FINAL

Environmental Assessment
for
Detection Sciences Testing and Applied Research
and
Facility for Energetic Material Research Projects
Transportation Security Lab
Federal Aviation Administration, William J. Hughes Technical Center
Egg Harbor Township, Atlantic County, New Jersey

Science and Technology Directorate
Department of Homeland Security
Washington, D.C.

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Project Proponent:	Department of Homeland Security Science and Technology Directorate (S&T) Office of National Laboratories (ONL)
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EXECUTIVE SUMMARY

This Environmental Assessment (EA) was prepared to evaluate the potential environmental and socioeconomic impacts of the Proposed Action and alternatives, including the No Action Alternative, and to aid in determining whether an Environmental Impact Statement is needed. The U.S. Department of Homeland Security (DHS), Science and Technology Directorate (S&T), Transportation Security Laboratory (TSL) proposes to construct and operate the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR), including supporting infrastructure hereafter referred to as the "DSTAR Project"). The DSTAR Project would be located adjacent to existing TSL facilities on Federal Aviation Administration's (FAA) William J. Hughes Technical Center (WJHTC) property, located in Egg Harbor Township, Atlantic County, New Jersey (NJ). The WJHTC property includes over 250 existing buildings and associated infrastructure and is classified as a "Military and Federal Installation Area" where permitted uses are those associated with the function of the installation or other public purpose uses.

The environmental resources for which impacts are analyzed include land use, visual aesthetics, air quality and climate change, noise, soils, cultural resources, water resources, biological resources, socioeconomics, environmental justice, public health and safety, infrastructure, and hazardous materials, solid waste, and pollution prevention.

This EA complies with the National Environmental Policy Act of 1969, 42 United States Code [USC] §§ 4321 et seq. (NEPA), the Council on Environmental Quality (CEQ) *Regulations Implementing the Procedural Provisions of NEPA* (40 Code of Federal Regulations [CFR] Parts 1500-1508), other relevant federal and state laws and regulations, DHS Directive 023-01, Revision 01, and DHS Instruction Manual 023-01-001-01, Revision 01, *Implementation of the National Environmental Policy Act*.

The TSL is a federal laboratory aligned under S&T Office of National Laboratories (ONL) and is responsible for researching, developing, testing, and evaluating technologies to detect and mitigate the threat of explosives and other weapons that may be used against the Nation's transportation systems and infrastructure.

The Proposed Project is needed as TSL facilities are operating inefficiently which increases operational safety risks. In response, ONL has proposed capability upgrades at TSL. These upgrades, defined in this EA as the Proposed Action, would include the construction of two laboratory facilities, the DSTAR Center and FEMR, together with supporting infrastructure.

The DSTAR Project would provide the necessary infrastructure to enable Material Characterization, Trace Detection Technology test and evaluation (T&E), Methods and Tools, Explosives Synthesis and Preparation, and Full-Scale Shock and Thermal Testing. These characteristics would mitigate the capability gaps outlined in the DSTAR Mission Needs Statement. The construction of the DSTAR Project would enable TSL to return the previous warehouse facilities (currently used as ad-hoc laboratory space) back to their intended purpose of storage. Finally, the DSTAR Project would include the construction of modern office spaces. TSL plans to achieve initial operational capability of the DSTAR Project by fiscal year (FY) 2029.

FINDINGS AND CONCLUSIONS

Based upon the analyses for this EA and the Mitigation Measures to be implemented, the Proposed Action would not have a significant effect on the environment. Therefore, no further analysis or documentation (i.e., Environmental Impact Statement) is warranted. S&T, in implementing this decision, would employ all practical means to mitigate the potential for adverse impacts on the human and natural environments.

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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
A/E-of-Record	Architectural & Engineering firm of record
AIT	Advanced imaging technology
amsl	Above mean sea level
AOI	Area of Impact
ASTM	American Society for Testing and Materials
bgs	Below ground surface
BIA	Bureau of Indian Affairs
BTU	British Thermal Units
CAA	Clean Air Act
CAFRA	Coastal Area Facilities Review Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CGRIS	Cultural Resources Geographic Information System
CO	Carbon Monoxide
CO_2e	Carbon Dioxide Equivalent
CRGIS	Cultural Resources Geographic Information Systems
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibels
dBA	A-weighted decibels
DBH	Diameter at breast height
DDT	Dichloro-diphenyl-trichloroethane
DHS	United States Department of Homeland Security
DOI	United States Department of the Interior
DOT	United States Department of Transportation
DSTAR	Detection Sciences Testing and Applied Research
DT&E	Developmental Test and Evaluation
EA	Environmental Assessment
EBS	Environmental Baseline Survey
EHCWD	Egg Harbor City Water Department
EHT	Egg Harbor Township
EISA	Energy Independence and Security Act of 2007
EJ	Environmental Justice
EMRL	Energetics Materials Research Laboratory
EMSL	Energetic Material Synthesis Lab
EO	Executive Order
EOSH	Environmental and Occupational Safety and Health
ESA	Endangered Species Act

f^3/s	Cubic feet per second
FAA	Federal Aviation Administration
FEMA	United States Federal Emergency Management Agency
FEMR	Facility for Energetic Materials Research
FIRM	Flood Insurance Rate Map
FRED	Federal Reserve Economic Data
FTA	Federal Transportation Agency
FY	Fiscal Year
GDP	Gross Domestic Product
GHG	Greenhouse Gases
gpm	Gallons per minute
HME	Homemade explosives
HPO	Historic Preservation Officer
HUD	Housing and Urban Development
IPaC	Information for Planning and Consultation
IT&E	Independent Test and Evaluation
LOD	Limit of Disturbance
Ldn	Day-Night Average Sound Levels
MBTA	Migratory Bird Treaty Act
MMBTU	Million British Thermal Units
mph	Miles per hour
NAAQS	National Ambient Air Quality Standards
NARTP	National Aerospace Research & Technology Park
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NIOSH	National Institute for Occupational Safety and Health
NJAC	New Jersey Administrative Code
NJDEP	New Jersey Department of Environmental Protection
NJFWPA	New Jersey Freshwater Wetlands Protection Act
NJGS	New Jersey Geological Survey
NJPC	New Jersey Pinelands Commission
NLEB	Northern Long-eared Bat
NO_2	Nitrogen Dioxide
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOx	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory

O_3	Ozone
ONJSC	Office of New Jersey State Climatologist
ONL	Office of National Laboratories
OSHA	Occupational Safety and Health Act
Pb	Lead
$PM_{2.5}$	Particulate matter less than 2.5 microns
PM_{10}	Particulate matter less than 10 microns
PNR	Pinelands National Reserve
PPA	Pinelands Protection Act
S&T	Science and Technology Directorate
SCIF	Sensitive Compartmented Information Facility
SDWIS	Safe Drinking Water Information System
SHPO	State Historic Preservation Officer
SO_2	Sulfur Dioxide
STTL	Shock and Thermal Testing Lab
sq. ft.	Square feet
T&E	Test and evaluation
TCB	Tricolored bat
TDAT	Tribal Directory Assessment Tool
TSA	Transportation Security Administration
TSE	Transportation Security Equipment
TSL	Transportation Security Laboratory
UK	United Kingdom
US	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USCB	United States Census Bureau
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VOC	Volatile Organic Compounds
WJHTC	William J. Hughes Technical Center

1.0 INTRODUCTION

This Environmental Assessment (EA) was prepared to evaluate the potential environmental and socioeconomic impacts of the Proposed Action and alternatives, including the No Action Alternative, and to aid in determining whether an Environmental Impact Statement is needed. The U.S. Department of Homeland Security (DHS), Science and Technology Directorate (S&T), Transportation Security Laboratory (TSL) proposes to construct and operate the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR), including supporting infrastructure (hereafter referred to as the "DSTAR Project"). The DSTAR Project would be located adjacent to existing TSL facilities on Federal Aviation Administration's (FAA) William J. Hughes Technical Center (WJHTC) property, located in Egg Harbor Township, Atlantic County, New Jersey (NJ). The WJHTC property includes over 250 existing buildings and associated infrastructure and is classified as a "Military and Federal Installation Area" where permitted uses are those associated with the function of the installation or other public purpose uses.

DHS S&T prepared this Environmental Assessment (EA) in compliance with the National Environmental Policy Act of 1969, 42 United States Code §§ 4321 *et seq*. (NEPA); the White House Council on Environmental Quality (CEQ) *Regulations Implementing the Procedural Provisions of NEPA* (40 Code of Federal Regulations [CFR] Parts 1500-1508); DHS Directive 023-01, rev. 01, and DHS Instruction 023-01-001-01 Revision 01, *Implementation of the National Environmental Policy Act*.

1.1 BACKGROUND

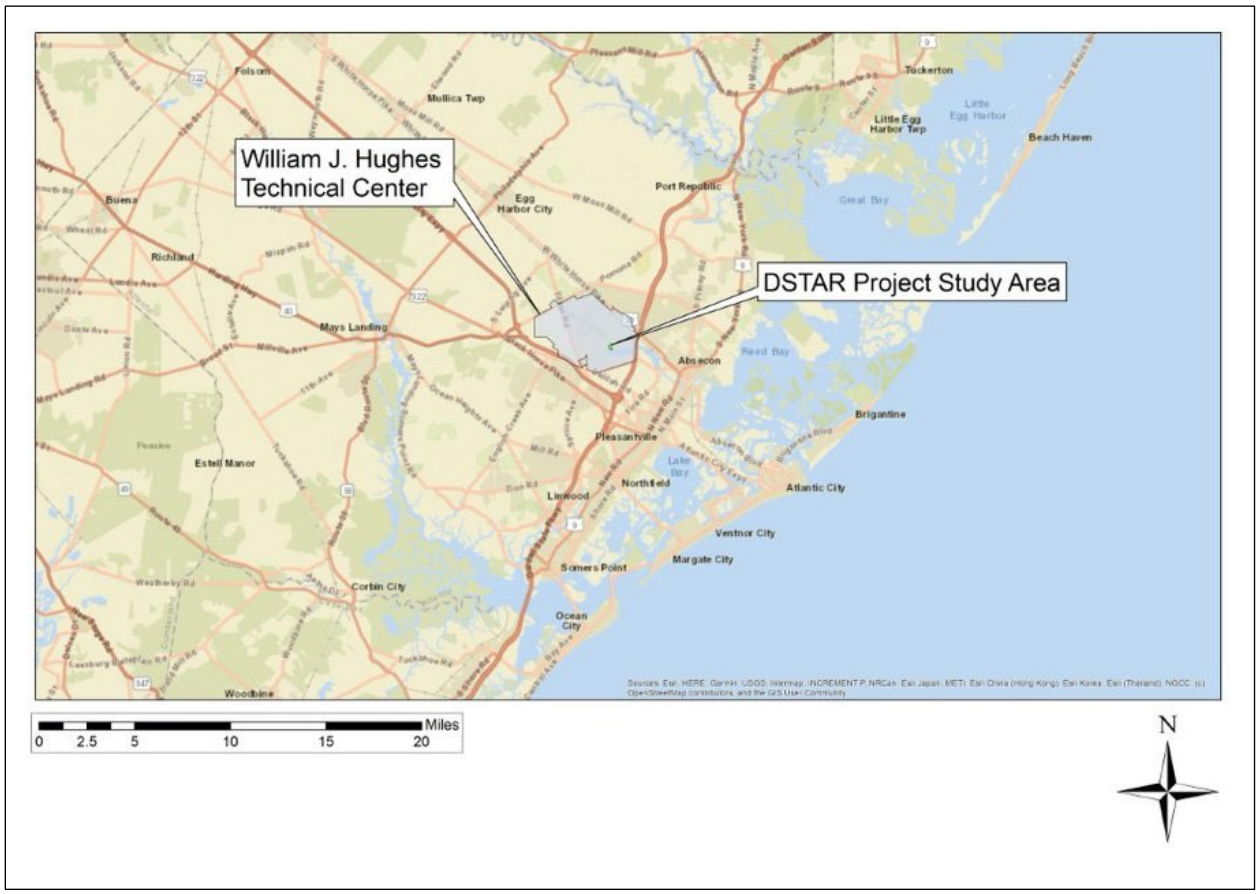
TSL is a federal laboratory aligned under the S&T Office of National Laboratories (ONL) and is responsible for researching, developing, testing, and evaluating technologies to detect and mitigate the threat of explosives and other weapons that may be used against the Nation's transportation systems and infrastructure. The location of the TSL at WJHTC is shown in Figure 1.

Since TSL's creation in 1992, the constantly evolving threats to the Nation's transportation systems have spurred the need for rapid development of detection and mitigation technologies, which require validation by TSL prior to deployment to other DHS Components.

Each day the Federal Government screens over 2.2 million passengers, 1.4 million checked items, and 5.5 million carry-on items for explosives and other dangerous contraband. This represents an immense undertaking for the men and women of the Transportation Security Administration (TSA) who are aided by cutting-edge detection technology to help ensure a safe and seamless passenger experience. TSL is a leader in the development of standards, protocols, and test articles necessary for detection technology assessments. Nearly all explosives detection and screening equipment in use at checkpoints in U.S. airports has gone through rigorous testing at TSL.

TSL investigates properties of explosives and other contraband to design test articles for screening systems. TSL scientists have received several patents on test articles for X-ray and millimeter wave-based systems and quality control methods for explosive trace detectors. The laboratory's work has advanced beyond the standard areas of explosives and contraband detection to include detection of illicit substances, such as opioids.

Figure 1. Site Location Map



TSL's capabilities include foundational research, test, and evaluation (T&E), applied research, and research and development (R&D) enabling support. These unique capabilities support not only TSA but also other DHS Components, the intelligence community, and the Department of Defense (DoD). TSL's interoperability with other agencies enables it to effectively characterize threats, mature and develop new detection technology, and support currently fielded technology.

TSL has updated its blast-hardened T&E laboratories but is still operating temporary trace detection T&E and applied research in laboratories located in warehouse buildings. These laboratories are required to characterize emerging threats (e.g., homemade explosives (HME), synthesis of hazardous and benign test articles, and development of appropriate testing methods and tools for conventional and non-conventional threats). Furthermore, the infrastructure requirements associated with diverse and ever-changing testing programs has resulted in the implementation of ad-hoc and reactionary projects to ensure the power, plumbing, ventilation, lighting, security, and finishes can support the TSL mission.

Although the ad-hoc utility projects enable TSL to meet their minimum mission requirements, TSL facilities are inefficiently operating and are constrained due to potential safety risks. In response, the ONL has proposed capability upgrades at the TSL main campus, located at the FAA, WJHTC at Atlantic City International Airport, New Jersey to improve operational efficiency, address future threats, and mitigate potential safety risks.

The DSTAR Project would provide the necessary infrastructure to enable Material Characterization, Trace Detection Technology T&E, Methods and Tools, Explosives Synthesis and Preparation, and Full-Scale Shock and Thermal Testing. These characteristics would mitigate the following capability gaps identified by S&T in the Mission Need Statement for DSTAR Project dated September 2021 (DHS S&T, 2021).

- [Gap 1] Cannot safely characterize some emerging threats (e.g., HME, high-priority chemical threats, and other prohibited materials). Current practices are safe, but capacity is limited by current capabilities.
- [Gap 2] Cannot safely synthesize some hazardous energetic materials and test articles. Current practices are safe, but capacity is limited by current capabilities.
- [Gap 3] Cannot efficiently develop new methodologies to test transportation security equipment (TSE) that:
    - Keep pace with changing new threats.
    - Encompass new and emerging screening modalities.
- [Gap 4] Cannot validate the representativeness of non-hazardous simulants and test articles.
- [Gap 5] Cannot support the related needs of other Homeland Security Enterprise partners (e.g., fee-for-service type work envisioned by the Office of Management and Budget).
- [Gap 6] Cannot effectively perform TSL mission due to inadequate office facilities and insufficient space.
- [Gap 7] Cannot efficiently manage test articles and other accountable property.

The construction of the DSTAR Project would mitigate additional capability gaps, enabling TSL to return facilities back to their intended purpose of warehouse storage, and includes the construction of modern office spaces. TSL will need new facilities to achieve initial operational capability and occupancy by FY 2029 to complete its mission satisfactorily.

1.2 PURPOSE AND NEED

The ***purpose*** of the Proposed Action is to construct, operate, and maintain the DSTAR Center and FEMR at the WJHTC in Atlantic County, New Jersey. The proposed DSTAR and FEMR would fill existing capability gaps and outstanding needs to provide the necessary infrastructure to enable Material Characterization, Trace Detection Technology T&E, Methods and Tools, Explosives Synthesis and Preparation, and Full-Scale Shock and Thermal Testing.

The Proposed Action is ***needed*** to meet critical mission needs and ensure TSL's mission capabilities to protect the Homeland are met.

1.3 ENVIRONMENTAL LAWS AND REGULATIONS

1.3.1 National Environmental Policy Act

This EA complies with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] §§ 4321 et seq.), the CEQ *Regulations Implementing the Procedural Provisions of NEPA* (40 CFR Parts 1500-1508), other relevant federal and state laws and regulations, as well as DHS Directive 023-01, Revision 01 and DHS Instruction Manual 023-01-001-01, Revision 01, *Implementation of the National Environmental Policy Act*.

1.3.2 Integration of Other Environmental Laws and Statutes

A summary of the key environmental laws and regulations that may apply to the Proposed Action include the Clean Air Act (CAA) of 1970 (as amended); Clean Water Act (CWA) (1972, as amended); Toxic Substances Control Act (1976, as amended); Noise Control Act (1972); Endangered Species Act (ESA) (1973, as amended); Migratory Bird Treaty Act (MBTA) (16 U.S.C. Code 703-711); Bald and Golden Eagle Protection Act (16 U.S.C. Code 668-668d); Coastal Zone Management Act (CZMA) (1972, as amended); National Historic Preservation Act (NHPA) (1966); Archaeological Resources Protection Act (1979); Resource Conservation and Recovery Act (RCRA) (1976); Executive Order (EO) 11593, *Protection and Enhancement of the Cultural Environment,* dated May 13, 1971; EO 11988, *Floodplain Management*, dated May 24, 1977; EO 11990, *Protection of Wetlands*, dated May 24, 1977; EO 12088, *Federal Compliance with Pollution Control Standards*, dated October 13, 1978; EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, dated February 11, 1994; EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, dated April 21, 1997; EO 13112, *Invasive Species*, dated February 3, 1999; EO 13834, *Efficient Federal Operations*, dated May 17, 2018; EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, dated January 20, 2021; EO 14008, *Tackling the Climate Crisis at Home and Abroad*, dated January 27, 2021; and EO 14096, *Revitalizing Our Nation's Commitment to Environmental Justice for All*, dated April 21, 2023. Note that this list is not all-inclusive, and other federal, state, and local regulations may apply.

1.4 REGULATORY AGENCY AND PUBLIC INVOLVEMENT

Public participation opportunities with respect to this EA are guided by NEPA, CEQ's NEPA regulations, and DHS NEPA implementing procedures. In addition to public participation, interagency and intergovernmental coordination, is a federally mandated process for informing and coordinating with other governmental agencies regarding federal proposed actions. This coordination also fulfills requirements under EO 12372, *Intergovernmental Review of Federal Programs* superseded by EO 12416, and subsequently supplemented by EO 13132, which requires federal agencies to cooperate with and consider state and local views in implementing a federal proposal.

EO 13175, *Consultation and Coordination with Indian Tribal Governments* (2000), requires federal agencies to invite federally recognized American Indian tribes to participate in the NEPA and NHPA Section 106 processes as Sovereign Nations based on their potential ancestral ties to the Proposed Action area.

In addition to the public, S&T identified stakeholders with possible interest in this Proposed Action including federal, state, and local agencies, tribes, and federal, state, and local elected officials.

Through the NEPA process, the public and stakeholders were presented the opportunity to provide relevant information, express their concerns, and provide their inputs. A complete list of agencies and individuals consulted during preparation of this EA is included in Appendix A with copies of relevant correspondence. The record of consultation with federally recognized tribes is included as Appendix B.

A Draft EA was published on the DHS website for a 30-day public comment period and made available for review and comment by the public, federal, state, and local agencies, and federally recognized tribes. The start of the review period was announced by a Notice of Availability (NOA) published on the DHS website (https://www.dhs.gov/national-environmental-policy-act) and in the two newspapers of record, *The Press of Atlantic City* and the *Daily Journal*. The NOA was also distributed to federal, state, and local agencies, and federally recognized tribes to solicit comment during the review period. The NOA briefly described the Proposed Action, the NEPA process, how to view the EA, and how to submit comments to, or request additional information from, S&T.

This Final EA has been prepared following the 30-day public comment period. All comments received and accepted during the public review period were given consideration in this Final EA and Finding of No Significant Impact (FONSI). A record of comments received, and responses are presented in the Appendices. The Final EA and FONSI will be published on the DHS website.

1.5 SCOPE OF THIS ENVIRONMENTAL ASSESSMENT

The scope of this EA includes analysis of the effects associated with the Proposed Action on land use; visual aesthetics; air quality and climate change; noise; geology, topography, and soils; cultural resources; water resources; biological resources; socioeconomics, environmental justice, and protection of children; public health and safety; infrastructure; and hazardous and toxic materials and waste. This EA describes the affected environment as it currently exists; the environmental impacts of the Proposed Action; and compares the Proposed Action's potential impacts with a No Action alternative. This EA also presents S&T's proposed measures to mitigate adverse environmental impacts.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The Proposed Action evaluated in this EA is to construct and operate the DSTAR Project. The DSTAR Project will interface with the existing TSL operations by co-locating multiple laboratories that perform research and technical functions foundational to the entire breadth of the TSL mission. The DSTAR Center and FEMR will be used for conducting hazardous explosive synthesis and safety testing. Co-location of these laboratories improves the safety and operational efficiency of TSL activities supporting T&E of next-generation technologies, creating increased return on investment from existing Developmental Test and Evaluation (DT&E) and Independent Test and Evaluation (IT&E) laboratories, while also allowing for the existing warehouse facilities to return to their optimal use – providing critical storage for test articles and "Gold Standard" technologies.

The DSTAR Project buildings would be designed to be compliant with the applicable Federal Facility Security Level requirements. While the new facilities are under construction, TSL areas adjacent to the construction site would maintain their security level.

S&T ONL has established a partnership with the United States Army Corps of Engineers (USACE) Philadelphia District to award a design and construction contract in support of the DSTAR Project requirement. The USACE Philadelphia District will provide program management, contractual, and technical support for the project. The USACE Philadelphia District will utilize a variety of contractual tools to execute the design and construction in the most time-efficient and cost-effective manner possible. The USACE Philadelphia District intends to award contracts to an Architectural & Engineering firm of Record (A/E-of-Record) for the Preliminary and Final Design Phase. Following the Preliminary and Final Design Phase, USACE would subsequently award a contract to a construction firm for the construction phase.

2.1.1 Proposed Action Primary Elements

The Proposed Action has several primary elements, which are summarized below. A detailed description of these elements is provided in the following subsections.

Proposed Action Project Elements

- **DSTAR Center Laboratories and Office Support**: DSTAR is planned to house multiple laboratories and multi-functional administrative space. The array of laboratories are Trace T&E Laboratories, Trace and Bulk Detection Laboratories, Applied Research Laboratory, Electromagnetic Effects Laboratory, and Emulator Laboratory. The administrative area is planned to include four separate areas with different levels of access: a public area, an access-controlled employee work area, and an access-controlled area for working with classified materials.

