debris is not considered municipal solid waste. It typically includes materials such as steel, wood products, drywall and plaster, brick and clay tile, asphalt shingles, concrete, and asphalt concrete (USEPA 2024c). The ACAM model was simulated with an assumption of 20 percent of the total annual activity spread over 5 years, as shown in Table 3-3. Emissions were estimated for demolition and site clearing and grading of 13.5 acres per year with roughly 86,494.2 cubic yards of C&D debris estimated to be hauled off-site during each CY. ACAM default parameters were assumed except for construction hauling trips, personnel and construction commute distances, and construction vendor trips. Construction hauling and worker commutes were assumed to average 50 miles round trip (25 miles one way). The assumption was based on the average commute times by U.S. Census Bureau of one-way travel times for Mississippi (USCB 2023).

Table 3-3. ACAM Inputs (rounded) for Action Alternative, Option A (Preferred)

Activity over 5 Years	ACAM Input 20% of Total[a]
Construction	
Facility construction	200,000
Demolition	86,494
Utility trenching	35,936
Site grading	232,344
New paving	48,300
Operations	
135-HP emergency generator	2
2,000-gallon AST	3
800-HP emergency generator	1
Heating	Excluded *de minimis* contribution

Notes: AST = aboveground storage tank; HP = horsepower.
[a] Total square feet unless otherwise noted.

ACAM was run to simulate the total emission rate of the C&D activities annually for 5 years. The DAF assumed 20 percent of total C&D because it would not be feasible to implement all 15 projects in a single year.

Finally, ACAM also was simulated to assess the emissions for a scenario when all alternatives would be constructed over the same 1-year period; thereby, combining all potential air quality impacts. The DAF also assumed 20 percent of total C&D for this simulation because it would not be feasible to implement all 15 projects in a single year.

Table 3-4 presents the estimated air pollutant emissions from demolition, construction, and associated utility/ infrastructure activities. Table 3-4 also includes the least restrictive

insignificance thresholds for criteria pollutants to determine the level of effects of these emissions sources.

As shown in the table, the total emissions would remain below *de minimis* levels and under the insignificance thresholds for each of the criteria pollutants. Therefore, Option A's effects on air quality during construction would be short term and less than significant.

Table 3-4. ACAM-Estimated Emissions from Action Alternative, Option A (Preferred) (tpy)[a, b]

Pollutant	Insignificance Indicator	Annual Emissions for Construction	Operations Emissions
VOC	250	1.41	0.50
NO_x	250	2.24	3.40
CO	250	2.54	1.60
SO_x	250	0.00	0.36
PM_{10}	250	30.93	0.43
$PM_{2.5}$	250	0.08	0.43
Pb	25	0.00	0.00
NH3	250	0.02	0.00

Notes: tpy = tons per year; VOC = volatile organic compound.

[a] The operations emissions assume additional sources of emissions from fueling and maintenance of emergency generators.

[b] Criteria pollutants are reported in tpy unless otherwise noted.

Reasonable precautions would be taken to prevent airborne dust, including the use of water to control dust from building construction, demolition, road grading, and land clearing. Cleared or graded areas should be seeded or vegetated promptly to minimize fugitive dust. Given the sustained potential for emissions over consecutive years of construction, the DAF will coordinate with construction teams to ensure that these best management practices (BMPs) are effectively implemented. The DAF would implement BMPs and determine the extent of land that could be graded to bare soil over a defined period to maintain air quality standards for particulate matter. Before constructing or modifying a facility with internal combustion engines, operators must obtain the appropriate New Source Review (NSR) permit from MDEQ. This involves assessing potential emissions increases and implementing necessary control technologies.

Operations. The DAF's annualized steady-state operational emissions assume that 20 percent of the facilities will commence operations each year. Operational emissions encompass backup power, fuel storage, and fuel usage (see Table 3-4). Notably, ACAM's default settings for building heating are based on state and regional averages, with the Keesler AFB region including colder climate areas. This results in a misrepresentation of emissions for this subtropical coastal region. Due to the age of existing buildings, their systems do not reliably estimate natural gas usage for the new design. The default ACAM settings simulate excessive natural gas usage, potentially leading to higher emissions, and existing data may overestimate emissions due to the efficiency of modern systems. Given the low usage of natural gas, heating was excluded from the operational emissions calculation. Table 3-4 presents the estimated annual net operational emissions under Option A, which are below the insignificance indicators. Therefore, the Option A is not expected to cause or contribute to any exceedance of NAAQS and would have a negligible effect on air quality.

3.7.2.2 Action Alternative, Options B and C

The nature and overall effects of Option B or C on air quality would be similar to those of Option A. All regulations and BMPs applicable to Option A also would be applicable to Options B and C.

3.7.2.3 No Action Alternative

Long-term, less-than-significant adverse effects on air quality would be expected under the No Action Alternative. The construction, demolition, and renovation projects would not occur. Air quality would remain unchanged compared to existing conditions and reductions of emissions from efficient energy facilities would not be realized.

3.7.3 Reasonably Foreseeable Actions

The two RFAs would have short- and long-term, less-than-significant adverse effects on air quality. Short-term effects would be caused by heavy equipment and generation of fugitive dust during C&D activities. Estimated emissions generated by the Proposed Action construction would be *de minimis* and, therefore, would not contribute significantly to cumulative emissions.

Long-term effects would be caused during operations by additional heating of facilities and the potential addition of stationary sources of air emissions, such as backup generators. Emergency generators or boilers would require an NSR and may require permitting if emissions or forecasted runtime hours are above the permitting threshold. If the permitting threshold is triggered, a permit must be obtained prior to construction.

3.8 Noise

Keesler AFB and off-base areas adjacent to the proposed project sites would comprise the ROI for noise. Effects would be considered significant if noise from construction and operations activities violated a federal, state, or local noise ordinance; created a noise environment incompatible with an existing land use; or produced sound that could harm people wearing safety equipment.

Sound is a physical phenomenon consisting of vibrations traveling through a medium such as air that are sensed by the human ear. Undesirable sound is noise. Noise interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Human response to noise varies depending on the type and characteristics of the noise, distance between the noise source and the receptor, receptor sensitivity, and time of day. Noise is often generated by activities essential to a community's quality of life, such as construction or vehicular traffic.

Sound varies by both intensity and frequency. Sound pressure level, described in decibels (dB), is used to quantify sound intensity. The decibel is a logarithmic unit that expresses the ratio of a sound pressure level to a standard reference level. Hertz are used to quantify sound frequency. The human ear responds differently to different frequencies. "A-weighing," measured in A-weighted decibels (dBA), approximates a frequency response expressing the perception of sound by humans. Table 3-5 lists sounds encountered in daily life and their A-weighted decibel levels.

Table 3-5. Common Sounds and their Levels

Outdoor Sound	Sound Level (dBA)	Indoor Sound
Jet flyover at 1,000 ft	100	Rock band
Tractor	90	Garbage disposal
Noisy restaurant	85	Blender
Downtown (large city)	80	Ringing telephone
Freeway traffic	70	TV audio
Normal conversation	60	Sewing machine
Rainfall	50	Refrigerator

Source: Harris 1998.

The A-weighted decibel noise metric describes steady noise levels, although very few noises are, in fact, constant. Therefore, A-weighted day-night sound level (DNL) has been developed. DNL is defined as the average sound energy in a 24-hour period with a 10-dB penalty added to the nighttime levels (10 p.m. to 7 a.m.). DNL is a useful descriptor for noise because it (1) averages ongoing yet intermittent noise and (2) measures total sound energy over a 24-hour period. In addition, equivalent sound level (L_{eq}) is often used to describe the overall noise environment. L_{eq} is the average sound level in decibels.

The Noise Control Act of 1972 directs federal agencies to comply with applicable federal, state, and local noise control regulations. In 1974, USEPA provided information suggesting continuous and long-term noise levels in excess of DNL 65 dBA are normally unacceptable for noise-sensitive land uses, such as residences, schools, churches, and hospitals.

3.8.1 Affected Environment

Both Harrison County and the City of Biloxi maintain noise ordinances. Harrison County limits sound levels to 68 dBA in residential areas during daytime hours and prohibits the use of power tools before 7 a.m. (Harrison County Noise Ordinance, July 7, 2008). The City of Biloxi limits sound levels to 65 dBA in residential areas during daytime hours; however, construction noise is exempt between the hours of 7 a.m. and 6 p.m. (City of Biloxi Code of Ordinances Section 11-1-2, *Noises*). The City of Biloxi also has three airport noise overlay (ANO) districts, which are established and intended to provide public notice of the areas of the city in which people may be exposed to the higher-than-average noise levels and risk of aircraft accidents associated with proximity to the airport at Keesler AFB (City of Biloxi Code of Ordinances Section 23-3-5(E), *ANO: Airport Noise Overlay Districts*). ANO-3 applies to an approximately 1-square-mile area southwest of Keesler AFB. ANO-1 applies to the areas outside of ANO-3 that are exposed to a yearly DNL of 65–70 dB, and ANO-2 applies to areas outside of ANO-3 that are exposed to a yearly DNL of 70–75 dB. The ANOs also are intended to ensure that new buildings include an appropriate level of exterior-to-interior reduction of noise levels associated with overhead aircraft. A reduction of 25–30 dB, depending on proximity to the airfield, is required for areas exposed to a yearly DNL above 65 dBA (City of Biloxi 2024c).

The primary source of noise at Keesler AFB is activities at the airfield. Notably, the Noise Control Act exempts aircraft noise from all state and local noise regulations. Other sources of noise include operation of civilian and military vehicles, lawn and landscape equipment, construction activities, and vehicle maintenance operations.

Background noise levels without airport operations (L_{eq} and DNL) were estimated for the surrounding areas using the techniques specified in the American National Standard Institute (ANSI) S12.9-2013/Part 3, *Quantities and Procedures for Description and Measurement of Environmental Sound Part 3: Short-Term Measurements with an Observer Present*. Table 3-6 outlines the land use categories and the estimated background noise levels for nearby noise-sensitive areas. Most environments include near-constant, long-term sound sources that create a background sound level and intermittent, intrusive sources that create sound peaks that are noticeably higher than the background levels. In suburban areas, human activities make up the background sound level. The extent to which an intrusive sound affects a given receptor in the environment depends upon the degree to which it exceeds the background sound level. Both background and intrusive sound may affect the quality of life in a particular environment.

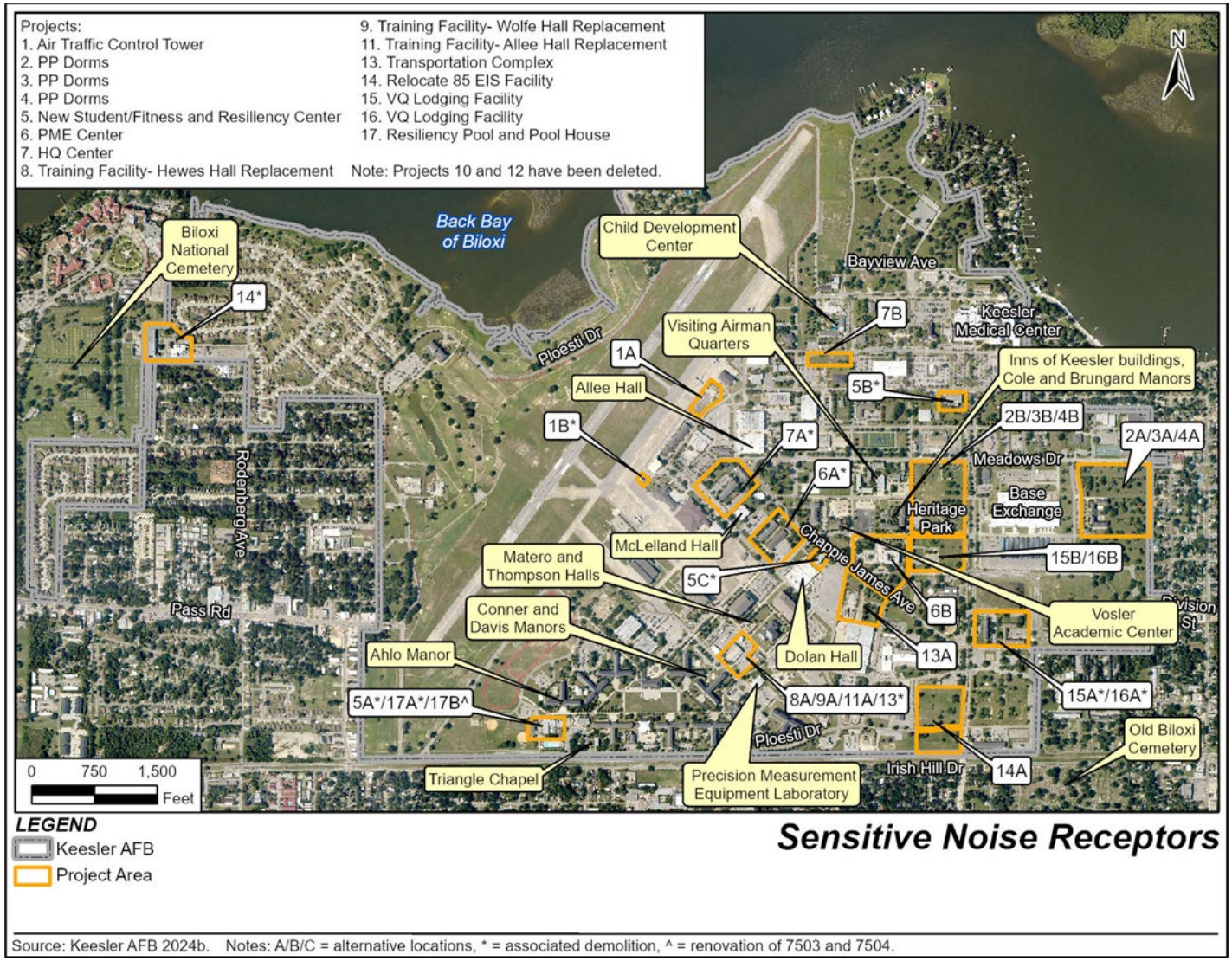
Table 3-6. Estimated Background Noise Levels

Land Use Category	DNL	L_{eq} (dBA)	
		Daytime	Nighttime
Suburban residential (4 people per acre)	52	53	47
Quiet commercial, industrial, and normal urban residential (20 people per acre)	59	58	52

Sources: ANSI S12.9-2013/Part 3; NYCSCA 2012.

The affected environment for noise comprise the areas immediately surrounding the project sites. Sensitive receptors, such as lodging facilities (e.g., Ahlo Manor), the Child Development Center (CDC), and training and administrative buildings, are located at varying distances from the proposed project sites. The following project site options under the Action Alternative are (1) within the runway noise contours, (2) in proximity to on-base sensitive receptors, and (3) in proximity to a noise source (see Figures 3-2 and 3-7):

- Project 1A and 1B, Air Traffic Control Tower: Within the 70-dB noise contour of the runway.
- Projects 2B, 3B, and 4B, PP Dorms: Western boundary of the project site is less than 100 ft east of the Visiting Airman Quarters and Inns of Keesler buildings, Cole and Brungard Manors.
- Projects 5A and 5B and 17A and 17B, Fitness Resiliency Center and Pool/Pool House: Less than 200 ft south of the Ahlo Manor residential building and less than 400 ft west of the Triangle Chapel.
- Project 5C, Resiliency Fitness Center: Approximately 50 ft northeast of Dolan Hall, a training facility. .



Note: The Section 106 consultation for the Proposed Action resulted in MDAH's determination that Building 1201 is eligible for listing in the NRHP. Consequently, the DAF will eliminate Project 5B and exclude the building's demolition and construction in its footprint from the current Proposed Action.

Figure 3-7. Sensitive Noise Receptors

- Project 6A, PME Center: Less than 200 ft west of Dolan Hall.
- Project 6B, PME Center: Less than 200 ft northeast of Vosler Academic Center, a training facility, and less than 100 ft south of Cole and Brungard Manor inns
- Project 7A, HQ Center: Less than 100 ft south of Wolfe Hall and less than 100 ft west of McLelland Hall, both training facilities.
- Project 7B, HQ Center: Less than 200 ft south of the CDC.
- Projects 8, 9, 11, and 13, Training Facilities Construction and Traffic Complex Demolition: Approximately 150 ft southwest of the Matero and Thompson Halls training facilities, approximately 100 ft northwest of Precision Measurement Equipment Laboratory, and less than 100 ft northeast of the Conner and Davis Manors residential buildings
- Project 14, Demolition of Current EIS Facility: Bordered by the Biloxi National Cemetery on the north and west. The cemetery area with gravesites to the north is approximately 50 ft from Building 7701. It is also close to base housing and off-base housing.
- Project 14A, New EIS Facility: Adjacent to a CSX and Amtrak railroad line that runs parallel to Irish Hill Drive.

3.8.2 Environmental Consequences

Less-than-significant effects would be expected from construction and operation of the Proposed Action, which would generate short- and long-term noise. All activities would occur on-base.

3.8.2.1 Action Alternative, Option A (Preferred)

Construction. Under Option A, construction activities would generate temporary noise associated with heavy equipment operation, demolition, and general activities, impacting the noise environment near work zones.

Construction noise levels at the identified receptors were estimated by combining the contributions of multiple pieces of heavy construction equipment operating simultaneously with sound power levels and usage factors derived from the Federal Highway Administration's Roadway Construction Noise Model. Indoor sound levels were estimated by applying a 25-dBA reduction to account for typical building attenuation. This approach provides a reasonable approximation of expected noise conditions and allows for the evaluation of potential construction noise impacts.

Table 3-7 presents the estimated maximum sound levels (Lmax) for each of the receptors during construction activities. For receptors associated with primarily indoor activities—such as inns, lodging, laboratories, the CDC, and academic centers—indoor noise levels are the primary concern due to their potential to interfere with daily operations. Indoor noise levels for these receptors range from 35.8 dBA to 55.2 dBA at distances of 150–1,400 ft from the closest projects. At those levels, indoor environments could experience mild-to-moderate disruptions depending on the nature of the activities. For example, the CDC might find that elevated indoor noise could interfere with nap times, learning activities, or staff communication. Academic centers may experience distractions during lectures or tests.

Table 3-7. Estimated Noise Levels Associated with Outdoor Construction

Noise-Sensitive Receptor	Closest Project			Furthest Project		
	Distance (ft)	Lmax (dBA)		Distance (ft)	Lmax (dBA)	
		Outdoor	Indoor		Outdoor	Indoor
Biloxi National Cemetery	400	71.7	46.7	12,200	42.0	< 30.0
Ahlo Manor	150	80.2	55.2	6,550	47.4	< 30.0
Triangle Chapel	350	72.8	47.8	6,650	47.3	< 30.0
Connor and Davis Manor Inns	950	64.2	39.2	6,250	47.8	< 30.0
Equipment Lab	200	77.7	52.7	7,900	45.8	< 30.0
Dolan Hall	200	77.7	52.7	7,700	46.0	< 30.0
Visiting Airmen's Quarters	400	71.7	46.7	8,300	45.3	< 30.0
CDC	300	74.2	49.2	7,800	45.9	< 30.0
Inns of Keesler Buildings	150	80.2	55.2	8,450	45.2	< 30.0
Vosler Academic Center	300	74.2	49.2	8,000	45.6	< 30.0
Old Biloxi Cemetery	1,400	60.8	35.8	11,700	42.3	< 30.0

Sources: FHWA 2006; Harris 1998.

At greater distances (e.g., 6,250–12,200 ft), indoor noise levels drop significantly, falling below 30 dBA, which is generally within acceptable limits for indoor environments. These lower levels ensure that receptors farther from the construction sites experience negligible noise impacts. For receptors closer to the construction sites, however, consistent exposure to noise levels above 50 dBA could result in minor annoyance or reduced productivity, especially during peak construction periods.

The two outdoor receptors, both cemeteries, are primarily affected by outdoor noise levels, which range from 60.8 dBA to 71.7 dBA at distances of 150–1,400 ft from the closest project locations. Noise levels in the higher range (closer to 71.7 dBA) may temporarily disrupt the serene atmosphere typically associated with cemeteries, potentially impacting the experience of visitors and ceremonies held at those locations.

The proposed construction activities would occur within the context of an active AFB, where aircraft operations contribute to a consistent level of background noise. Aircraft noise, which includes the takeoff, landing, and maintenance of military aircraft, is a prominent and routine feature of the soundscape on the installation. While construction noise from activities such as demolition, heavy equipment operations, and material transport would temporarily add to the overall noise levels, it would do so against the baseline of aircraft-generated noise. This existing noise environment provides important context, as the receptors within the base are already accustomed to intermittent high noise levels associated with airfield operations. The construction noise, while noticeable, is not expected to exceed the intensity or frequency of the aircraft noise that defines the daily acoustic environment of the base. Construction noise would be intermittent, depending on the project phase and type of activity, with the highest noise levels occurring during excavation and demolition phases. Most construction is expected to occur during standard working hours (7 a.m. to 6 p.m.), minimizing effects during quieter nighttime periods (City of Biloxi 2024b). This schedule aligns with Keesler AFB's operational noise environment, reducing potential disruptions to on-base operations (UFC 3-450-01, Noise and Vibration Control).

Additionally, particularly noisy operations, such as demolition, would normally be scheduled for mid-morning or mid-afternoon when they are less likely to interfere with sensitive activities at nearby facilities, such as the academic center or CDC. Regular maintenance of all construction equipment would be conducted to ensure proper functionality and reduce noise emissions. This would include checking for loose or damaged parts, ensuring proper lubrication of moving components, and verifying that equipment operates within manufacturer specifications. Furthermore, mufflers and noise-reduction devices on equipment would be inspected and maintained in good working condition, with faulty components promptly repaired or replaced to prevent elevated noise levels caused by equipment malfunctions.

Given the temporary and intermittent nature of proposed construction activities in the context of an active AFB, the overall effects would be temporary and less than significant.

Operations. Option A would have negligible effects from operational noise levels. New facility operations and support activities, such as increased vehicular traffic and maintenance, would generate operation noise. The noise from operational facilities is expected to be relatively low compared to construction noise, as the new facilities under Option A would not involve high-noise activities. They include residential and administrative buildings, training centers, and maintenance shops, generally producing low-to-moderate noise levels consistent with typical indoor environments (50–65 dBA) (ANSI S12.9-2013/Part 3). Primary noise sources may include the following:

- Mechanical equipment: Heating, ventilation, and air conditioning (HVAC) systems and backup generators.
- Indoor operations: Activities within training and administrative spaces producing minimal external noise, with anticipated sound levels well within the range of ordinary office environments.
- Backup generators: In operation for all facilities, could produce noise levels between 65 dBA and 75 dBA at 50 ft. Given their intermittent use, backup generators would not continuously contribute to the noise environment. Facilities would likely operate the generators only during power interruptions or scheduled testing, typically limited to a few hours monthly. Where necessary, acoustic enclosures or sound-dampening materials could help reduce noise during generator operation.
- Traffic and maintenance: Slight increases in on-base traffic due to the relocation of 85 EIS personnel, primarily during peak operational hours. Traffic increases, however, are expected to be minimal from the less than 200 personnel. Maintenance activities for new facilities, such as landscaping and HVAC upkeep, will produce minor localized noise like existing operations on-base.

As discussed in Section 3.8.1, Project 1A would be located within the 70-dB noise contour of the runway. The Keesler AFB Air Installation Compatible Use Zones Report was being produced at the time this EA was being prepared, and the design of the tower would reference the report to attenuate the noise levels (AETC and AFRC 2024).

The addition of new facilities and support structures is unlikely to cause a noticeable change in the overall noise environment at Keesler AFB. Operational noise levels would align with existing on-base activities and reflect typical administrative and maintenance functions. Therefore, ongoing facility operations are expected to integrate smoothly into the existing noise landscape, with less-than-significant effects on base noise-sensitive receptors or overall noise exposure levels.

3.8.2.2 Action Alternative, Options B and C

Under Options B and C, noise effects of construction activities and facility operation would be like those under Option A. As discussed in Section 3.8.1, depending on the location of the alternative sites, sensitive receptors are located at varying distances from the proposed project areas.

Of note is the CDC, which would be less than 200 ft north of Project 7B. The outdoor playground area of the CDC would experience perceptible increases in noise, particularly during peak construction activities. Therefore, during construction, the DAF and its contractors would implement appropriate measures to protect the health and safety of the children who could be in that area.

3.8.2.3 No Action Alternative

No effects on the noise environment would be expected under the No Action Alternative. The Proposed Action would not be implemented, and the overall noise environment would remain unchanged compared to existing conditions.

3.8.3 Reasonably Foreseeable Actions

Adverse noise effects from construction of the two RFAs would be short term and less than significant and would be similar in nature to the existing noise environment. Similarly, long-term noise effects from the RFAs would remain less than significant and would not contribute significantly to long-term effects at Keesler AFB. Simultaneous construction projects could result in short-term, less-than-significant adverse cumulative effects on the noise environment in the project vicinity and contribute to traffic noise on local roads. Because construction noise is short term and intermittent, the cumulative effects on the noise environment would be less than significant.

3.9 Earth Resources

The ROI for earth resources is generally limited to the construction footprint for projects and the immediately adjacent areas that could potentially be affected by the Proposed Action. Effects would be considered significant if the Proposed Action resulted in loss of farmland, impacts on unique soil features, or soil losses that impair or prevent plant growth. In addition, effects would be considered significant if altered topography and stormwater drainage resulted in excessive erosion within the site and adjacent area or excessive entrainment of sediment in stormwater leading to degradation of receiving waters.

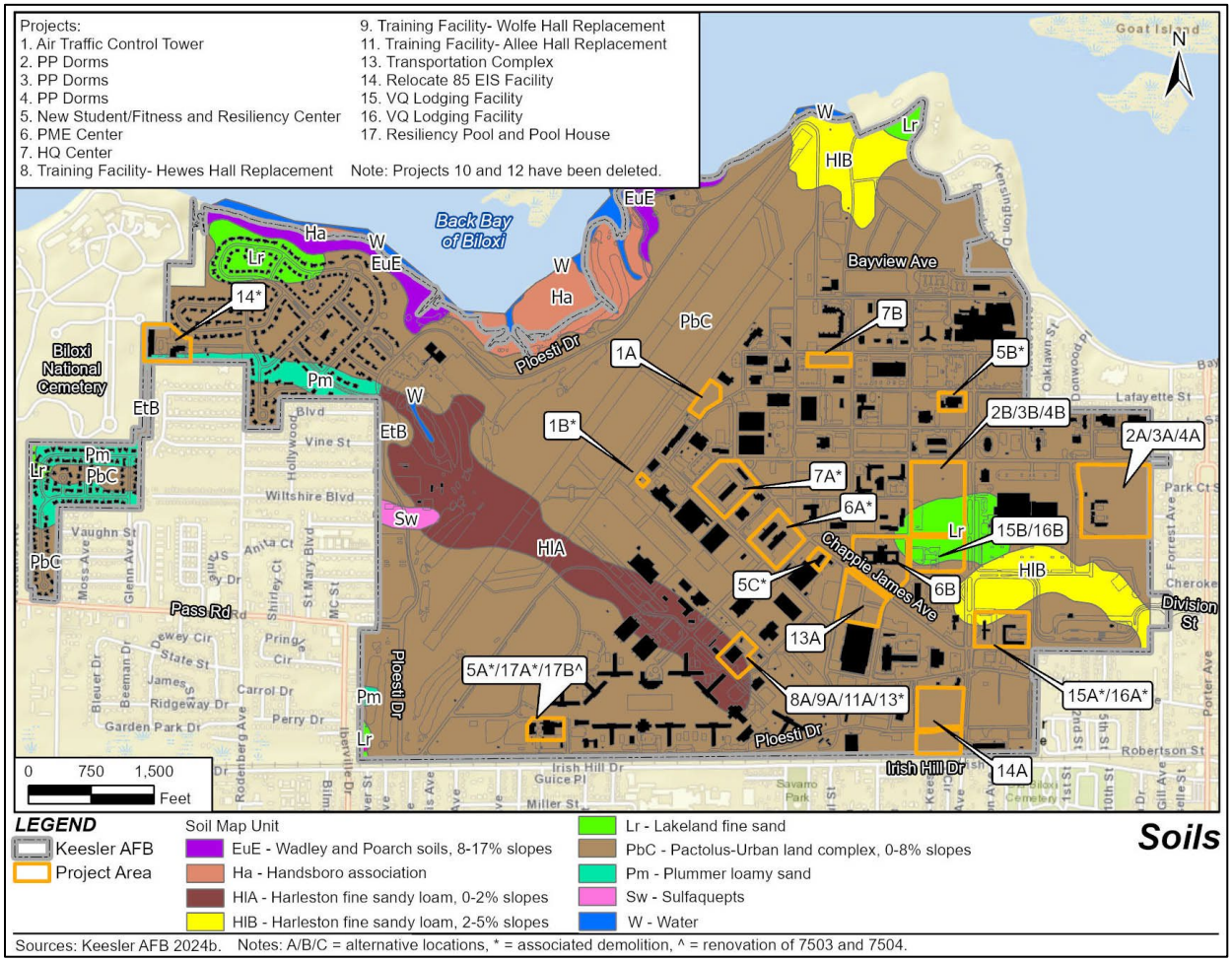
3.9.1 Affected Environment

Keesler AFB is within the Coastal Meadows (Flatwoods) topographical division of the Gulf Coast region. The terrain is generally flat or gently undulating with elevations averaging from 5 ft to 30 ft AMSL (Keesler AFB 2024c). Local relief is primarily the result of past depositional processes and more recent erosional processes. The elevation for the project area ranges from 15 ft to 20 ft AMSL. Surficial geology at Keesler AFB consists of unconsolidated coastal deposits comprised primarily of sand, gravel, loam, and clay (USGS 2021a).

The coastal area of Mississippi has not been seismically active in recent times, with only four minor earthquakes recorded since 1900 (USGS 2024a). No faults are identified within or in the vicinity of the site (USGS 2021b). U.S. Geological Survey (USGS) data indicate that an earthquake with a 2 percent likelihood of occurring in the next 50 years would have a peak ground acceleration (PGA) of 0.05 times the acceleration of gravity (g), or 0.05 g, and an

earthquake with a 10 percent likelihood of occurring in the next 50 years would have a PGA of 0.02 g (USGS 2024b). Earthquakes of that magnitude would be unlikely to cause any damage (FEMA 2020).

The dominant soil types at the base were formed from sandy or loamy upland materials. The sandy soils have good-to-fair drainage capacity and an estimated weight-bearing capacity of 3,000–5,000 pounds per square foot (Keesler AFB 2015b). Soil within the project area consist of the Pactolus-Urban land complex, Harleston fine sandy loam, and Lakeland fine sand (Figure 3-8). For the most part, the soils within the project area were previously disturbed during facility construction and are partially covered by existing development (i.e., buildings, parking lots, and sidewalks).



Note: The Section 106 consultation for the Proposed Action resulted in MDAH's determination that Building 1201 is eligible for listing in the NRHP. Consequently, the DAF will eliminate Project 5B and exclude the building's demolition and construction in its footprint from the current Proposed Action.

Figure 3-8. Soil Units at Keesler AFB.

The soil types have the following characteristics: no frequency of flooding or ponding, depth to restrictive layer of 80 inches or more, low runoff potential, non-hydric, and low susceptibility to erosion from wind and water. Additionally, the Pactolus-Urban land complex is not prime farmland; however, it is classified as farmland of statewide importance. The Harleston fine sandy loam is classified as prime farmland, and the Lakeland fine sand is not prime farmland.

Under the Farmland Protection Policy Act (7 U.S.C. §§ 4201–4209), federal programs are required to minimize the extent to which farmland is unnecessarily and irreversibly converted to nonagricultural uses. The Farmland Protection Act, however, does not apply to soils on military installations (NRCS 2021; Keesler AFB 2015b).

There are no oil or gas fields or active mining within Keesler AFB or its immediate vicinity (MDEQ 2009; USGS 2024c).

3.9.2 Environmental Consequences

3.9.2.1 Action Alternative, Option A (Preferred)

There would be short-term, less-than-significant adverse effects on soils from construction and no effects post-construction. Generally, effects can be avoided or minimized if proper construction techniques, erosion control measures, and final site restoration are incorporated into project development.

Construction. During construction, short-term, less-than-significant adverse effects on soils would be expected from implementing the Proposed Action. In total, the soil disturbance from construction would cover approximately 35 acres (see Table 3-8). Soil disturbance would occur across all five of the planning districts on the base. Most of the soil disturbance would occur in the Pactolus-Urban land complex (Figure 3-8). Soils would be protected from erosion during construction in accordance with the terms of the Large Construction General Permit (LCGP) issued by MDEQ. Stormwater runoff from construction activities (e.g., clearing, grading, excavating, and other land-disturbing activities) of 5 acres or more must be permitted under the LCGP. The permit also requires listing and describing site-specific controls appropriate for the construction activities, including measures to minimize the amount of soil exposed during construction activity, minimize sediment discharges from the site, minimize soil compaction, and preserve topsoil (Keesler AFB 2015b; MDEQ 2021). The DAF would prepare an Erosion and Sediment Control Plan for projects that would disturb more than 5 acres of land to minimize long-term erosion and sediment production at each site in accordance with MDEQ's LCGP. Implementing the controls and measures required under the LCGP would result in soil loss through wind and water erosion being less than significant.

Table 3-8. Soils Disturbance

EA Project Number, Project Title	Action Alternative, Option A (Preferred)	Action Alternative, Option B
Project 1, ATCT	0.5 ac of soil disturbance, current ground surface is covered by asphalt and concrete	Similar to Option A
Projects 2, 3, and 4, PP Dorms	New soil disturbance would occur, 10.2 acres of soil disturbance, previously disturbed open area would be developed	Similar to Option A
Project 5, New Student/ Fitness and Resiliency Center	3.7 ac of soil disturbance, current ground surface is covered by facility	Similar to Option A
Project 6, PME Center	1.2 ac of soil disturbance, current ground surface is covered by facility	Similar to Option A
Project 7, HQ Center	0.9 ac of soil disturbance, current ground surface is covered by facility	Similar to Option A, previously disturbed open area would be developed
Project 8, Training Facility-Hewes Hall Replacement	3.3 ac of soil disturbance, current ground surface is covered by facility or asphalt	Same as Option A
Project 9, Training Facility-Wolfe Hall Replacement	3.3 ac of soil disturbance, current ground surface is covered by facility or asphalt	Same as Option A

EA Project Number, Project Title	Action Alternative, Option A (Preferred)	Action Alternative, Option B
Project 11, Training Facility-Allee Hall Replacement	3.3 ac of soil disturbance, facility demolished, current ground surface is covered by facility or asphalt	Same as Option A
Project 13, Transportation Complex	1.8 ac of soil disturbance, current ground surface is covered by facility or asphalt	Same as Option A
Project 14, 85 EIS Facility	1.9 ac of soil disturbance, current ground surface is covered by facility or asphalt	Same as Option A
Project 15 and Project 16, VQ Lodging Facilities	1.7 ac of soil disturbance, current ground surface is covered by facility or asphalt	Same as Option A, current ground surface is covered by parking lot and open area
Project 17, Resiliency Pool and Pool (Bath) House	3.2 ac of soil disturbance	Existing buildings would be renovated and there would be no soil disturbance

Note: VQ = visiting quarters.

Topsoil would be stripped, segregated, and stabilized as construction begins to preserve existing topsoil. During site restoration, all topsoil would be reused within the project sites to reestablish green space. As part of restoration, areas to be revegetated would be de-compacted as necessary; topsoil would be spread; and seed, lime, and fertilizer would be applied as necessary to promote revegetation.

Effects on the topsoil resource would be less than significant with proper segregation and preservation during construction and reuse across the project sites to promote revegetation during final site restoration.

During construction, short-term, less-than-significant adverse effects on topography would be expected from implementing the projects. Topsoil stripping and grading of each site would create temporary minor changes to the site's topographic contours, which could temporarily impact site drainage, as stormwater collection within excavated areas would likely increase. Implementing LCGP requirements, however, would minimize soil loss and sediment discharges from the site.

Operations. During final restoration, excavated areas would be backfilled to grade and the site topography would be restored to allow drainage of stormwater to the Keesler AFB stormwater system, consistent with existing conditions. As a result, no permanent effects on site topography would be expected from the preferred alternative.

3.9.2.2 Action Alternative, Options B and C

Potential effects of Options B and C on soils and topography would be like those of Option A (see Table 3-8).

The amount of soil disturbance for the projects would be the same among alternatives, except for Project 17B, as it involves facility renovation.

3.9.2.3 No Action Alternative

Under the No Action Alternative, there would be no change to baseline conditions and there would be no effects.

3.9.3 Reasonably Foreseeable Actions

The construction activities for the two RFAs would take place on previously disturbed land and BMPs would be employed to control erosion and surface runoff during stormwater events. No

cumulative effects on earth resources would be expected from the RFAs. Individual construction projects for the Proposed Action would cause ground and soil disturbance at the construction sites only. Each construction project would alter natural soils, if present, and could convert previously permeable ground into impermeable surfaces, but these effects would be limited to the construction footprint and the appropriate erosion and stormwater controls would be implemented. The projects areas are all heavily developed and the majority of the soils have been previously disturbed. Because soil and surface runoff impacts would be limited to the individual construction site, cumulative effects on soils and surface runoff would be less than significant.

3.10 Water Resources

The ROI for water resources includes the groundwater, stormwater, surface water, wetlands, floodplains, and coastal zone resources in the Mississippi Coastal watershed.

The CWA has a goal of restoring and maintaining the chemical, physical, and biological integrity of waters (lakes, rivers, streams, wetlands, estuaries, and coastal zones) throughout the nation. The CWA establishes the basic structure for regulating discharges of pollutants into Waters of the United States (WOTUS) and regulating water quality standards for surface waters. Pertinent sections of the CWA include, but are not limited to, the following:

- Section 401 gives states and authorized Tribes the authority to grant, deny, or waive water quality certification of proposed federally licensed or permitted activities that may result in a discharge into WOTUS, with the USEPA overseeing the program to ensure conformity and compliance.
- Section 402 requires that all construction sites of 1 acre or more and municipal, industrial, and commercial facilities discharging wastewater or stormwater from a point source (a pipe, ditch, or channel) into a surface water of the United States (a lake, river, and/or ocean) must obtain permission under a National Pollutant Discharge Elimination System (NPDES) permit. Authority is delegated to states and authorized Tribes, with USEPA overseeing conformity and compliance.
- Section 404 regulates development activities in WOTUS, including wetlands. It requires a permit from USACE for dredging and filling of WOTUS, including wetlands.

Section 438 of the Energy and Independence Security Act (EISA) requires all federal agencies, including DoD, to reduce stormwater runoff from federal development projects with footprints that exceed 5,000 SF. These projects shall use site planning, design, construction, and maintenance strategies for the property and maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property, including temperature, rate, volume, and duration of flow.

EO 11990, *Protection of Wetlands*, is intended to minimize the destruction, loss, and degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. Federal agencies are required to consider alternatives to the use of wetland sites and to limit potential damage if an activity affecting a wetland cannot be avoided.