- **FEMR**: FEMR is planned to be comprised of three laboratories (Energetics Materials Research Laboratory (EMRL), Energetic Material Synthesis Lab (EMSL), and Shock and Thermal Testing Lab (STTL), and a custom-built detonation chamber. The FEMR facility would productionize the synthesis methods developed and validated in the new applied research laboratories of the DSTAR Center. Improved laboratory workflow and automation (especially for trace solution and test swab production) would substantially improve efficiency. High-hazard threats would be synthesized and assembled into test articles in the blast-resistant laboratories of the FEMR's EMSL and EMRL. Laboratory spaces would be designed to provide the environmental controls necessary to support research activities in a safe manner.
- **Site Improvements**: The existing annex of Building B315 will be demolished. The existing crane will be removed and disposed of. All required paving, grading, fencing, and utilities including groundwater infiltration will be completed.
- **B318 and B319 Renovation**: Buildings B318 and B319 will be renovated and restored for warehouse purposes after lab functions are relocated to DSTAR Center.

2.1.1.1 DSTAR Center

The DSTAR Center will house multiple laboratories and multi-functional administrative space. The array of laboratories are Trace T&E Laboratories, Trace and Bulk Detection Laboratories, Applied Research Laboratory, Electromagnetic Effects Laboratory, and Emulator Laboratory. The administrative area will include four separate areas with different levels of access: a public area, an access-controlled employee work area, and access-controlled areas for working with classified materials. The DSTAR Center functional areas are described below (DHS S&T, 2022):

- **Trace T&E Lab**: The Trace T&E Lab activities will include both the DT&E and IT&E testing areas, and a third shared space for storage and rapid testing of TSL's inventory of commercial off-the-shelf and "Gold Standard" trace detection devices. DT&E and IT&E laboratory spaces will be configured (or configurable) in a manner that allows up to three simultaneous T&E activities to be performed with visual and acoustic isolation from each other.
- **Trace Detection Laboratories:** Activities in the Trace Detection Laboratories will include the development and evaluation of techniques for T&E of trace explosive detection technologies, including systems developed for screening of persons, luggage, packages, cargo, and vehicles. Staff working in this lab will improve sampling methods, create new test articles and procedures, and optimize existing technologies, while providing quality tools and standards to domestic and international security agencies.
- **Bulk Detection Laboratories:** The Bulk Detection Laboratories activities will include materials characterization, the development of testing methodologies and tools for detection technology and applied research on next-generation bulk screening technologies. Specialized equipment in this facility will be used for measurements of chemical, mechanical, elemental, and X-ray properties of materials that can be exploited by threat detection systems. Data and information derived from this research will be used to inform TSA requirements and to support the development of X-ray simulants.

- **Electromagnetic Effects Laboratory:** The Electromagnetic Effects Laboratory activities will include materials characterization and the development and testing methodologies for millimeter wave screening systems and related technologies. This includes R&D supporting the creation of millimeter wave simulants for advanced imaging technology (AIT) systems, fundamental chemical and physical measurements of explosives, chemical signature analysis for handheld detection systems, and laser-based detection measurements to support Optical Trace Standoff Detection programs.
- **Applied Research Laboratory:** The Applied Research Laboratory activities will range from materials characterization to the development and testing/assessment methodologies for detection technology. Specialized and state-of-the-art instrumentation in the facility will support work for TSA Explosive Detection, applied R&D to support T&E of new technologies, and specialized assessments and testing for other government customers.
- **Emulator Lab:** To efficiently test automatic target recognition software, equipment vendors are required to provide TSL with detection algorithm emulators which can process saved scan data. The use of validated emulators obviates the need for recollection of data each time a system vendor upgrades detection software. The Emulator Lab will host the emulators for all TSA TSE, including X-ray and AIT systems.
- **Safety Storage Areas:** The Safety Storage Areas support all laboratory functions by providing storage of bulk chemicals and supplies and a staging area for disposal of chemical and other laboratory waste.
- **Telecommunications Rooms:** The DSTAR Center will have a main telecommunications room no smaller than 150 square feet (sq. ft.). The facility may also include supplemental equipment rooms to support areas with special needs (e.g., emulator room and Sensitive Compartmented Information Facilities [SCIF]).
- **Office Areas:** Administrative space with different levels of access will include: a public area where persons visiting TSL may circulate without an escort, an access-controlled employee work area with executive and staff offices, and an access-controlled SCIF for working with classified documents.

2.1.1.2 FEMR

The FEMR is planned to be comprised of three laboratories, the EMRL, EMSL, and the STTL which will include a custom-built detonation chamber and storage areas. The FEMR functional areas are described below (DHS S&T, 2022).

- **EMRL**: Staff in the EMRL will perform safety testing on sub-gram quantities of explosives. The safety testing consists of impact (drop) testing, friction testing, electrostatic discharge testing, and thermal testing. These safety tests determine the sensitivity of explosives to various stimuli and establish the criteria for the safe handling of the explosives during the testing of explosives detection systems.
- **EMSL**: The EMSL activities will range from the hands-on synthesis/preparation of small quantities of explosives up to the fully remote preparation of up to 2 kilograms of explosives. The expansion of the mission requirement to test explosives detection systems against emerging threats requires the ability to safely synthesize small amounts of non-traditional explosives.

- **STTL**: The STTL activities will include shock testing, thermal testing, and emergency disposal of up to 2 kilograms of explosives. The expansion of the mission requirement to test explosives detection systems against emerging threats requires these capabilities in order to perform the testing safely. The primary purpose of the STTL will be to house a blast chamber. The blast chamber will include sacrificial linings designed to absorb the impact of detonations within the chamber.
- **Safety Storage Areas**: The Safety Storage Areas supports all FEMR functions by providing storage of bulk chemicals and supplies and a staging area for disposal of chemical and other laboratory waste.

2.1.1.3 Site Improvements

Several supporting infrastructure projects are part of the Proposed Action. To facilitate traffic flow and maintain security, the Proposed Action includes new perimeter fencing, and parking for the DSTAR Center.

2.1.1.4 Buildings B315A, B318, and B319

Once the DSTAR Project becomes operational, the existing temporary office structure (Building 315A) and the connecting corridor would be demolished. Buildings B318 and B319 would be renovated to return to their originally intended use as warehouses.

2.1.1.5 Limit of Disturbance

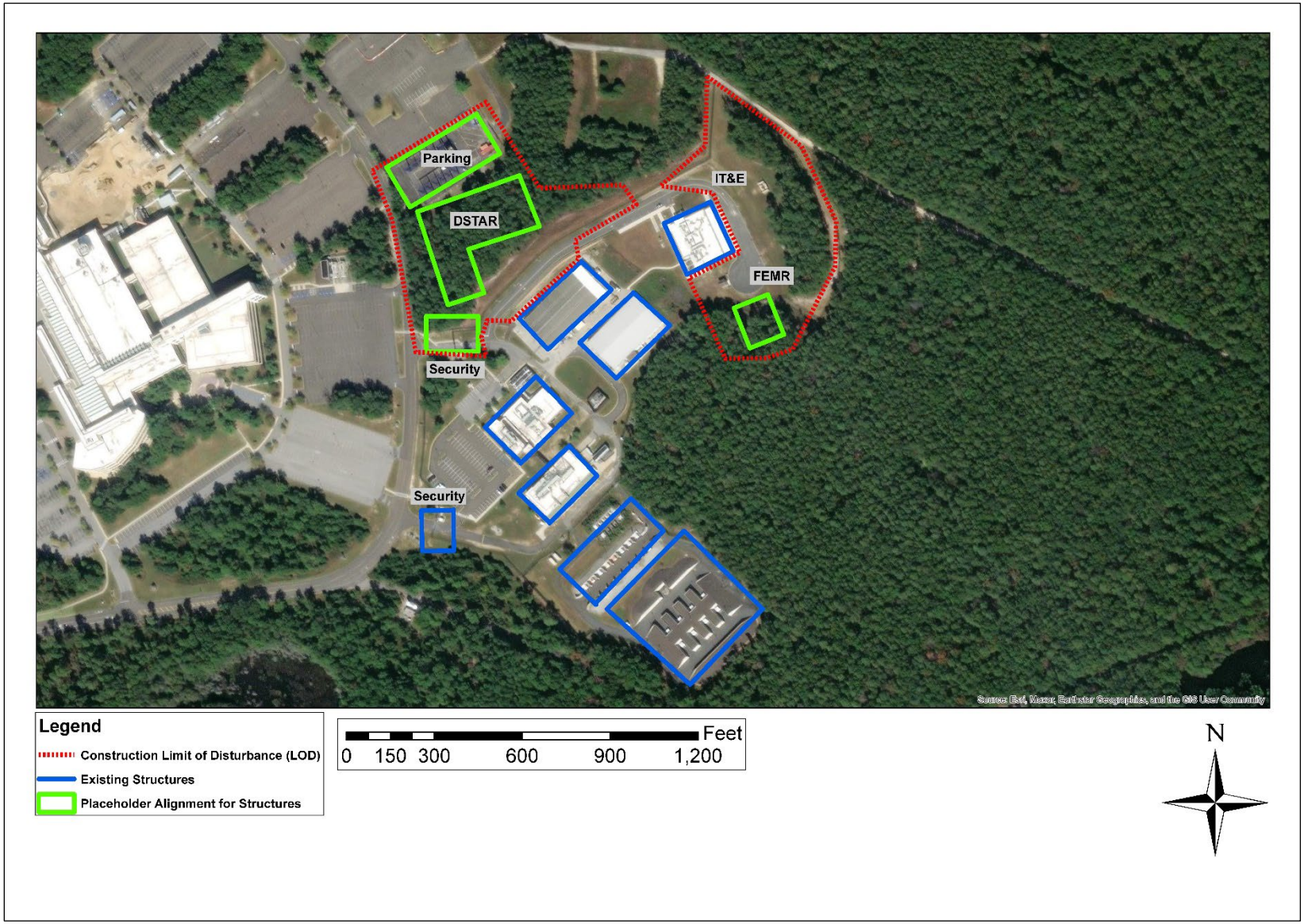
DSTAR Project Study Area includes the limit of disturbance (LOD) where the physical construction of the DSTAR Project elements would occur and can include both developed and undeveloped (wooded) grounds. These elements include the DSTAR Center (the building and apron, parking, utility corridors, fencing), FEMR (the building and apron), and supporting infrastructure including but not limited to new pavements, hardscape, utility corridors, and fencing.

Although the final design of the DSTAR Project has not yet been developed, the location of the DSTAR Center is within an approximately 6-acre area on the northwestern portion of the DSTAR Project Study Area (Figure 2). This 6-acre area is situated between the developed portions of TSL to the south and an asphalt-paved parking area to the north. This 6-acre area includes an approximately 1.5-acre asphalt paved area in its northern portion and an approximately 4.5-acre wooded upland forested area in the remainder of the LOD. The wooded area is effectively isolated from other undeveloped land at WJHTC.

The conceptual location for the FEMR is within an approximately 4-acre LOD on the northeastern portion of the DSTAR Project Study Area, southeast of the IT&E building and asphalt-paved cul-de-sac, and partially within a 1.5-acre upland forested wooded area to the east. The 4-acre LOD includes 2.5 acres of an existing asphalt-paved cul-de-sac and, landscaped grounds, and 1.5 acres of wooded upland forested area. The wooded area is isolated from other WJHTC woodlands to the east by the TSL security corridor, which is 50-feet wide and improved with a perimeter fence and routine mowing. The footprint of FEMR is approximately 0.2 acres and may be partially or entirely within the 1.5-acre wooded area.

The final design for the DSTAR Project may require adjustment of building, parking, and road alignments to meet functional, operational, security, or other requirements, resulting in the need to disturb grounds within or immediately adjacent to the current DSTAR Project Study Area. Therefore, additional tree clearing may occur, however any tree clearing will be performed within the LOD.

Figure 2. DSTAR Center and FEMR Locations within TSL



2.1.1.6 Applicable Environmental Considerations

The Proposed Action incorporates measures to mitigate adverse impacts to the quality of the human environment, minimizing the disturbance of vegetative cover, soils, wildlife habitat, stormwater run-off quantity and quality, and air quality.

These measures include minimizing tree clearing to no more than 6 acres of the 10 acre LOD; avoiding construction within freshwater wetlands or within floodplains designated by the Federal Emergency Management Agency (FEMA); and avoiding significant adverse impacts to habitats of federal and state listed threatened or endangered species.

The Proposed Action would also implement stormwater management controls and comply to the maximum extent technically feasible with Section 438 (stormwater management) of the Energy Independence and Security Act of 2007 (EISA).

To support good forest management at the WJHTC, S&T will partner with the FAA on its forest management plan for the campus. S&T will also strive to incorporate and maximize tree planting as part of its landscaping for the DSTAR project.

2.2 ALTERNATIVES CONSIDERED

NEPA and CEQ regulations require all reasonable alternatives to be explored and objectively evaluated. Alternatives that are eliminated from detailed study must be identified along with a summary of the reasons for their dismissal. For this analysis, an alternative is considered "reasonable" if it would meet the Proposed Action's purpose and need. "Unreasonable" alternatives that would not meet the Proposed Action's purpose and need were dismissed from further consideration in this EA.

ONL prepared an alternatives analysis to develop and evaluate potential solutions to fulfill the expanding mission needs (DHS S&T, 2023). The alternatives analysis identified two alternatives that would address the seven capability gaps (listed in Section 1.1) and then assessed each alternative based on its effectiveness for operation, cost, schedule, and risk.

The difference between the two alternatives is the location of the DSTAR Center. Alternative 1 involves accessing additional property from the FAA and siting the DSTAR Center and FEMR on the TSL campus. Alternative 2 would still site FEMR at TSL, but the DSTAR Center would be sited at the nearby National Aerospace Research & Technology Park (NARTP). These two alternatives are described in further detail in the following subsections.

ONL also identified and assessed a third alternative that forgoes construction of DSTAR and FEMR to instead continue with the status quo with all facilities remaining as they are currently at the TSL campus. This alternative is identified in this EA as the No Action Alternative and is described in detail in Section 2.2.3.

2.2.1 Alternative 1 (Preferred Alternative)

Under Alternative 1, S&T would lease additional property from the FAA and site both the DSTAR Center and FEMR at TSL. Figure 2 depicts the DSTAR Project Study Area construction LOD, and the conceptual locations for the DSTAR Center and FEMR.

The alternatives analysis indicated that Alternative 1 (construction of the DSTAR Center and FEMR on the TSL campus) provided the highest value and lowest risk. As a result, S&T determined that Alternative 1 is the only reasonable alternative for this Proposed Action and the only alternative that would meet the purpose and need described in Section 1.2.

2.2.2 Alternative 2

Under Alternative 2, FEMR would be located at TSL (in the general location depicted on Figure 2), but the DSTAR Center would be sited at the nearby NARTP. NARTP is adjacent to FAA property, which is currently secured by fencing. Additional fencing and a security gate would be required to secure the DSTAR Center. The existing gravel access road would likely need to be paved with asphalt for safer and more efficient travel between the TSL and NARTP.

The alternatives analysis determined that the construction of the DSTAR Center at NARTP may offer some minor short-term advantages associated with constructing the new facility in an undeveloped area, but these do not outweigh the long-term inefficiencies associated with operating the DSTAR Center at a location that is separate from FEMR and other TSL facilities. As a result, Alternative 2 has low operational efficiency because it requires people and materials to be transported between the two sites. As a result, Alternative 2 is not a viable option and therefore is dismissed from further analysis in this EA.

2.2.3 No Action Alternative

The No Action Alternative does not meet the purpose and need for the Proposed Action but will be carried forward for analysis in this EA, as required by the CEQ NEPA implementing regulations (40 CFR 1502.14). Under the No Action Alternative, the Proposed Action would not be implemented. No action would maintain the existing conditions of the TSL in its current state and there would be no change in disturbance of vegetative cover, soils, wildlife habitat, stormwater run-off quantity and quality, or air quality. However, under the No Action Alternative, without the appropriate investment in TSL's infrastructure, TSL would be unable to fill existing capability gaps and meet critical mission needs to ensure TSL’s mission capabilities to protect the homeland are met. By not addressing any of the identified capability gaps, this alternative would limit the ability of TSL to meet its mission in the future.

3.0 AFFECTED ENVIRONMENT

This chapter describes the natural and human environment that exists within the region of influence, which is limited to the boundary of the DSTAR Project Study Area, and the potential impacts of the No Action Alternative and the Proposed Action outlined in Chapter 2.0 of this document.

Only those resources that have the potential to be affected are described, per CEQ guidance (40 CFR Part 1501.9 [3]). Some topics are limited in scope due to the lack of potential impact from the Proposed Action on the resource or because that resource is not within the DSTAR Project Study Area. In this situation, a general baseline of existing environmental conditions is discussed, resources considered, and an explanation of their dismissal from further analysis is provided. Resources that warrant additional considerations are discussed in Chapter 4.0.

Additionally, where appropriate, supporting tables, figures, and maps are provided in Appendix C. Information presented in this chapter was obtained from publicly available sources, as referenced in Chapter 6.0.

3.1 LAND USE

Land use refers to classifications that indicate the types of human activity occurring on a parcel of land. A predominant factor affecting land use is compliance with local zoning ordinances. Other relevant factors include existing land use and the types of land use on adjacent properties. Land use changes occur regularly throughout the United States. Significant impacts to land would occur if the construction of the DSTAR Project led to permanent incompatible alteration of the characteristics of specific properties or if existing land uses would be converted beyond minor changes. The Proposed Action would not make any changes to existing, planned, or future land use and is therefore not analyzed further in this EA. Under the No Action Alternative, the proposed project would not proceed, therefore there would be no direct or indirect, significant impacts to land use.

3.1.1 William J. Hughes Technical Center

The WJHTC property is classified as “Military and Federal Installation Area” where permitted uses are those associated with the function of the installation or other public purpose uses (FAA , 2016). The WJHTC is located 10 miles northwest of Atlantic City and covers approximately 5,100 acres. The property is improved with approximately 250 buildings of various sizes which house 500,000 sq. ft. of laboratory space containing unique, specialized laboratories engaged in research, development, testing, and evaluation (FAA, 2023). The South Jersey Transportation Authority operates the Atlantic City International Airport terminal within an approximately 84-acre area within the FAA property.

The WJHTC is located within the M-1 Industrial zoning district defined by the Egg Harbor Township (EHT) Tax Assessor (EHT, 2010). As a federal property, the WJHTC is not subject to local zoning and land use restrictions. However, the Egg Harbor Township indicates that permitted land uses within the M-1 Industrial zoning district include but are not limited to manufacturing; light industrial and fabrication; professional, business and administrative offices; warehouses; research, development and testing laboratories; and commercial recreation uses (EHT, 2017).

Areas immediately adjacent to the DSTAR Project Study Area include other developed facilities to the west, lawn areas and oak pine woodlands to the east, north, and south. The Atlantic City Reservoir is located approximately 600 feet to the south.

The WJHTC is located within the state-designated New Jersey Pinelands Area, created by the Pinelands Protection Act (PPA) of 1979 (NJPC, 2023). Although the PPA indicates that applications for development in the Pinelands Area must be submitted to the Commission, the FAA concluded the Commission is without authority to compel the WJHTC to do so. As a result, the PPA guidelines are looked at as Best Management Practices (BMP). The DSTAR Project Study Area is outside of the 300-foot Pinelands Wetland Buffer, used as a BMP. (Figure 3).

The adjacent southern and northern lands beyond the WJHTC are located within the Pinelands Regional Growth Area, which is defined as, "An area of existing growth and adjacent lands capable of accommodating regional growth influences while protecting the essential character and environment of the Pinelands. Permitted residential densities range from two to six homes per acre with sewers. Sewered commercial and industrial uses are also permitted" (NJPC, 2023b).

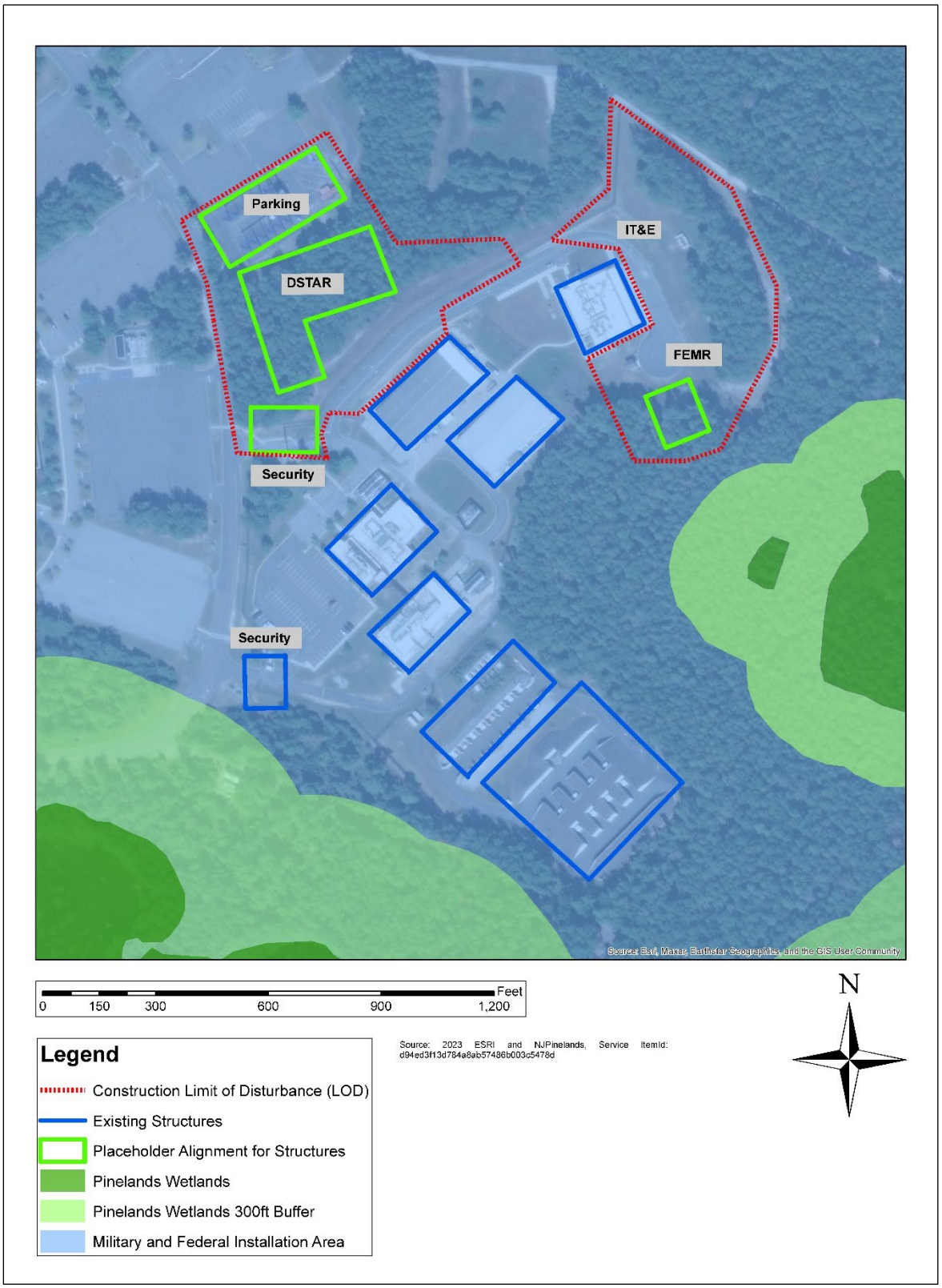
The nearest residential land use areas are located approximately 1 mile to the north and south of the DSTAR Project Study Area.