EO 11988 requires federal agencies to avoid to the greatest extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. Section 2 of the EO states that:

…each agency has a responsibility to evaluate the potential impacts of any actions it may take in a floodplain; to ensure that its planning programs and budget requests reflect consideration of

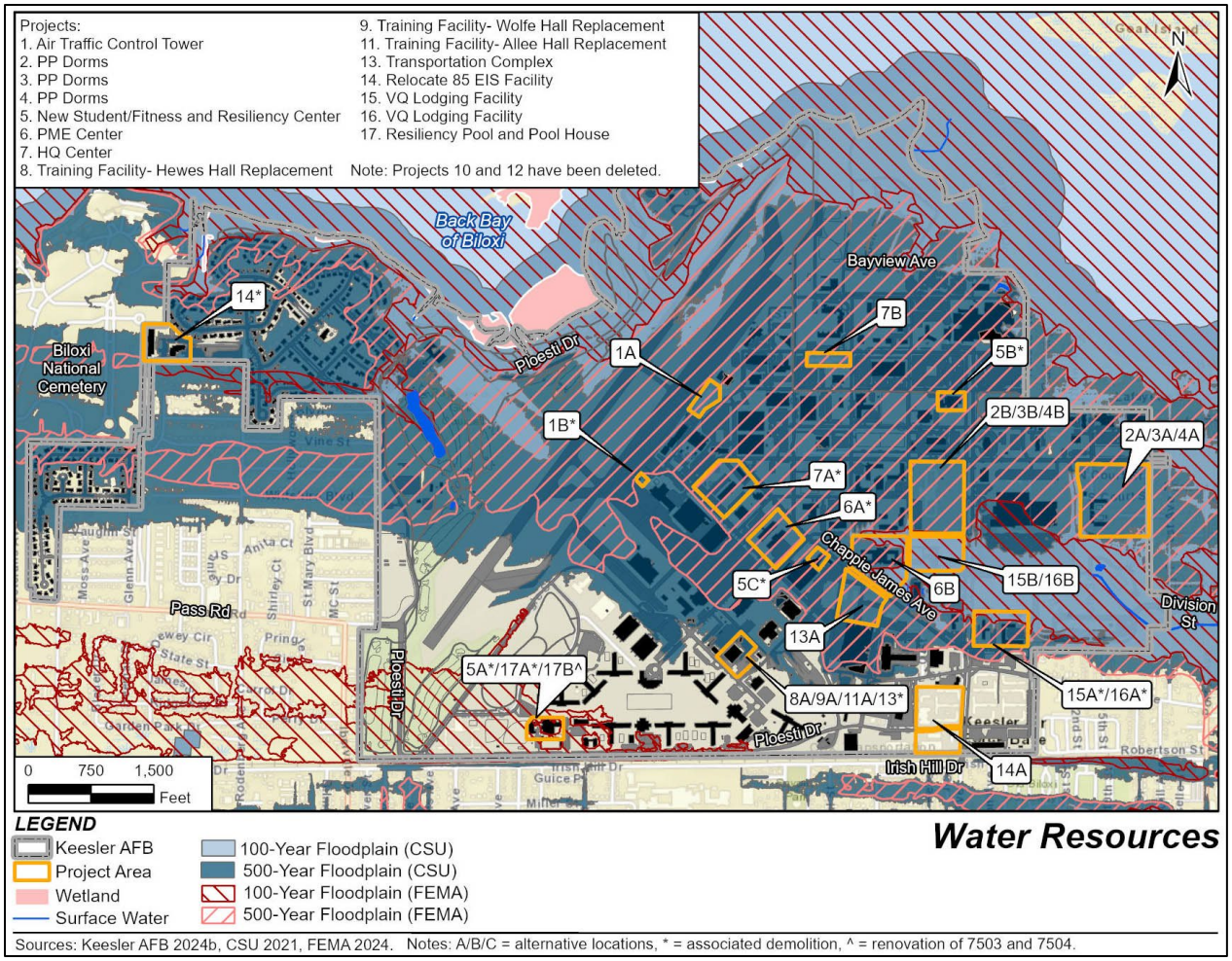
flood hazards and floodplain management; and to prescribe procedures to implement the policies and requirements of this Order.

The federal Coastal Zone Management Act of 1972, as amended (CZMA) (16 U.S.C. § 1451 *et seq*.) requires that all federal actions that may have reasonably foreseeable effects on the uses or resources of a state's coastal zone be consistent with the enforceable policies of the state's National Oceanic and Atmospheric Administration- (NOAA-) approved coastal management program to the maximum extent practicable. Federal lands, such as Keesler AFB, are excluded from the state's coastal zone, although "spill-over" effects occurring outside federals lands must still be considered. The federal agency ultimately determines whether the Proposed Action is consistent to the maximum extent practicable (15 CFR §§ 930.32 and 930.43(d) and (e)).

3.10.1 Affected Environment

Water resources at Keesler AFB include wetlands, streams, ponds, and coastal zone resources in the Mississippi Coastal watershed (USGS Hydrologic Unit Code [HUC] 03170009). Most projects included in the Proposed Action are in the Back Bay of Biloxi watershed, which drains the majority of Keesler AFB, and three projects are in the Ship Island Pass-Mississippi Sound watershed, which drains the southwestern corner and southernmost portion of the installation (Figure 3-9) (USGS 2024c; Keesler AFB 2024c).

Water resources at Keesler AFB also include floodplains and stormwater. Figure 3-9 shows the Federal Emergency Management Agency (FEMA) and Colorado State University (CSU) extents of a 100-year floodplain (an area with a 1 percent annual chance of flood hazard) and a 500-year floodplain (an area with a 0.2 percent annual chance of flood hazard) on Keesler AFB.



Note: The Section 106 consultation for the Proposed Action resulted in MDAH's determination that Building 1201 is eligible for listing in the NRHP. Consequently, the DAF will eliminate Project 5B and exclude the building's demolition and construction in its footprint from the current Proposed Action.

Figure 3-9. Keesler AFB Water Resources and Project Locations.

3.10.1.1 Surface Water

According to topographic maps and aerial photographs, several small ponds are located on the golf course and in the residential areas of Keesler AFB. A pond and concrete-lined channel, Outfall 6, are located southeast of the base exchange and travel southeast off the installation discharging through Keegan Bayou into the Back Bay of Biloxi (USGS 2024c). No other permanent bodies of water are located on the installation.

The base has coverage under MDEQ Permit No. MSRMS4023, the statewide Small Municipal Separate Storm Sewer System (MS4) general permit for municipal activities. Permit No. MSRMS4023 authorizes the discharge to WOTUS of stormwater and defined non-stormwater in compliance with separate NPDES permits. It also requires the development of a Storm Water Management Plan (SWMP), which describes BMPs and goals to reduce the discharge of pollutants to stormwater (Keesler AFB 2024g). Water from facilities at Keesler AFB discharges through NPDES-permitted outfalls, which, in turn, discharge to the Back Bay of Biloxi and the Mississippi Sound. The Proposed Action sites drain into the Mississippi Sound via the City of Biloxi stormwater system.

Keesler AFB relies on MDEQ guidance in review of all plans and stormwater-related activities. Its SWMP defines the stormwater requirements for construction, post-construction, and monitoring activities as well as for compliance education. BMPs are required for all construction activities at Keesler AFB, regardless of the footprint size of the project. Example construction site runoff control BMPs include the following (Keesler AFB 2024g):

- Implementing erosion and sediment control measures.
- Establishing procedures for controlling construction waste.
- Developing a procedure to review construction site plans for proper sediment control.
- Conducting inspections and enforcing stormwater requirements at construction sites.

Projects disturbing more than 1 acre, but less than 5 acres are required to obtain a Small Construction General Permit (SCGP) issued by MDEQ. Projects disturbing more than 5 acres are required to comply with MDEQ's LCGP. Developers also must develop a site-specific Stormwater Pollution Prevention Plan (SWPPP) for land-disturbing activities, which details pollution prevention measures, including BMPs, to reduce and control pollutants in stormwater discharge. Example post-construction runoff control BMPs include the following (Keesler AFB 2024g):

- Establishing an ordinance, regulatory mechanism, or other binding agreement, as appropriate, addressing post-construction runoff.
- Implementing a program to ensure adequate long-term operation and maintenance of BMPs.

On Keesler AFB, monthly stormwater outfall assessments are performed during or after significant rain events and during dry weather events to detect illicit discharges; additional outfall sampling may be conducted up to twice per year.

MDEQ is responsible for assessing waters of the state to determine if they meet water quality standards set for each water body consistent with CWA Section 303(d). Every 2 years, states submit to USEPA a list of impaired waters not meeting water quality standards based on their designated use (USEPA 2024d; MDEQ 2024b). No water bodies in HUC 03170009 or on Keesler AFB were identified as impaired in 2022 (MDEQ 2024b).

3.10.1.2 Groundwater

Groundwater in Harrison County is stored in surficial coastal deposits, including the Citronelle and Miocene aquifers. Keesler AFB's primary water source is the Miocene aquifer system (Keesler AFB 2024c). At Keesler AFB, the Miocene aquifer extends from a depth of approximately 20 ft to more than 3,500 ft below ground surface (Keesler AFB 2021b). Groundwater is susceptible to pollution by per- and polyfluoroalkyl substances (PFAS). PFAS can be transported through stormwater runoff to surface waters or infiltrate the soil and migrate into groundwater supplies. Recent sampling of groundwater identified PFAS concentrations above the regional screening levels at the Project 1A proposed site (Patton 2024, personal communication). See the affected environment discussion in Section 3.13, "Hazardous Materials and Hazardous Wastes," for a discussion of PFAS.

3.10.1.3 Floodplains

EO 11988 mandates that federal agencies avoid supporting development in or affecting the 100-year floodplain when there is a practicable alternative. Federal agencies also are required

to reduce the risk of flood loss; minimize flood impacts on human health, safety, and welfare; and preserve the natural beneficial value of floodplains.

The 2015 IDP identified the floodplains as a natural planning developmental constraint for the base. In April 2021, CSU published a review of FEMA's Flood Insurance Rate Map database for Keesler AFB and findings that the existing 2009 flood maps were outdated. CSU then generated new flood maps for Keesler AFB using high-resolution elevation, precise land cover, and two-dimensional hydraulic modeling data (CSU 2021). The majority of Keesler AFB lies within the 100- or 500-year floodplain according to both CSU and FEMA maps (see Figure 3-9). The FEMA 100-year floodplain extent covers approximately 278 acres and the CSU extent covers approximately 277 acres, representing about 20 percent of the main base's total area of roughly 1,400 acres. The FEMA 500-year floodplain extent covers approximately 695 acres and the CSU extent covers approximately 788 acres, representing 49.6 percent and 56.3 percent, respectively, of the total main base area. Approximately 69 percent of the main base is in the floodplain according to FEMA, while CSU reports approximately 76 percent.

Keesler AFB reduces flood damage through a comprehensive floodplain management program (Keesler AFB 2024c). After Hurricane Katrina in 2005, new construction requirements were set, including finished first floors at 20 ft AMSL and structures built on land at least 16 ft AMSL (Keesler AFB 2024c).

All or portions of the following Action Alternative project sites are located within the CSU or FEMA extent 100-year floodplain (Figure 3-9 and Table 3-9):

- Project 2A/3A/4A and 2B/3B/4B
- Project 5A
- Project 6B
- Projects 15A and 15B and 16A and 16B
- Project 17A

Table 3-9. Estimated Area of Disturbance within the 100-yr Floodplain

EA Project Number, Project Title	Estimated Acreage Disturbed	
	FEMA	CSU
Projects 2A/3A/4A, Permanent Party Dormitories	0.0	0.5
Projects 2B/3B/4B, Permanent Party Dormitories	0.2	0.3
Project 5A, New Student/ Fitness and Resiliency Center	1.5	0.0
Project 6B, PME Center	2.8	4.0
Projects 15A/16A, VQ Lodging Facilities	1.5	0.8
Project 15B/16B, VQ Lodging Facilities	6.0	6.0
Project 17A, Resiliency Pool and Pool (Bath) House	1.5	0.0

Sources: CSU 2021; FEMA 2024; Keesler AFB 2024b.
Note: VQ = visiting quarters.

All or portions of the following construction projects are located within the CSU or FEMA extent 500-year floodplain (Note: The demolition activities for Projects 13 and 14 are located at sites different from their respective proposed construction locations.):

- Project 1A and 1B

- Projects 2A/3A/4A
- Projects 2B/3B/4B
- Project 5B and 5C
- Project 6A and 6B
- Project 7A and 7B
- Projects 8/A, 9/A, and 11A
- Project 13A
- Projects 15A/16A

Project 14A, the new 85 EIS facility, is the only project location outside the CSU and FEMA extent 100-year and 500-year floodplains and has minimal flood risk (Figure 3-9).

The National Storm Surge Hazard Maps of the NOAA illustrate portions of Keesler AFB that experience storm surge from the Back Bay of Biloxi (NHC 2024). Those areas are along the coast and to the northeast in tidally influenced wetlands.

3.10.1.4 Coastal Zone

Harrison County is within the state's designated coastal zone; however, federal lands, including Keesler AFB, are excluded from the state's coastal zone. Spill-over effects from a federal action at Keesler AFB are subject to state review under the CZMA; therefore, Keesler AFB must determine whether its activities are reasonably likely to have spill-over effects outside federal lands affecting any coastal use or coastal resource and, if so, to conduct those activities so they are compliant with the Mississippi Coastal Program to the maximum extent practicable. The DAF is required to submit a coastal consistency determination and supporting materials no later than 90 days before final approval of the federal activity identified with spill-over effects unless both the federal and state agencies agree to a different schedule. MDMR's IICEP response states that the Proposed Action does not include activities regulated under the Coastal Wetlands Protection Act or activities subject to review under the state's approved Coastal Program.

3.10.2 Environmental Consequences

Effects on water resources would be considered significant if the proposed activities would reduce water availability or supply; exceed safe annual yield of water supplies; adversely affect water quality; damage or threaten hydrology; or violate water resources laws, regulations, or permit conditions.

3.10.2.1 Action Alternative, Option A (Preferred)

Short- and long-term, less-than-significant adverse effects on surface water would be expected. Short-term, less-than-significant adverse effects would be caused by site-specific temporary changes in surface hydrology and the potential for soil erosion and transport during C&D activities. Long-term, less-than-significant adverse effects would be caused by an increase in impervious surfaces from new construction and facilities on the 100-year floodplain.

Proposed activities would not reduce water availability or supply; exceed safe annual yield of water supplies; adversely affect water quality; damage or threaten hydrology; or violate water resources laws, regulations, or permits.

No modifications would be expected to be made to the existing MS4 permit, BMPs, or monitoring programs.

Option A would be implemented in accordance with Section 438 of the EISA. The construction contractor for the DAF would prepare an Erosion and Sediment Control Plan according to MDEQ's SCGP for projects disturbing more than 1 acre but less than 5 acres and MDEQ's LCGP for projects disturbing more than 5 acres to minimize long-term erosion and sediment production at each site. None of the individual proposed projects, however, are of a magnitude at which more than 5 acres of land would be disturbed at a proposed site. Implementing the LCGP, SCGP, SWPPP, and LID controls would minimize potential erosion, impacts on stormwater quality from sediment, and alteration of existing drainage patterns during construction and operations.

Construction. Ground disturbance and the use of construction equipment during construction, demolition, and renovation activities would result in short-term, less-than-significant adverse effects on water resources. Those effects would be temporary and would end with the construction phase. C&D would result in ground surface disturbance, which could cause soil erosion and subsequent transport of sediment via stormwater, and construction equipment could potentially leak petroleum, oil, and lubricants (POL), which also could be transported via stormwater. Potential effects would be minimized, however, through properly implementing environmental protection requirements of an SWPPP; following policies and procedures as detailed in an Erosion and Sediment Control Plan and the Spill Prevention, Control, and Countermeasures (SPCC) Plan; and coordinating with regulatory agencies to obtain required permits prior to ground-breaking activities. Implementing the SWPPP would protect water quality. Any construction or land-disturbing activity that would disturb the soil on 5 or more acres would require a stormwater discharge permit from MDEQ. In addition, a site-specific SWPPP would be developed for land-disturbing activities. In accordance with EISA Section 438, a variety of stormwater management practices would be incorporated into the proposed development and redevelopment projects to the maximum extent technically feasible to maintain or restore predevelopment site hydrology.

Long-term, less-than-significant adverse effects on water resources would result from the addition of impervious area on the installation and construction in a floodplain. Proposed projects would add 12 acres of new impervious surface to the installation from new construction, and demolition associated with Projects 1, 5, 6, 7, 13A, 14, 15, 16, and 17 would remove approximately 9 acres of impervious surface, resulting in a net addition of 3 acres of impervious surface.

The additional impervious area would reduce rainwater infiltration, increase the amount of stormwater runoff, and have the potential to affect water flows and quality in receiving streams. Stormwater effects would be minimized through the implementation of post-construction stormwater BMPs.

DAF policy states construction of new or replacement facilities within flood-prone areas should be avoided. The 2015 IDP and Figure 3 9 indicate that extensive floodplain coverage at Keesler AFB significantly limits alternative development locations on the base. Table 3-9 indicates that Projects 2A/3A/4A; 2B/3B/4B; 5A/17A/17B; 6B; 15A/16A; and 15B/16B are partially or entirely within the 100-year floodplain. Similarly, Projects 1A and 1B; 2A/3A/4A; 2B/3B/4B; 5B and 5C; 6A and 6B; 7A and 7B; 8/9/11/13; 13A; 14; and 15A/16A are within the 500-year floodplain. To maintain operational efficiency, related missions and functions must be collocated. Consequently, the base has no alternative locations for these projects and only the proposed sites meet the purpose and need of the Proposed Action. Therefore, a FONPA has been prepared.

Construction on floodplains must meet the requirements of the Keesler AFB comprehensive floodplain management program: finished first floors of new permanent facilities must be 20 ft AMSL and land elevation for all structures must be at least 16 ft AMSL (Keesler AFB 2024c). Additionally, construction would adhere to the guidelines set forth in Directive-type Memorandum 22-003, *Flood Hazard Area Management for DoD Installations*, which include implementing appropriate flood risk mitigation based on mission essentiality, as outlined in UFC 3-201-01, *Civil Engineering*.

If a project is constructed near or on PFAS-contaminated sites and contaminated groundwater is encountered during construction, installation or contractor personnel would manage it in accordance with DAF, MDEQ, and USEPA guidance. With proper media management, no further contamination or migration of PFAS from the groundwater would be expected to occur. See Section 3.13 for further PFAS discussion and dewatering permit requirements.

Operations. Less-than-significant effects on water resources would be caused by the operations and maintenance activities associated with the Proposed Action. The nature and overall level of operations at the base would be similar to current conditions. Hazardous materials and wastes would be managed in accordance with the installation SPCC Plan, which would minimize potential effects on surface waters.

The Keesler AFB SWMP provides engineering and management strategies designed to improve the quality of stormwater runoff from the installation (Keesler AFB 2024g). The efficiencies gained from construction, renovation, and demolition would reduce the maintenance and operational requirements of facilities and project areas; therefore, the operational effects on water resources would be less-than-significant.

3.10.2.2 Action Alternative, Options B and C

The nature and overall effects of Options B and C on water resources would be similar to those of Option A. All regulations and BMPs applicable to Option A also would be applicable to Options B and C.

3.10.2.3 No Action Alternative

No adverse effects on water resources would be expected under the No Action Alternative. The construction, demolition, and renovation projects would not occur. Water resources would remain unchanged compared to existing conditions.

3.10.3 Reasonably Foreseeable Actions

The two RFAs would each exceed 1 acre in size. Short-term, less-than-significant adverse cumulative effects on water resources would be expected. Individual construction projects would cause soil disturbance that would contribute sediment to stormwater runoff, and any spillage of POL or other hazardous materials at construction sites would likely contaminate stormwater runoff. Most stormwater at Keesler AFB drains to the Back Bay of Biloxi, so simultaneous construction projects would be expected to have cumulative effects on surface water quality. Stormwater runoff and spills and leakage from equipment during construction would be controlled by implementing BMPs in accordance with the LCGP, and post-construction runoff from each new development would be controlled in accordance with the SWPPP. The construction contractor would comply with the LCGP. Implementing the SWPPP would minimize the effects associated with stormwater runoff during construction. Cumulative effects on surface waters, therefore, would be less than significant.

3.11 Biological Resources

The ROI for biological resources is Keesler AFB. Effects on biological resources would be considered significant if the Proposed Action resulted in substantial permanent conversion or net loss of habitat, long-term loss or impairment of local habitat (species-dependent), loss of populations of species, or unpermitted or unlawful "take" of federally protected species.

3.11.1 Affected Environment

This section describes existing conditions for vegetation, wildlife, invasive species, and threatened and endangered species known or suspected to occur on Keesler AFB. Per requirements of the Sikes Act (16 U.S.C. § 670a–o), Keesler AFB developed and implemented an Integrated Natural Resources Management Plan (INRMP), outlining how it manages natural resources on the base. The Keesler AFB INRMP discusses in detail the vegetative communities, wildlife, and protected species associated with the base (Keesler AFB 2024c).

3.11.1.1 Vegetation

Keesler AFB lies within the Outer Coastal Plain Mixed Forest Province ecological area. Vegetation in the province is characteristic of a temperate rainforest and includes evergreen and laurel forests (Keesler AFB 2024c). The vegetation on Keesler AFB is characterized by urban and suburban flora, with a few naturally vegetated wetlands bordering the Back Bay of Biloxi. Most of Keesler AFB is developed and occupied by buildings, a runway, roadways, and parking. Underdeveloped portions of the base are grassed areas, coastal wetlands, and urban forest. No coastal wetlands occur in the proposed project locations. Undeveloped but maintained open areas are dominated by Bermuda grass (*Cynodon dactylon*), centipede grass (*Eremochloa ophiuroides*), and St. Augustine grass (*Stenotaphrum secundatum*).