Within a 1-mile radius of the DSTAR Project Study Area, there are no federal or state parks; National Register of Historic Places (NRHP) properties or historic districts (discussed in further detail in Section 3.6); schools; religious institutions; hospitals (USEPA, 2023); or tribal trust lands (BIA, 2023). While not an official state or municipal feature, there is a walking path along the northern bank of the Atlantic City Reservoir. The New Jersey Transit Atlantic City Line, a commuter rail line, is located approximately 1.3 miles northeast of the DSTAR Project Study Area and adjacent to the northeastern boundary of the WJHTC (USEPA, 2023).

3.1.2 Department of Transportation Act Section 4(f)

Section 4(f) of the United States Department of Transportation (DOT) Act of 1966 provides that the Secretary of Transportation does not approve any program or project that requires the use of any publicly-owned land from a public park, recreation area, wildlife or waterfowl refuge of national, state, or local significance, or land from a historical site of national, state, or local significance unless there is no feasible and prudent alternative to the use of these lands. There are no eligible Section 4(f) lands in vicinity of the DSTAR Project Study Area.

Figure 3. Pinelands Boundaries



3.2 VISUAL AESTHETICS

Visual aesthetics, or viewsheds, can be defined as the visible areas, points, or objects in a landscape, as seen from certain viewing locations at a specific point in time (Sheppard, 2004).

The aesthetic value of the DSTAR Project Study Area and potential for light emissions and visual impacts is defined relative to the perspective of adjacent properties and travelers along perimeter routes and internal routes.

For this EA, the visual aesthetics within the DSTAR Project Study Area are influenced by the existing TSL improvements, including laboratory and warehouse buildings, parking areas, roadways, fencing, and grass-covered lawns. The current aesthetic value of the DSTAR Project Study Area is consistent with an active federal research laboratory and existing conditions.

Adjacent to and nearby the DSTAR Project Study Area are access-controlled paved roads traversing the developed areas of the WJHTC and dirt/gravel roads paralleling the interior of the existing perimeter fence.

The wooded areas surrounding the DSTAR Project Study Area prevent persons outside of the TSL and WJHTC from being able to see the TSL or DSTAR Project Study Area. This resource area is further evaluated in Section 4.1.

3.3 AIR QUALITY AND CLIMATE CHANGE

3.3.1 Air Quality

The United States Environmental Protection Agency (USEPA) established National Ambient Air Quality Standards (NAAQS) for specific pollutants determined to be of concern with respect to the health and welfare of the public. Ambient air quality standards are classified as either primary or secondary. The major pollutants of concern, or criteria pollutants, are carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), and lead (Pb). NAAQS represent the maximum levels of background pollution that are considered safe, with an adequate margin of safety, to protect the public health and welfare. The State of New Jersey's ambient air quality standards are similar to the federal standards for the criteria pollutants.

Areas that do not meet these NAAQS standards are called non-attainment areas; areas that meet both primary and secondary standards are known as attainment areas. The Federal Conformity Final Rule (40 CFR Parts 51 and 93) specifies criteria and requirements for conformity determinations of federal projects. The Federal Conformity Rule was first promulgated in 1993 by the USEPA, following the passage of Amendments to the CAA in 1990. The rule mandates that a conformity analysis be performed when a federal action generates air pollutants in a region that has been designated a non-attainment or maintenance area for one or more NAAQS.

The DSTAR Project Study area is located in USEPA-designated area name: Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE; Atlantic City, New Jersey. This area is in marginal non-attainment with the 8-hour ozone (2008 and 2015) NAAQS (USEPA, 2023b). As a result, a conformity analysis has been performed to assess whether ozone emissions generated from construction and operation of the Proposed Action would cause or contribute to violations of the NAAQS, except when the action is covered under the Transportation Conformity Rule or when the action is exempt because the total increase in emissions is insignificant, or *de minimis*. The *de minimis* level for O_3 is 100 tons per year for the O_3 precursors NO_x and 50 tons per year for volatile organic compounds (VOC).

3.3.2 Climate Change

Atlantic County has a humid subtropical climate, with hot and humid summers and mild winters. The average temperature in July is between 75-85°F and the average temperature in January is between 25-35°F. Precipitation is spread out across the year with the wettest months typically being April to October. Snowfall ranges from 15-20 inches per year on average, making it a predominately mild winter region. The coastal region averages 40–45 inches of precipitation per year (ONJSC, 2023) (NOAA, 2022).

Greenhouse gases (GHG) influence the climate of large geographic regions. GHG are gases that trap heat in the atmosphere. An accumulation of GHG has been shown to contribute to global warming which results in climate change. GHG include carbon dioxide, methane, nitrous oxide, O_3, hydrocarbons, and chlorofluorocarbons. For this EA, the climate of Atlantic County in New Jersey is representative of the DSTAR Project Study Area.

The primary sources of GHG emissions in vicinity of the DSTAR Project Study Area include aircraft landing and take-offs from the Atlantic City International Airport, as well as industrial activities and petroleum-fueled automotive traffic occurring throughout Atlantic County.

In 2021, two Presidential EOs regarding GHG and climate change were issued: EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, and EO 14008, *Tackling the Climate Crisis at Home and Abroad*. EO 13990 directs the federal government to reduce GHG emissions, bolster resilience to the impacts of climate change, and immediately commence work to confront the climate crisis using the best science in federal decision-making.

EO 14008 requires climate considerations to be an essential element of United States foreign policy and national security. Under EO 14008, the Federal Government is directed to drive the assessment, disclosure, and mitigation of climate pollution and climate-related risks in all economic sectors, as well as to facilitate the organization and deployment of a government-wide approach to combat the climate crisis and facilitate planning and implementation of key federal actions to reduce climate pollution and increase resilience to the impacts of climate change. In furtherance of EO 14008, on September 21, 2023, the President directed federal agencies to consider the social cost of greenhouse gas in environmental reviews pursuant to NEPA, as appropriate.

Air quality and climate change resource areas are further evaluated in Section 4.2.

3.4 NOISE

Sound is measured in decibels (dB). The National Institute for Occupational Safety and Health (NIOSH) recommends that individuals working in an environment of 85 A-weighted decibels (dBA) or louder for an eight-hour workday limit their exposure to this noise level and wear protective earwear to help manage and prevent hearing loss due to noise exposure.

Further, because noise is more objectionable at certain times, Day-Night Average Sound Levels (Ldn) have been developed. Ldn is a 24-hour average sound level recommendation. This measure is used to determine acceptable noise levels that are standardized by the USEPA.

Sound Levels from Common Sources and Effects

Effect: *Painful*
- Jet engine (140dBA)
- Near air-raid siren (130 dBA)
- Jet plane takeoff, siren (120 dBA)

Effect: *Extremely Loud*
- Chain saw, thunder, garbage truck (110 dBA)
- Hand drill (100 dBA)
- Subway, passing motorcycle (90 dBA)

Effect: *Very Loud*
- Backhoe, paver (85 dBA)
- Blow-dryer, kitchen blender, food processor, cement mixer, power saw (80 dBA)

Effect *Loud*
- Busy traffic, vacuum cleaner, alarm clock (70 dBA)

Effect: *Moderate*
- Typical conversation, dishwasher, clothes dryer (60 dBA)
- Moderate rainfall (50 dBA)
- Quiet room (40 dBA)

Effect: *Faint*
- Whisper, quiet library (30 dBA)

Human perception of noise depends on several factors, including overall level, number of events, the extent of audibility above the background ambient noise level, and frequency content. Ambient background noise in metropolitan, urbanized areas typically varies from 60 to 70 dBA and can be as high as 80 dBA or greater; quiet suburban neighborhoods experience ambient noise levels of approximately 45-50 dBA, decreasing to 25-30 dBA at night (USEPA, 1982). In wilderness areas, the outdoor noise level may be as low as 30-40 dBA.

Aircraft noise levels at the Atlantic City International Airport are monitored and minimized in accordance with the regulations, guidance, and policy specified under the FAA's noise control program titled Airport Noise Compatibility Planning (14 CFR Part 150) (FAA, 2022).

In 2015, a Federal Aviation Regulation Part 150 noise exposure assessment was completed at WJHTC (FAA, 2016). Noise contours indicates that the soundscape at WJHTC is dominated by general and military aviation and tends to follow the contours of the airport runways at the Atlantic City International Airport. Current noise levels at the DSTAR Project Study Area are located outside of the 65 Ldn contour; thus, noise levels at the DSTAR Project Study Area are anticipated to be less than 65 dBA.

Other noises at the DSTAR Project Study Area are associated with vehicles and landscaping maintenance equipment, and natural sounds, including wind and wildlife.

Sensitive noise receptors are defined as properties where frequent human use occurs and where a lowered noise level would be of benefit. Hospitals, schools, convalescent facilities, religious institutions, libraries, recreation areas, and residential areas are considered to be sensitive receptors, particularly when located within 0.25 miles of the noise source. None of these sensitive noise receptors are located within the 0.25-mile radius of the DSTAR Project Study Area (USEPA, 2023).

This resource area is further evaluated in Section 4.3.

3.5 GEOLOGY, TOPOGRAPHY, AND SOILS

Geology is the study of the Earth's composition and provides information on the structure and configuration of surface and subsurface features. Topography and physiography pertain to the general shape and arrangement of a land surface, including its height and the position of its natural features and human-made alterations of landforms. Soils are the unconsolidated materials overlying bedrock or other parent material.

Significant impacts on geography, topography and soils would occur if the proposed activity exposed people or structures to seismic, landside, erosion, or subsidence hazards. Based on the information reviewed and summarized in this section there would be no significant direct or indirect impact on this resource, and it is dismissed from further analysis within this EA. There are no agricultural or farmlands located within the boundaries of the WJHTC, including the DSTAR Project Study Area, Therefore, there are no potential impacts to agricultural or farmlands. Under the No Action Alternative, the proposed project would not proceed; therefore, there would be no significant direct or indirect impacts to geology, topography, soils or prime farmland.

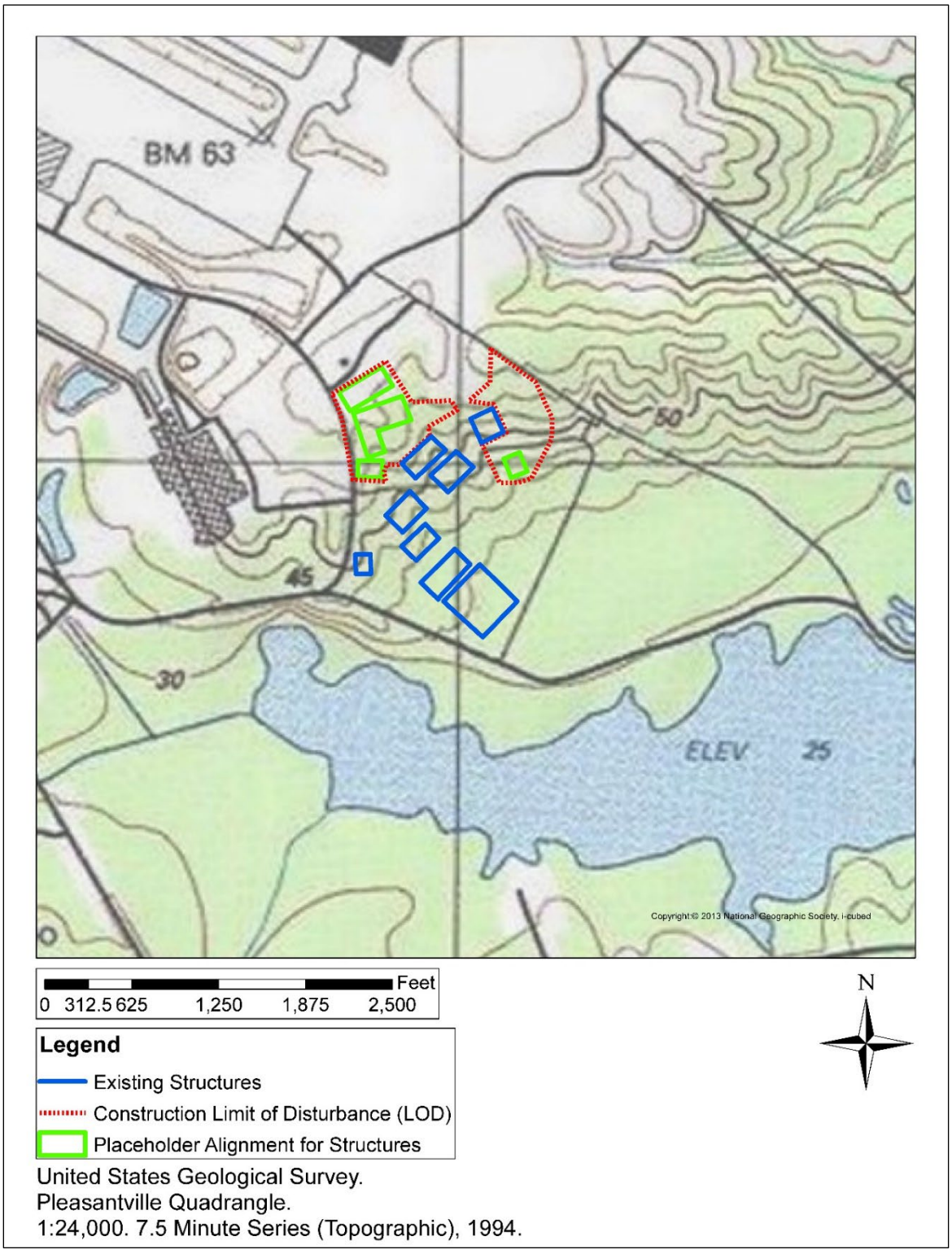
3.5.1 Geology

The WJHTC is located entirely within the Atlantic Coastal Plain physiographic province. The Coastal Plain terrain is gently sloping and is characterized by sandy soil of low to medium fertility. The regional topography of the WJHTC drains into the North or South Branches of Absecon Creek or directly into the Upper Atlantic City Reservoir (Dalton, 2003).

DSTAR Project Study Area is underlain by the Cohansey sand, a sand formation of Miocene Age that ranges in thickness between 26 and 21 feet (USDA-NRCS, 2023). The Cohansey sand overlies the Kirkwood Formation. The Cohansey sand typically consists of fine to coarse grained quartz sand with lenses of gravel that are 1 foot thick or less. In most areas, overall clay component is less than 20 percent. Lenses of white, yellow, red, and light gray clay occur generally in the upper part of the formation and may be as much as 25 feet thick. The sand is predominantly yellow (limonite staining), but shades of white, red, brown, and gray also occur. Parallel bedding and cross-stratification are present in the sand (Pinelands Commission, 1980).

Based on the information reviewed and summarized in this section, no significant impacts to geology and topography are anticipated, and therefore these topics are not further analyzed in this EA.

Figure 4. Topographic Map of the DSTAR Project Study Area



3.5.2 Topography & Soils

Topography in the DSTAR Project Study Area generally slopes from the highest elevations along the southwestern portion northeastward (Figure 6). The elevation at the DSTAR Project Study Area is approximately 65 feet above mean sea level (amsl) in the northern portion and 40 feet amsl in the southeastern portion. In general, there is a two percent gradient at the DSTAR Project Study Area, sloping downward in a southeasterly direction.

The United States Department of Agriculture (USDA) classified soil boundaries are depicted on Figure 7. The Soil Survey for Atlantic County, New Jersey (USDA, 1978) and soil mapping from the National Resource Conservation Service (NRCS) Web Soil Survey (USDA-NRCS, 2023) indicates the presence of four soil series or classifications represented within the project area. These soil series include the Aura loamy sand, 0-5 percent slope (AucB), the Downer loamy sand, 0-5 percent (DocB), sassafras sandy loam, 0-2 percent slope (SacA) and Woodstown sandy loam, 0-2 percent slope (WoeA).

- AucB- Aura loamy sand, 0-5 percent slopes

This soil map unit has a profile and characteristics similar to what is described as representative for the Series. The Aura Soil Series consists of nearly level or gently sloping, well-drained loamy soils. These soils are extremely acidic in the surface layer and strongly acidic in the subsoil. Permeability is generally moderately slow or moderate and the seasonal high water table is normally at a depth greater than 5.0 ft. below the surface. This soil type is assigned to Capability Class III and it is limited mainly because it is shallow, droughty, or stony.

- DocB- Downer loamy sand, 0-5 percent slopes

This soil map unit has a profile and characteristics similar to what is described as representative for the Series. The Downer Series consists of nearly level to gently sloping, well-drained sandy or loamy soils. These soils are extremely acidic or very strongly acidic in the surface layer and strongly acidic in the subsoil. Permeability is moderate or moderately rapid in undisturbed conditions. The seasonal high water table is normally at a depth equal to or greater than 4 ft. below the surface. This soil type is assigned to Capability Class I.

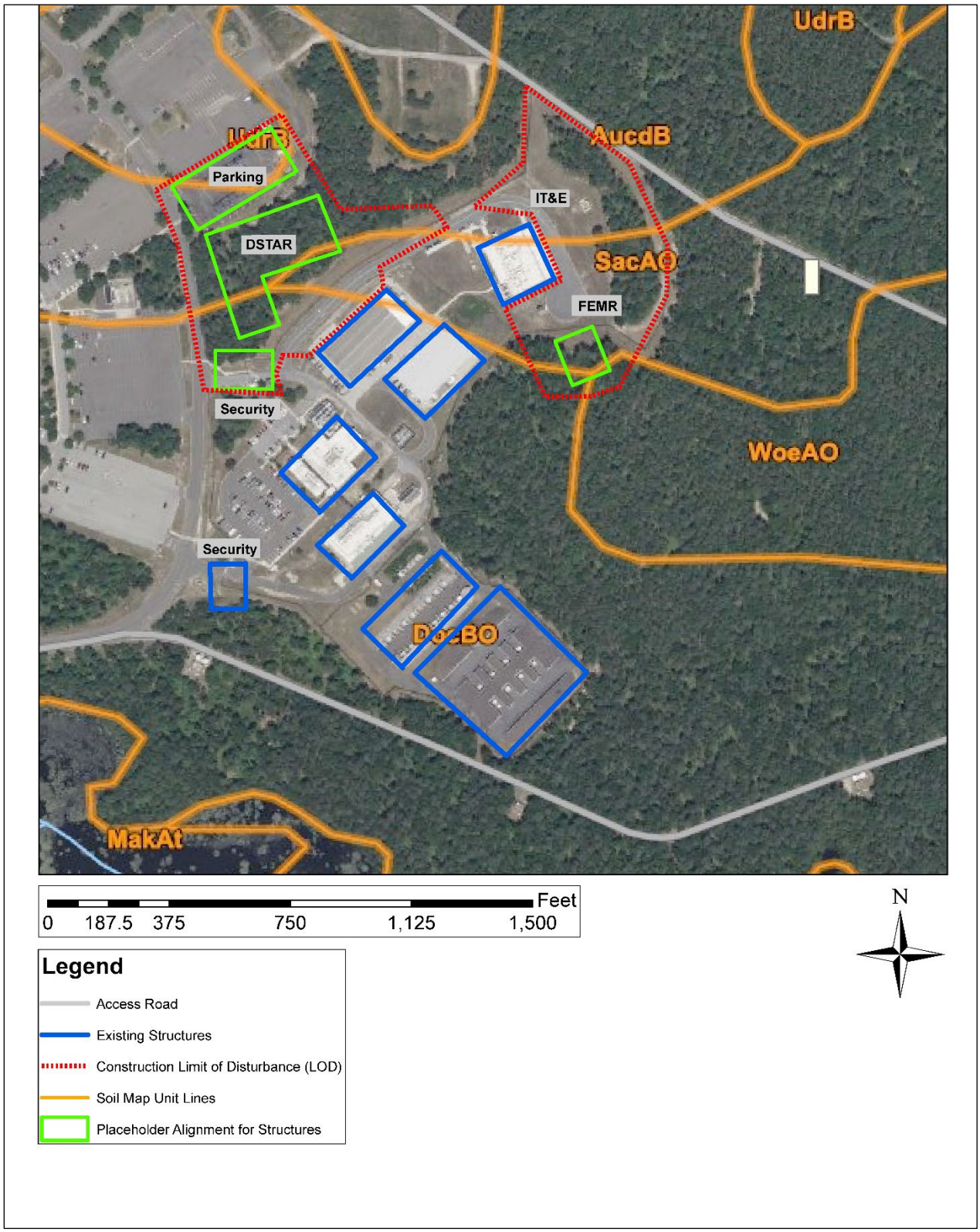
- WoeA - Woodstown sandy loam, 0-2 percent slopes

This is a nearly level to gently sloping soil that is moderately well drained and sometimes occupies slightly depressional areas in the landscape. These soils are extremely acidic to strongly acidic, throughout the profile, unless limed. Permeability is moderately slow and the seasonal high water table is at a depth of 18 to 42 inches, January to April. This soil type is assigned to Capability Class II.

- SacA- Sassafras sandy loam, 0-2 percent slopes

This soil map unit has a profile and characteristics similar to what is described as representative for the Series. The Sassafras Series consists of nearly level and gently sloping, well-drained, loamy soils that occupy high positions in the landscape. These soils are extremely acidic in the surface layer and strongly acidic in the subsoil. Permeability is moderate and the seasonal high water table Downer loamy sand is the most abundant soil type documented for the project area, followed by Sassafras sandy loam and Aura loamy sand (Figure 5).

Figure 5. USDA Classified Soils Within and in Vicinity of the DSTAR Project Study Area



3.5.3 Prime Farmlands

The Farmland Protection Policy Act regulates federal actions with the potential to convert farmland to non-agricultural uses. The WJHTC is a federal facility used for research and development purposes. The DSTAR Project Study Area soils include Aura, Downer, Sassafras and Woodstown series. All soil types in the project area are regarded as "prime farmland" except for Downer sandy loam (DocB), which is considered to be "farmland of statewide importance" (USDA-NRCS, 2023).

There are no agricultural or farmlands located within the boundaries of the WJHTC, including the DSTAR Project Study Area. Therefore, there are no potential impacts to agricultural or farmlands.

3.6 CULTURAL RESOURCES

Cultural resources are defined as prehistoric and historic sites, structures, districts, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for traditional, religious, scientific, or any other reason. Cultural resources include, but are not limited to, buildings, structures, prehistoric and historic archaeological sites, Native American sacred sites, and cemeteries. The Proposed Action would have no significant direct or indirect impact on tribal land, traditional cultural properties, sacred sites, or sites of traditional and cultural significance and is therefore not analyzed further in this EA. Under the No Action Alternative, the proposed project would not proceed, therefore there would be no direct or indirect, significant impacts to cultural resources.

The NHPA was enacted to prevent unnecessary harm to historic properties (16 U.S.C. Sections 470 et seq.). It includes regulations that apply specifically to federal land-holding agencies (Section 106 [36 CFR 800]), but also pertains to all projects funded, permitted, or approved by any federal agency that has the potential to affect cultural resources. Provisions of the NHPA established the NRHP (the National Register is maintained by the National Park Service [NPS]), the Advisory Council on Historic Preservation, State Historic Preservation Officers (SHPO), and federal grants-in-aid programs. The goal of the Section 106 process is to identify and avoid, minimize, or mitigate adverse effects on historic properties. The process has four basic steps: establish the undertaking, identify and evaluate historic properties, assess effects to historic properties, and resolve any adverse effects.

To identify listed properties at the DSTAR Project Study Area, a search was performed using the New Jersey Historic Preservation Officer (NJHPO) cultural resources database (NJDEP HPO CRGIS, 2023) and the NRHP database (NPS, 2023). Below ground historic properties of a sensitive nature are not publicly listed in the database. Properties listed in the NRHP possess historic significance and integrity and take the form of either a building, site, structure, object, or district. The databases indicated that there are no listed properties within the DSTAR Project Study Area. The nearest NRHP-eligible properties are located in the town of Absecon approximately 3.5 miles east of the DSTAR Project Study Area (NJDEP HPO CRGIS, 2023).

A cultural resources survey was conducted for the entire WJHTC in 1994 (Hunter Research, 1994) and it was concluded that there is no evidence of historic or archaeological resources occurring in the vicinity of the proposed DSTAR Project Study Area.

Additionally, a search was performed to identify federally recognized tribes with interests in Atlantic County, New Jersey (HUD, 2023). The three tribes identified include: 1) Delaware Nation, 2) Delaware Tribe of Indians, and 3) Shawnee Tribe.

3.7 WATER RESOURCES

Water resources include natural and man-made sources of water that are available for use by and for the benefit of humans and the environment. Hydrology concerns the distribution of water-to-water resources through the processes of evapotranspiration, atmospheric transport, precipitation, surface run-off and flow, and subsurface flow. Water resources can influence floodplains, coastal zone management, groundwater, surface water, and wetlands.

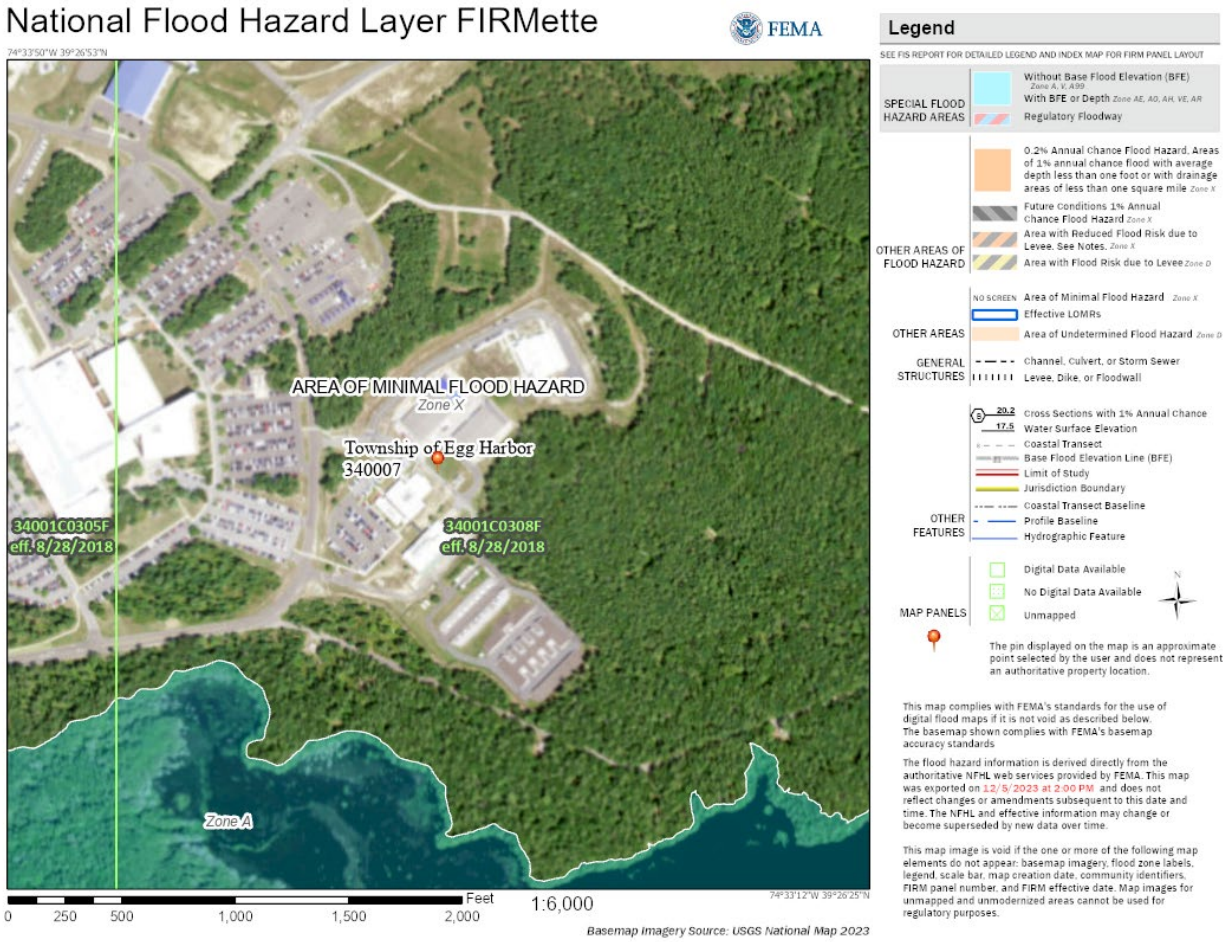
3.7.1 Floodplains

A floodplain is any lowland or relatively flat area adjoining inland and coastal waters that is subject to a one percent or greater chance of flooding in any given year. EO 11988, *Floodplain Management*, establishes requirements for federal agencies with respect to floodplain management and protection. Flood potential is evaluated by FEMA, which defines the 100-year floodplain as an area within which there is one percent chance of inundation by a flood event in a given year, or a flood event in the area once every 100 years. EO 11988, *Floodplain Management*, requires federal agencies to determine whether a proposed action would occur within a floodplain and to avoid floodplains to the maximum extent possible wherever there is a practicable alternative. Where the only practicable alternative is to site in a floodplain, a specific step-by-step process must be followed to comply with EO 11988, as amended by EO 13690, outlined in the FEMA document *Further Advice on EO 11988 Floodplain Management.*

Floodplains within the United States are protected under EO 11988, which requires federal agencies to determine whether a proposed action would occur within a floodplain. This determination typically involves consultation of appropriate FEMA Flood Insurance Rate Maps (FIRM), which contain enough general information to determine the relationship of the project area to nearby floodplains. If action is taken that encroaches within the floodplain and alters the flood hazards designated on a National Flood Insurance Rate Map (e.g., changes to the floodplain boundary), an analysis reflecting any changes must be submitted to FEMA.

Development within the flood hazard area is regulated by the NJDEP under the New Jersey Flood Hazard Area Control Act. According to FEMA's Flood Insurance Rate Map (FIRM Community Panel Number 34001C0308F, effective 08 August 2018), the DSTAR Project Study Area is within a FEMA designated "Zone X"). FEMA defines Zone X as an area of minimal flood hazard above the 500-year flood level and protected by levee from 100-year flood (FEMA, 2023) (Figure 6) Significant impacts would occur if proposed activities induce flooding or impact a floodplain. However, there would be no mechanism present to alter a floodplain under the Proposed Action. Therefore, the Proposed Action would not impact floodplains and further discussion of floodplains is not included in this EA. Under the No Action Alternative, the proposed project would not proceed; therefore, there would be no significant direct or indirect impacts to water resources.

Figure 6. FEMA Flood Insurance Rate Map



3.7.2 Coastal Zone Management

The CZMA requires that federal actions likely to affect any land or water use or natural resource within the coastal zone must be consistent to the maximum extent practicable with a state's Coastal Zone Management Program. These actions must also go through a federal consistency review. Significant impacts would occur if activities were inconsistent with applicable enforceable coastal zone policies. For actions with mechanisms to utilize coastal zone resources, reasonably affect any land or water use or natural resource within a coastal zone, then federal consistency under Section 307 of the CZMA is required.

In New Jersey, the coastal program is administered under the New Jersey Coastal Area Facilities Review Act (CAFRA) and Waterfront Development Act (WDA). Activities within the CAFRA and WDA regulated coastal zone must be reviewed and approved by the NJDEP under rules established through the CAFRA and WDA.

The DSTAR Project Study Area is not located within the coastal zone or CAFRA area (NJDEP, 2022); therefore, the Proposed Action is not subject to the Coastal Barriers Resource Act, CZMA, CAFRA, or WDA regulations.

Significant impacts would occur if activities were inconsistent with applicable enforceable coastal zone policies. Because the Proposed Action has no mechanisms to utilize coastal zone resources, nor reasonably affect any land or water use or natural resource within a coastal zone, federal consistency under Section 307 of the CZMA is not required. Therefore, further discussion of coastal zone management is not included in this EA.

3.7.3 Groundwater

The Kirkwood-Cohansey aquifer, one of the largest freshwater sources in the northeastern United States, underlies the DSTAR Project Study Area and the entire WJHTC. This aquifer provides water for the streams and reservoirs of the project area and is the principal source of domestic groundwater for Atlantic County and much of southern New Jersey (NJGS, 2009). The data from 938 high-capacity wells completed in the Kirkwood-Cohansey aquifer on file with NJDEP show that this aquifer is prolific, with yields measured up to 4,500 gallons per minute (gpm) and a mean yield of 400 gpm. Groundwater in this aquifer is typically fresh, acidic, highly corrosive, and low in dissolved solids. Iron and manganese levels may be elevated locally. Mercury and radium concentrations exceed primary drinking water standards in some wells. The mercury is believed to have been released into the environment by human activity and is not thought to occur naturally. Radium occurs naturally in the aquifers. Saltwater intrusion is a potential concern in coastal areas where salty tidal surface water exists.

The geologic unit of relevance at the TSL is the Cohansey Sand. Highly variable in composition and thickness, the Cohansey Sand is subdivided into three zones defined as the Upper Cohansey Sand (unconfined aquifer), Middle Cohansey Sand (intermediate aquifer) and Lower Cohansey Sand (lower aquifer). Quartz sands intermixed with pebbly and silt/clay sands with clay interbeds are the dominant features of the Cohansey Sand and its average thickness is approximately 156 feet. Across the WJHTC, a clay layer approximately 20 feet in thickness is located below ground surface (bgs) at a depth of 80 to 100 feet. This clay layer acts to prevent contamination from migrating from the upper aquifers to the lower aquifers. The Lower Cohansey Sand is the formation from which the nine Atlantic City municipal water supply wells located at the WJHTC draw their water (FAA, 2016) (DHS S&T, 2014).

Based on the United States Geological Survey (USGS) National Water Information System data for groundwater wells nearest the DSTAR Project Study Area, the depth to groundwater in a shallow groundwater observation well completed in the Cohansey Sand-Kirkwood Formation aquifer ranged from approximately 16 to 21 feet bgs (USGS, 2023), while a deep well completed in the Kirkwood Formation, Lower Sand aquifer ranged from approximately 75 to 101feet bgs (USGS, 2023b). Both wells are located approximately 1 mile east of the DSTAR Project Study area and within the WJHTC boundary. These data sources suggest that the groundwater in the shallow aquifer underlying the DSTAR Project Study Area would be encountered at approximately 16 feet bgs.

Drinking water for the TSL is provided by WJHTC, which operates a water treatment operation that is classified as a non-transient, non-community water system by the USEPA (USEPA, 2022). The USEPA database indicates this water system obtains water from three active groundwater wells. The extracted water is disinfected with chlorine and is treated for iron and pH adjustment. According to the USEPA 2022 Drinking Water Quality Report, the drinking water complies with USEPA Maximum Contaminant Levels or Maximum Contaminant Level Goals for inorganic, organic, bacteriological contaminants; the Lead and Copper Rule; and the NJDEP secondary contaminant list (USEPA, 2022).

This resource area is further evaluated in Section 4.4.

3.7.4 Wetlands

USACE and the USEPA define jurisdictional wetlands as areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR Part 328.3). USACE regulates the discharge of dredged or fill material in jurisdictional wetlands pursuant to Section 404 of the CWA and regulations contained in 33 CFR Parts 320–330. EO 11990, *Protection of Wetlands*, requires that federal agencies minimize any significant action that contributes to the loss or degradation of wetlands and that action be initiated to enhance their natural value. Significant impacts on surface waters and wetlands would occur if proposed activities resulted in an exceedance of water quality thresholds, impede navigability of surface waters, substantially increase the amount of stormwater entering surface waters and do not comply with wetland protection regulations and permits.

On March 2, 1994, New Jersey promulgated the New Jersey Freshwater Wetlands Protection Act (NJFWPA) (NJAC, 2022). Under the NJFWPA, NJDEP assumed the implementation of Section 404 of the CWA, which regulates the discharge of fill materials in wetlands. USACE formerly administered this program. The NJFWPA also protects transition areas or "buffers" around freshwater wetlands.

There are no wetlands within the DSTAR Project Study Area. The nearest NJDEP- and United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI)-mapped wetlands are located approximately 500 feet to the west and south of the DSTAR Project Study Area and adjacent to the Atlantic City Reservoir (NJDEP, 2021) (USFWS, 2023b). Additional wetlands are located approximately 250 feet to the east and south of the DSTAR Project Study area. These wetlands were delineated by Brinkerhoff Environmental Services in October, 2005, and then again by Ernest Deman of the Pinelands Commission (January 12, 2006). The DSTAR Project Study Area is outside of the 150-foot NJDEP buffer zones, as depicted on Figure 8.

Therefore, the Proposed Action would not impact wetlands and further discussion of wetlands is not included in this EA.

3.7.5 Surface Water

There are no surface water bodies located within the DSTAR Project Study Area. The nearest surface water body is the Atlantic City Reservoir, which is a freshwater lake located approximately 600 feet to the south of the DSTAR Project Study Area (shown in dark blue on Figure 7).

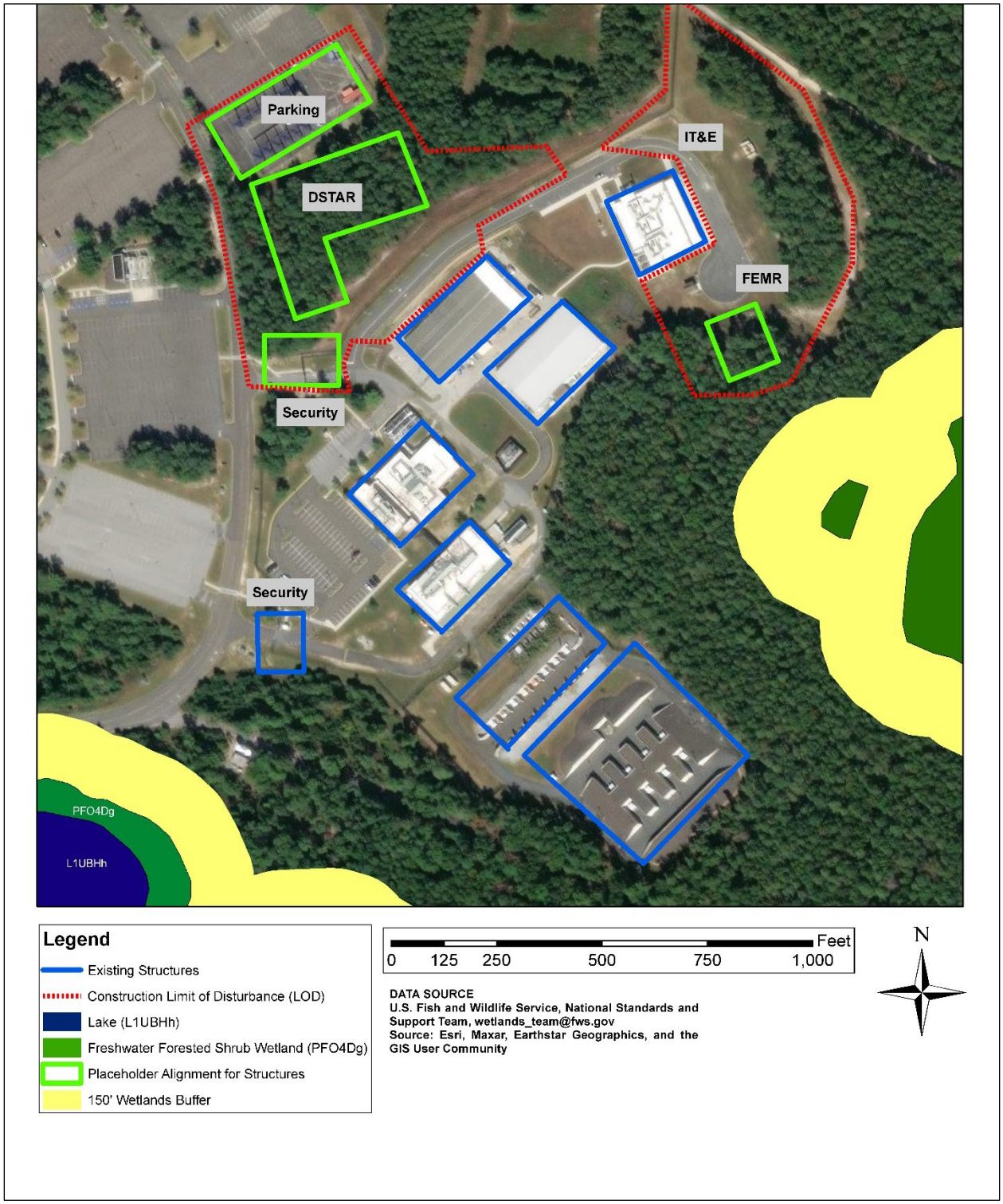
The DSTAR Project Area is located within the Upper Atlantic City Reservoir sub-watershed and run-off from most of the DSTAR Project Study Area is conveyed by overland flow in a southeasterly direction toward the upper Atlantic City Reservoir. Surface water in the upper Atlantic City Reservoir flows through a spillway via a large box culvert eastward under the Garden State Parkway and into the lower Atlantic City Reservoir. Water flows southeastward through the lower Atlantic City Reservoir for approximately 1.4 miles and discharges through a spillway into Absecon Creek. Once in Absecon Creek, flow is tidally influenced and generally continues eastward for approximately 3 miles where it discharges into Absecon Bay (USGS, 2023c). Absecon Bay is part of the bay and barrier island system typical of the Atlantic Ocean shoreline.

A USGS gage station is located on the Absecon Creek at Absecon, New Jersey (Station No. 01410500) (USGS, 2023c). Continuous records have been maintained at this station from 1923-1929, 1933-1938, 1946-1984, and February 2008 to the present (August 2023). Monthly mean discharge records from 1946 to 1984 and 2008 to 2010 have been recorded for the Absecon Creek at this location. Since 2008, the monthly mean discharge has ranged from 0.263 cubic feet per second (f^3/s) during the dry season (late summer/early fall), to 73.4 f^3/s during the wetter months (late winter/early spring) with a peak flow of 150 f^3/s reported for March 30, 2010. The average annual flow rate for the most recently available prior three years was 2.5 f^3/sin 2019, 2.6 f^3/s in 2020, and 2.5 f^3/s in 2021.

The New Jersey Surface Water Quality Standards (N.J.A.C. 7:9-4.1 *et. seq.*) classify the upper Atlantic City Reservoir as Pinelands Water (NJAC, 2020). Downstream of the WJHTC, the Absecon Creek is classified as a general, non-trout (FW2-NT) surface water and a Saline Estuarine Water (SE1). Downstream of the WJHTC, Absecon Creek is also a Category One designated watershed. This designation provides additional protection to waterbodies that helps prevent water quality degradation and discourage development where it would impair or destroy natural resources and water quality.

This resource area is evaluated further in Section 4.4.

Figure 7. NWI Mapped Wetlands and Surface Waters within Vicinity of the DSTAR Project Study Area



3.7.6 Wild and Scenic Rivers

The Wild and Scenic Rivers Act of 1968, as amended, was created to preserve certain rivers with cultural, natural and recreational values for future generations. The United States Department of the Interior (DOI) and the USDA maintain a national inventory of river segments that appear to qualify for inclusion in the National Wild and Scenic River System.

There are no rivers or river systems included in, or eligible for inclusion, in the National Wild and Scenic River System within or adjacent to the DSTAR Project Study Area or at the WJHTC (USEPA, 2023). Therefore, this resource is not evaluated further in this EA.

3.8 BIOLOGICAL RESOURCES

The WJHTC encompasses approximately 5,100 acres of land that supports a wide variety of biological resources, identified in this section as wildlife, vegetation, and supporting habitats.

There are no aquatic habitats within the DSTAR Project Study Area LOD. The broad categories of habitat and communities surrounding the DSTAR Project Study Area are depicted on Figure 8 and generally consists of urban land and forest. Biological resources identified in this EA include wildlife (fauna), vegetation (flora), and state or federally listed threatened or endangered species.

3.8.1 Fish

There are no aquatic habitats within the project area; therefore, there are no fish present.

3.8.2 Wildlife

While the WJHTC property is biodiverse in terms of habitat types and species, the DSTAR Project Study Area can be characterized as a rather homogenous landscape with only subtle variations in plant community ranging from pine-oak to oak-pine forest, which contributes to an expected low species diversity compared to the WJHTC property (FAA , 2016). The following non-inclusive lists identify wildlife species documented on the WJHTC property by the USFWS during a comprehensive survey for threatened and endangered species in May 1995. The DSTAR Project Study Area is characterized entirely by upland, oak-pine and pine-oak forest and no wetlands or waters are present. Species that may inhabit the proposed project study area on a permanent or temporary basis are expected to be comprised entirely of terrestrial species.