More than 8,275 trees are found on Keesler AFB in open areas between buildings and semi-improved areas that include American holly (*Ilex opaca*), bald cypress (*Taxodium distichum*), loblolly pine (*Pinus taeda*), slash pine (*P. elliottii*), and southern live oak (*Quercus virginiana*) (Keesler AFB 2021c). Other common native trees include green ash (*Fraxinus pennsylvanica*), northern red oak (*Quercus rubra*), river birch (*Betula nigra*), Shumard oak (*Q. shumardii*), southern magnolia (*Magnolia grandiflora*), sweetgum (*Liquidambar styraciflua*), turkey oak (*Q. laevis*), water oak (*Q. nigra*), and willow oak (*Q. phellos*). Common nonnative trees include Bradford pear (*Pyrus calleryana*), crepe myrtle (*Lagerstroemia spp*), and lacebark elm (*Ulmus parvifolia*).

Forests of live oak trees draped with Spanish moss (*Tillandsia usneoides*) on Keesler AFB are representative of the historic maritime forest along the U.S. Gulf Coast (Keesler AFB 2024c). More than 200 of the larger live oaks on Keesler AFB have a diameter at breast height (dbh) of more than 44 inches, are estimated to be more than 200 years old, and are designated as "Heritage Trees" by the City of Biloxi. They are removed only if permanently damaged by lightning, disease, or wind or if they pose a safety hazard to aircraft (Keesler AFB 2024c).

A base-wide tree inventory was conducted in 2021, and a list of characteristics and management recommendations for 178 individual trees is maintained through a separate Action Area Tree inventory (Keesler AFB 2021c).

3.11.1.2 Wildlife

Fish and wildlife management on Keesler AFB focuses on the coastal salt marsh wetlands along the Back Bay of Biloxi (Keesler AFB 2024c). Hunting and trapping are not permitted on the base. Issues concerning fish and wildlife management include the licensing program for

fishing, wetland habitat conservation, managing nuisance wildlife species, and the bird/ wildlife aircraft strike hazard (BASH) program. Keesler AFB manages grass height near the flight line and flight safety zones through the base's BASH Plan (81st Training Wing 2016a, cited in Keesler AFB 2024c). The grass in those areas is mowed to a standard height of 7–10 inches, which effectively discourages birds from using the aircraft takeoff and landing areas (Lanier 2024b, personal communication). None of the proposed project locations is within the flight line or a flight safety zone.

Common wildlife occurring on Keesler AFB includes eastern gray squirrel (*Sciurus carolinensis*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), raccoon (*Procyon lotor*), rock pigeon (*Columba livia*), and Virginia opossum (*Didelphis virginiana*).

3.11.1.3 Invasive Species

EO 13751, *Safeguarding the Nation from the Impacts of Invasive Species*, calls for actions:

> …to prevent the introduction of invasive species and provide for their control and to minimize the economic, plant, animal, ecological, and human health impacts that invasive species cause…

Invasive plants on Keesler AFB include black elderberry (*Sambucus nigra*), Chinese tallow tree (*Triadica sebifera*), and cogon grass (*Imperata cylindrica*) (Keesler AFB 2024c).

3.11.1.4 Threatened and Endangered Species and Species of Concern

The Endangered Species Act (ESA) established measures to protect plant and animal species federally listed as threatened or endangered and to conserve habitats critical to their survival. Under the ESA, an "endangered species" is "any species in danger of extinction throughout all or a significant portion of its range" and a "threatened species" is "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." In addition, USFWS maintains a list of species considered candidates for possible listing under the ESA (50 CFR § 17.11(h)). The ESA also allows the designation of geographic areas as critical habitat for threatened or endangered species.

It should be noted that the 2004 National Defense Authorization Act amended the ESA to preclude critical habitat designation on lands controlled or owned by DoD that are subject to an INRMP under the Sikes Act. That amendment does not exclude DoD, however, from complying with ESA Section 7 consultation requirements. Although candidate species receive no statutory protection under the ESA, USFWS advises government agencies, industry, and the public that these species are at risk and may warrant protection under the ESA.

No federally endangered or threatened species are known to occur on Keesler AFB and there are no designated critical habitats (Keesler AFB 2024c; USFWS 2024a). The tricolored bat (*Perimyotis subflavus*), a proposed endangered species, is documented on-base, and several federally and state-listed species of concern are known to occur in the vicinity of the base (Keesler AFB 2024c; MNHP 2024; USFWS 2024a). Potential habitats for the bald eagle (*Haliaeetus leucocephalus*), federally protected under the Bald and Golden Eagle Protection Act (BGEPA), have been found near the base (Keesler AFB 2024c). Habitat for other federally listed species and state species of concern might occur in areas adjacent to Keesler AFB, including the open waters of the Back Bay of Biloxi, Keegan Bayou, and other wetlands.

In 2023, USFWS biological science technicians from Red River National Wildlife Refuge conducted surveys at Keesler AFB to monitor the alligator snapping turtle (*Macrochelys temminckii*), little brown bat *(Myotis lucifugus*), and tricolored bat populations (USFWS 2023).

Tricolored bats were detected at high enough confidence levels to confirm their presence, while little brown bats will need manual identification to confirm. Between seven and 23 tricolored bats were detected by the USFWS technicians using Anabat Swift passive detectors at Keesler AFB. This species primarily roosts among leaf clusters of live or recently dead deciduous hardwood trees as well as Spanish moss (USFWS 2024b). Alligator snapping turtle, a proposed threatened species, was not found along the Back Bay of Biloxi coastline.

Information specific to the Proposed Action sites was obtained via USFWS's Information for Planning and Consultation (IPAC) website and the IICEP correspondence with USFWS and the MNHP (MNHP 2024; USFWS 2024c). The IPAC identified the following species as potentially affected by activities of the Proposed Action: one mammal—West Indian manatee (*Trichechus manatus*); three birds—astern black rail (*Laterallus jamaicensis*), piping plover (*Charadrius melodus)*, and rufa red knot (*Calidris canutus rufa*); six reptiles—Alabama red-bellied turtle (*Pseudemys alabamensis*), alligator snapping turtle, gopher tortoise (*Gopherus polyphemus*), Hawksbill sea turtle (*Eretmochelys imbricata*), Kemp's ridley sea turtle (Lepidochelys kempii), and leatherback sea turtle (*Dermochelys coriacea*); one fish—gulf sturgeon (*Acipenser oxyrinchus*); one insect—monarch butterfly (*Danaus plexippus*); and one plant—Louisiana quillwort (*Isoetes louisianensis*).

The proposed project sites are not within the current consultation range of the tricolored bat (Felder 2024a, personal communication). Protections for the tricolored bat under the ESA will take effect upon the publication of the USFWS final rule to list the species as endangered. MNHP's review of the Proposed Action indicated no state-listed species or species of concern occur at the proposed project sites but identified 54 federally and state-listed species and state species of concern that may occur within 2 miles (MNHP 2024). Appendix A includes the agency correspondence, and the IPAC results are listed in Appendix D.

Table 3-10 presents the federally and state-listed species and species of concern on and in the vicinity of Keesler AFB. The information in the table is derived from the Keesler AFB INRMP, IPAC, USFWS monitoring program, USFWS and MNHP IICEP correspondence, and MNHP Special Animals Tracking List.

Table 3-10. Federally and State-Listed Species and Species of Concern that may occur on or in the Vicinity of Keesler AFB

Common Name	Scientific Name	Federal Status	State Status	Occurrence at Keesler AFB
Fishes				
Giant ocean manta ray	*Manta birostris*	T	None	Not likely to occur in Back Bay of Biloxi
Gulf sturgeon	*Acipenser oxyrhynchus desotoi*	T	E	May occur in Back Bay of Biloxi
Saltmarsh topminnow	*Fundulus jenkinsi*		SOC	May occur within 2 miles of project area
Smalltooth sawfish	*Pristis pectinata*	E	None	Not likely to occur in Back Bay of Biloxi
Reptiles				
Eastern indigo snake	*Drymarchon corais couperi*	T	E	Not likely to occur on-base
Alabama red-bellied turtle	*Pseudemys alabamensis*	E	E	May occur in Back Bay of Biloxi, Keegan Bayou, and adjacent wetlands
Alligator snapping turtle	*Macrochelys temminckii*	PT	SOC	Not observed in Back Bay of Biloxi
Black pine snake	*Pituophis melanoleucus lodingi*	T	E	Not likely to occur on-base

Common Name	Scientific Name	Federal Status	State Status	Occurrence at Keesler AFB
Gopher tortoise	*Gopherus polyphemus*	T	E	Not likely to occur on-base
Green sea turtle	*Chelonia mydas*	T	E	May occur in Back Bay of Biloxi, but no habitat exists for nesting on-base
Gulf salt marsh snake	*Nerodia clarkii clarkii*	None	SOC	May occur in Back Bay of Biloxi, Keegan Bayou, and adjacent wetlands
Hawksbill sea turtle	*Eretmochelys imbricata*	E	E	May occur in Back Bay of Biloxi, but no habitat exists for nesting on-base
Kemp's ridley sea turtle	*Lepidochelys kempii*	E	E	May occur in Back Bay of Biloxi, but no habitat exists for nesting on-base
Leatherback sea turtle	*Dermochelys coriacea*	E	E	May occur in Back Bay of Biloxi, but no habitat exists for nesting on-base
Loggerhead sea turtle	*Caretta caretta*	T	E	May occur in Back Bay of Biloxi, but no habitat exists for nesting on-base
Mississippi diamondback terrapin	*Malaclemys terrapin pileata*	None	SOC	May occur in Back Bay of Biloxi, Keegan Bayou, and adjacent wetlands
Rainbow snake	*Farancia erytrogramma*	None	E	May occur in Back Bay of Biloxi, Keegan Bayou, and adjacent wetlands
Slender glass lizard	*Ophisaurus attenuatus*		SOC	May occur within 2 miles of project area
Southern hognose snake	*Heterodon simus*	None	E	Not likely to occur on-base
Amphibians				
Dusky gopher frog	*Rana capito sevosa*	E	E	Not likely to occur on-base
Birds				
American kestrel	*Falco sparverius*		SOC	May occur within 2 miles of project area
American oystercatcher	*Haematopus palliates*		SOC	May occur within 2 miles of project area
Bald eagle	*Haliaeetus leucocephalus*	None[a]	SOC	May forage on Back Bay of Biloxi
Bewick's wren	*Thryomanes bewickii*	None	E	May forage along the coast of Back Bay of Biloxi in winter
Black skimmer	*Pynchops niger*		SOC	May occur within 2 miles of project area
Brown pelican	*Pelecanus occidentalis*	None	E	Observed on Back Bay of Biloxi
Cerulean warbler	*Setophaga cerulea*		SOC	May occur within 2 miles of project area
Least tern	*Sternula antillarum*		SOC	May occur within 2 miles of project area
Marbled godwit	*Limosa fedoa*		SOC	May occur within 2 miles of project area
Mississippi sandhill crane	*Antigone canadensis pulla*	E	E	Not likely to occur on-base
Nelson's sharp-tailed sparrow	*Ammodramus nelsoni*		SOC	May occur within 2 miles of project area
Piping plover	*Charadrius melodus*	T	E	May forage along sandy area of Back Bay of Biloxi in winter
Red-cockaded woodpecker	*Picoides borealis*	E	E	Not likely to occur on-base
Royal tern	*Thalasseus maximus*		SOC	May occur within 2 miles of project area
Rufa red knot	*Calidris canutus rufa*	T	SOC	Not likely to occur on-base
Seaside sparrow	*Ammodramus maritimus*		SOC	May occur within 2 miles of project area

Common Name	Scientific Name	Federal Status	State Status	Occurrence at Keesler AFB
Sharp-shinned hawk	*Accipiter striatus*		SOC	May occur within 2 miles of project area
Snowy plover	*Charadrius nivosus*		SOC	May occur within 2 miles of project area
Wood stork	*Mycteria americana*	T	E	Not likely to occur on-base
Mammals				
Tricolored bat	*Perimyotis subflavus*	PE	SOC	Detected on-base
West Indian manatee	*Trichechus manatus*	T	E	May occasionally occur in Back Bay of Biloxi
Insects				
Band-winged dragonlet	*Erthrodiplax umbrata*		SOC	May occur within 2 miles of project area
Cherry bluet	*Enallagma concisum*		SOC	May occur within 2 miles of project area
Plants				
Beach sand-squares	*Paronychia erecta var. corymbosa*		SOC	May occur within 2 miles of project area
Bill-bird spikegrass	*Chasmanthium ornithorhynchum*		SOC	May occur within 2 miles of project area
Britton's spikerush	*Eleocharis brittonii*		SOC	May occur within 2 miles of project area
Broad-leaved hairy nutrush	*Scleria ciliata var elliottii*		SOC	May occur within 2 miles of project area
Capillary hairsedge	*Bulbostylis ciliatiflora var. ciliatifolia*		SOC	May occur within 2 miles of project area
Carolina clover	*Trifolium carolinianum*		SOC	May occur within 2 miles of project area
Coast ground-cherry	*Physalis angustifolia*		SOC	May occur within 2 miles of project area
Coastal-sand frostweed	*Crocanthemum arenicola*		SOC	May occur within 2 miles of project area
Elliott's bluestem	*Andropogon perangustatus*		SOC	May occur within 2 miles of project area
Few-flowered beakrush	*Rhynchospora rariflora*		SOC	May occur within 2 miles of project area
Georgia frostweed	*Crocanthemum georgianum*		SOC	May occur within 2 miles of project area
Hairy fimbry	*Fimbristylis puberula var. puberula*		SOC	May occur within 2 miles of project area
Harvey's beakrush	*Rhynchospora harveyi*		SOC	May occur within 2 miles of project area
Hooker's milkwort	*Polygala hookeri*		SOC	May occur within 2 miles of project area
Hornwort	*Anthoceros punctatus*		SOC	May occur within 2 miles of project area
Le Conte's flatsedge	*Cyperus lecontei*		SOC	May occur within 2 miles of project area
Liverwort	*Drepanolejeunea mosenii*		SOC	May occur within 2 miles of project area
Louisiana quillwort	*Isoetes louisianensis*	E	SOC	Not likely to occur on-base
Marsh fimbry	*Fimbristylis castanea*		SOC	May occur within 2 miles of project area
Muehlenberg's nutrush	*Scleria muehlenbergii*		SOC	May occur within 2 miles of project area
Night-flowering wild-petunia	*Ruellia noctiflora*		SOC	May occur within 2 miles of project area

Common Name	Scientific Name	Federal Status	State Status	Occurrence at Keesler AFB
Ovateleaf flatsedge	*Cyperus ovatus*		SOC	May occur within 2 miles of project area
Pan American balsamscale	*Elionurus tripsacoides*		SOC	May occur within 2 miles of project area
Pluem beakrush	*Rhynchospora plumosa*		SOC	May occur within 2 miles of project area
Pinewoods milkweed	*Asclepias humistrata*		SOC	May occur within 2 miles of project area
Rugged-leaf schlotheimia moss	*Schlotheimia rugifolia*		SOC	May occur within 2 miles of project area
Saltmarsh false foxglove	*Agalinis maritima var. grandiflora*		SOC	May occur within 2 miles of project area
Shining nutrush	*Scleria nitida*		SOC	May occur within 2 miles of project area
Small coastal plain spreading pogonia	*Cleistesiopsis oricamporum*		SOC	May occur within 2 miles of project area
Southern red cedar	*Juniperus silicicola*		SOC	May occur within 2 miles of project area
Southern umbrella sedge	*Fuirena scirpoidea*		SOC	May occur within 2 miles of project area
Tansy prairie-clover	*Dalea pinnata var. trifoliata*		SOC	May occur within 2 miles of project area
White spikerush	*Eleocharis albida*		SOC	May occur within 2 miles of project area
White-tassels	*Dalea montjoyae*		SOC	May occur within 2 miles of project area

Sources: Keesler AFB 2024c; MNHP 2018, 2024; USFWS 2023, 2024c.
Notes: E = endangered; PE = proposed endangered; PT = proposed threatened; SOC = species of concern; T = threatened.
[a] Protected by BGEPA.

The DAF prepared a comprehensive Programmatic Biological Assessment to evaluate the potential impacts of flight operations on federally listed endangered and threatened species as well as their critical habitats across 32 installations in the contiguous United States, including Keesler AFB. This assessment culminated in the issuance of a Programmatic Biological Opinion (PBO) by USFWS in 2024 (USFWS 2024d). However, it is important to note that the Proposed Action under consideration in this EA does not involve flight operations. Consequently, the findings and conclusions of the PBO, which specifically address the impacts of flight operations, are not pertinent to the current analysis and, therefore, the PBO is not discussed further in this EA.

3.11.2 Environmental Consequences

3.11.2.1 Action Alternative, Option A (Preferred)

Short-term, less-than-significant effects on biological resources would be expected from implementing Option A. Short-term, less-than-significant adverse effects would be the result of site-specific temporary disturbance during construction. Proposed activities would not adversely affect existing vegetation or aquatic and terrestrial wildlife resources, including threatened and endangered species or rare species. Effects on biological resources would not reduce the distribution or viability of species or habitats of concern and would not violate biological resources laws or regulations. There would be less-than-significant loss, degradation, and fragmentation effects on wildlife habitat.

Option A as outlined in Section 2.0 consists of C&D activities (see Table 2-1 for details). There would be some less-than-significant adverse effects on biological resources from individual

projects and project alternatives; however, each was reviewed on a case-by-case basis, and none in and of itself would have noticeable adverse effects on biological resources.

Construction. C&D activities would have temporary site-specific effects on biological resources. The proposed activities would require vegetation removal, but it would primarily be mowed and landscaped vegetation but also might include tree removal. Approval of the Wing Commander would be required to remove any live oak tree larger than 24 inches dbh (Keesler AFB 2010). Construction activities would displace locally common wildlife species that are adapted to high levels of human activity and disturbance. Any wildlife disturbed by construction activities, however, could temporarily or permanently relocate to similar habitat nearby. Except for one observation of the species proposed for federal listing as endangered (the tricolored bat), there are no other records of rare species, significant natural heritage areas, or conservation/managed areas within Keesler AFB (Keesler AFB 2024c; MNHP 2024; USFWS 2024c).

The proposed projects would be wholly or partially on previously developed areas, which would require minimal vegetation removal. All disturbed ground would be reseeded or planted with native plant species in accordance with the Keesler AFB INRMP. Additionally, as design documents are finalized, the projects would avoid negative impacts on established vegetation, when feasible. When possible, and to the maximum extent practicable, the DAF would implement the guidelines set by migratory bird management strategies.

Tree removal and construction activities could affect the tricolored bat, which has been detected on Keesler AFB. Each project site is a developed area with continued human activity, making it less attractive for roosting and foraging. As recommended by USFWS in their IICEP correspondence and per BMPs recommended for the species, any tree removal activities required for Option A would be avoided during the pup season of May 1–July 15. If bats are thought to occupy buildings at Keesler AFB, structure demolition would be avoided during the bat maternity period of May 1–August 30. USFWS concurred with the DAF's proposed determination that, with the implementation of the tree removal and structure demolition/ renovation BMPs, Option A may affect, but is not likely to adversely affect, the tricolored bat (Felder 2024b, personal communication).

The proposed construction projects include the construction of facilities, related infrastructure, and parking areas. Since the proposed project sites are in previously developed areas of the installation, there would be no noticeable loss of wildlife habitat from the construction activities. These activities would have short- and long-term, less-than-significant effects on biological resources.

Operations. There would be less-than-significant effects on biological resources because of the maintenance and operations activities associated with Option A. The nature and overall level of operations at the base would be similar to the existing operations. The proposed activities would continue to include sustainable strategies and energy reduction practices as part of the DAF sustainability policy. The colocation and consolidation of facilities and functions specified in the Proposed Action would provide operational efficiencies. The efficiencies gained from construction, renovation, and demolition would reduce the maintenance and operational requirements of facilities and project areas. Option A would not have any additional effects on vegetation, wildlife, or threatened and endangered species when compared to existing conditions; therefore, long-term effects on biological resources would be negligible.

3.11.2.2 Action Alternative, Options B and C

The effects of Options B and C on biological resources would be similar to those of Option A. Since the proposed project areas are in previously developed areas of the installation, no

noticeable loss of wildlife habitat would result from the proposed construction activities. If bats are thought to occupy the pool house, renovation activities related to Project 17B would avoid large-scale renovations to roof and wall areas during the bat maternity period of May 1–August 30. Therefore, these activities would have short- and long-term, less-than-significant effects on biological resources.

3.11.2.3 No Action Alternative

No effects on biological resources would be expected under the No Action Option. The construction, demolition, and renovation projects would not occur. The existing conditions would remain unchanged, and there would be no effects on biological resources.