Amphibians

- Eastern red-backed salamander (*Plethodon cinereus*)
- Red salamander (*Pseudotriton ruber*)
- Fowler's toad (*Bufo woodhousei fowleri*)
- Pine Barrens tree frog (*Hyla andersonii*)
- Spring peeper (*Hyla crucifer*)
- Chorus frog (*Pseudacris triseriata*)
- Bullfrog (*Rana catesbeiana*)
- Green frog (*Rana clamitans*)
- Pickerel frog (*Rana palustris*)
- Southern leopard frog (*Rana sphenocephala*)
- Wood frog (*Rana sylvatica*)
- Carpenter frog (*Rana virgatipes*)

Reptiles

- Eastern mud turtle (*Kinosternon subrubrum*)
- Common musk turtle (*Sternotherus odoratus*)
- Snapping turtle (*Chelydra serpentina*)
- Painted turtle (*Chrysemys picta*)
- Red-bellied turtle (*Chrysemys rubriventris*)
- Eastern box turtle (*Terrapene carolina*)
- Eastern fence lizard (*Sceloporus undulates*)
- Worm snake (*Carphophis amoenus*)
- Ring-neck snake (*Diadophis punctatus*)
- Eastern kingsnake (*Lampropeltis getulus getulus*)
- Northern water snake (*Nerodia sipedon*)
- Northern pine snake (*Pituophis melanoleucus melanoleucus*)
- Brown snake (*Storeria dekayi*)
- Common garter snake (*Thamnophis sirtalis*)
- Smooth earth snake (*Virginia valeriae*)

Birds

- Wild turkey (*Meleagris gallopavo*)
- European starling (*Sturnus vulgaris*)
- American robin (*Turdus migratorius*)
- Pigeon (*Columba livia*)
- Common grackle (*Quiscalus quiscula*)
- Killdeer (*Charadius vociferous*)
- American crow (*Corvus brachyrhynchos*)
- Laughing gull (*Larus atricilla*)
- Ring-billed gull (*Larus delawarensis*)
- Herring gull (*Larus argentatus*)
- Great blue heron (*Ardea herodia*)
- Eastern meadowlark (*Sturnella magna*)
- Tree swallow (*Iridoprocne bicolor*)
- Red-tailed hawk (*Buteo jamaicensis*)
- American kestrel (*Falco sparverius*)
- Brown-headed cowbird (*Molothrus ater*)
- Canada goose (*Branta canadensis*)
- Sparrow (*Family Fringillidae*)
- Mourning dove (*Zenaida macroura*)
- Northern bobwhite (*Colinus virgineanus*)
- American black duck (*Anas rubripes*)
- Black-throated green warbler (*Dendroica virens*)
- Boat-tailed grackle (*Quiscalus major*)
- Cedar waxwing (*Bombycilla cedrorum*)

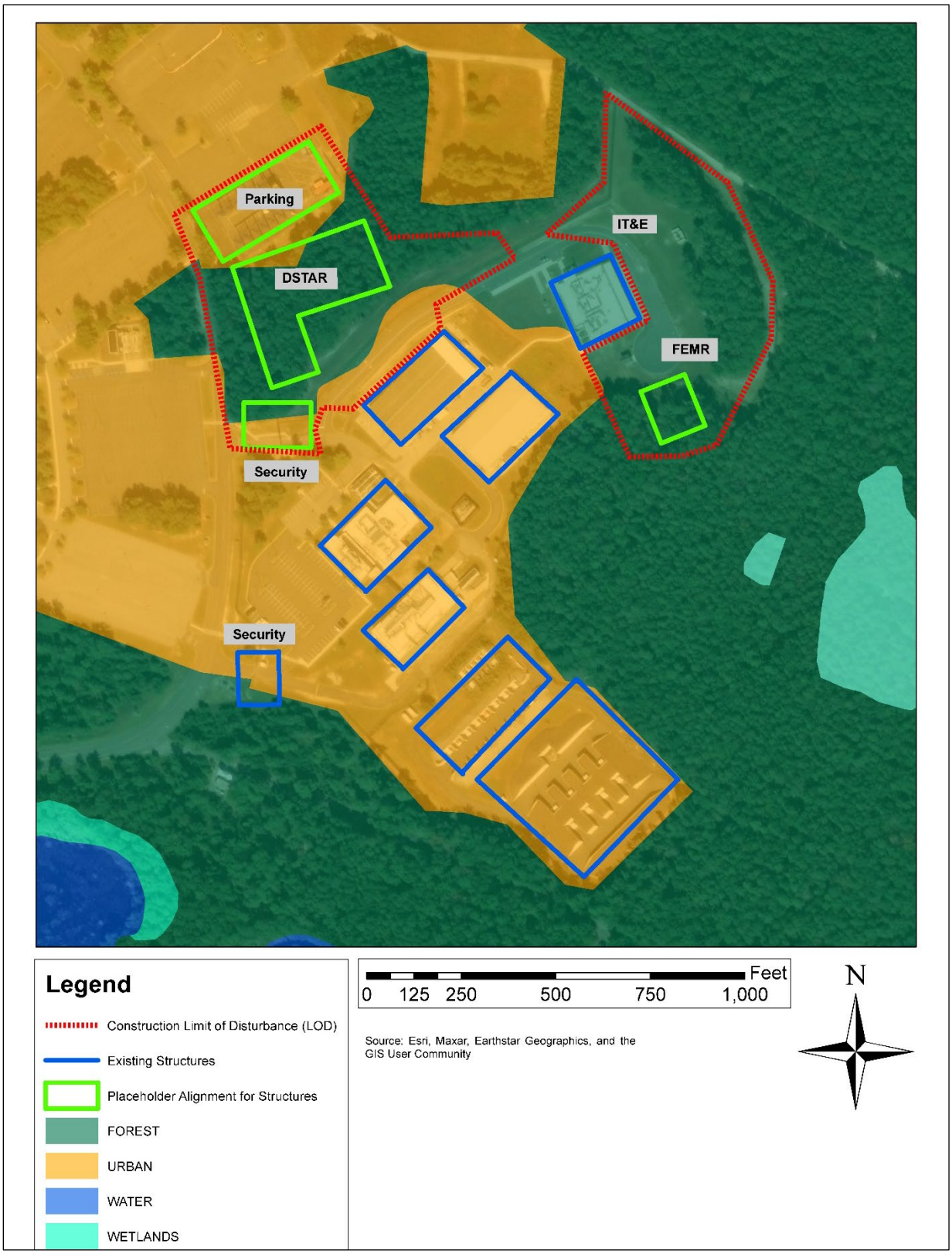
Mammals

- White-tailed deer (*Odocoileus virginianus*)
- Striped skunk (*Mephitis mephitis*)
- Eastern cottontail (*Silvilagus floridanus*)
- Red fox (*Vulpes fulva*)
- Red squirrel (*Tamiascurius hudsonicus*)
- Eastern gray squirrel (*Scirius carolinensis*)
- Raccoon (*Procyon lotor*)
- Short-tailed shrew (*Blarina brevicauda*)
- Eastern mole (*Scalopus aquaticus*)
- Northern long-eared bat (*Myotis septentrionalis*)
- Big brown bat (*Eptesicus fuscus*)
- Little brown bat (*Myotis lucifugus*)
- Red bat (*Lasiurus borealis*)
- Woodchuck (*Marmota monax*)
- Eastern chipmunk (*Tamias striatus*)
- White-footed mouse (*Peromyscus leucopus*)
- Meadow vole (*Microtus pennsylvanicus*)
- Muskrat (*Ondatra zibethica*)

3.8.3 Plants

The DSTAR Project Study Area covers approximately 10 acres. Approximately 4 acres of this area is developed with buildings, security infrastructure, parking, roadways, and regularly maintained cool-weather grass lawns. The remaining 6 acres is undeveloped upland forested woodlands consisting of pitch pine (*Pinus rigidi*) and a mixture of oaks, White Oak (*Quercus alba),* Red Oak (*Quercus rubra),* and Bear Oak (*Quercus ilicifolia*) (DHS S&T, 2014).

Figure 8. Vegetative Communities at and in Vicinity of the DSTAR Project Study Area



3.8.4 Potential Habitat and Rare Species

The WJHTC has completed initial baseline biological surveys, including a Rare Species Survey in 1995 and a Natural Resource Management Plan in 1997, as well as subsequent surveys for selected species including Northern long-eared bats (*Myotis septentrionalis)*, Frosted elfin butterfly (*Callophrys irus*), Pine Barrens tree frog (*Hyla andersonii*), Barred owl (*Strix varia)*, and Cooper's hawk (*Accipiter cooperii)* (FAA, 2017) (FAA, 2016) (USFWS, 1995). The survey data have allowed WJHTC biologists to develop maps showing where suitable habitat may be located at WJHTC for a variety of rare species, which WJHTC defines as federal- and state-listed threatened and endangered species, state-listed species of special concern, or are known to occur within the Pinelands National Reserve (PNR) (FAA, 2016) (NJPC, 2023c). A list of rare, threatened, and endangered species documented within the WJHTC is presented below.

Table 1. Rare, Threatened and Endangered Species at the WJHTC

Common Name	Scientific Name	Federal Status	State Status	Pinelands Status
Mammals – Bats				
Northern Long-eared Bat	*Myotis septentrionalis*	Endangered	Endangered	N
Tricolored Bat	*Perimyotis subflavus*	Proposed Endangered	Species of Interest	N
Big Brown Bat	*Eptesicus fuscus*	N	Species of Concern	N
Hoary Bat	*Lasiurus cinereus*	N	Species of Concern	N
Little Brown Bat	*Myotis lucifugus*	N	Endangered	N
Red Bat	*Lasiurus borealis*	N	Species of Concern	N
Silver-haired Bat	*Lasionycteris noctivagans*	N	Species of Concern	N
Plants				
American Chaffseed	*Schwalbea americana*	Endangered	Endangered	N
Swamp Pink	*Helonias bullata*	Threatened	Endangered	N
Pine Barren Gentian	*Gentiana autumnalis*	N	Species of Concern	Threatened or Endangered
Narrow-leaf Vervain	*Verbena simplex*	N	Endangered	Endangered
Birds				
Peregrine Falcon	*Falco peregrinus*	N	Endangered	Endangered
American Kestrel	*Falco sparverius*	N	Threatened	Threatened
Upland Sandpiper	*Bartramia longicauda*	N	Endangered	Endangered
Grasshopper Sparrow	*Ammodramus savannarum2*	N	Threatened	Threatened
Red-headed Woodpecker	*Melanerpes erythrocephalus*	MBTA	Threatened	Threatened
Cooper's Hawk	*Accipiter cooperii*	N	Species of Concern	N

Common Name	Scientific Name	Federal Status	State Status	Pinelands Status
Barred Owl	*Strix varia*	N	Threatened	Threatened
Bald Eagle	*Haliaeetus leucocephalus*	MBTA	Endangered	Endangered
Chimney Swift	*Chaetura pelagica*	MBTA	N	N
Eastern Whip-poor-will	*Antrostomus vociferus*	MBTA	N	N
Gull-billed Tern	*Gelochelidon nilotica*	MBTA	N	N
Wood Thrush	*Hylocichla mustelina*	MBTA	N	N
Reptiles				
Northern Pine Snake	*Pituohis melanoleucus melanoleucus*	N	Threatened	Threatened
Eastern King Snake	*Lampropeltis getula getula*	N	Species of Concern	N
Eastern Box Turtle	*Terrapene carolina carolina*	N	Species of Concern	N
Spotted Turtle	*Clemmys guttata*	N	Species of Concern	N
Corn Snake	*Elaphe guttata*	N	Endangered	Endangered
Amphibians				
Carpenter Frog	*Rana virgatipes*	N	Species of Concern	N
Fowler's Toad	*Anaxyrus fowleri (formerly Bufo woodhoussii fowleri)*	N	Species of Concern	N
Pine Barrens Treefrog	*Hyla andersonii*	N	Threatened	Threatened
Insects – Butterflys and Moths				
Three-lined Angle Moth*	*Semiothisa eremiata*	N	N	N
Monarch Butterfly	*Danaus plexippus*	Candidate	N	N
Frosted Elfin Butterfly*	*Callophrys irus*	N	Threatened	Threatened
Leonard's Skipper	*Hesperia leonardus*	N	Species of Concern	Species of Concern
Hessel's Hairstreak	*Callophrys hesseli*	N	Species of Concern	N
Precious Underwing*	*Catocala pretiosa*	N	N	N
Slug Moth*	*Monoleuca semifascia*	N	N	N
Albarufan Dagger Moth	*Acronicta albarufa*	N	Species of Concern	N
Pink Streak*	*Faronta rubripennis*	N	N	N

Common Name	Scientific Name	Federal Status	State Status	Pinelands Status
Lemmer's Noctuid (pinion) Moth*	*Lithophane lemmeri*	N	Species of Concern	N
Notodontid Moth*	*Heterocampa varia*	N	N	N
Buchholz's Dart Moth*	*Agrotis buchholzi*	N	N	N

*indicates the species is a candidate for classification under the Federal or State program

3.8.5 Federal Listed Species and Critical Habitat

In addition to the WJHTC habitat maps, the USFWS online Information for Planning and Consultation (IPaC) system was used to identify federally listed species, migratory birds protected under the MBTA, and critical habitats that may overlap with the DSTAR Project Study Area (USFWS, 2023).

The USFWS IPaC database identified:

- One endangered mammal species: Northern long-eared bat *(Myotis septentrionalis*);
- One proposed endangered mammal species: Tricolored bat (*Perimyotis subflavus*)
- One endangered flowering plant species: American Chaffseed (*Schwalbea americana*);
- One threatened flowering plant species: the Swamp Pink (*Helonias bullata*); and
- One candidate insect species: the monarch butterfly (*Danaus plexippus*).

Including the bald eagle, a total of six birds protected under the MBTA were identified in the IPaC database. The probability of presence and breeding season for these birds is summarized in the USFWS IPaC provided in Appendix C. No critical habitat was identified.

Bald Eagle (Bald and Golden Eagle Protection Act)

Historically, bald eagles (*Haliaeetus leucocephalus*) experienced a severe population decline due to habitat loss and consumption of food contaminated with the pesticide DDT (dichloro-diphenyl-trichloroethane). With ESA protection and the banning of DDT, bald eagle populations recovered, leading to the delisting of the species from the ESA in 2007. The bald eagle is not a bird of conservation concern but remains protected under the Bald and Golden Eagle Protection Act of 1940, which prohibits the take, possession, transport, or sale of live or dead eagles and their parts, nests, or eggs unless authorized by permit, and under the MBTA. "Take" includes pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest or disturb. Activities that directly or indirectly lead to taking are prohibited without a permit. "Disturb" is defined by regulation 50 CFR § 22.3 as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available:

- Injury to an eagle,
- Decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or
- Nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

"Disturb" includes immediate impacts such as loud noises around the nest that may cause eagles to abandon their eggs or young chicks. A disturbance may also happen if humans change the landscape around the eagle nest. Even if these changes happen outside of the eagle nesting season, the eagle may have future decreased nest success or may abandon the nest if these changes are significant.

Bald eagles exhibit high nest fidelity. Nesting territories are often used year after year. Generally, bald eagles prefer to nest in large trees with a clear view of shoreline foraging areas or, if nesting further inland, within 1 mile of a suitable foraging area. Non-breeding eagles are typically social and establish communal roosts (areas where eagles gather and perch overnight). Communal roosts are typically positioned near major foraging areas (large bodies of water) which are isolated from human disturbance and contain sustainable substrate for roosting, protected from harsh weather, and have a clear movement corridor between the roost and primary foraging areas. Bald eagles return to their nests, adding reinforcing sticks every year in late winter and laying eggs by the end of February or the beginning of March. It takes 35 days for the eggs to hatch (usually one or two but sometimes three) and 10 to 12 weeks before the eaglets leave the nest. Nest building and incubation are critical times for eagles. Bald eagles require water in which to fish and are, therefore, typically found anywhere near large bodies of water, including rivers, lakes, reservoirs, marshes, bays, and oceans. They also require large trees such as white pine, sycamore, or oak in which to nest but occasionally will nest on cliffs or man-made structures. Transient bald eagles, attracted by the Reservoir and open grassland areas, may occasionally feed or rest at the FAA Technical Center during any time of year. However, disturbance from aircraft and human use of the FAA Technical Center make the area unsuitable as a nesting or winter roosting site.

Northern Long-Eared Bat

Northern long-eared bats (*Myotis septentrionalis*) are primarily forest-dependent insectivores (USFWS, 2023c). They utilize a diversity of forest habitats for roosting, foraging, and raising young. In general, any tree large enough to have a cavity or that has loose bark may be utilized by NLEB for roosting or rearing young. The federal listing was the result of a dramatic population decline throughout most of the species' range. These declines have been caused by white-nose syndrome, a disease caused by an invasive fungus that ultimately causes affected hibernating bats to starve to death over the winter. Legal protections afforded by the listing status of the bat are focused on minimizing and avoiding direct loss of the remaining individuals by protecting the known hibernation sites and limiting forest management activities where NLEB are most likely to be present to certain times of the year. There is suitable habitat for the NLEB at the WJHTC.

Tricolored Bat

The tricolored bat is a small insectivorous bat that typically overwinters in caves, abandoned mines and tunnels, and road-associated culverts (southern portion of the range). They spend the rest of the year in a wide variety of forested/wooded habitats where they roost and forage, including adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields, and pastures. There is suitable habitat for the Tricolored bat at the WJHTC.

American Chaffseed
American chaffseed (*Schwalbea americana)* occurs in fire-maintained longleaf pine flatwoods and savannas. Chaffseed is dependent on factors like fire, mowing, or fluctuating water tables to maintain the open to partly-open conditions that it requires. Most of the surviving populations, and all of the most vigorous populations, are in areas that are still subject to frequent fire. Due to an absence of wetland habitats within the proposed project study area and the lack of prescribed, or naturally occurring fires as a part of a management regime, suitable habitat for chaffseed is not present (USFWS, 2023d).

Swamp Pink
Swamp pink (*Helonias bullata*) is an obligate wetland plant that primarily occurs in palustrine forested wetland habitats. Due to an absence of wetland habitats within the proposed project study area, suitable habitat for swamp pink is not present.

Monarch Butterfly
In recent decades, numbers of North American monarch butterfly (*Danaus plexippus*) have plummeted for both the eastern population (which overwinters in Mexico) and the western population (which overwinters in California) (USFWS, 2023e). Status reports are based on annual counts at overwintering sites. From 1996 to 2020, the eastern monarch population dropped 88 percent, from an estimated 383 million to just under 45 million. On December 15, 2020, the USFWS announced a 12-month finding on a petition to list the monarch butterfly under the ESA. After a thorough review of the monarch's status, the Service determined that listing is "warranted, but precluded" at this time because of higher-priority listing actions. USFWS is working with federal and state agencies, Native American tribes, and non-government groups to conserve monarchs. These efforts involve engaging the public in creating and restoring habitat for monarchs and other pollinators. There are generally no Section 7 requirements for candidate species, but USFWS encourages all agencies to take advantage of any opportunity they may have to conserve the monarch butterfly (USFWS, 2023e).

Based on the WJHTC habitat maps and the USFWS IPaC results, the DSTAR Project Study Area may potentially contain suitable habitat for the selected species. It is important to note that the potential presence of suitable habitat does not mean that a species will be found in or near that habitat.

3.8.6 State Listed Species and Critical Habitat
The NJDEP identified the following rare, threatened, and endangered species as having the possibility to occur in the DSTAR Project Study Area:

- Two endangered bat species: Northern Long-eared Bat (*Myotis septentrionalis*), and the Little Brown Bat (*Myotis lucifugus*)
- Four bat species of concern: Big Brown Bat (*Eptesicus fuscus*), Hoary Bat (*Lasiurus cinereus*), Red Bat (*Lasiurus borealis*), and the Silver-haired Bat (*Lasionycteris noctivagans*)
- One bat species of interest: Tricolored Bat (*Perimyotis subflavus*)
- Three endangered plant species: American Chaffseed (*Schwalbea americana*), Swamp Pink (*Helonias bullata*), and Narrow Leaf Vervain (*Verbena simplex*)
- One plant species of concern: Pine Barrens Gentian (*Gentiana autumnalis*)

- Three endangered bird species: Peregrine Falcon (*Falco peregrinus*), Bald Eagle (*Haliaeetus leucocephalus*), and the Upland Sandpiper (*Bartramia longicauda*)
- Four threatened bird species: American Kestrel (*Falco sparverius*), Red-headed Woodpecker (*Melanerpes erythrocephalus*), Barred Owl (*Strix varia*), and the Grasshopper Sparrow (*Ammodramus savannarum*)
- One bird species of concern: Cooper's Hawk (*Accipiter cooperii*)
- One endangered reptile species: Corn Snake (*Elaphe guttata*)
- Two threatened reptile species: Northern Pine Snake (*Pituohis melanoleucus melanoleucus*), and the Pine Barrens Treefrog (*Hyla andersonii*)
- Five reptile species of concern: Eastern Kingsnake (*Lampropeltis getula getula*), Eastern Box Turtle (*Terrapene carolina carolina*), Spotted Turtle (*Clemmys guttata*), Carpenter Frog (*Rana virgatipes*), and the Fowler's Toad (*Anaxyrus fowleri*)
- One threatened insect species: Frosted Elfin Butterfly (*Callophrys irus*)
- Two insect species of concern: Leonard's Skipper (*Hesperia leonardus*), and Hessel's Hairstreak (*Callophrys hesseli*)

Big Brown Bat
The Big Brown Bat (*Eptesicus fuscus*) is a relatively large slow flying bat often found in buildings, hollow trees, and deciduous forest areas. Traditionally, these bats have formed maternity colonies beneath loose bark and in small cavities of pine, oak, beech, bald cypress, and other trees (Britannica, Brown Bat, 2023) (NPS, 2017).

Hoary Bat
The Hoary Bat (*Lasiurus cinereus*) is a migratory North American bat with yellowish- or reddish-brown fur whose habitat consists primarily of deciduous and coniferous forests and woodlands, including areas altered by humans. Roost sites are usually in foliage of large deciduous or coniferous trees often at the edge of a clearing and commonly in hedgerow trees (Britannica, Hoary Bat, 2020) (NatureServe, 2023).

Little Brown Bat
The Little Brown Bat (*Myotis lucifugus*) is a small bat with glossy brown fur. This species uses a wide range of habitats including human-made structures for resting and maternity sites, as well as caves and hollow trees (NatureServe, 2023b).

Red Bat
The Red Bat (*Lasiurus borealis*), also called Eastern Red Bat, has narrow wings, short, rounded ears, and chestnut-colored fur tipped with white. Red Bat habitat includes a wide range of forested and semi-forested areas, including developed areas with large trees (Britannica, Red Bat, 2020) (NatureServe, 2023c).

Silver-haired Bat
The Silver-haired Bat (*Lasionycteris noctivagans*) is a tree bat that uses cavities, sloughing bark, and rock crevices for roosting. Their habitat is primarily forested areas adjacent to lakes, ponds, or streams, including areas that have been altered by humans (NatureServe, 2023d).

Narrow Leaf Vervain
Narrow-leaf Vervain (*Verbena simplex*) is an erect perennial herb with simple opposite leaves and pale lavender flowers. Habitat is often associated with early successional habitats and disturbed sites (Dodds, 2022).

Pine Barren Gentian
Pine Barren Gentian (*Gentiana autumnalis*), a small blue wildflower found in the wetlands of New Jersey's Pinelands, is a globally rare species. Pine Barren Gentian prefer areas with acidic, sandy, nutrient-poor soil in fire-prone areas (Herbs, 2013).

Peregrine Falcon
The Peregrine Falcon (*Falco peregrinus*) is a medium to large falcon that prefers open situations from tundra, moorlands, steppe, and seacoasts, especially where there are suitable nesting cliffs, to mountains, open forested regions, and human population centers including cities, and airports (NatureServe, 2023g).

American Kestrel
The American Kestrel (*Falco sparverius*) is the smallest of the falcons and inhabits open or partly open habitat. This species nests in natural holes in trees, abandoned woodpecker holes, holes in buildings or cliffs, abandoned magpie nests, and similar sites (NatureServe, 2023h).

Red-headed Woodpecker
The Red-Headed Woodpecker (*Melanerpes erythrocephalus*), a mid-sized woodpecker with a crimson head, prefers open woodland, open situations with scattered trees, parks, cultivated areas and gardens (NatureServe, 2023i).

Cooper's Hawk
The Cooper's Hawk (*Accipiter cooperii*) is a medium-sized hawk of the woodlands that builds its nest in live overstory trees commonly near wetland openings or a source of water, on level ground or lower slopes, typically several hundred meters from paved roads (NatureServe, 2023j).

Barred Owl
Barred Owls (*Strix varia*) inhabit dense woodland and forest with large mature and decadent trees and are often found in areas bordering streams, marshes, and meadows (NatureServe, 2023k). In 2015, the FAA carried out a Barred Owl sighting and nesting location survey, identifying many sites around the WJHTC campus. None of these sites fall within the DSTAR Project Area (FAA, 2015).