3.11.3 Reasonably Foreseeable Actions

The RFA projects would occur in developed, improved, or maintained areas, and the adverse effects on vegetation and the associated wildlife would be less than significant. The DAF would schedule any tree removal activities to avoid bat pup season during May 1–July 15. For the Proposed Action projects, the DAF also would avoid conducting tree removal activities during May 1–July 15. If bats are thought to occupy buildings at Keesler AFB, structure demolition and large-scale renovations to roof and wall areas would be avoided during the bat maternity period of May 1–August 30. Therefore, cumulative effects on biological resources are not anticipated.

3.12 Cultural Resources

Keesler AFB and the vicinity of the proposed project sites make up the ROI for cultural resources. Effects on cultural resources would be considered significant if the Proposed Action resulted in adverse effects, as defined by the NHPA as when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify it for inclusion in the NRHP. This includes effects on the traditional use of sacred or ceremonial sites or resources by Native American Tribes.

3.12.1 Affected Environment

Cultural resources include prehistoric and historic districts and sites, historic buildings, historic structures, traditional cultural places (TCPs), and historic objects considered important to a culture, subculture, or community for scientific, traditional, religious, or other purposes. They include archaeological, architectural, and traditional resources. Archaeological resources comprise artifacts, features, and other archaeological indications of past human life or activities from which archaeologists interpret information about history or prehistory. Architectural resources include buildings, structures, landscapes, and objects that document the history of an area. TCPs are resources of traditional, religious, or cultural significance to Native American Tribes and may include traditionally used plants and animals, trails, and certain geographic areas. The cultural resources area of potential effects (APE) for the Proposed Action is the area subject to direct earth-moving activities and adjacent areas subject to direct and indirect effects, including viewshed effects, dust from construction, and noise.

Sections 106 and 110 of the NHPA require federal agencies to determine whether any archaeological, historic, or architectural resources listed or eligible for listing in the NRHP could potentially be affected by the Proposed Action. Generally, a historic property must be more than 50 years old to be considered for inclusion in the NRHP; however, under NRHP Criteria Consideration G as specified in 36 CFR § 60.4, a property—a district, site, building, structure, or object—that has achieved “exceptional” significance within the last 50 years can be considered

eligible for the NRHP. Examples of a Criterion Consideration G property could include a Cold War-Era resource (constructed prior to 1990) or a Native American cultural property.

3.12.1.1 Built Resources

On-Base Built Resources. In 1988, Keesler AFB cultural resources personnel worked with MDAH to identify and document buildings and sites on the base with potential historical and cultural significance (Keesler AFB 2024h). The Keesler Cold War-Era Buildings and Structures Inventory and Assessment was completed in December 2003 and provided a listing of all buildings built between 1945 and 1991. As of 2013, Keesler AFB in collaboration with MDAH determined that only five remaining buildings on the installation continue to require consultation under NHPA Section 106 (Table 3-11).

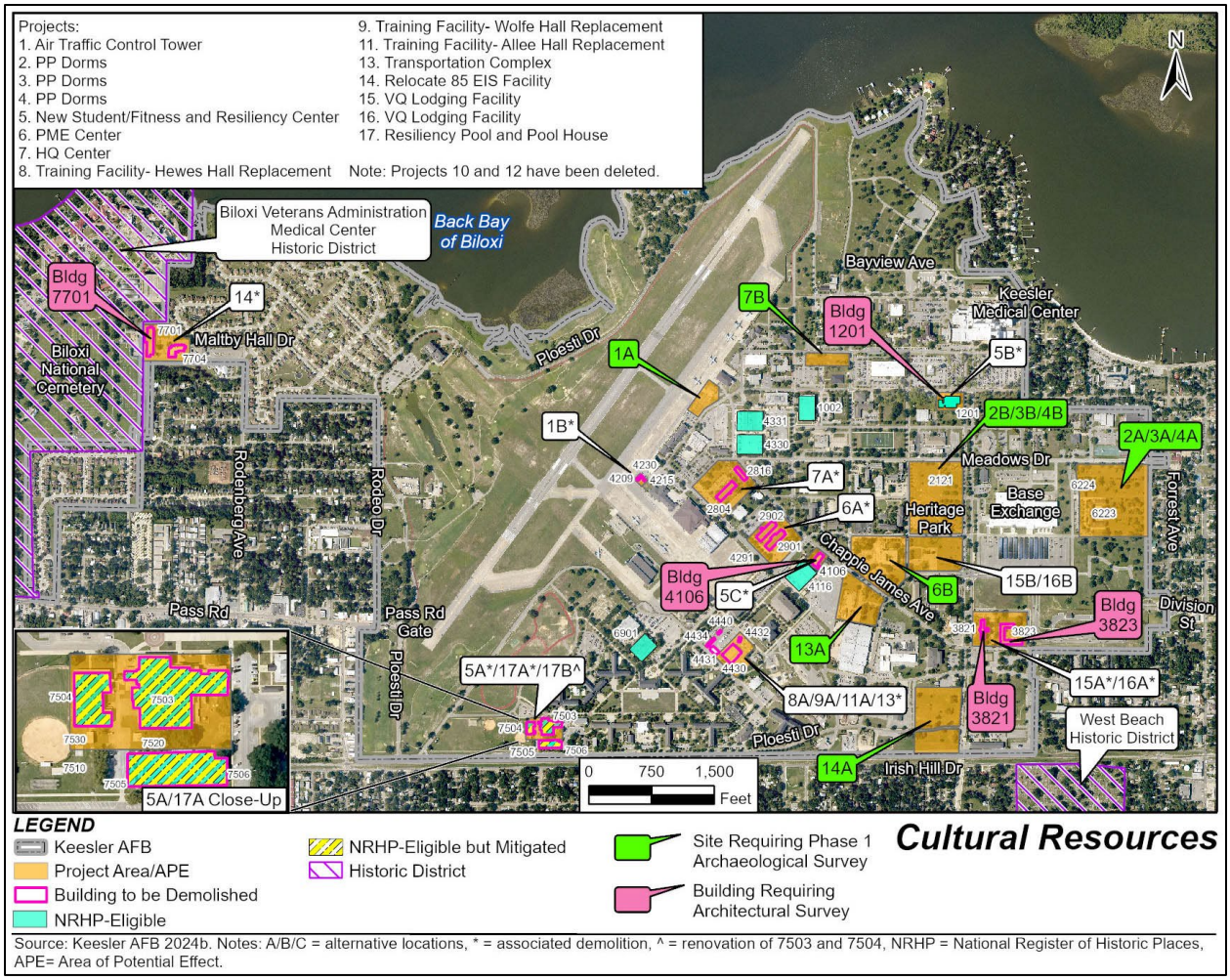
Table 3-11. Buildings on Keesler AFB Requiring Consultation under NHPA Section 106

Building	Construction Date	Resource Type	Project Area(s)	Recommended NRHP Eligibility
1002	1987	Technical Training Lab	Project 1B	Eligible
4116	1951	Technical Training Lab	Project 5C/6A	Eligible
4330	1952	Technical Training Lab	Project 1A/1B/7B	Eligible
4331	1952	Technical Training Lab	Project 1A/1B/7B	Eligible
6901	1962	Technical Training Lab	N/A	Eligible

Source: Keesler AFB 2024i.
Note: N/A = not applicable.

For the Proposed Action, the DAF defined the APE as encompassing all potential effects from the execution of the proposed 15 projects and their site options (see Figure 3-10). Those sites include the buildings and structures slated for demolition. As presented in Table 2-4, many of the buildings are nearing or have reached 50 years or older and, therefore, are subject to NHPA Section 106, which requires federal agencies to determine whether any archaeological, historic, or architectural resources listed or eligible for listing in the NRHP could potentially be affected by the Proposed Action.

For the buildings associated with the Proposed Action, the DAF completed Section 106 consultation with the MDAH regarding the demolition of Buildings 2804, 2816, 2901, 2902, 4209, 4230, 4430, 4431, 4440, 7503, 7504, 7505, and 7506. The DAF received MDAH concurrence for the demolition of these facilities (MDAH 2006, 2017, 2021).



Note: *The Section 106 consultation for the Proposed Action resulted in MDAH's determination that Building 1201 is eligible for listing in the NRHP. Consequently, the DAF will eliminate Project 5B and exclude the building's demolition and construction in its footprint from the current Proposed Action*.

Figure 3-10. Cultural Resources and Project Locations.

To determine NRHP eligibility of the additional buildings slated for demolition as part of the Proposed Action, the DAF contracted NSA to survey Buildings 1201, 3821, 3823, 4106, and 7701 (see Table 3-12). NSA conducted the survey in September 2024.

Table 3-12. Buildings Surveyed for NRHP Eligibility

Building	Construction Date	Resource Type	Project Area(s)	Recommended NRHP Eligibility
1201[a]	1974	Gymnasium/Recreational	Project 5B	Eligible[b]
3821[a]	1966	Dormitory/Residential	Project 15A/16A	Ineligible
3823[a]	1970	Dormitory/Residential	Project 15A/16A	Ineligible
4106	1941	Gymnasium/Recreational	Project 5C	Ineligible
7701	1959	Classroom/Education/Training	Project 14	Ineligible

Notes: [a] A 2003 study of Cold War-Era buildings at Keesler AFB specifically excluded support facilities (including gymnasiums and dormitories) from consideration of their role in the Cold War (Keesler AFB 2003).
[b] In their May 9, 2025, MDAH letter to the DAF, the agency determined that Building 1201 is eligible for listing in the NRHP under Criterion C.

Evaluations for the buildings were based on NRHP criteria A, B, and C (36 CFR § 60.4):

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

In January 2025, the DAF provided the draft survey report to MDAH and affiliated Tribes for concurrence and comment. In the draft survey report, NSA recommended all five buildings as not being eligible for listing in the NRHP, based on a lack of historic significance, integrity, or both. The DAF and MDAH engaged in Section 106 consultation correspondence between January and May 2025. In their May 9, 2025, response, MDAH concurred with that Buildings 3821 and 3823 are not eligible for the NRHP. It also stated that Building 4106 was outside its purview because of the structure's status as a World War II building on an active military installation (ACHP 1986). In the same letter, MDAH did not concur that Building 1201 is ineligible for listing in the NRHP, having determined that Building 1201 is eligible for listing under Criterion C: Architecture, as a notable example of New Formalist design. In a separate e-mail communication with Keesler AFB on March 18, 2025, the MDAH concurred that Building 7701 is not eligible for the NRHP. Appendix A includes the May 9, 2025, MDAH letter and March 18, 2025, MDAH email.

Based on the MDAH determination of Building 1201's eligibility, the DAF will treat the building as an NRHP-eligible structure. The DAF will implement Section 106 guidelines if and when any detailed plans are scheduled for Building 1201 (Lanier 2025).

Off-Base Built Resources. Nine historic built resources, including four districts and five structures listed in the NRHP, fall within 1 mile of the APE (Table 3-13).

Two of the listed historic districts, Biloxi VAMC and West Beach, either partially or fully include historic cemeteries. These cemeteries are not characterized as built resources in their own right; however, their proximity to the project area requires a heightened level of sensitivity and, therefore, further description.

The Biloxi National Cemetery is included within the Biloxi VAMC Historic District and lies adjacent to the Project 14 demolition APE. From 1934 to 1973, the purpose of the cemetery was to provide a final resting place solely for veterans who died in the adjoining medical center. With the passage of the 1973 National Cemetery Act, the cemetery was opened to all honorably discharged veterans and their dependents, active-duty personnel, and their dependents regardless of state of residence or where death occurred.

The Old Biloxi Cemetery (1811–present) is bisected by the historic New Orleans, Mobile & Chattanooga Railroad into a northern and southern section, the southernmost of which is included in the West Beach Historic District (see Table 3-13). The northern section of the cemetery, which is not included in the historic district and has not been evaluated for the NRHP, lies approximately 900 feet east of Project 14A APE (see Figure 3-10).

Table 3-13. NRHP-Listed Off-Base Built Resources within 1 mile of the APE

NRHP Reference Number	Site Name	Type	NRHP Eligibility
02000045	Biloxi Veterans Administration Medical Center Historic District	District	Listed
14000564	Gunston Hall	Structure	Listed
14001154	West Central Boundary Increase and Decrease Historic District	District	Listed
15000302	Upper West Central Historic District	District	Listed
73001012	Biloxi Lighthouse	Structure	Listed
84002204	Seashore Campground School	Structure	Listed
84002205	Suter House	Structure	Listed
84002206	Glenn L. Swetman House	Structure	Listed
84002210	West Beach Historic District	District	Listed

Source: MDAH 2024.

3.12.1.2 Archaeological Resources

On-Base Archaeological Resources. A search of MDAH online records determined there are three archaeological sites located within the boundaries of Keesler AFB. Site 22HR554 was identified in 1975 and falls within the housing district of the base. Sites 22HR1448 and 22HR1449 were identified along the western boundary of Keesler AFB in 2022 (MDAH 2023a). None of the sites overlap with the project APE and, therefore, will not be impacted by the Proposed Action (MDAH 2023a).

For the Proposed Action, the DAF also contracted NSA to conduct a Phase I archaeological survey at seven locations that MDAH identified as requiring survey in its November 2022 correspondence (MDAH 2022). In November 2023, MDAH approved the work plan for the seven locations (MDAH 2023b). While those locations for archaeological survey remain the same, the DAF has revised and renumbered the project locations since MDAH approved the work plan (see Figure 3-10).

NSA conducted the Phase I archaeological survey in September and October 2024. The survey identified nine newly recorded archaeological sites, all of which exhibited a significant degree of disturbance, presumably the result of post-Katrina (2005) demolitions across the installation (Table 3-14). Artifacts associated with the sites were recovered from fill layers, but no features were identified at the sites. Artifacts recovered from the sites were broadly diagnostic, such as whiteware and wire nails, and could not narrow the occupation of the residents or other users of the sites beyond what was obtained from background research.

Table 3-14. Archaeological Sites Identified in the 2024 Phase I Archaeological Survey

MDAH Site Number	Site Name	Period	Project Area(s)	NRHP Eligibility
22HR1466	SET01	Historic – 20th century	Project 7B	Ineligible
22HR1467	SET04	Historic – 20th century	Project 2A/3A/4A	Ineligible
22HR1468	SET05	Historic – 20th century	Project 2A/3A/4A	Ineligible
22HR1469	SET06	Historic – 20th century	Project 2A/3A/4A	Ineligible
22HR1470	SET12	Historic – 20th century	Project 2B/3B/4B	Ineligible
22HR1471	SET14	Historic – 20th century	Project 6B	Ineligible
22HR1472	SET15	Historic – 20th century	Project 15B/16B	Ineligible
22HR1473	SET16	Historic – 20th century	Project 14A	Ineligible
22HR1474	SET17	Historic – 20th century	Project 14A	Ineligible

In January 2025, the DAF provided the draft survey report to MDAH and affiliated Tribes for concurrence and comment. In the draft survey report, NSA recommended all nine newly identified archaeological sites as not being eligible for listing in the NRHP for the reasons stated above.

The DAF and MDAH engaged in Section 106 consultation correspondence between January 2025 and May 2025. On May 9, 2025, the MDAH concurred that the nine archaeological sites are ineligible for the NRHP and that no further work is needed. Appendix A includes the May 9, 2025, MDAH letter.

The Choctaw Nation of Oklahoma responded via e-mail on April 11, 2025, indicating that the Tribe has no affiliation with the archaeological sites discovered during the survey and deferring eligibility findings to MDAH and other consulting parties. The Choctaw Nation of Oklahoma also requested that work be stopped and their office immediately contacted if Native American artifacts or human remains are encountered. Appendix A includes the April 11, 2025, email from the Choctaw Nation of Oklahoma.

No other Tribes responded.

No Native American tribal or archaeological resources were recorded during the NSA survey; therefore, no additional work is required within the APE.

Off-Base Archaeological Resources. In addition to the three archaeological sites within the boundaries of Keesler AFB identified prior to the NSA 2024 survey, 20 archaeological resources were identified within 1 mile of the APE. Of the 20 sites, MDAH has determined that five are eligible for the NRHP**;** one archaeological resource, Raymond Bass, is currently listed in the NRHP.

3.12.1.3 Concerns of Native American Tribes

In 1995, a legacy study was conducted at Keesler AFB that determined no prehistoric or historic Native American archaeological or sacred sites are present on Keesler AFB (Keesler AFB 2022). During preparation of the 2013 Cultural Resources Management Plan (CRMP), which provides the current data on known cultural resources on the base, Keesler AFB contacted four federally recognized Native American Tribes each known to have a historical connection to the land on the base: the Choctaw Nation of Oklahoma, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, and Tunica-Biloxi Tribe of Louisiana. Keesler AFB personnel hoped to identify any concerns the Tribes had about resources of religious or cultural importance located on the installation in accordance with the intent of the American Indian Religious

Freedom Act of 1978 and the Native American Graves Protection and Repatriation Act of 1990. No Native American sacred sites or resources were identified at that time or have since been identified as of the time this EA was being prepared.

3.12.2 Environmental Consequences

3.12.2.1 Action Alternative, Option A (Preferred)

Construction activities of some projects under Option A would have short-term, less-than-significant adverse effects on NRHP-listed or -eligible resources; however, the effects are not anticipated to affect their NRHP status. No long-term effects are anticipated because the new construction would reflect the style, layout, and materials of the existing structures.

Construction. The DAF initiated the NHPA Section 106 consultation process on September 18, 2024 (Appendix A), with MDAH and four federally recognized Tribes affiliated with the installation—the Choctaw Nation of Oklahoma, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, and Tunica-Biloxi Tribe of Louisiana.

MDAH concurred with the previous NRHP ineligibility determinations of Buildings 2804, 2816, 2901, 2902, 4209, 4215, 4230, 4430, 4431, 4432, 4434, 4440, and 7704 and concurred that demolition of Buildings 7503, 7504, 7505, and 7506 have been mitigated via additional documentation submitted to MDAH (see Appendix A). Therefore, demolition of these structures would have less-than-significant adverse effects.

The Choctaw Nation of Oklahoma noted that the Proposed Action lies in their area of historic interest and expressed concerns regarding potential effects of ground disturbance on archaeological resources. They requested a copy of the archaeological survey report for review (see Appendix A).

The DAF continued Section 106 consultation, and, as discussed in Sections 3.12.1.1 and 3.12.1.2, except for Building 1201, MDAH concurred with the determination of none of the cultural resources investigated for the Proposed Action being eligible for listing in the NRHP. MDAH determined that Building 1201, however, is eligible under Criteria C: Architecture; however, Building 1201 would not be directly or indirectly impacted by the Action Alternative, Option A. Therefore, adverse effects on the associated structures or archaeological sites identified during the NSA 2024 cultural resources survey within the Action Alternative, Option A footprint would be less-than-significant.

Five additional historic properties (Buildings 1002, 4116, 4330, and 4331 and the Biloxi VAMC Historic District) are located adjacent to buildings proposed for demolition. These historic properties will be subject to indirect effects, including changes in viewshed and noise level, because of the project. Changes in noise levels are expected to have a short-term impact on the historic properties and will be limited to the project timeframe. Although permanent viewshed changes are anticipated, the structures proposed for demolition would be replaced by new structures and infrastructure that would be in keeping with the nature of existing areas in construction style, layout, and materials. The anticipated indirect effects on historic properties would not alter the historic significance of the properties and would not change the NRHP status of the resources; therefore, the adverse effects on the historic properties would be less-than-significant.

According to the Keesler AFB CRMP contingency plan for archaeological discoveries, if an archaeological resource is discovered during excavation or construction, activity in the area would be ceased immediately and a reasonable effort would be made to protect the discovered items. The Construction Manager would contact the Base Civil Engineer and the Keesler AFB

Cultural Resources Manager, who would in turn contact MDAH and the Native American Tribes known to have a historical connection to the land on the base as well as other appropriate individuals and agencies (Keesler AFB 2024i).

Additionally, the DAF is coordinating with MDAH to establish a memorandum of agreement (MOA) to curate with MDAH the artifacts that might be identified during Keesler AFB's archaeological surveys. The DAF will ensure the artifacts of note from the Phase I archaeological survey are curated with MDAH, in accordance with the pending MOA (Lanier 2024c).

Operations. There would be no adverse effects on cultural resources from operation of the projects under Action Alternative, Option A.

3.12.2.2 Action Alternative, Options B and C

As a result of MDAH's determination of eligibility during the Proposed Action's Section 106 consultation, Keesler AFB will treat Building 1201 as an NRHP-eligible structure and will not demolish the building as part of the Proposed Action, Project 5B.