Upland Sandpiper
The Upland Sandpiper (*Bartramia longicauda*) is a large sandpiper with a short bill that can be found in grassy prairies, open meadows, and fields (Kaufman, Upland Sandpiper, n.d.).

Grasshopper Sparrow
The Grasshopper Sparrow (*Ammodramus savannarum*) is a flat-headed small sparrow found in fields, grassland, and prairies (Kaufman, Grasshsopper Sparrow, n.d.)

Northern Pine Snake
The Northern Pine Snake (*Pituophis melanoleucus melanoleucus*) is one of the largest snakes in North America. Its habitat is characterized by pine-dominated or pine-oak woodland with an open, low understory (IUCN, 2007).

Eastern Kingsnake
Eastern Kingsnakes (*Lampropeltis getula getula*) are black with white or yellow bands and prefer sites with thick leaf litter and dense shrub-layer foliage (Wund, Torocco, Zappalorti, & Reinert, 2007).

Eastern Box Turtle
The Eastern Box Turtle (*Terrapene carolina carolina*), a subspecies of the common box turtle, has a dark brown, hinged shell with yellow-orange markings and inhabits forests, fields, forest-brush, and forest-field ecotones (NatureServe, 2023q).

Spotted Turtle
Spotted Turtle (*Clemmys guttata*) are small, aquatic turtles, named for the yellow polka dots scattered across their dark shells. The species occur in wetlands throughout the east coast and in the Great Lakes region of the United States, and is threatened by the loss, alteration, and fragmentation of this habitat. Poaching and collection for the foreign and domestic pet trade also pose a threat for spotted turtle populations (USFWS, 2023f).

Corn Snake
Corn Snakes (*Elaphe guttata*) are slender, orange or brownish-yellow snakes found in wooded groves, rocky hillsides, meadowlands, woodlots, barns, and abandoned buildings (Smithsonian, 2023).

Carpenter Frog
The Carpenter Frog (*Rana virgatipes*) is small and dark brown with four yellowish longitudinal stripes. Their habitat is restricted to the Coastal Plain and is usually associated with acidic sphagnum bogs, blackwater swamps, and in stands of grass-like vegetation (SREL-UGA, 2023).

Fowler's Toad
The Fowler's Toad (*Anaxyrus fowleri*), a small toad species, inhabits wooded areas, river valleys, and floodplains, including agricultural and residential areas (NatureServe, 2023r).

Pine Barrens Treefrog
The Pine Barrens Treefrog (*Hyla andersonii*) is a rich, emerald green color bordered by white with a plum color that extends onto the belly. They are found in pitch pine lowlands, pine-oak and oak-pine stands, white cedar bogs and swamps, and red maple wetlands with low areas filled with standing acid water (Bunnell, 2012).

Frosted Elfin Butterfly
The WJHTC is home to the largest known global occurrence of the Frosted Elfin butterfly (*Callophrys irus*). Frosted Elfin habitat is associated with open areas and sparsely wooded areas with the larval food plant Baptisia present. The current mowing practices within WJHTC have created a continued habitat disturbance regime that appears to benefit the species (USFWS, 1995). The FAA conducted a survey in 2015 of Frosted Elfin habitat at the WJHTC. There is a protected area to the northeast outside the DSTAR Project Study Area. Construction activities will be in forested areas not suitable for Frosted Elfin and will not disturb Frosted Elfin habitat.

Leonard's Skipper
The Leonard's Skipper (*Hesperia leonardus*) is a small orange butterfly that prefers dry, barren grasslands and ridgetop balds dominated by Little Bluestem Grass (New Jersey Butterfly Club, 2023).

Hessel's Hairstreak
The Hessel's Hairstreak (*Callophrys hesseli*), a small green and brown butterfly, inhabits coastal and inland Atlantic White Cedar swamps (Corser, 2023).

3.8.7 Pinelands National Reserve Listed Species
The following species are also listed by the Pinelands National Reserve as possibly occurring in the DSTAR Project Study Area:

- Three endangered bird species: Peregrine Falcon (*Falco peregrinus*), Bald Eagle (*Haliaeetus leucocephalus*), and the Upland Sandpiper (*Bartramia longicauda*)
- Four threatened bird species: American Kestrel (*Falco sparverius*), Red-headed Woodpecker (*Melanerpes erythrocephalus*), Barred Owl (*Strix varia*), and the Grasshopper Sparrow (*Ammodramus savannarum*)
- One endangered reptile species: Corn Snake (*Elaphe guttata*)
- Two threatened reptile species: Northern Pine Snake (*Pituophis melanoleucus melanoleucus*), and the Pine Barrens Treefrog (*Hyla andersonii*)
- One threatened insect species: Frosted Elfin Butterfly (*Callophrys irus*)
- Two endangered plant species: Narrow Leaf Vervain (*Verbena simplex*), and Pine Barren Gentian (*Gentiana autumnalis*)

3.8.8 Likelihood of Presence
The likelihood of presence within the DSTAR Project Study Area of the species identified is low. This is due to the presence of a relatively small area of undeveloped habitat at the DSTAR Project Study Area; the habitat is isolated (fragmented) from larger areas of similar habitat which can prevent or restrict movement of a species; the habitat has no direct connection to a water source; and the presence of human activities (e.g., vehicle and pedestrian traffic, noises, mowing) occurs adjacent to the habitat and can disturb a species and cause it to avoid the habitat temporarily or entirely.

However, based on the potential for suitable habitat for these species to be present at the DSTAR Project Study Area, the analysis of the potential impact from implementing the Proposed Action on biological resources is presented in Section 4.5.

3.9 SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND PROTECTION OF CHILDREN

3.9.1 Socioeconomics

This section focuses on socioeconomic conditions within Egg Harbor Township and Atlantic County as they are the primary geopolitical areas directly and indirectly influenced by the operations at WJHTC (RDN, 2020).

3.9.1.1 Population

The DSTAR Project Study Area is located in the Township of Egg Harbor in Atlantic County, New Jersey, the 43rd largest community by population in New Jersey in 2022 (USCB, 2023c). The New Jersey State Development and Redevelopment Plan designates the site as a Military and Federal Planning Area. The United States Census Bureau (USCB) indicates that in 2022 the population of Atlantic County was 275,638, while Egg Harbor Township was 47,946 (USCB, 2023). The DSTAR Project Study Area itself is located in census tract 117.02, which has a population of 3,660 persons (USCB, 2020).

3.9.1.2 Economy

Atlantic County, New Jersey, had a total gross domestic product (GDP) of approximately $15 billion in 2021 (the most recent year for which data are available) (FRED, 2023). GDP data are not available for Egg Harbor Township.

According to a 2020 report on the economic impact of the WJHTC on the economy of southern New Jersey, the direct impacts of WJHTC operations include 5,240 jobs and $903.8 million of economic activity, or output, and the total impacts amount to 9,140 jobs and $1,489.3 million in economic activity (RDN, 2020). Approximately 69.6 percent of these impacts occurred within Atlantic County, where these activities generated a total of 6,440 jobs and $1,036.3 million in economic activity.

The WJHTC has a workforce of approximately 4,500 professionals (FAA, 2023). The economy of Atlantic County, New Jersey employs approximately 125,000 people (USCB, 2023b). The largest industries are Health Care & Social Assistance (18,718 people), Accommodation & Food Services (16,468 people), and Retail Trade (14,934 people), and the highest paying industries are Utilities (average salary of $98,386), Professional, Scientific, & Technical Services (average salary of $65,296), and Management of Companies & Enterprises (average salary of $62,656). The economy is substantially influenced by the presence of hotels, casinos, and recreational areas along the Atlantic County coast.

The 2022 annual unemployment rate was approximately five percent in Egg Harbor Township, 5.1 percent in Atlantic County, and 3.7 percent for all of New Jersey (USCB, 2023b). The median household income was approximately $86.8 thousand in Egg Harbor Township, $66.5 thousand in Atlantic County, and $89.7 thousand for all of New Jersey. The percentage of persons in poverty was 9.5 percent in Egg Harbor Township, 15.1 percent in Atlantic County, and 10.2 percent for all of New Jersey. The United States Department of Health and Human Services set the 2022 federal poverty level at $13,590 for a single person in the United States (HHS, 2022).

3.9.1.3 Demographics

In 2020, in Egg Harbor Township, White (Non-Hispanic) residents (approximately 28,000 people) were the majority ethnicity, followed by approximately 8,000 Hispanic or Latino residents and approximately 3,500 Black or African American (Non-Hispanic) residents (USCB, 2023b). Similar demographics conditions were present in 2020 in Atlantic County, where there were approximately 151,000 White (Non-Hispanic) residents (USCB, 2023b), approximately 55,000 Hispanic or Latino residents, and approximately 47,000 Black or African American (Non-Hispanic) residents.

These data indicate that the total percentage of minority residents was approximately 44 percent in Egg Harbor Township, 49 percent in Atlantic County, and 51 percent statewide. (Note that based on U.S. Census-reported data, the sum of percentages of race may not total 100 percent.)

These data suggest that socioeconomic conditions are generally similar among Egg Harbor Township, Atlantic County, and statewide, with generally higher incomes and lower poverty levels in Egg Harbor Township compared with Atlantic County. A summary of these USCB data is presented in Table 2.

Table 2. USCB Socioeconomic Data

Topic	New Jersey	Atlantic County	Egg Harbor Township
Population Estimates, July 1, 2022, (V2022)	9,261,699	275,638	47,946
Median household income (in 2021 dollars), 2017-2021	$89,703	$66,473	$86,832
Total employment, percent change, 2020-2021	-6.5%	-11.8%	Not available
Per capita income in past 12 months (in 2021 dollars), 2017-2021	$46,691	$36,143	$36,829
Persons under 18 years	21.5%	20.7%	24.9%
Persons in poverty	10.2%	15.1%	9.5%
In civilian labor force, total, percent of population age 16 years+, 2017-2021	65.8%	63.4%	69.7%
Unemployment rate (2022)	3.7%	5.1%	5%
Black or African American alone	15.40%	17.20%	7.50%
American Indian and Alaska Native alone	0.70%	0.70%	0.40%
Asian alone	10.50%	8.10%	12.40%
Native Hawaiian and Other Pacific Islander alone	0.10%	0.10%	0.00%
Two or More Races	2.40%	2.90%	6.70%
Hispanic or Latino	21.90%	20.30%	16.70%
White alone, not Hispanic or Latino	52.90%	55.10%	59.00%

This resource area is further evaluated in Section 4.6.

3.9.2 Environmental Justice and Protection of Children

3.9.2.1 Environmental Justice

Environmental justice, or EJ, is based on the principle that all people have a right to be protected from environmental pollution, and to live in and enjoy a clean and healthful environment. This means equal protection and meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies and the equitable distribution of environmental benefits. EJ considerations assess fair treatment and review of potential disproportionately adverse and high share of negative environmental effects. Fair treatment also includes meaningful involvement and opportunities for communities to participate in the federal decision-making process.

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was enacted in 1994 to focus federal agencies' attention on the environmental and human health conditions in minority and low-income communities with the goal of achieving environmental protection for all. Under this EO, federal agencies must identify and address disproportionately high and adverse impacts of their actions on minority and low-income populations. EO 14096, *Revitalizing Our Nation's Commitment to Environmental Justice for All*, signed in April 2023, employs a whole-of-government approach by further integrating EJ considerations into all aspects of federal agency planning, as well as calling on federal agencies to advance the analysis of cumulative impacts that affect EJ communities. Consideration of EJ concerns include race, ethnicity, and the poverty status of populations in the vicinity of a proposed action. Significant impacts would occur should these EJ communities be disproportionately impacted.

S&T used the USEPA EJ data (i.e., EJScreen) to identify the USEPA Demographic Index (USEPA, 2023c), which is a combination of percent low-income and percent minority, the two demographic factors that were explicitly named in EO 12898. (Note that USEPA EJScreen defines low-income as the percent of individuals whose ratio of household income to poverty level in the past 12 months was less than two [as a fraction of individuals for whom ratio was determined]). S&T also used the Climate and Economic Justice Screening Tool (CEJST) which shows information about the burdens that communities experience. It uses datasets to identify indicators of burdens. The tool shows these burdens in census tracts. A community is considered to be disadvantaged if they are located within a census tract that meets the tool's methodology or are on land within the boundaries of Federally Recognized Tribes.

Based on the USEPA EJScreen for Egg Harbor Township, 21 percent of the population is low income and 40 percent of the population identify as people of color (Table 3) (USEPA, 2023c). The EJScreen Demographic Index for Egg Harbor Township is 31 percent. Based on the USEPA EJScreen for Atlantic County, 30 percent of the population is low income and 44 percent of the population identify as people of color. The EJScreen Demographic Index for Atlantic County is 37 percent. The EJScreen Demographic Index for Egg Harbor Township and Atlantic County are similar to the state average of 33 percent and the national average of 35 percent (USEPA, 2023c).

A review of CEJST defines this tract as a "disadvantaged population" based on income, education level, proximity to superfund and FUDS sites, and high energy costs. This tract is considered disadvantaged because it meets more than one burden threshold and the associated socioeconomic threshold. Based on the EJScreen Demographic Index data, Egg Harbor Township and Atlantic

County are not considered an EJ community of concern. Therefore, there would be no potential for disproportionate adverse impacts to these communities. Therefore, the Proposed Action would have no impact on environmental justice conditions and this resource is not further analyzed in this EA.

Table 3. USEPA EJScreen Data

USEPA EJScreen Factors	New Jersey	Atlantic County	Egg Harbor Township
Low Income	22%	30%	21%
People of color	45%	44%	40%
EJScreen Demographic Index	33%	37%	31%

3.9.2.2 Protection of Children

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (April 21, 1997; as amended by EO 13296), directs federal agencies, to the extent permitted by law and appropriate, to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children and to ensure that policies, programs, activities, and standards address disproportionate risks to children that result from environmental health or safety risks. Children (youths) are defined as populations 16 years of age or younger.

Significant impacts would occur if products or substances through contact, ingestion, exposure, use or other methods could disproportionately affect children's health and safety.

The DSTAR Project Study Area within TSL is surrounded by an access control fence and staffed access gates. As a result, only authorized personnel can enter this area, prohibiting and preventing access to children or trespassers. Children would not have access to the DSTAR Project Study Area, therefore, this topic is not further analyzed in this EA.

3.10 PUBLIC HEALTH AND SAFETY

The Area of Impact (AOI) for human health and safety includes areas in which DSTAR Project construction and operational activities would occur.

Public health and safety includes occupational hazards to workers as well as the exposure of the general public to conditions that would cause injury or health hazards. Potential hazards include toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions. The Occupational Safety and Health Act (OSHA) (29 USC § 651 et seq.) ensures worker and workplace safety and created the NIOSH to establish and enforce standards for workplace health and safety. In addition, other federal, state, and local regulations further protect people and the environment from hazards.

Significant impacts would occur if activities were to put the health and safety of workers or the public at risk or violate applicable federal and/or state safety regulations, neither of which are expected to occur as all construction and operation activities would be required to follow all OSHA, USACE, and DHS safety standards.

Existing IT&E activities within TSL facilities are performed by qualified and trained staff and may involve X-ray technology, lasers, or explosives. These activities are performed in designated laboratory facilities with controlled access and DHS-required safety controls. As a result, the existing conditions within the DSTAR Project Study Area do not present health and safety concerns to workers or the general public.

The DSTAR Project Study Area is surrounded by an access control fence and staffed access gates. As a result, only authorized personnel can enter the DSTAR Project Study Area and the existing or proposed laboratory facilities within. Therefore, these access controls eliminate public health and safety concerns. Therefore, the Proposed Action would have no impact on this element of public health and safety and this topic is not further analyzed in this EA.

3.11 INFRASTRUCTURE

Infrastructure refers to the buildings, utilities, and transportation assets within and serving the DSTAR Project Study Area.

As part of the TSL at WJHTC, the DSTAR Project Study Area has existing utilities for natural gas, electric service, potable water, wastewater collection, stormwater, and communications (FAA, 2016). The utility infrastructure at the DSTAR Project Study Area is managed by WJHTC.

As previously described in Section 3.7.3, WJHTC provides potable water from three wells screened in the lower Cohansey aquifer. Potable water utility lines run underground throughout the WJHTC from these three wells. Atlantic City Energy provides electrical service to the WJHTC through a transmission line adjacent to Wescoat Road (FAA, 2022). The WJHTC maintains electrical distribution equipment and associated rights-of-ways throughout the facility.

South Jersey Gas provides natural gas services to WJHTC. The closest gas transmission main is a 10-inch diameter pipe that runs along Delilah Road (FAA, 2016). From this main, gas is run throughout the WJHTC in underground pipes.

Wastewater is collected by a distribution system consisting of underground pipes that direct the wastewater to a pumping station at WJHTC. The wastewater is pumped from the pumping station to the Atlantic City Municipal Utilities Authority for treatment.

The Proposed Action is anticipated to have a utility demand rate similar to existing conditions. There is no information indicating that utility suppliers have been unable to meet the current demand. Therefore, the utility suppliers are anticipated to meet the demand of the DSTAR Project without impacting the service delivery quality elsewhere at WJHTC facilities or in the surrounding community. Therefore, this topic is not further analyzed in this EA.

3.12 HAZARDOUS AND TOXIC MATERIALS AND WASTE

This section describes hazardous and toxic materials and waste sites within or near the DSTAR Project Study Area.

An Environmental Baseline Survey (EBS) conducted at TSL in 2014 found no recognized environmental concerns (REC) as defined by the American Society for Testing and Materials (ASTM) E 1527-13 associated with the TSL (DHS S&T, 2014). A REC, under ASTM E 1527-13, means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment; 2) under conditions indicative of a release to the environment; or 3) under conditions that pose a material threat of a future release to the environment. Additionally, the EBS revealed no evidence of contamination or liability as defined by the Civilian Federal Agency Task Force Guide on Evaluating Environmental Liability for Property Transfers (1998).

The WJHTC has 29 Areas of Concern (AOC) where contamination from hazardous waste disposal has been identified (FAA, 2016). Under CERCLA regulations the Center was placed on the National Priorities List on October 1, 1990. On May 17, 1993 a Federal Facility Agreement (FFA) was signed with the USEPA that established stringent compliance schedules for accomplishing cleanup of all contaminated sites. There are no environmentally impacted areas referred to as "areas of concern" identified in the DSTAR Project Study Area. In addition, the EBS concluded that the impact of this contamination on environmental conditions at TSL was unlikely (DHS S&T, 2014).

The existing TSL includes hardened laboratories and two multipurpose warehouse facilities as well as three acres of explosive storage bunkers and necessary roadways and security perimeter fencing.

The Proposed Action would allow TSL to synthesize small quantities of traditional and non-traditional explosives and remote preparation of up to 2 kilograms of explosives. Research would be conducted in specially designed facilities and waste management practices would continue to comply with existing TSL practices. As a result, the volume of waste generated from research activities would be negligible, and all waste would be stored and managed according to federal, state and S&T requirements. As a result, the potential for releases of hazardous and toxic materials and wastes to the environmental is negligible. Therefore, the Proposed Action would have no impact on hazardous and toxic materials and waste and this topic is not further analyzed in this EA.

4.0 ENVIRONMENTAL IMPACTS

This chapter identifies and evaluates the anticipated environmental impacts associated with implementing the Proposed Action and the No Action alternative in accordance with 40 CFR 1501.3 and DHS NEPA implementing procedures.

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

- **Short-term or long-term**. In general, short-term impacts are those that would occur only for a limited, finite time with respect to a particular activity and only during the time required for the action. Long-term impacts are those that are more likely to be persistent and chronic.
- **Less-than-significant (negligible, minor, moderate), or significant.** These relative terms are used to characterize the magnitude or intensity of an impact. Negligible impacts are generally those that might be perceptible but are at the lower level of detection. A minor impact is slight, but detectable. A moderate impact is readily apparent. Significant impacts are those that, considering their context and intensity, warrant preparation of an Environmental Impact Statement.
- **Direct and Indirect**. Direct impacts are caused by an action and occur at the same time and place (40 CFR Part 1508.1(g)(1)). Indirect impacts are also caused by an action, but are later in time or farther in distance from the action (40 CFR Part 1508.1(g)(2)).
- **Adverse or beneficial**. An adverse impact is one having unfavorable or undesirable outcomes on the human-made or natural environment. A beneficial impact is one having positive outcomes on the human-made or natural environment.

The Proposed Action has no mechanism to impact several of the environmental resources as discussed in Chapter 3.0; therefore, further impact analysis for these resources is not warranted. These environmental resources are summarized below.

Land Use - The Proposed Action activities are consistent with existing land use designations and would continue to use lands at the WJHTC for government functions. The Proposed Action would not prevent the use of private or public lands nor induce short- or long-term changes in land use in the surrounding community. Therefore, the Proposed Action would have no impact on land use and this resource is dismissed from further analysis.

Geology, Topography, and Soils - The Proposed Action would not alter or damage unique or recognized geologic features, adversely affect geologic conditions or processes, or expose people or property to geologic hazards that could result in injury or loss of property use. The Proposed Action would require negligible ground disturbing activities including grading and excavation for building foundations and utility corridors. These activities would not impact soil quality or the overall topography of the DSTAR Project Study Area. Therefore, the Proposed Action would have negligible to no impact on geology, topography, or soils and these resources are dismissed from further analysis.

Cultural Resources - A Cultural Resources Survey was conducted for the entire WJHTC in 1994 (Hunter Research, 1994) and it was concluded that there is no evidence of historic or archaeological resources occurring in the vicinity of the proposed DSTAR Project Study Area. Therefore, the Proposed Action has no mechanism to impact the integrity of any historic property nor diminish it in such that it would no longer be eligible for listing in the NRHP. Historic viewsheds would not be altered nor any tribal concerns inadequately resolved. Pursuant to Section 106 of the NHPA, the Proposed Action would have no effect on historic properties. Therefore, the Proposed Action would have no impact on cultural resources and this resource is dismissed from further analysis. S&T received concurrence from the NJ SHPO of its no effect determination on December 14, 2023.

On December 13, 2023, S&T received correspondence from the Delaware Nation requesting additional information regarding the Proposed Action. S&T responded to the request for information on January 5, 2024, and received concurrence on January 24, 2024. All communication between S&T and the Delaware Nation can be found in Appendix C.

Water Resources: wetlands, floodplains, surface water, wild and scenic rivers, and coastal resources - The DSTAR Project Study Area is outside of the 100- and 500-year floodplains and would have no mechanism to induce flooding elsewhere at WJHTC or in the surrounding communities. The DSTAR Project Study Area does not contain wetlands and is outside of NJDEP's 150-foot wetland buffer, does not contain any surface waters, and is outside of the CAFRA and CZMA boundary. There are no National Wild and Scenic Rivers in the area of the proposed project or the WJHTC. Therefore, the Proposed Action would have no impact on the listed water resources and are therefore dismissed from further analysis.

Environmental Justice and Protection of Children - The Proposed Action would not have a potential disproportionate impact on EJ communities caused by the presence and accumulation of other environmental impacts within Egg Harbor Township or Atlantic County. Impacts would be negligible to none and would not exceed those of the general population; and impacts would not occur in EJ communities impacted by cumulative or multiple adverse exposures. Additionally, the Proposed Action would continue to maintain fencing and gates to control access to TSL, prohibiting access by unauthorized adults or children. Therefore, the Proposed Action would have no mechanism for impact on EJ communities or protection of children and these resources are dismissed from further analysis.

Public Health and Safety - The Proposed Action activities would not put the health and safety of the public at risk or violate applicable federal and/or state safety regulations. Controlled access to the DSTAR Project and TSL facilities would remain. Therefore, the Proposed Action would have no impact on public health and safety and this resource is dismissed from further analysis.

Infrastructure - The Proposed Action would extend existing utilities (natural gas, electric service, potable water, wastewater collection, stormwater, and communications) to the DSTAR Center and FEMR. The Proposed Action is anticipated to have a utility demand rate similar to existing conditions. There is no information indicating that utility suppliers have been unable to meet the current demand. Therefore, the utility suppliers are anticipated to meet the demand of the DSTAR Project without impacting the service delivery quality elsewhere at WJHTC facilities or in the surrounding community. Therefore, this resource is dismissed from further analysis.

Hazardous and Toxic Materials and Waste - The Proposed Action is both a continuation of existing operational activities and an expansion of research laboratories to test and evaluate materials and detection capabilities. The Proposed Action would allow TSL to synthesize small quantities of traditional and non-traditional explosives and remote preparation of up to 2 kilograms of explosives. Research would be conducted in specially designed facilities and waste management practices would continue to comply with existing TSL practices. As a result, the volume of waste generated from research activities would be negligible, and all waste would be stored and managed according to federal, state and S&T requirements. As a result, the potential for releases of hazardous and toxic materials and wastes to the environmental is negligible and this resource is dismissed from further analysis.

The six environmental resources for which impacts are analyzed in the following sections are: Visual Aesthetics; Air Quality and Climate Change; Noise; Water Resources associated with groundwater and stormwater; Biological Resources; and Socioeconomics.

4.1 VISUAL AESTHETICS

4.1.1 Threshold of Significance

Significant visual or aesthetic impacts would occur if: long-term alteration of the viewshed required mitigation; negative alterations to the viewshed of a historical resource would be expected; and/or it was not compliant with the overall viewshed of adjacent areas.

4.1.2 Proposed Action and Impacts

4.1.2.1 Construction

The DSTAR Project Study Area is located within the highly developed TSL area. The construction area would be visible only to staff within the TSL, and there would be limited visibility of the construction area due to the alignment of the TSL. The construction area would not be visible to the public due to dense wooded areas separating the DSTAR Project Study Area from public areas outside of the WJHTC.

To further limit the view of active construction areas within TSL, the construction contractor would install temporary fencing. The fencing would also establish a safe construction zone work area and minimize visibility of the demolition of selected buildings and infrastructure, as well as the vertical construction of the DSTAR Center and FEMR, parking areas, and supporting infrastructure. The construction contractor would also designate an area within the fenced boundary where construction equipment and materials would be temporarily staged.

To prevent the release of fugitive dust into the air, the construction contractor would also implement dust suppression methods when performing land-disturbing activities, such as land clearing, site grading, and excavating. Available methods include application of water, dust palliative, or soil stabilizers; use of enclosures, covers, silt fences, or wheel washers; and suspension of dust-generating activities during sustained high wind conditions (10-40 miles per hour [mph] with gusts at or above 50 mph). Additionally, the contractor would install and maintain gravel pads at the construction site exit to prevent tracking loose soil onto roadways within and beyond TSL.

Based on the final design for the Proposed Action, the construction contractor may also plant native, non-invasive, drought-resistant vegetation where required. This vegetation would enhance the final appearance of the completed construction site and help to stabilize soils and minimize dust generation.

Therefore, construction of the Proposed Action is anticipated to have a direct, short-term, less-than-significant adverse impact on visual aesthetics at TSL. This impact would end once the construction phase is complete.

4.1.2.2 Operation

Operation of the Proposed Project would have a direct, long-term, negligible adverse impact on visual aesthetics. These impacts would be due to the permanent conversion of up to approximately 6 acres of wooded areas with built infrastructure, including the DSTAR Center and FEMR buildings, parking areas, roadways, and supporting infrastructure.

The design of the DSTAR Center and FEMR would be consistent with S&T requirements for laboratory facilities, and the maintenance of the façade and landscaping of grounds around each facility would be incorporated into the existing TSL maintenance schedule.

Views of the DSTAR Center and FEMR would be primarily limited to authorized personnel working at TSL. Limited external views into TSL from Lindbergh Drive in the summer months extend approximately 50 feet but would be obscured by dense vegetation from passersby on Wescoat Road. During the winter months, when the deciduous plants have dropped their leaves, the views into TSL extend to over 200 feet. With the exception of security lighting, there are no light emissions associated with the operation of the Proposed Action. As a result, there would be no public views into TSL of the DSTAR Center or FEMR.

4.1.3 Mitigation Measures

To limit adverse impacts on the viewscape, the clearing of vegetation would be minimized and limited to only those trees and shrubs that require clearing for the construction of the new facilities and to comply with security requirements. In addition, replanting of trees and shrubs would be conducted during the construction phase prior to operation of the proposed facilities in accordance with the Township of Egg Harbor's *Design Performance and Improvement Standards* (§ 94-22.11(e)).

4.1.4 No Action

This alternative would maintain the existing visual conditions of the DSTAR Project Study Area. Vegetation clearing would not occur. Regular maintenance activities would continue. Therefore, the No Action Alternative would have no mechanism to impact visual aesthetics.

4.2 AIR QUALITY AND CLIMATE CHANGE

4.2.1 Threshold of Significance

Significant impacts would occur if there was a change in the attainment status with respect to the NAAQS, or if emissions exceeded regulatory thresholds.

4.2.2 Proposed Action and Impacts

To evaluate emissions associated with the Proposed Action, this EA estimates levels of potential NOx, VOC, SO_2, CO, PM_{10}, and $PM_{2.5}$ air emissions from construction and operation of the Proposed Action. Detailed emissions inputs and calculations are presented in Appendix C.

4.2.2.1 Construction

The Proposed Action would result in direct, short-term, minor adverse impacts to air quality, primarily from: 1) combustion emissions due to the use of fossil fuel-powered equipment and vehicles; and 2) particulate emissions during earth-moving and demolition activities. The overall construction phasing is anticipated to occur from 2026 through 2028. The potential emissions from construction activities are described in the following subsections.

Fugitive Dust: The Proposed Action would temporarily expose soil that was previously vegetated or covered with physical structures within the LOD. Fugitive dust could also be generated during demolition of B315A. Construction activities often generate fugitive dust when vegetative cover or pavement is removed and the underlying soils are exposed and subjected to mechanical or natural disturbance. The amount of fugitive dust, also referred to as total suspended particles, can be estimated from the area of ground surface exposed, the type and intensity of activity, soil type and conditions, wind speed, and dust control measures used.

Off-Road Construction Equipment: The DSTAR Project would require off-road construction equipment, such as excavators, graders, lifts, loaders, skidsteers, pavers, and rollers, all which emit criteria pollutants because they use diesel-fueled internal combustion engines. Construction equipment would be used for different durations and not continuously throughout the construction period.

On-Road Heavy-Duty Construction/Haul Trucks: Construction of the Proposed Action would utilize diesel-fueled on-road heavy-duty vehicles, such as semi-trucks with multi-axle trailers, which can transport demolition debris off-site and deliver building materials and supplies to the DSTAR Project Study Area. The emissions estimates for on-road heavy-duty vehicles assume that most haul trucks delivering materials or hauling debris would have a 20- to 40-mile round trip to and from the DSTAR Project Study Area.

Construction Workers' Vehicle Emissions: Emissions would be generated from gasoline-fueled passenger vehicles that construction workers would use to travel to and from the DSTAR Project Study Area. Due to the specialized nature of the DSTAR Project construction, it is assumed that most construction workers would be from outside of Atlantic County and temporarily reside in local area lodging during the construction phase. The emissions estimates for construction workers' vehicles assume that workers would have a 20-mile round trip to and from local area lodging and the DSTAR Project Study Area.

Total combined direct and indirect emissions associated with construction of the Proposed Action were estimated on a calendar-year basis (Table 4). Based on these estimates, none of the estimated emissions associated with constructing the Proposed Action are above the conformity threshold values established at 40 CFR Part 93.153(b). Therefore, the requirements of the General Conformity Rule are not applicable.

For informative purposes, the emissions of carbon dioxide equivalent (CO_2e) were estimated for the construction period. CO_2e means the number of metric tons of CO_2 emissions with the same global warming potential as one metric ton of another GHG and is calculated using Equation A-1 in 40 CFR Part 98 (USEPA, 2023d). No significance threshold for CO_2e and GHG emissions and climate change has been established. As previously noted in Section 3.1, the change in climate conditions is a global effect, and the Proposed Action is unlikely to have a measurable effect on climate change. The following table provides estimated construction emissions for seven pollutants in tons per year (TPY) for all planned construction years.

Table 4. Estimated Pollutant Emissions from Construction of the Proposed Action

Year	VOC	NO_2	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2e
2026 (TPY)	0.234	1.355	2.005	0.004	0.046	0.046	428.5
2027 (TPY)	0.507	2.909	4.156	0.010	5.004	0.101	990.8
2028 (TPY)	0.571	0.388	0.451	0.002	0.024	0.024	264.3
2029 (TPY)	0.010	0.177	0.148	0.001	0.013	0.013	212.6

The general conformity threshold for VOC and NO_2 is 50 and 100 TPY respectively. Neither would exceed the threshold limit. In addition, the Philadelphia-Wilmington-Atlantic City regulatory area is in attainment for these criteria pollutants (USEPA, 2023b).

4.2.2.2 Operation

Operation of the DSTAR Center would generate emissions from natural-gas fueled heating, ventilation and air conditioning units used to heat and cool approximately 45,000 sq. ft. of new interior space. Operation would not change the current number of passenger vehicles traveling to and from TSL; therefore, passenger car emissions are not included in this estimate.

Operation of the DSTAR and FEMR facilities would generate similar emissions with the same impacts as current operations at TSL and be subject to permitting requirements as required under the CAA, which is enforced by the NJDEP. TSL currently has a NJDEP State General Permit GEN220000 for two boilers less than 5 million British Thermal Units (BTU)/hour e.g., 1.99 Million British Thermal Units (MMBTU)/hour and a NJDEP State General Permit GP-005B for an 85-kilowatt diesel emergency generator. Permits are issued by NJDEP under Chapter 106, P.L. 1967 N.J.S.A.26:2C-9.2. Additional NJDEP permitting would be required and applied for if additional boilers and emergency generators subject to NJDEP general permitting requirements were required for the DSTAR Project.

Additionally, proper maintenance of laboratory fume hoods would be performed to ensure that the potential discharge of chemicals does not occur.

The emissions that would be generated on an annual basis during each year of operation are presented in Table 5. Similar to the construction emissions, none of the estimated emissions

associated with operation of the Proposed Action are above the conformity threshold values established at 40 CFR Part 93.153(b). Therefore, the requirements of the General Conformity Rule are not applicable.

As a result, operation of the Proposed Action would result in direct, long-term, negligible adverse impacts to air quality.

Table 5. Estimated Annual Pollutant Emissions from Operating the Proposed Action

Year	VOC	NO_2	CO	SO_2	PM_{10}	$PM_{2.5}$	CO_2e
2029 onward (TPY)	0.010	0.177	0.148	0.001	0.013	0.013	212.6

The general conformity threshold for VOC and NO_2 is 50 and 100 tons per year respectively. Neither would exceed the threshold limit. In addition, the Philadelphia-Wilmington-Atlantic City regulatory area is in attainment for these criteria pollutants (USEPA, 2023b).

4.2.3 Mitigation Measures

To mitigate the generation of emissions from construction equipment, the construction contractor would limit engine idling to no more than three minutes to the extent practicable. Construction vehicles would also utilize Tier 4-compliant engines, to the extent practicable, to reduce emissions of particulate matter and nitrogen oxides to help meet emission standards established by USEPA. To mitigate the emissions of particulate matter, the construction contractor would also implement BMPs including dust suppression, such as application of water mist or other dust palliatives to the structure being demolished and to exposed soils; use of enclosures and covers over highly friable materials being demolished; covering haul trucks with tarps; and postponing dust-generating activities during sustained high wind conditions (10-40 mph with gusts at or above 50 mph). Haul trucks would be covered with a tarp when transporting material to or from the DSTAR Project Study Area.

During operation, TSL would perform regular maintenance of laboratory fume hoods to ensure they function according to design specifications.

4.2.4 No Action

Under the No-Action Alternative, the Proposed Action would not be implemented, and existing air quality conditions would remain unchanged.

4.3 NOISE

4.3.1 Threshold of Significance

Significant impacts would occur if generated noise was permanently intrusive to nearby sensitive receptors, if it exceeded applicable noise limit thresholds, or if it caused harm or injury to people or communities. The AOI is defined as within 0.25 miles of the DSTAR Project Study Area.

4.3.2 Proposed Action and Impacts

4.3.2.1 Construction

There are no sensitive receptors within the AOI. As a result, construction activities that generate noise, such as the use of heavy machinery, would only be audible to authorized personnel present in nearby facilities within or adjacent to TSL.

Construction noise levels would vary depending on the type of equipment being used at the time. The list below summarizes the predicted noise levels (at a distance of 50 feet from the noise-generating source) for common construction equipment (FTA, 2018).

- Welding generator 71–82 dBA
- Backhoe 72–93 dBA
- Roller 73–75 dBA
- Concrete mixer 74–88 dBA
- Crane 75–87 dBA
- Grader/Dozer 80–93 dBA
- Jackhammer 81–98 dBA
- Truck 83–94 dBA
- Paver 86–88 dBA

Construction of the Proposed Action activities would generate noise from equipment used during building demolition, site grading, and vertical construction. Typical construction equipment involved in the Proposed Action may include excavators, cranes, backhoe-loaders, welders, aerial lifts, graders, pavers/paving equipment, rollers, haul trucks, and concrete mixing trucks. Intermittent loud noises, likely generated from machinery involved in installing building foundations and demolition, would be isolated to the area where that specific activity is occurring and anticipated to range from approximately 90 to 100 dBA.

The sound levels experienced by human receptors would vary depending on distance from the noise source. Sound levels decrease approximately 6 dBA with every doubling of distance. Therefore, the predicted sound levels that a receptor might experience would vary depending on their distance from the construction site, as shown below (assuming construction activity generates noise at 90-100 dBA). These predicted sound levels are for outdoor environments and assume there are no obstructions between the noise source and the receptor. The predicted sound levels would be expected to be at least 15-25 decibels lower than the outdoor levels at the same distance.

Distance from Noise Source (feet) Predicted Noise Level (dBA)

- 50 ft 90 to 94 dBA
- 100 ft 84 to 88 dBA
- 150 ft 81 to 85 dBA
- 200 ft 78 to 82 dBA
- 400 ft 72 to 76 dBA
- 800 ft 66 to 70 dBA
- 1,500 ft Less than 64 dBA

The distance between the Proposed Action construction site and other occupied buildings and parking areas at TSL would range from approximately 5 to 200 feet. For personnel who are temporarily outdoors and near the construction activities, noises from active construction would be audible but temporary. The sound levels from construction activities would be minimally audible to personnel working inside a TSL facility due to the presence of interior building walls.

Construction workers who are in close proximity to construction equipment may be exposed to noise levels above 90 dBA, which is the permissible exposure level defined by OSHA. The construction contractor would provide hearing protection to all workers who may be exposed to these noise levels.

Construction activities would take place during daylight hours and during weekdays, unless there are specific activities that needed to be completed outside of this schedule to avoid impacting on-going TSL functions. Should such activity be necessary, the construction contractor would notify TSL in advance of the work taking place.

Additional measures to mitigate noise impacts implemented by the construction contractor would include:

- Using shields or other physical barriers to restrict noise transmission where high noise levels are generated for an extended period of time;
- Providing soundproof housings or enclosures for noise producing machinery;
- Using efficient intake and exhaust mufflers on internal combustion engines that are maintained so equipment performs below noise levels specified;
- Conducting truck loading, unloading, and hauling operations so that noise is kept to a minimum;
- Selecting material transportation routes as far away from sensitive receptors as possible; and,
- Shutting down noise-generating heavy equipment when it is not needed (do not allow equipment to idle for more than three minutes).

Therefore, construction noises from the Proposed Action would have a direct, short-term, less-than-significant adverse impact to personnel at TSL and no impact on the surrounding community outside of the WJHTC.

4.3.2.2 Operation

The Proposed Action would generate negligible noises from operating the DSTAR Center and FEMR. The types of noises and noise levels generated from these elements would be similar to those currently generated at TSL. The proposed FEMR detonation chamber would be designed to reduce loud noises from being audible outside of the chamber. The noisescape at TSL would continue to be influenced by aircraft flights.

Therefore, operation of the Proposed Action would have a direct, long-term, negligible adverse impact on personnel at TSL and no impact on the surrounding community.

4.3.3 Mitigation Measures

The measures to mitigate noise impacts on TSL personnel during construction would include:

- Using shields or other physical barriers to restrict noise transmission where high noise levels are generated for an extended period of time;
- Providing soundproof housings or enclosures for noise producing machinery;
- Using efficient intake and exhaust mufflers on internal combustion engines that are maintained so equipment performs below noise levels specified;

- Conducting truck loading, unloading, and hauling operations so that noise is kept to a minimum;
- Selecting material transportation routes as far away from sensitive receptors as possible; and
- Shutting down noise-generating heavy equipment when it is not needed (do not allow equipment to idle for more than three minutes).

4.3.4 No Action

Under the No Action Alternative, the Proposed Action would not be implemented. Existing noise conditions at the DSTAR Project Study Area would not change, resulting in no direct or indirect impacts.

4.4 WATER RESOURCES

4.4.1 Threshold of Significance

Significant impacts would occur if proposed activities resulted in an exceedance of established water quality thresholds, impeded navigability of surface waters, substantially increased the amount of stormwater entering surface waters, did not comply with wetland protection regulations and permits, substantially affected groundwater quantity or quality, induced flooding in occupied areas, or were inconsistent with applicable enforceable coastal zone policies.

However, as previously described, the DSTAR Project Study Area does not contain water resources such as wetlands; 100- and 500-year flood zones; CZMA and CAFRA resources; and surface water bodies. Accordingly, this section focuses only on potential impact of stormwater run-off on the water quality of nearby surface waters and potential impacts to groundwater quality associated with increasing impervious surface area at the DSTAR Project Study Area.

4.4.2 Proposed Action and Impacts

4.4.2.1 Construction

Construction of the Proposed Action would involve removal of existing vegetation within the LOD, which may result in increases in stormwater run-off volumes and sedimentation of run-off leaving the construction area. Sediment-laden run-off that reaches a surface water body could increase turbidity, reduce aquatic habitat, and decrease dissolved oxygen content in the receiving surface waters.

Because the Proposed Action would disturb greater than 1 acre or more of land during construction, the A/E-of-Record would apply for, obtain, and implement the terms of the NJDEP National Pollutant Discharge Elimination System (NPDES) Construction General Permit, including BMPs specified in a Stormwater Pollution Prevention Plan to minimize stormwater volume and velocity, soil erosion, and sedimentation of stormwater run-off from the construction areas within the DSTAR Project Study Area. These BMPs may include one or more of the following measures:

- Install and maintain sedimentation and erosion control measures, including silt fences and water breaks, detention basins, filter fences, sediment berms, interceptor ditches, synthetic hay bales, rip-rap, and/or similar physical control structures;
- Retain on-site vegetation to the maximum extent possible;
- Revegetate disturbed areas with native, non-invasive vegetation as soon as construction is completed; and

- Create a construction zone exit stabilized with stone to clean truck tires and equipment before leaving the work site.

Additionally, the construction contractor would implement spill and leak prevention and response procedures, including maintaining a complete spill kit at the site, to reduce the impacts of incidental releases of construction vehicle fluids (such as diesel or hydraulic fluids) to the environment. The construction contractors would report releases of regulated quantities of petroleum-based fluids to TSL and WJHTC and be responsible for cleanup.

Therefore, with these BMPs in place, stormwater run-off associated with construction of the Proposed Action would have a direct, short-term, negligible adverse impact on surface water quality.

4.4.2.2 Operation

Minimization of volumes and rates of stormwater generated during operation of the Proposed Action would be achieved by designing and implementing measures to comply, to the maximum extent technically feasible, with EISA Section 438, which is required for federal projects having a construction footprint greater than 5,000 sq. ft. Compliance with EISA Section 438 would be achieved by using site planning, design, construction, and maintenance strategies to maintain or restore—to the maximum extent technically feasible—the predevelopment hydrology of the construction area with regard to the temperature, rate, volume, and duration of flow. The A/E-of-Record would produce documents showing how site planning, design, construction, and maintenance strategies would meet this requirement. Additionally, the design and operation of stormwater management systems would be consistent with the Pinelands Commission Comprehensive Management Plan for a major development (surface disturbance of greater than 5,000 sq. ft.) and which incorporates NJDEP's March 2021 requirements to use green infrastructure for stormwater control (NJPC, 2022). Additionally, is anticipated that stormwater run-off would be directed to existing stormwater sewer infrastructure present at TSL (FAA, 2016).

As a result, stormwater generated during operation of the Proposed Action is anticipated to have direct, long-term, negligible adverse impact on surface water quality.

4.4.3 Mitigation Measures

Impacts from stormwater to surface water quality would be mitigated by designing, constructing, and operating the DSTAR Project in accordance with federal- and state-required stormwater management controls.

4.4.4 No Action

Under the No Action Alternative, no changes to the current stormwater conditions would occur at the DSTAR Project Study Area. No new impervious areas would be created, stormwater run-off volumes and rates would remain unchanged, and stormwater would continue to be managed using the existing WJHTC stormwater system infrastructure. Therefore, stormwater impacts from the No Action Alternative would have no direct or indirect impact on surface water quality.

Groundwater

4.4.5 Threshold of Significance

Significant impacts would occur if proposed activities substantially affected groundwater quantity or quality.

4.4.6 Proposed Action and Impacts

4.4.6.1 Construction

The need for significant groundwater control is not anticipated for general site preparation and foundation construction activities because the depth to groundwater at the DSTAR Project Study Area is anticipated to be at least 15 feet bgs (USGS, 2023), which is generally below the depth of building footings and foundations.

However, perched groundwater is often encountered at the existing fill/natural soil interface, within existing fill, at the overburden soil interface, or within seams. Additionally, groundwater level fluctuations can occur due to seasonal variations in the amount of rainfall, run-off, and other factors that may influence localized groundwater depths.

As a result, the A/E-of-Record would consider the possibility of encountering perched groundwater and groundwater level fluctuations when developing the design for the DSTAR Project. Long-term observations in piezometers, or observation wells sealed from the influence of surface water, are often required to define groundwater levels in profiles of this type. Additionally, basement design and construction would consider the need for waterproofing, as well as a positive permanent drainage system. Further, if the DSTAR Project infrastructure have deeper basement levels that require drainage control structures and utility pipes, the A/E-of-Record would implement groundwater control measures to facilitate bearing surface preparation and backfilling operations.

Construction vehicles and equipment utilize petroleum-based fluids that, if accidentally released, could migrate through soil and into the underlying groundwater. To minimize the probability of a release, equipment would be maintained in good working order according to the manufacturer's requirements. Construction vehicles would be equipped with spill kits to remediate surficial releases of petroleum-based fluids, and contractors would be properly trained to use these kits. Should a release occur, the construction contractor would deploy the spill kit and notify TSL and WJHTC. Implementing spill response measures would help to ensure that a release of petroleum-based fluids would not cause more than a direct, short-term, negligible adverse effect on groundwater quality.