Beyond the above amendment, the effects of implementing Options B and C would be similar to those of implementing the Option A. The same precautions would be taken in the event of an inadvertent discovery.

3.12.2.3 No Action Alternative

No effects on cultural resources would result under the No Action Alternative. The No Action Alternative would involve no ground disturbance, demolition, or renovation; there would not, therefore, be any possibility of disturbing any historic, archaeological, or Native American resources.

3.12.3 Reasonably Foreseeable Actions

The DAF completed Section 106 consultation for the two RFA projects and they would have no effect on cultural resources at Keesler AFB. For this Proposed Action, other than Building 1201, all resources surveyed for the Proposed Action are considered ineligible for the NRHP. Based on MDAH's determination that Building 1201 is eligible, the DAF will no longer consider demolition of the building under Project 5B and will afford the building the same treatment as other eligible resources on Keesler AFB. Therefore, there would be no cumulative effects on cultural resources.

3.13 Hazardous Materials and Hazardous Wastes

Keesler AFB is the ROI for hazardous materials and hazardous wastes. Effects from hazardous materials and hazardous wastes would be considered significant if the Proposed Action resulted in substantial risks to human health or safety, such as direct human exposure to or a substantial increase in an environmental contamination.

3.13.1 Affected Environment

Keesler AFB implements a base-specific hazardous materials and waste management program through the 81 TRW Hazardous Waste Management Plan (HWMP) and SPCC Plan (Keesler AFB 2020a; 81 TRW 2021). Hazardous materials are used across the base for various routine operations, including shop activities, ground support equipment maintenance, and facilities upkeep and repair. Sources of these materials may include electrical components, heating and

cooling systems, generators, storage tanks, chemical pest control, and POL such as fuels, grease, lubricating oils, solvents, and coolants.

The HWMP provides guidance for personnel handling hazardous waste, outlining roles and responsibilities related to waste stream inventory, waste analysis plans, hazardous waste management procedures, training, emergency response, and pollution prevention. The SPCC Plan focuses specifically on hazardous material and petroleum containment, handling, disposal, and emergency response. These guidance documents are applicable to all base personnel, contractors, and external support organizations operating at Keesler AFB.

Environmental Restoration Program. None of the projects are located on existing environmental restoration sites with known contamination (Keesler AFB 2020b). However, recent sampling was conducted at Project 1A location was identified with PFAS concentrations above the regional screening levels (Patton 2024, personal communication). PFAS contamination will be managed in accordance with AFI 32-7020, *Environmental Restoration Program*, dated May 16, 2024, and AFI 32-1023, *Designing and Constructing Military Construction (MILCON) Projects*, dated December 23, 2020.

Asbestos-containing materials (ACM), lead-based paint (LBP), and polychlorinated biphenyls (PCBs). ACM, LBP, and PCBs were common construction materials used at the time on-base infrastructure at Keesler AFB was built, but consumer use was banned in the 1970s and 1980s. Hazardous substances are used and managed in accordance with specific handling and abatement regulations formulated by USEPA and the Occupational Safety and Health Administration (OSHA) (29 CFR § 1910.1001). Lead-containing materials are disposed of in accordance with 40 CFR Part 260. PCBs are regulated under Toxic Substances Control Act as implemented by 40 CFR Part 761. Undamaged infrastructure and equipment containing these materials pose no risk to health or safety and are managed in place during renovations or demolition, so if equipment is damaged, there is no risk of exposure. A survey of all buildings must be reviewed or completed prior to demolition or renovation. The DAF must determine the material to be removed, as necessary, in accordance with regulatory guidelines. As building systems and machinery are updated, items made with hazardous materials are upgraded to comply with the most recent safety guidelines. All decommissioned equipment is properly disposed of off-site.

It is possible that many of the buildings proposed for demolition, which are listed in Table 2-4, could contain LBP, ACM, or PCBs, depending on their year of construction. Additionally, during the 2024 Phase I archaeological survey, the field crew inadvertently uncovered floor tile fragments, which were found to contain non-friable asbestos, at the proposed sites for Projects 2A, 3A, and 4A; Projects 6B, 7B, 15B, and 16B; and Project 13A (see Figure 3-10). The tile fragments were most likely residual floor tile from the previous building demolition at those sites. Additionally, residential buildings such as the PP Dorms have known mold issues.

Keesler AFB has procedures in place to manage the substances, identify problem areas, protect and inform affected persons, remediate as necessary, and comply with the applicable standards. AFI 32-1001, *Civil Engineering Operation Management* (2019), outlines requirements for an Asbestos Management Plan and an Asbestos Operating Plan. The objective of the Asbestos Management Plan is to document the status and condition of ACM within an installation, and the Asbestos Operating Plan provides direction for conducting asbestos-related work within the base.

Special hazards would be removed, stored, and disposed of in accordance with the installation's Asbestos Operations and Management Plan and Lead-Based Paint Management Plan and with applicable federal, state, and local regulations (Keesler AFB 2014, 2019).

Underground and aboveground storage tanks. As of 1998, all underground and aboveground liquid fuel storage tanks not meeting existing environmental requirements had been upgraded, replaced, or removed (Keesler AFB 2024c).

Radon. Harrison County is in an USEPA Zone 3, an area of low radon potential (probable indoor radon average below 4 picocuries per liter) (USEPA 1993). The DAF has specific requirements for radon testing and mitigation in military housing to protect the health and safety of residents.

PFAS. Perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) are two of the organic chemicals that make up the larger group of chemicals referred to as PFAS. They are components of legacy aqueous film forming foam (AFFF) the DAF began using in the 1970s as a firefighting agent to extinguish petroleum fires. In November 2015, more environmentally responsible AFFF formulas were added to the DoD's qualified products list for firefighting agents. The DAF began replacing PFOS-based and other legacy AFFF products with a new, environmentally responsible formula in August 2016. The DAF completed new foam delivery in August 2017, including at Keesler AFB.

In April 2024, USEPA announced its final rule designating the widely used PFOA and PFOS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and established legally enforceable levels for several PFAS known to occur in drinking water individually and as mixtures (USEPA 2024e). USEPA also has set enforceable maximum contaminant levels (MCLs) at 4 parts per trillion for PFOA and PFOS (USEPA 2024f). An MCL is the maximum level allowed of a contaminant or a group of contaminants (i.e., mixture of contaminants) in water delivered to any user of a public water system. DoD has proactively directed all installations to test their drinking water for PFOS and PFOA. Drinking water testing results collected at 20 sample locations around Keesler AFB in November 2020 were below the method reporting limit for all 29 PFAS compounds covered; the base is scheduled to resample in 2025 (Chambers 2023, personal communication). Method reporting limit is the lowest concentration of a contaminant that can be reported with a high level of confidence as being accurately quantified for a specific sample.

Recent sampling of surficial groundwater—a shallow aquifer typically less than 50 ft thick—conducted at the Project 1A site identified PFAS concentrations above the regional screening levels (Patton 2024, personal communication).

3.13.2 Environmental Consequences

3.13.2.1 Action Alternative, Option A (Preferred)

There would be less-than-significant adverse effects associated with hazardous materials and hazardous wastes. Construction would result in short-term, less-than-significant adverse and long-term beneficial effects, and operations would result in no effect on hazardous materials or waste generation and storage at Keesler AFB.

Construction. There would be short-term, less-than-significant adverse effects from construction activities related to hazardous material use and hazardous waste generation. The amounts of hazardous materials used and stored would increase temporarily during construction. Any hazardous materials used in or hazardous wastes generated from construction would be accumulated and removed in compliance with the procedures provided in the installation's existing HWMP (Keesler AFB 2020a). Furthermore, any potential spills from construction equipment would be cleaned up in accordance with the SPCC Plan (81 TRW 2021).

Keesler AFB would manage groundwater contamination in accordance with CERCLA and Resource Conservation and Recovery Act (RCRA) requirements. If dewatering is required, organic-contaminated groundwater and collected stormwater must undergo on-site pretreatment prior to discharge if they contain concentrations below the regulatory limits established under the RCRA but exceed the allowable discharge limits under Keesler AFB's NPDES or MS4 permits. Pretreatment is recommended for low level PFAS such as using a granular activated carbon (GAC) system to ensure compliance with applicable discharge standards. When discharging to a sanitary sewer, the authority may prescribe other types of pretreatments in the permitted discharge.

Additionally, the DoD Memorandum for Interim Guidance on Destruction or Disposal of Materials Containing Per- and Polyfluoroalkyl Substances in the United States, dated July 11, 2023, states:

Based on the analysis and consistent with USEPA guidance, DoD has identified the following four commercially available options to destroy or dispose of DoD PFAS-containing materials, in the order of consideration:

- Carbon reactivation units with environmental permits (for used GAC only).
- Hazardous waste landfills with environmental permits.
- Solid waste landfills with environmental permits that have composite liners, and gas and leachate collection and treatment systems.
- Hazardous waste incinerators with environmental permits.

Before any PFAS discharge to the publicly owned treatment works, the Keesler AFB Water Resource Manager must notify the Harrison County Utility Authority and, where applicable, obtain the necessary dewatering permit from the Authority for sanitary sewer discharge.

Ground-clearing and digging operations would require the DAF to coordinate with the Base Environmental Manager (BEM) before initiating that activity, obtaining approved dig permits prior to commencing work and documenting that any fill brought on-site is clean. If contaminated soils or groundwater is encountered during construction, the BEM, installation personnel, or contractor personnel would address it in accordance with established procedures.

Short-term, less-than-significant adverse effects also would result from demolition of structures where ACM, LBP, PCB, and other hazards could be present. Removal of those materials, however, would result in beneficial effects because they would eliminate future threats to human health and the environment. Prior to demolition, the DAF would survey structures for which the presence or absence of hazardous materials has not been documented or, in lieu of a survey, treat the structures as if those materials were present. Workers on the site would be advised to the extent known of the type, condition, and quantity of hazardous materials that might be present. Appropriate personal protective equipment (PPE) would be required, and hazardous waste generated from construction activities would be separated, contained, and transported to approved off-site waste disposal facilities.

C&D activities under Option A would generate a large amount of waste, including concrete, wood, metals, and hazardous wastes. The DAF would implement strategies to divert significant portions of C&D waste from landfills (see Section 3.14.2). This includes recycling concrete, metals, wood, and asphalt from demolition projects as well as using recycled materials in new construction projects. Improper disposal can lead to short-term impacts on waste management, including overburdening local landfills. This would be temporary and end with the demolition phase.

Contractors on-site would comply with federal, state, and local regulations for the use, handling, and disposal of hazardous materials and hazardous wastes. The construction site would have a designated Health and Safety Officer on-site to ensure compliance with applicable regulations and the health and safety plan (HASP). The HASP is a site-specific document required by OSHA that details job hazard analysis, employee training, required PPE, exposure monitoring, contamination response for the site, and other items. A printed copy would be kept at the site for reference and would be updated if changes occur.

Operations. The operations of the 15 buildings would have no impact on hazardous materials or hazardous waste generation at Keesler AFB. The use of hazardous materials and the generation of hazardous waste during operations are expected to remain consistent with current levels, as the Proposed Action primarily involves modernization and replacement projects.

3.13.2.2 Action Alternative, Options B and C

The effects of Options B and C on hazardous materials and waste would be like those of Option A. Under Project 17B, the existing pool and pool house would be renovated. Short-term, less-than-significant adverse effects would also result from demolition of structures where ACM, LBP, PCBs, and other hazards could be present. Removal of those materials, however, would result in beneficial effects because they would eliminate future threats to human health and the environment.

3.13.2.3 No Action Alternative

Under the No Action Alternative, there would be long-term significant adverse effects from hazardous material and hazardous wastes. Residential buildings such the PP Dorms would continue having mold issues. The existing facilities would continue to deteriorate and become unusable. Additionally, the base would continue to use buildings with ACM, LBP, PCBs, and other hazards.

3.13.3 Reasonably Foreseeable Actions

The two RFAs would involve the use of hazardous materials and the generation of hazardous materials during construction or facility operations as well as have the potential to uncover subsurface contamination during project construction activities. The risks of exposure of personnel to hazardous and toxic materials during construction and operational activities would be managed by complying with established installation management plans and applicable federal, state, and local laws and regulations. Short-term, less-than-significant adverse cumulative effects from the use of hazardous materials and generation of hazardous wastes would be expected. Construction projects involve the use of hazardous materials and generation of hazardous wastes. The potential for adverse effects from hazardous materials and hazardous wastes would be minimized by implementing BMPs and complying with established management plans.

3.14 Infrastructure and Utilities

The installation and the immediate surrounding communities of the City of Biloxi are the ROI for infrastructure and utilities. Effects would be considered significant if the Proposed Action impaired service to the installation and local communities.

3.14.1 Affected Environment

Infrastructure and utilities include basic resources and services required to support planned construction and operations and the continued operation of existing facilities. For the purposes of this EA, "infrastructure" is defined as potable water supply, energy, central heating and cooling, communications, sanitary sewer, stormwater, and solid waste systems.

3.14.1.1 Potable Water Supply System

Keesler AFB maintains its own potable water system, with approximately 500,000 linear feet of water supply pipeline constructed of transite, polyvinyl chloride, steel, and cast iron.

The principal source of drinking water for Keesler AFB is groundwater from the Miocene aquifer system. The potable water system for Keesler AFB includes a network of 10 active water supply wells with production capacities of 500–1,500 gallons per minute, six 400,000-gallon elevated storage tanks with a combined capacity of 2.4 million gallons, and two 50,000-gallon fire suppression system water storage tanks (Keesler AFB 2015a). Average water usage at Keesler AFB is 1.7 million gallons per day (mgd). The permitted combined production capability of all Keesler AFB active water supply wells is 9.2 mgd (Keesler AFB 2015a, 2015b).

3.14.1.2 Energy Systems

Keesler AFB's energy requirements include the use of natural gas and electricity. Natural gas is purchased from Center Point Energy and is distributed to Keesler AFB through a 14-mile long, welded steel, high-pressure main from Gulfport. Once on-base, natural gas is distributed by recently replaced polyethylene plastic natural gas lines that supply most areas of the base. There are approximately 370,000 linear feet of gas mains. The base is operating well below natural gas capacity limits (Keesler AFB 2015a).

Keesler AFB's electrical infrastructure was completely replaced after Hurricane Georges in 1998. All overhead lines were replaced with secure and weather-resistant underground lines. Keesler AFB purchases all its electricity from Mississippi Power Company. Electricity is supplied by a 115-kilovolt (-kV) transmission line south of the Keesler AFB-owned 115-kV substation and is distributed through approximately 240 miles of underground power lines (Keesler AFB 2015a). The base is operating well below peak capacity (Keesler AFB 2015a).

3.14.1.3 Central Heating and Cooling Systems

Keesler AFB no longer uses central steam plants to heat and cool buildings; they have been replaced by individual boilers at specific buildings. In addition, there are five stand-alone central chiller plants, each with underground distribution piping to the buildings they serve (Keesler AFB 2015a).

3.14.1.4 Communication Systems

The base communication systems include telephone feeder cable and fiber optic lines, cable television, and satellite communication. Communication infrastructure has been improved recently through the installation of underground lines, expansion of fiber optic cable, and advancement of Voice over Internet Protocol (Keesler AFB 2015a, 2015b).

3.14.1.5 Sanitary Sewer System

The Harrison County Utility Authority provides wastewater treatment and disposal for Keesler AFB. The base owns and maintains a 50-mile wastewater collection system, which can

accommodate an estimated wastewater flow of approximately 3.24 mgd. The piping system is cast iron and clay. Wastewater is pumped to the West Biloxi Sewage Treatment Plant, which provides secondary treatment of the effluent (Keesler AFB 2024c). The treatment facility has a treatment capacity of 11 mgd. The average daily wastewater generation at Keesler AFB is approximately 1.4 mgd (Keesler AFB 2015a).

3.14.1.6 Stormwater System

Stormwater drainage within the base is divided into 10 drainage areas, the majority of which encompass small residential or commercial areas not associated with industrial activities. These drainage areas discharge to the Back Bay of Biloxi through 10 outfalls located on the base, as does most of the stormwater drainage from Keesler AFB. A portion of the base stormwater, however, flows south through the City of Biloxi's storm drainage system to the Mississippi Sound (Keesler AFB 2024c).

The stormwater drainage system consists of open channels and covered drainage culverts. The main base has nearly 500,000 linear feet of concrete storm drainage pipe (Keesler AFB 2015a).

3.14.1.7 Solid Waste Management

Keesler AFB's Integrated Solid Waste Management (ISWM) Plan contains procedures for the management of solid waste (Keesler AFB 2021d). Disposal of C&D debris for a specific project is processed by the contractor through the project specifications. Debris is removed from the site and hauled off the installation in accordance with the ISWM Plan and general provisions of the project specifications and is included in the cost of the project. Keesler AFB is committed to the DAF goal of 40 percent diversion of municipal solid waste and 40 percent diversion of C&D debris (Keesler AFB. 2021d). All C&D debris is managed through the Keesler AFB Contracting Office. The base does not operate a landfill (Keesler AFB 2021d). Annually, it generates approximately 9,651 tons of construction waste and 3,782 tons of nonhazardous waste (Keesler AFB 2015a). The annual facility report on State of Mississippi Solid Waste Management Facilities and Activities CY 2019 indicated that a total of 6,101,930 tons of solid waste was received for disposal during CY 2019 at commercial and noncommercial landfills and rubbish sites throughout the state (MDEQ 2019).

3.14.2 Environmental Consequences

3.14.2.1 Action Alternative, Option A (Preferred)

There would be short-term, negligible adverse effects on infrastructure and utilities during construction. The existing infrastructure capacity is sufficient of to meet demands.

Construction. Demand from construction activities would result in short-term, less-than-significant adverse effects on infrastructure and utilities. Keesler AFB infrastructure and utilities have sufficient capacity to handle demands during construction. During those activities, electricity would likely be provided by portable generators and portable toilets would be used for sanitary waste. Water would be used during construction, but there is sufficient capacity available. Natural gas would not be required.

As described in Section 3.9, *Earth Resources* and Section 3.10, *Water Resources*, approved construction BMPs, as required in the SCGP, LCGP, SWPPP, and erosion control specifications, would be installed to minimize effects on stormwater and surface waters during construction.

Demolition and construction would generate C&D debris requiring collection and disposal by the contractor. The disposal of C&D debris would be the responsibility of the construction contractors involved and is not anticipated to adversely impact solid waste collection or disposal services currently provided at Keesler AFB and in the surrounding communities. The construction contractor would be required to verify and document that sufficient landfill capacity exists prior to initiating C&D activities. Assuming 158 pounds of demolition debris per square foot and approximately 383,000 SF of demolition for Option A, approximately 30,300 tons of demolition debris would be generated (see Table 3-15) (USEPA 2003). Approximately 40 percent of this C&D debris would be diverted for reuse (Keesler AFB 2021d).

Table 3-15. Anticipated C&D Debris under Action Alternative Options

EA Project Number, Project Title	Action Alternative, Option A (Preferred)	Action Alternative, Option B
Project 1, Air Traffic Control Tower	No building demolition debris	351 tons of demolition debris
Projects 2, 3, and 4, PP Dorms	No building demolition debris	Same as Option A
Project 5, New Student and Fitness and Resiliency Center	5,372 tons of demolition debris	2,348 tons of demolition debris
Project 6, PME Center	3,318 tons of demolition debris	No building demolition debris
Project 7, HQ Center	3,002 tons of demolition debris	No building demolition debris
Project 8, Training Facility-Hewes Hall Replacement	No building demolition debris	Same as Option A
Project 9, Training Facility-Wolfe Hall Replacement	No building demolition debris	Same as Option A
Project 11, Training Facility-Allee Hall Replacement	No building demolition debris	Same as Option A
Project 13, Transportation Complex	3,081 tons of demolition debris	Same as Option A
Project 14, 85 EIS Facility	6,004 tons of demolition debris	Same as Option A
Project 15 and Project 16, VQ Lodging Facilities	7,663 tons of demolition debris	No building demolition debris
Project 17, Resiliency Pool and Pool (Bath) House	1,817 tons of demolition debris	No building demolition debris

Note: VQ = visiting quarters.

Operations. Under Option A, Keesler AFB would continue operating with similar infrastructure. Utilities (electricity, natural gas, water, sanitary sewer, and communication) for the facilities would be tied into the existing service lines. Once operational, utilities usage would be similar to current usage (Castleberry 2024, personal communication). The new facilities would be heated and cooled using their own individual systems, similar to the ones they are replacing, requiring electricity and natural gas. Electricity and natural gas demand might decrease as energy-efficient systems would be installed in the new, modern facilities. Demand on water and sanitary sewer utilities would remain similar to the baseline demand because the number of personnel is not expected to change. Demand on communication infrastructure would remain similar to current usage because the new facilities are replacements and will have similar communication requirements. Because the demand on utilities is not expected to change and may slightly decrease for electricity and natural gas, the existing infrastructure has sufficient capacity available to handle utilities demand from operations. Therefore, less-than-significant adverse-to-beneficial effects on local utilities would occur.

Because the proposed projects involve replacing existing facilities, the amount of impervious surface such as parking lots and sidewalks would not change appreciably. The volume of stormwater generated would be expected to remain about the same as existing conditions. In addition, facility design would incorporate LID controls to maintain flow rates, flow volumes, and durations that existed before development, per EISA Section 438 and Air Force Corporate Facilities Standards. The Keesler AFB stormwater system has sufficient capacity to handle stormwater from the sites (Keesler AFB 2015a). Therefore, no adverse effect on stormwater would be expected from Option A.

Operations would generate solid waste requiring collection and disposal by base services, but no noticeable increase is expected, because operations would remain similar to existing levels.

3.14.2.2 Action Alternative, Options B and C

Utilities demands (water, electric, natural gas, and sanitary wastewater) for Options B and C would be the same as Option A.

The only noticeable difference among the project alternatives would be the quantity of debris generated during demolition. Estimated quantities of demolition debris for Option B are shown in Table 3-15. Project 5C would generate 1,200 tons of demolition debris.

3.14.2.3 No Action Alternative

Under the No Action Alternative, there would be no change in utilities demand. Long-term beneficial effects of new energy-efficient buildings would not be realized, and the DAF would continue to operate energy-inefficient buildings.

3.14.3 Reasonably Foreseeable Actions

The RFAs would cause temporary effects on utilities from construction activities. However, those projects would not introduce long-term increases or disruptions in utility use on-base. Solid waste would be generated during demolition and construction. The construction contractor would be required to verify and document that sufficient landfill capacity exists prior to initiating demolition and construction activities. Short-term, less-than-significant adverse and long-term, less-than-significant cumulative effects on infrastructure and utilities would be expected. Each construction project creates a net effect on utility demand using utilities during construction, the creation of new demand after construction, and a reduction in demand if old facilities are taken offline and demolished as part of the project.

3.15 Transportation and Traffic

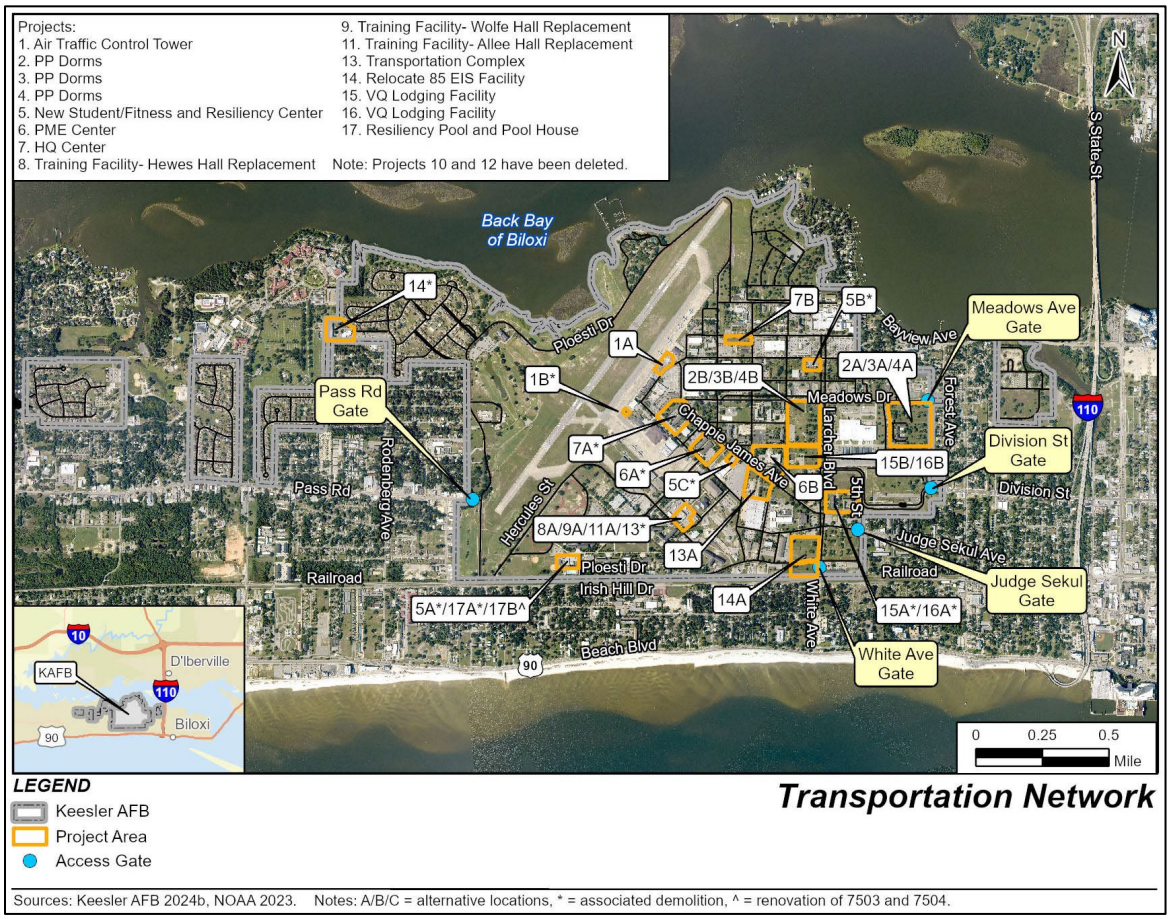
The roads on the installation and roads providing access to the installation are the ROI for transportation and traffic. Effects would be considered significant if the Proposed Action created a safety hazard for motorists, bicyclists, or pedestrians; caused a reduction by more than two levels of service (LOSs) on roads and at intersections within the ROI; substantially degraded traffic flow during peak hours; or substantially exceeded road capacity and design.

3.15.1 Affected Environment

Transportation systems near Keesler AFB comprise mainly road and street networks and pedestrian walkways. Regional access is provided by I-110 (State Route 15), which connects to I-10 north of Biloxi and provides east-west access to other locations in Mississippi and other states (Figure 3-11).

Traffic. The average annual daily traffic (AADT) is the average number of vehicles traveling along a roadway each day. A LOS is a measure of the operational conditions on a roadway or at an intersection. LOS ranges from A to F, with "A" representing the best operating conditions (free flow, little delay) and "F" representing the worst conditions (congestion, long delays). LOSs A, B, and C are typically considered good operating conditions. Table 3-16 summarizes the routes near the proposed project locations and in the area, their AADT, and their estimated existing LOSs. Notably, all nearby intersections operate at a LOS of C or better and are not congested during peak traffic periods.

Air, Rail, and Public Transportation. Keesler AFB has an airstrip for official DAF use only (AirNav 2022b). The closest international airport, Gulfport-Biloxi International Airport, is 9 miles away and has 156 operations per day (AirNav 2022a). The closest Amtrak rail station is the Biloxi Station approximately 4,000 ft southeast of the Division Street Gate. Service at this station was suspended following Hurricane Katrina and is expected to resume operations in the first half of 2025 (Mississippi Free Press 2024). A CSX railroad line separates the Larcher Boulevard-White Avenue Gate from Irish Hill Drive. Coast Transit Authority offers bus transportation to designated locations throughout Harrison County. Route 34 (Blue Route) travels from Gulfport to Biloxi and has stops at the Veterans Administration Building near the Pass Road Gate and the Department of Public Safety Building near the Division Street Gate, and near the Larcher Boulevard-White Avenue Gate on the southern side of Irish Hill Drive. Service is offered Monday through Saturday from 5:09 a.m. to 7:24 p.m. with a reduced schedule on Sundays (CTA 2021).



Note: The Section 106 consultation for the Proposed Action resulted in MDAH's determination that Building 1201 is eligible for listing in the NRHP. Consequently, the DAF will eliminate Project 5B and exclude the building's demolition and construction in its footprint from the current Proposed Action.

Figure 3-11. Transportation Map.

Table 3-16. Existing Traffic and LOS on Nearby Roadways and Intersections

Intersection	Estimated Existing LOS
White Avenue/ Irish Hill Drive	A–B
Larcher Boulevard/ Meadows Drive	B
Larcher Boulevard/ L Street	B
Meadows Drive/ Third Street	B
Division Street	A–C
Pass Road/ Ploesti Drive	B–C
Pass Road/ Rodeo Drive	A

Road	2023 AADT	Highest Traffic Count 2013–2023 (Year)
Larcher Boulevard (south of Irish Hill Drive)	8,800	9,800 (2013)
Irish Hill Drive (east of Larcher Boulevard)	6,100	7,300 (2013)
Judge Sekul Avenue	1,600	2,600 (2014)
Division Street (west of I-110/SR-15)	9,900	13,000 (2014)
Pass Road (west of Pass Road gate)	12,000	13,000 (2016)

Sources: Gannett Fleming 2020; MDOT 2024.

3.15.2 Environmental Consequences

3.15.2.1 Action Alternative, Option A (Preferred)

There would be short-term, less-than-significant effects on transportation and traffic during construction. The effects would be caused by additional vehicles on nearby roadways during construction. No long-term effects on transportation and traffic are anticipated because there would be no change to the base operational workforce.

Construction. Construction traffic will come through the Division Street Gate and go through vehicle inspection there. The addition of construction workers to support the development of new facilities would represent much less than a 1 percent increase in Harrison County employment, which also suggests that area traffic would not be adversely affected. Construction equipment and worker vehicles would increase traffic at gates and on local and base roads but would not be expected to noticeably affect traffic flow or wait times at the gate. Short-term utility system work could require road closures and detours, creating short-term traffic delays, but these effects would be temporary and primarily confined to on-base areas.

The local roadway infrastructure can support the limited increase in traffic, and there would be no perceptible change in off-base traffic conditions when compared to existing conditions. Construction traffic would be routed and scheduled to minimize conflicts with other traffic, as necessary. Construction staging areas are proposed to be located close to the construction sites, which would help to minimize traffic effects.

Operations. Option A would not result in changes to the operational workforce at Keesler AFB; therefore, no changes in traffic levels in the surrounding area are anticipated during steady-state

operations. Project 14 involves the relocation of 185 Keesler AFB personnel from Buildings 7701 and 7704, located at the far northwest portion of the base, to the site in the southeast portion near Irish Hill Road. Relocation of 85 EIS personnel from current location west of the base to the main base would result in a slight reduction in traffic at the residential areas but would not have a noticeable effect on the main base traffic. Since Option A involves the replacement or modernization of existing facilities, no changes in personnel numbers or employment levels are anticipated.

3.15.2.2 Action Alternative, Options B and C

Effects on traffic and transportation under Options B and C would be similar to those under Option A. All the projects are facilities or structures, and most are replacements for existing buildings. Neither alternative is anticipated to result in adverse effects on traffic or transportation during the construction or operational phases.

3.15.2.3 No Action Alternative

Under the No Action Alternative, baseline conditions would remain unchanged, and, consequently, no impacts on traffic and transportation, either on-base or off-base, would occur.

3.15.3 Reasonably Foreseeable Actions

The RFAs would have less-than-significant effects on the on- and off-base transportation system and traffic characteristics during the construction period. Short-term, less-than-significant adverse cumulative effects on traffic and transportation would be expected, primarily because of the construction traffic generated on-base and on local roads. No projects foreseen to be undertaken at Keesler AFB would increase or decrease the average daily population at the base; therefore, no long-term cumulative effects on traffic and transportation would be expected. Additionally, as necessary, Keesler AFB would manage material deliveries, construction work hours, and other factors affecting gate queues and traffic flow near and on the base to minimize wait times and roadway congestion.

3.16 Safety and Occupational Health

The ROI for safety and health includes each project area and all areas beyond it where people could be exposed to hazards associated with implementing elements of the Proposed Action. Those hazards might include releases of hazardous materials, accidents, and their adverse effects on a community's ability to respond to emergencies. In preparing this analysis, the DAF considered potential consequences for both workers and the public from construction and operational activities associated with the Proposed Action.

3.16.1 Affected Environment

All contractors performing construction activities are responsible for complying with DAF safety and OSHA regulations and are required to conduct construction activities in a manner that poses no undue risk to workers or other personnel. Industrial hygiene programs address exposure to hazardous materials and hazardous wastes, use of PPE, and use and availability of material Safety Data Sheets (SDSs). Industrial hygiene is the responsibility of contractors, as applicable. Contractors are responsible for reviewing potentially hazardous workplaces; monitoring exposure to workplace chemicals (e.g., hazardous materials and hazardous wastes), physical stressors (e.g., noise propagation), and biological agents (e.g., infectious waste); recommending and evaluating controls (e.g., ventilation and respirators); ensuring personnel

are properly protected and unexposed; and ensuring a medical surveillance program is in place to perform occupational health physicals for workers subjected to any accidental chemical exposures or engaged in hazardous waste work.

DoD and the DAF have policies and procedures in place to ensure compliance with these and other applicable health and safety regulations and to protect workers and the public. DoDI 6055.01, *DoD Safety and Occupational Health Program,* and DoDI 6055.05, *Occupational and Environmental Health,* set health and safety guidelines for DoD employees that meet or exceed OSHA standards. Guidance for the DAF's occupational health and safety program is provided in AFMAN 48-146, *Occupational Health Program*, which is consistent with DoDI 6055.05, and Air Force Policy Directive (AFPD) 90-8, *Environmental, Safety, & Occupational Health Management and Risk Management*. AFPD 91-2, *Safety Programs,* describes the overarching structure for managing DAF safety programs efficiently and effectively. Department of the Air Force Manual 91-203, *Occupational Safety, Fire, and Health Standards,* provides guidance for minimizing loss of DAF resources and protecting personnel from occupational death, injury, and illness by managing risks. In conjunction with AFI 91-202, *DAF Mishap Prevention Program*, and the Air Force Global Strike Command Supplement to AFI 91-202, these standards ensure the DAF workplace meets federal health and safety requirements. Additional guidance documents address risk management, facility inspections, worker health surveillance, personnel reliability, injury compensation, conducting safety investigations, recordkeeping, and other topics.

3.16.2 Environmental Consequences

3.16.2.1 Action Alternative, Option A (Preferred)

Construction activities at Keesler AFB would have short-term, less-than-significant adverse effects on the safety and health of workers. There would be short-term, less-than-significant adverse effects on the public health and safety from construction increase in traffic at the Division Street Gate and on local and base roads. Operations would have long-term beneficial effects on safety and health at Keesler AFB.

Construction. DAF-contracted construction workers and equipment operators would be exposed to risks associated with construction and equipment maintenance activities; however, those risks would be minimized using established industry-accepted safety practices and standard operating procedures (SOPs). As discussed in Section 3.13.2.1, if contaminated soils or groundwater is encountered during construction, the BEM, installation personnel, or contractor personnel would address it in accordance with established procedures, including those protecting safety and health of the construction personnel. As discussed in Section 3.13.2.1, short-term, less-than-significant adverse effects also would result from demolition of structures where ACM, LBP, PCBs, and other hazards could be present. Barriers and "No Trespassing" signs would be placed around the perimeter of construction sites to deter children from entering the areas, and construction vehicles and equipment would be secured or removed when not in use.

Similarly, short-term, less-than-significant adverse effects on safety and occupational health would be expected to result from construction traffic. As discussed in Section 3.15.2.1, construction traffic would go through Division Street Gate. All vehicles would comply with safety measures and, while traffic would increase at gates and on roads, it would not significantly impact flow. These effects would be temporary, ending with the construction phase.

Operations. There would be long-term beneficial effects on safety and occupational health. The new ATCT would meet fire and safety codes. The buildings, where ACM, LBP, PCBs, and other hazards could be present, would be demolished. Personnel at the facilities would be exposed to

risks with associated operational activities such as facility maintenance activities. Those risks would be minimized, however, using established industry-accepted safety practices and SOPs.

3.16.2.2 Action Alternative, Options B and C

Effects on safety and occupational under Options B and C would be similar to those under Option A. Under Project 17B, the existing pool and pool house would be renovated. Short-term, less-than-significant adverse effects would also result from demolition of structures where ACM, LBP, PCBs, and other hazards could be present. All regulations and SOPs applicable to Option A also would be applicable to Options B and C.

3.16.2.3 No Action Alternative

Under the No Action Alternative, there would be long-term, significant adverse effects. The existing ATCT would continue with the noncompliant fire and safety codes. Residential buildings such as the PP Dorms would continue to be used with significant deficiencies, including mechanical and electrical systems as well as mold issues and noncompliance with DoD Force Protection standards. The existing facilities would continue to deteriorate and become unusable. Additionally, the base would continue to use buildings with ACM, LBP, PCBs, and other hazards present.

3.16.3 Reasonably Foreseeable Actions

The two RFAs would have less-than-significant adverse effects with adherence to occupational health and safety practices and regulations. The Pass Road Gate would have beneficial effects on safety issues at Keesler AFB. Short-term, less-than-significant adverse cumulative effects on safety and occupational health would be expected because contractors would comply with HASPs for the projects and minimize potential significant safety hazards to construction workers and the public.

3.17 Greenhouse Gas Emissions

Specific DAF and DoD procedures for operations, construction, landscaping, procurement, recycling, and transportation are the ROI for Greenhouse Gas.

3.17.1 Affected Environment

The analysis for the Proposed Action was reduced to only large facilities in the State of Mississippi, Harrison County, and all surrounding counties. A gross comparison completed for the Proposed Action was based on a percentage of the total contribution to GHGs.

GHGs are gases in the atmosphere with the ability to affect the Earth’s atmospheric temperature through physical processes involving sunlight and thermal energy. Natural processes such as evaporation, decomposition of organic matter, wildfires, and volcanic activity are responsible for most of the GHGs. Human activities that involve the combustion of fossil fuels (e.g., gasoline, diesel, oil, coal, and natural gas) and farming, however, also have added substantial amounts of GHGs to the atmosphere over time, and it is these additional GHGs that have changed the overall makeup of the atmosphere, leading to what is known as the “greenhouse effect.”

Because of their location on the Gulf Coast, Keesler AFB and its neighboring communities experience catastrophic weather events. As shown in Figure 3-9, except for Project 14A, all proposed sites are in a floodplain under either FEMA or CSU floodplain extents.

3.17.2 Environmental Consequences

3.17.2.1 Action Alternative, Option A (Preferred)

Short-term direct and indirect GHG emissions would be expected to be generated from construction activities. Long-term direct and indirect emissions would be expected from backup generators and refueling storage tanks.

Construction. Total combined direct and indirect GHG emissions associated with the Proposed Action were estimated through ACAM on a CY basis from the action start through the expected life cycle of the action. The life cycle for DAF actions with "steady state" emissions (net gain/loss in emission stabilized and the action being fully implemented) for Option A is assumed to be 0–25 years steady state emissions for aircraft operations-related actions.

The DAF applied ACAM to each project comprising Option A to estimate construction-related GHG emissions in this EA. ACAM also was used to quantify emissions of NAAQS criteria pollutants. Net change in emissions is below 75,000 tons per year (tpy), or 68,039 metric tons per year (mtpy) of CO_2e (insignificance indicator), which is insignificant and inconsequential; therefore, no further analysis of GHGs is required.

Relative Comparison. The total annual aggregated GHG emissions from construction and operations would be approximately 2,576.00 tpy. These GHG emissions were compared with large facilities in the State of Mississippi and Harrison County. In 2023, two facilities in the county reported approximately 2,308,663 million metric tons (USEPA 2023). GHG emissions associated from operation would be less than 0.001 percent of the 2023 GHG emissions for Harrison County. From a global context, the action's total GHG percentage of total global GHG for the same period is 0.00000250 percent.

Table 3-17 summarizes the action-related GHG emissions for a year, the worst-case projected construction timeline of the action. The DAF assumed all 15 projects to be compressed into a 12-month period to ensure that the actual annual emissions would be less than the estimates specified in this EA. Small changes in facilities' site and final design and moderate changes in quantity and types of equipment used would not substantially change the emission estimates.

Table 3-17. Action Alternative, Option A (Preferred) Annual GHG Emissions (tpy)

Year	CO_2	CH_4	N_2O	CO_2e
Construction	2,226.000	0.070	0.020	2,316.000
Operations	225	0.00903839	0.0018076	260

Operations. Long-term, insignificant effects would be expected from the operations of the facility. Net change in emissions is below 75,000 tpy of CO_2e (insignificance indicator), which is insignificant and inconsequential; therefore, no further analysis of GHGs is required.

3.17.2.2 Action Alternative, Options B and C

Option B assumes that the GHG emissions would be comparable to those of Option A, and long-term effects from the facility's operations are expected to be insignificant. Annual operational GHG emissions are projected to be well below the DAF's threshold of 75,000 mtpy for an insignificant threshold.

3.17.2.3 No Action Alternative

Under the No Action Alternative, baseline conditions would remain unchanged, resulting in no net change in effects on GHG emission, either on-base or off-base.

3.17.3 Reasonably Foreseeable Actions

The two RFAs would have less-than-significant GHG emissions. The Proposed Action would add GHG emissions cumulatively from the construction. However, GHG emissions during construction could be reduced by implementing BMPs described in Section 4.3.9.

3.18 Socioeconomics

The socioeconomic ROI is a geographic area selected as a basis on which social and economic effects of project alternatives are analyzed. The socioeconomic ROI for this Proposed Action is defined as the Gulfport-Biloxi Metropolitan Statistical Area (MSA), which consists of Hancock, Harrison, Jackson, and Stone counties in Mississippi.

3.18.1 Affected Environment

In this section, socioeconomic indicators are provided for the MSA, with data for Mississippi and the United States presented for comparative purposes.

This MSA is the state's second largest region, with a growing economy and population (TKC 2023). On the basis of population, Harrison and Jackson counties are the second and fifth largest counties in the state, respectively, and Gulfport and Biloxi are the second and fifth largest cities in the state, respectively (Cubit 2024). The MSA economy is driven by defense, shipbuilding, and tourism (beaches and casinos) (TKC 2023).

The MSA's population increased from 416,249 in 2020 to 421,916 in 2023, an increase of 1.4 percent (5,667 people). During the same period, Mississippi's population decreased by 0.7 percent and the U.S. population increased by 1.0 percent (USCB 2024a).

The MSA's 2023 labor force was 170,880, which included 165,567 people employed and 5,313 unemployed. The labor force increased by 0.7 percent (1,176 people) between 2020 and 2023. During the same period, Mississippi's labor force increased by 1.1 percent and the U.S. labor force increased by 4 percent. The county, state, and national annual unemployment rates declined between 2010 and 2019, increased in 2020 because of the coronavirus disease 2019 pandemic, and then decreased as the economy recovered. Unemployment rates have returned to pre-pandemic levels. The annual unemployment rate in 2023 for the MSA was 3.1 percent, 3.2 percent for Mississippi, and 3.6 percent for the United States (BLS 2024).

In 2023, the MSA's largest industries on the basis of employment by industry were government and government enterprises (federal civilian, military, and state and local government); accommodation and food services; retail trade; manufacturing; and construction. Together those industry sectors accounted for almost 60 percent of the MSA's employment. The government was the largest sector, accounting for almost 20 percent of the MSA's total employment, followed by accommodation and food services at about 13 percent (BEA 2023a).

Keesler AFB is one of the largest employers in the region, directly employing more than 12,200 military and civilian personnel, accounting for 7 percent of the people employed in the MSA. As a lead Joint Training Installation for the DAF and DoD, Keesler AFB has a daily average student load of 4,220. Keesler AFB had a FY 2022 total adjusted economic impact on the region of almost $1.1 billion (Keesler AFB 2023b).

The MSA's total personal income (TPI) was about $19.2 billion in 2022, an 11 percent increase from 2020. Mississippi's TPI increased by 8 percent and the U.S. TPI increased by 11 percent during the same period. MSA per capita personal income (PCPI) was nearly the same as the state's PCPI and lower than the nation's PCPI. The MSA's 2022 PCPI of $45,604 was 98 percent of the state PCPI of $46,370 and 70 percent of the national PCPI of $65,470 (BEA 2023b).

Keesler AFB has family housing, unaccompanied housing, and temporary base housing. Family housing consists of about 1,000 privatized family housing units in five neighborhoods. Four of the neighborhoods are on the west side of the base, and one is about 15 miles northeast of the base in Vancleave in Jackson County (KFH 2024; MOS 2024).

Unaccompanied housing includes housing for unaccompanied permanent party personnel and for students. The permanent party unaccompanied housing campus is on the east side of the base and consists of four dormitories (AFH 2024). Student housing consists of seven dormitories that can house up to 2,800 students. The dorms are in the southwestern part of the base and are bound by the airfield, golf course, industrial park, and training facilities (Keesler AFB 2004).

Temporary base housing includes lodging units for short-term stays (hotel rooms) and temporary lodging facilities (TLFs) for longer stays of up to 30 days (apartments). Keesler AFB has about 600 lodging units across 14 buildings and 74 TLFs on-base (AFSVC 2024; MOS 2024).

Off-base, the MSA had an estimated 185,213 housing units as of 2022 (USCB 2022a). Residential areas border Keesler AFB to the east, south, and west. About 87 percent of the off-base housing units (161,467) were occupied and 13 percent (23,746) were vacant (USCB 2022a). Of the vacant units, an estimated 5,232 were for rent and 1,708 were for sale (USCB 2022b). The MSA had a homeowner vacancy rate of 1.6 percent, compared to 1.3 percent for Mississippi and 1.1 percent for the United States. The MSA had a rental vacancy rate of 8.8 percent, compared to 8.9 percent for the state and 5.5 percent for the nation (USCB 2022a). The Mississippi Gulf Coast, with its beaches and casinos, is a popular tourist destination. It has nearly 13,000 hotel rooms (Coastal Mississippi 2024).

Keesler AFB has no primary or secondary schools on-base. The counties in the MSA have 13 public school districts with a 2022–2023 student enrollment of 62,325 (NCES 2024). Families living on-base have the option to enroll their children in one of several public school districts: Gulfport School District in Harrison County, Harrison County School District, Jackson County School District, and Ocean Springs School District in Jackson County (DAF CYES 2023).

Keesler AFB provides commercial, health and safety, recreational, and other support services to its DAF military and civilian personnel and their families. The base has an automotive services shop, bank and credit union, barber shop and beauty salon, commissary, exchange, food court, post office, and shoppette. Health care is available at the Keesler Medical Center Hospital and dental clinic. The base has its own ambulance service, fire department, and security services. The DAF offers financial planning, military and family member support, and new parent support programs. On-base recreational opportunities include an arts and crafts center, an auto hobby shop, basketball courts, a bowling alley, dining facilities, fitness centers, a golf course, a marina, outdoor recreation programs and equipment rentals, a swimming pool, tennis courts, and volleyball courts. The base is adjacent to the Back Bay of Biloxi and less than one-half mile from the Mississippi Gulf Coast beaches. Keesler AFB Child and Youth Services has a CDC that provides daycare for infants to 5-year-olds; an in-home family childcare program for infants to 12-year-olds; before- and after-school care, holiday camps, and summer camps for children in kindergarten through seventh grade; a Youth Program and Services Center with arts and crafts,

board games, pool, table tennis, and video games; and Youth Sport and Fitness baseball, flag football, and soccer teams (AFSVC 2024; MOS 2024).

3.18.2 Environmental Consequences

3.18.2.1 Action Alternative, Option A (Preferred)

Short-term, less-than-significant beneficial economic effects and long-term, less-than-significant beneficial quality-of-life effects would be expected. Under Option A, construction activities would generate jobs during the construction period, contribute to local earnings and induced spending, and contribute to local purchasing of goods and services. Those effects would be temporary, however, occurring only for the duration of the construction period. The quality of life for Keesler AFB Airmen and their families would be improved by the availability of new or improved airfield, base support, community support, and training facilities. These effects would be permanent and long term.

Construction. Short-term, less-than-significant beneficial economic effects would be expected on the regional economy. The expenditures and employment associated with the construction, demolition, and renovation projects would increase ROI employment, income, and business sales. The DAF would likely hire local contractors from the ROI to perform the work. Because of the short-term nature of construction projects, workers would commute from their homes to the jobsite, so no effects would be expected on population or demand for housing, schools, or other public services. The economic benefits would be short term, lasting for the duration of the development period.

Operations. Long-term, less-than-significant beneficial effects would be expected from the expanded capacity, modern conveniences, new locations, and improved condition of the new and renovated facilities. The facilities would be of sufficient size to accommodate the Keesler AFB population and of modern design and would offer modern conveniences. Proposed new locations would be sited on-base in the planning district suited to that building's function (i.e., the Airfield, Base Support, Community Support, or Training District), which would be beneficial for operational efficiency and influence morale, productivity, and retention. The proposed facilities and improvements would improve the quality of life for Airmen and their families.

No effects would be expected on the population level because there would be no new personnel. There would be no change in demand for community support facilities or services, housing, recreational facilities, or schools.

3.18.2.2 Action Alternative, Options B and C

Effects would be the same as those for Option A.

3.18.2.3 No Action Alternative

Long-term, less-than-significant adverse effects would be expected on the quality of life. Long-term adverse effects would occur from continued operation of facilities that either do not meet current UFCs or are in poor condition and at the end of their life cycle. Keesler AFB's administrative buildings, dormitories, educational and training buildings, lodging facilities, and recreational facilities would not be renovated or replaced. Airmen and their families would continue to use outdated facilities in various states of disrepair, of insufficient capacity, or geographically separated from the main base or their compatible planning district on-base. Personnel morale, productivity, and retention could be adversely affected. The cost of

maintaining the aging facilities would increase. The No Action Alternative would not meet DAF goals for mission capability, modernization, readiness, or sustainability.

3.18.3 Reasonably Foreseeable Actions

The two RFAs would have short-term beneficial effects on socioeconomics. The construction, demolition, and renovation projects would require expenditures in the regional economy for purchasing project equipment, materials, and supplies; hiring people in construction-related industries; paying wages to those employees; and the spending of those wages on goods and services. The economic benefits would be short term because of the finite nature of construction projects. The Proposed Action would contribute cumulatively to short-term, less-than-significant beneficial effects on socioeconomics.

3.19 Protection of Children

Keesler AFB and the immediate surrounding communities are the ROI for protection of children. Protection of children would be significantly affected if implementing an alternative would result in disproportionately high and adverse environmental health or safety risks to an identified population of children, such as the increase in a child's risk of exposure to an environmental hazard (through contact, ingestion, or inhalation) or the risk of potential substantial harm to the safety of children. For this analysis, the affected area is the census block group where the Proposed Action would be implemented and the adjacent block groups (Figure 3-12)**Error! Reference source not found.**.

3.19.1 Affected Environment

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, seeks to protect children from disproportionately incurring environmental health or safety risks that might arise as a result of federal policies, programs, activities, or standards. It recognizes scientific knowledge that demonstrates children might suffer disproportionately from environmental health and safety risks. Those risks arise because children's bodily systems are not fully developed; children breathe, drink, and eat more in proportion to their body weight than adults; their size and weight might diminish protection from standard safety features; and their behavior patterns might make them more susceptible to accidents than adults.

Children are present on Keesler AFB as residents and visitors (e.g., residing in base family housing, at childcare facilities, using recreational facilities, and attending events) and in the neighboring residential communities. The DAF takes precautions for child safety through using fencing and signage, limiting access to certain areas, and requiring adult supervision. The base perimeter is secured by a fence with base access limited to the controlled entry gates.

Data from the U.S. Census Bureau shows the census block group containing most of the Keesler AFB area (block group 280470009001) contains no children because it does not include any family housing (Table 3-18). Although census block group 280470009002 contains much less of the base's area, it has a notably higher percentage of children than the other geographic areas in part because it includes Keesler AFB family housing areas.

Several of the Proposed Action projects are near areas where children can be present. Projects 2A/B, 3A/B, and 4A/B are near the base exchange, tennis and volleyball courts, and a recreational field. The Project 5B site is near the bowling alley and 5C is near the basketball courts. Project 7B is south of the CDC. Project 14 demolition is near Keesler AFB family housing and off-base housing. The Projects 15A and 16A site is near the basketball courts and Project 15B site is near the base exchange.

Table 3-18. People Under 18 Years of Age

Location	Total Population (2022)	% of People under Age 18	Number of People under Age 18
United States	331,097,593	22%	73,213,705
Mississippi	2,958,846	23%	691,076
COC			
Harrison County	208,748	24%	50,100
Census Block Group			
280470006001	652	8%	53
280470006002	885	19%	168
280470009001[a]	1,943	0%	0
280470009002	1,194	42%	504
280470013011	531	22%	117
280470037001	1,578	24%	384
280470039021	1,030	30%	309
280470039022	1,229	24%	298

Sources: USCB 2022a, 2022c.
Notes: COC = community of comparison.
[a] The census block group that contains most of Keesler AFB.

3.19.2 Environmental Consequences

3.19.2.1 Action Alternative, Option A (Preferred)

Short-term, less-than-significant adverse effects would be expected on the protection of children. Construction activities would be required to comply with applicable federal and state air quality, noise, and water quality regulations and established industry-accepted safety practices to protect the general public. Some of the project sites would be near community facilities on Keesler AFB or near residential areas. Because construction sites can be enticing to children, barriers and signage would be placed around the perimeter of the sites to deter children from entering.

Construction: Short-term, less-than-significant adverse effects would be expected. Projects 2, 3, 4, and 14 would be near areas or facilities where children typically are present (e.g., base exchange, recreational fields, and residential neighborhoods). Construction sites themselves pose a safety risk to children and generate air emissions, noise, and traffic. Option A-related construction would result in short-term, less-than-significant adverse effects on the protection of children. The DAF construction contractor would be required to implement appropriate safety measures and follow health regulations to protect the safety and health of citizens. Construction contractors would be responsible for complying with DAF, OSHA, and local regulations. Barriers and “No Trespassing” signs would be placed around the perimeter of construction sites to deter children from entering the areas, and construction vehicles and equipment would be secured or removed when not in use.

Operations: Operations would have no effects on the protection of children. The operation of the facilities would be like that of similar off-base facilities, such as a university academic building or dormitory, an office building, fitness center, or hotel. Operation of the proposed facilities would have less-than-significant effects on air quality, noise, safety, and water resources and no effects on traffic.

3.19.2.2 Action Alternative, Options B and C

Effects would be similar to those for Option A. Short-term, less-than-significant adverse effects would be expected on the protection of children. Projects 2B, 5B, 7B, 14B, 15B, and 16B and Project 5C would be near areas or facilities where children typically are present (e.g., the base exchange; basketball, tennis, and volleyball courts; a childcare facility; recreational fields; and residential neighborhoods). Construction sites themselves pose a safety risk to children and generate air emissions, noise, and traffic. Construction would have short-term, less-than-significant adverse effects on the protection of children.

3.19.2.3 No Action Alternative

With the No Action Alternative, no effects would be expected on protection of children. The DAF would not implement the Proposed Action.

3.19.3 Reasonably Foreseeable Actions

There would be short-term, less-than-significant adverse effects from the two RFAs on the protection of children. However, construction activities would be required to comply with applicable federal and state air quality, noise, and water quality regulations and established industry-accepted safety practices to protect the public. The Proposed Action also would comply with applicable federal and state air quality, noise, and water quality regulations and established industry-accepted safety practices to protect the public. Therefore, the Proposed Action would not contribute to significant effects on these populations when considered with the cumulative projects.

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4.0 PERMIT/WAIVER, APPROVAL REQUIREMENTS, AND BEST MANAGEMENT PRACTICES

This section summarizes the permit, waiver, and approval requirements and BMPs discussed in the preceding sections.

4.1 Permit and Waiver Requirements

4.1.1 Airfield Operations

A temporary construction airfield waiver from the Base Commander would be required for Action Alternative, Project 1A and 1B.

4.1.2 MDEQ CGPs

The contractor would file an MDEQ Large Construction NOI for coverage under the Large Construction Storm Water General NPDES Permit as required for construction activities of more than 5 acres in the State of Mississippi. This application would include a site-specific SWPPP detailing BMPs and erosion control features to reduce potential soil erosion, minimize effects on surface waters, and prevent contaminated stormwater from leaving the construction site.

The contractor would file for an SCGP for projects disturbing more than 1 acre but less than 5 acres.

4.1.3 Air Quality – New Source Review

Emergency generators or boilers would require an NSR and may require permitting if emissions or forecasted runtime hours are above the permitting threshold. If the permitting threshold is triggered, a permit must be obtained prior to construction.

4.1.4 Hazardous Materials and Hazardous Wastes

Before any PFAS discharge to the publicly owned treatment works, the Keesler AFB Water Resource Manager must notify the Harrison County Utility Authority and, where applicable, obtain the necessary dewatering permit from the Authority for sanitary sewer discharge.

4.2 Approval Requirements

4.2.1 Removal of Live Oak Trees

The contractor would coordinate with the base to obtain the Wing Commander's approval to remove any live oak tree larger than 24 inches dbh.

4.3 BMPs

4.3.1 Air Quality

Keesler AFB and its contractors would apply BMPs, such as the following:

- Using water to control dust from building construction, road grading, and land clearing to prevent fugitive dust from becoming airborne.
- Maintaining all construction equipment to the Original Equipment Manufacturer specifications or better recommendations.

- Minimizing idling time for diesel equipment and shutting off equipment when not in direct use.
- Obtaining necessary state-issued preconstruction permits or permitting waivers for new stationary sources of air emissions.
- Adding new on-base sources of air emissions to comply with the installation's air operating permit within 1 year of initiating operation.

4.3.2 Noise

To attenuate the noise levels within the ATCT, design of the tower would reference the base Air Installation Compatible Use Zones Report.

The DAF or its contractors would implement the following BMPs to minimize the potential for adverse effects from construction noise:

- Scheduling construction activities primarily during normal weekday business hours.
- Properly maintaining construction vehicles and other heavy equipment.
- Using adequate personal hearing protection to limit exposure and ensure compliance with federal health and safety regulations.

4.3.3 Earth and Water Resources

Facility design would incorporate LID controls to maintain flow rates, flow volumes, and durations existing before development, in accordance with EISA Section 438 and Air Force Corporate Facilities Standards. Keesler AFB contractors would prepare and adhere to a site-specific SWPPP detailing BMPs and erosion control features to reduce potential soil erosion, minimize effects on surface waters, and prevent contaminated stormwater from leaving the construction site. Example LID controls and stormwater management BMPs are listed in Section 3.10, *Water Resources*.

4.3.4 Biological Resources

The USFWS-recommended tree clearing timeframe is July 16–April 30, to fall outside the tricolored bat pup season of May 1–July 15. The USFWS-recommended timeframe for structure demolition and large-scale renovations to roof and wall areas is September 1–April 30 to avoid the bat maternity period of May 1–August 30.

4.3.5 Cultural Resources

The DAF will ensure the artifacts of note from the Phase I archaeological survey are curated with MDAH, per the pending MOA.

The DAF or its contractors would adhere to the Keesler AFB CRMP contingency plan:

- If an archaeological resource was discovered during excavation or construction, activity in the area would be ceased immediately and a reasonable effort would be made to protect the discovered items.
- The Construction Manager would contact the Base Civil Engineer and the Keesler AFB Cultural Resources Manager, who would in turn contact the MDAH and the Native American Tribes known to have a historical connection to the land on the base as well as other appropriate individuals and agencies.

4.3.6 Hazardous Materials and Hazardous Wastes

The DAF or its contractors would comply with established management plans for hazardous materials and hazardous wastes and spill prevention and response. Additionally, the following BMPs would be implemented to minimize the potential for adverse effects of hazardous materials and hazardous wastes:

- Conducting personnel safety training, proper storage and signage of containers, routine inventory, and readily available SDSs for all hazardous materials used on-site.
- Regularly maintaining equipment and using drip pans for vehicles when they are stationary to prevent contamination from leaks.

4.3.7 Transportation and Traffic

The DAF or its contractors would implement the following BMPs to minimize adverse effects on transportation and traffic during construction:

- Routing and scheduling construction vehicles to minimize conflicts with other traffic and strategically locating staging areas to minimize traffic effects.
- Equipping all construction vehicles with backing alarms, two-way radios, and “Slow-Moving Vehicle” signs, as appropriate.

4.3.8 Safety and Occupational Health

Adherence by the DAF or its contractors to BMPs to minimize adverse effects of hazardous materials and wastes and on transportation and traffic also would address safety and occupational health.

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APPENDICES A-E ARE PRESENTED IN A SEPARATE FILE.