Therefore, construction of the Proposed Action would have a direct, short-term, negligible adverse impact on groundwater quality.

4.4.6.2 Operation

The Proposed Action would increase the impermeable surface areas at the DSTAR Project Study Area by constructing the DSTAR Center, FEMR, and parking areas. Up to approximately 6 acres of new impervious surfaces (including building footprints, aprons, asphalt paving) could be created under the Proposed Action. The actual impervious area that would be created would be determined during the design process.

Impervious surface area can reduce the infiltration of precipitation into the soil and reduce recharge rates of groundwater resources. However, an increase of 6 acres of impervious area at the DSTAR Project Study Area would have a negligible impact on groundwater recharge rates to the Kirkwood-Cohansey aquifer, which covers approximately 1.9 million acres (NJGS, 2009).

Operating the DSTAR Project would involve the use of chemicals and generation of aqueous waste streams. However, all chemicals and waste streams would be managed in accordance with existing operating procedures that prevent the release of materials to groundwater.

Therefore, operation of the Proposed Action would have a direct, long-term, negligible adverse impact on groundwater quality.

4.4.7 Mitigation Measures

Minimize creation of new impervious surfaces and manage aqueous waste streams according to existing TSL and WJHTC procedures and policies.

4.4.8 No Action

Under the No Action Alternative, no changes to the existing impervious area would occur at the DSTAR Project Study Area. Precipitation would continue to infiltrate into vegetated ground and/or enter the existing WJHTC infrastructure. Therefore, the No Action Alternative would have no mechanism to impact groundwater quality.

4.5 BIOLOGICAL RESOURCES

4.5.1 Threshold of Significance

Impacts to biological resources would be considered significant if the Proposed Action resulted in long-term loss, degradation, or loss of diversity within unique or high-quality plant communities; unpermitted 'take' of federally listed species; local extirpation of rare or sensitive species not currently listed under the ESA; unacceptable loss of critical habitat as determined by USFWS; or violation of the MBTA or Bald and Golden Eagle Protection Act.

4.5.2 Proposed Action and Impacts

4.5.2.1 Construction

Construction of the Proposed Action could result in the permanent conversion of up to approximately 6 acres of oak-pine habitat to developed areas within the DSTAR Project Study Area. This area of tree clearing would be minor in scale compared to the remaining area of oak-pine habitat (5,100 acres) at WJHTC and therefore would not result in a significant net loss of habitat at a landscape scale. The Proposed Action would have a direct, short- and long-term negligible, direct adverse effect on upland forested vegetation due to the conversion of upland forest to industrial land.

To support good forest management at the WJHTC, S&T will partner with the FAA on its forest management plan for the campus. S&T will also strive to incorporate and maximize tree planting as part of its landscaping for the DSTAR project.

Of the two federally listed plants, American chaffseed *(Schwalbea americana)* and Swamp pink (*Helonias bullata*), neither have been documented at WJHTC and the conditions of the DSTAR Project Study Area is not suitable for their growth or survival. The Proposed Action would have no impact on these species. The construction contractor may also plant native, non-invasive, drought-resistant vegetation where required. This vegetation would enhance the final appearance of the completed construction site and help to stabilize soils and minimize dust generation. Therefore, S&T has determined the Proposed Action would have *no effect* on the two federally listed plant species.

During clearing, wildlife species that may utilize the upland forested wooded areas on a transient basis would be expected to utilize other larger tracts of suitable habitat at WJHTC. Of the federally listed bat species, only the Northern long-eared bat (*Myotis septentrionalis*) has been detected at WJHTC. Captures of NLEB in a long-term mist net study conducted at the WJHTC and published in 2017 have shown NLEB consistently use wetlands at the facility. However, seasonal tree clearing restrictions have been implemented for other recent projects within the WJHTC, to reduce or eliminate potential impacts to NLEB (U.S. Department of Transportation and U.S. Department of Homeland Security, 2014). In addition, although Tricolored bats (TCB) have not been detected within the WJHTC, the project area may be within the range of potential summer habitat. A prohibition on clearing trees with greater than or equal to 3 inches diameter at breast height (DBH) during the period of April 1 to September 30 was proposed to and accepted by the USFWS to protect NLEB and TCB during periods when forested summer habitat may be occupied. Therefore, the Proposed Action *may affect but is not likely to adversely affect* the NLEB and TCB. Bats are predominately nocturnal and temporary noise during construction could disturb roosting bats. However, nighttime construction is not proposed as part of the Proposed Action. Although impacts on suitable habitat may occur, S&T would minimize tree clearing to the greatest extent practicable. The Proposed Action is located 1.5 miles away from a known maternity capture site and is also within the range of potential summer habitat. No known hibernacula are present within or adjacent to the Proposed LOD. Bats are often more active during the night, S&T would conduct construction predominately during daylight hours, thereby minimizing potential impacts on bats.

Potential impacts on migratory birds could include disturbance to breeding individuals, particularly if ground-disturbing or vegetation removal activities occurred during the nesting season and nests are present within, or adjacent to, the LOD areas. However, when not nesting, most birds would avoid the construction area and relocate to other more suitable habitats at WJHTC, or in the surrounding area. To further mitigate the adverse impact, DHS S&T commits to conducting vegetation removal outside the nesting season for migratory birds (i.e., outside the June through August season). Should any nesting birds be observed on or near areas where heavy machinery would be operated, all work would immediately cease, and the WJHTC Environmental and Occupational Safety and Health (EOSH) office and TSL's Environmental Manager would be contacted. No suitable bald eagle habitat has been documented at the WJHTC and therefore no impacts to this species would occur. Therefore, the Proposed Action would have a direct, short-term, less-than-significant adverse impact on migratory birds, and no impact on bald eagles.

The federal candidate monarch butterfly (*Danaus plexippus*) is not likely to be present at the DSTAR Project Study Area. Monarch buttery larvae feed exclusively on milkweed, but as adults feed on a variety of flowering herbaceous plants. The vegetation at the DSTAR Project Study Area is predominantly oak-pine and the lawn areas are mowed. Flowering herbaceous plants could be present along the periphery of the wooded areas. During construction, monarch butterflies would likely avoid the area and utilize other, more suitable habitat at WJHTC or surrounding areas for feeding and resting. Therefore, the Proposed Action would have a direct, short-term, negligible adverse impact on monarch butterflies.

The WJHTC is home to the largest known global occurrence of the Frosted Elfin butterfly (*Callophrys irus)*, which is listed as threatened by the state of New Jersey and PNR. Frosted Elfin habitat is associated with open areas and sparsely wooded areas with the larval food plant *Baptisia* present. The current mowing practices within WJHTC have created a continued habitat disturbance regime that appears to benefit the species (USFWS, 1995). The FAA has conducted surveys for Frosted Elfin habitat at the WJHTC since 2001. There is a protected area to the northeast outside the DSTAR Project Study Area. Construction activities will be in forested areas not suitable for Frosted Elfin and will not disturb Frosted Elfin habitat. Therefore, the Proposed Action would have no impact on Frosted Elfin butterflies (FAA , 2016).

Likewise, state and/or Pinelands Commission-listed wildlife species that may utilize the wooded areas on a transient basis would be expected to utilize other larger tracts of suitable habitat at WJHTC. Additionally, the seasonal restriction on vegetation clearing to mitigate impacts to migratory birds would also benefit state and Pinelands Commission listed avian species. Therefore, the Proposed Action would have a direct, short-term, negligible adverse impact on state and Pinelands Commission-listed wildlife.

Because there is other available, similar oak-pine habitat at WJHTC, it is anticipated that any native, common wildlife species that could utilize habitat at the DSTAR Project Study Area would be able to utilize habitat in other areas at WJHTC. As a result, the Proposed Action would have direct, short-term, negligible adverse impacts to common wildlife. Given the lack of suitable habitat, the Proposed Action would have *no effect* on federally listed species. Under Section 7 of the Endangered Species Act, when an agency determines a no effect, no further consultation with the USFWS is required. S&T determined a *may affect but not likely to adversely affect* determination on the NLEB and TCB. S&T received concurrence from the USFWS under Section 7 of the ESA for its may affect determination on the NLEB and TCB on January 19, 2024.

4.5.2.2 Operation

Operation of the Proposed Action would not require additional clearing of potential habitat within the DSTAR Project Study Area.

Operation of the Proposed Action would generate negligible noises from operating the DSTAR Center and FEMR. The types of noises and noise levels generated from these elements would be similar to those currently generated at TSL. The proposed FEMR detonation chamber would be designed to reduce loud noises from being audible outside of the chamber. The noisescape at TSL would continue to be influenced by aircraft flights.

Therefore, operation of the Proposed Action would have a direct, long-term, negligible adverse impact on biological resources.

4.5.3 Mitigation Measures

Mitigation or avoidance of impacts to listed, rare, and common wildlife species and their habitat would be achieved by minimizing the LOD to only the area necessary to construct and operate the DSTAR Project, and performing tree removal during periods when migratory birds, if present, are not utilizing wooded habitat for breeding and nesting. Clearing of trees with greater than or equal to 3 inches DBH will be avoided from April 1 to September 30.

Additionally, to support good forest management at the WJHTC, S&T will partner with the FAA on its forest management plan for the campus. S&T will also, strive to incorporate and maximize tree planting as part of its landscaping for the DSTAR project.

4.5.4 No Action

Under the No Action Alternative, the Proposed Action would not be implemented and no changes to the current conditions would occur at the DSTAR Project Study Area. Therefore, there would be no direct or indirect impacts to biological resources from the No Action Alternative.

4.6 SOCIOECONOMICS

4.6.1 Threshold of Significance

Significant impacts would occur if there were substantial changes to employment, population, or housing availability of nearby communities.

4.6.2 Proposed Action and Impacts

4.6.2.1 Construction

The Proposed Action would require the construction contractor to employ skilled laborers and make expenditures on building materials, construction equipment, vehicles, supplies, and support facilities (e.g., office trailers, safety equipment, erosion-control materials).

Construction workers who reside outside of Atlantic County may utilize area lodging and other amenities during the construction phase. The temporary increase in the number of workers supporting construction of the Proposed Action would not induce changes in the socioeconomic conditions of Egg Harbor Township or Atlantic County as it relates to population, housing, or income levels.

Total project expenditures on labor and non-labor materials and equipment would likely account for less than 0.5 percent of the annual gross domestic product in Atlantic County.

Therefore, the temporary increase in employment and spending on equipment, supplies, and local services would have a direct, short-term, negligible beneficial impact on local socioeconomic conditions in Egg Harbor Township and Atlantic County.

4.6.2.2 Operation

According to the 2022 Integrated Logistics Support Plan for the DSTAR Project, operating the Proposed Action could require hiring one additional engineer, one additional security guard, one additional technician for in-house maintenance activities, and likely a small addition to the janitorial staff. Operating the Proposed Action would also require expenditures on specialized equipment and supplies.

The expenditures on additional staff, equipment, and supplies would have a direct, short-term, negligible beneficial impact on local socioeconomic conditions in Egg Harbor Township and Atlantic County.

4.6.3 Mitigation Measures

Mitigation measures are not applicable to the socioeconomic resource.

4.6.4 No Action

Under the No Action Alternative, the Proposed Action would not be implemented. There would be no increase in expenditures on local or regional services and materials or employment levels. Baseline expenditures would continue for the foreseeable future. Therefore, the No Action Alternative would have no direct or indirect impacts on socioeconomics.

5.0 CUMULATIVE IMPACTS

This section analyzes the impact to the human environment which would result from the incremental impacts of the Proposed Action and No Action alternative when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such actions. These cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. The Project is located on the 5,100 acres of WJHTC property, which includes over 250 existing buildings and associated infrastructure and is classified as a "Military and Federal Installation Area" where permitted uses are those associated with the function of the installation or other public purpose uses. Although the Project would have long- and short-term impacts associated with the construction, operation, and maintenance of building two new facilities, given the location and associated mitigative measures the Project would have no significant impacts on resources discussed in Chapter 4.0. Existing facilities in operation are considered as part of the environmental baseline. Within the WJHTC property no present or reasonably foreseeable future projects were identified near the Project location that would cumulatively contribute to impacts on resources. The addition of the DSTAR Project would not significantly contribute cumulatively on resources identified in Chapter 4.0.

5.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, existing conditions at the DSTAR Project Study Area would remain unchanged for the foreseeable future. The No Action Alternative has no or negligible adverse impacts on the environmental resources analyzed in this EA. Therefore, no significant cumulative impacts, either adverse or beneficial, would occur under the No Action Alternative.

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Wilmington, DE 19850-7006

Corporate Correspondence
South Jersey Gas
One South Jersey Place
Atlantic City, NJ 08401

Corporate Correspondence
Atlantic City Municipal Utilities Authority
401 North Virginia Avenue
Atlantic City, NJ 08401

APPENDICES

Appendix A
Regulatory Correspondence

NEW JERSEY STATE HISTORIC PRESERVATION OFFICE

SECTION 106 CONSULTATION

From: Bisbee, Holly
Sent: Thursday, November 16, 2023 1:03 PM
To: NJHPO@dep.nj.gov
Cc: DSTAR_EA <DSTAR_EA@hq.dhs.gov>
Subject: DHS S&T - DSTAR Section 106 initiation

Dear Ms. Frederickson,

The U.S. Department of Homeland Security (DHS), Science and Technology Directorate (S&T), Transportation Security Laboratory (TSL) is initiating consultation with the New Jersey State Historic Preservation Office in accordance with 36 CFR Part 800.10(c) regarding its proposed construction of the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR), together with supporting infrastructure. The TSL is a DHS S&T federal laboratory located at the Federal Aviation Administration's (FAA) William J. Hughes Technical Center (WJHTC), Atlantic City International Airport in Egg Harbor Township, Atlantic County, New Jersey. The DSTAR Project will serve to fill existing capability gaps and outstanding needs at S&T's TSL.

Your prompt attention to the request is greatly appreciated. If DHS S&T has not received a response from your office within 30 business days of your receipt of this determination letter, DHS S&T will consider its responsibilities under Section 106 to have been fulfilled.

Thank you for your support of the DHS mission.

Sincerely,
Holly

Holly J. Bisbee
Program Lead – National Environmental Policy Act (NEPA)
Environment, Safety, Health, and Energy Branch
Science and Technology Directorate
U.S. Department of Homeland Security

Science and Technology

November 15, 2023

Ms. Erin Frederickson
Section 106 Review
New Jersey State Historic Preservation Office
Historic Preservation Office, Mail Code 501-04B, PO Box 420
Trenton, NJ 08625-0402

SUBJECT: Initiation of Section 106 Consultation

Notification of DHS S&T Proposed Undertaking to Construct and Operate the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR) Project at the Transportation Security Laboratory, Egg Harbor Township, Atlantic County, New Jersey

Dear Ms. Frederickson,

The U.S. Department of Homeland Security (DHS), Science and Technology Directorate (S&T), Transportation Security Laboratory (TSL) is initiating consultation with the New Jersey State Historic Preservation Office in accordance with 36 CFR Part 800.10(c) regarding its proposed construction of the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR), together with supporting infrastructure (hereafter referred to as the "DSTAR Project"). The TSL is a DHS S&T federal laboratory located at the Federal Aviation Administration's (FAA) William J. Hughes Technical Center (WJHTC), Atlantic City International Airport in Egg Harbor Township, Atlantic County, New Jersey. The DSTAR Project will serve to fill existing capability gaps and outstanding needs at S&T's TSL.

Description of Undertaking

The DSTAR Project will interface with existing TSL operations by co-locating multiple laboratories that perform research and technical functions foundational to the entire breadth of the laboratory's mission. Currently, the research functions to be consolidated are performed in less-than-ideal temporary and ad-hoc facilities across the TSL campus. Co-location of the laboratories is needed to improve safety, enhance capabilities, and improve efficiency of TSL activities, while also allowing for the existing warehouse facilities to return to their original use – providing critical storage for test articles and technologies. In addition to constructing the two new facilities, the Proposed Action includes elements to facilitate traffic flow and maintain security by installing new perimeter fencing, and asphalt parking for the DSTAR Center. An existing gantry crane will be removed to make room for new construction.

Project Location

The DSTAR Project would be implemented at the FAA, WJHTC, Atlantic City International Airport in Egg Harbor Township, NJ. The location address is Atlantic City International Airport, Egg Harbor Township, NJ 08405 (Lat. 39.457085 / Long -74.570276). TSL's 12-acre secure campus includes specialized explosive storage and handling areas and a multi-laboratory infrastructure designed for applied research, testing, and evaluation. Its blast-resistant laboratories are equipped to evaluate explosives detection and imaging equipment against an extensive library of domestic, foreign, and homemade explosives. A site location map is included as Attachment 1.

Area of Potential Effect

Per NHPA Sections § 800.4(a)(1) and § 800.16(d), DHS S&T has defined the Area of Potential Effect (APE) for the undertaking as the proposed location where the DSTAR Project would be physically constructed and operated within the TSL grounds. The DSTAR Project will require limited land clearing, grading, and excavation for building foundations, utility corridors, parking areas, and a roadway. No indirect effects are anticipated. The APE is shown in Attachment 2.

Identification and Evaluation of Historic Properties

A historian meeting the Secretary of the Interior's Professional Qualifications Standards for History and Architectural History consulted the National Register of Historic Places (NRHP) database, historic maps, aerial photos, and DHS S&T files for previous cultural resource reports and information on historic properties within the proposed undertaking. There are no NRHP-listed properties or historic districts in the APE. According to the New Jersey & National Registers of Historic Places (NJDEP HPO, 2016), Egg Harbor Township contains 2 historic districts and 6 NRHP-listed properties:

Additionally, a cultural resources survey conducted for the WJHTC in 1994 did not identify evidence of historic or archaeological resources in the vicinity of the Proposed Action site (Hunter Research, *Stage IA Survey, Archaeological & Historic Literature Search, FAA Technical Center, Galloway, Great Egg Harbor and Hamilton Townships, Atlantic County, New Jersey, 1994*). The Doughty Mill Complex (a former sawmill, two substantial houses, Buttonwood Hill, and Locust Grove) is a historic feature of local significance located southeast of the Proposed Action site outside of the APE.

Finding of No Adverse Effect to Historic Properties

Due to the absence of known historic properties within the APE, DHS S&T has determined that pursuant to 36 C.F.R. 800.5(b), the proposed undertaking will have No Adverse Effects to Historic Properties and is seeking your concurrence.

Your prompt attention to the request is greatly appreciated. If DHS S&T has not received a response from your office within 30 business days of your receipt of this determination letter, DHS S&T will consider its responsibilities under Section 106 to have been fulfilled.

Thank you for your support of the DHS mission. Should you need additional information, please do not hesitate to contact me via email at DSTAR_EA@hq.dhs.gov.

Sincerely,

HOLLY J BISBEE

Digitally signed by HOLLY J BISBEE
Date: 2023.11.16 12:57:08 -05'00'

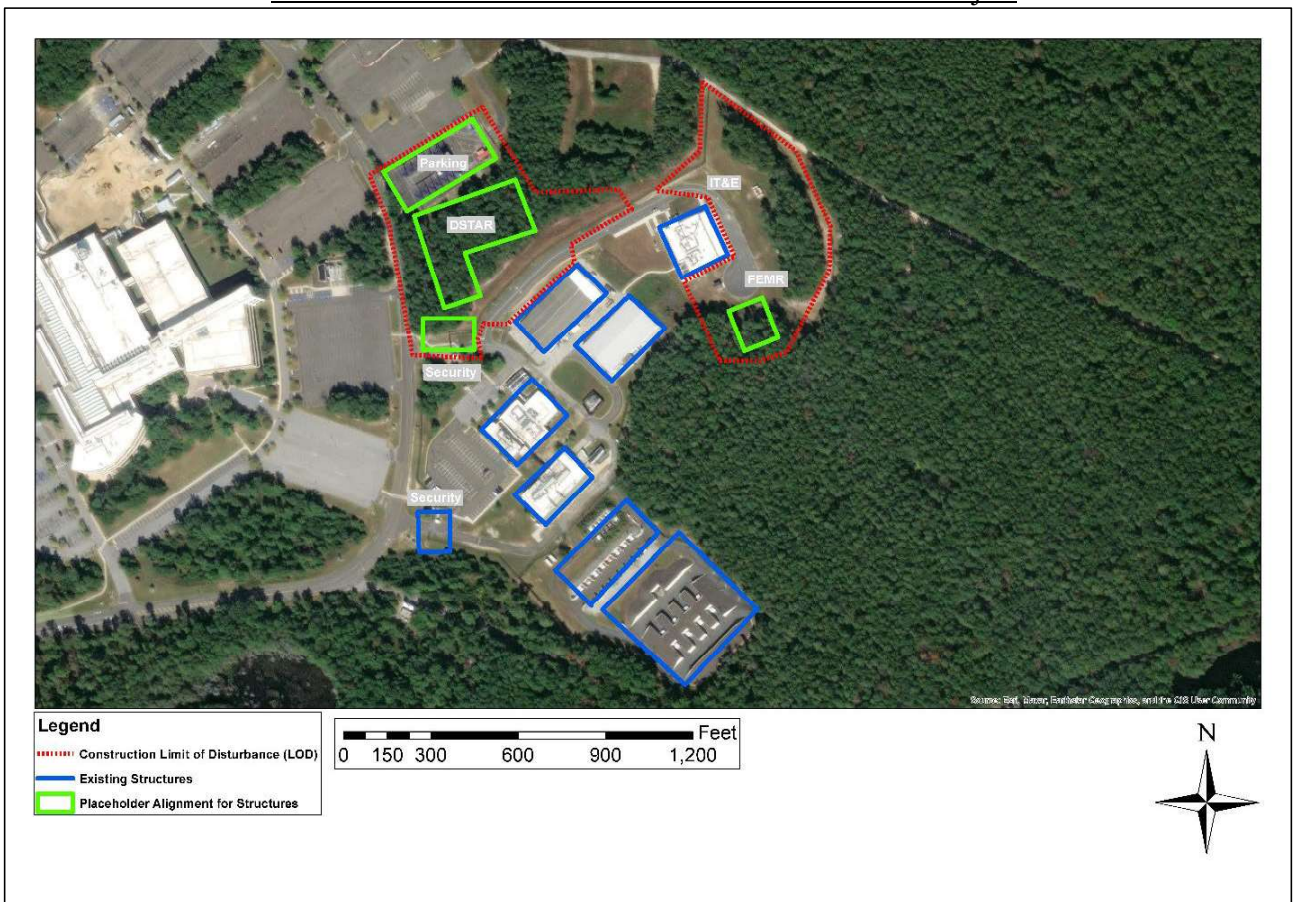
Holly Bisbee
NEPA Program Lead

Attachment 1 – TSL Site Location Map

Attachment 2 – DSTAR Project Area of Potential Effect

Attachment 1 – TSL Site Location Map

Attachment 2 – Area of Potential Effect for the DSTAR Project



PRG WORK REQUEST

Signature: ☑ DSHPO ☐ Administrator ☐ Staff ☐ None

PROJECT INFO

Project#: 24-0225 | Project ID: 50932

Project Name	Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR) Project at the Transportation Security Laboratory	PrimeStaff	Gerlica, S.
Address:			
Project Sponsor:	Homeland Security / Federal Emergency Management Adm	Local Government ○ County ○ Municipal	
Consultant / Citizen / Non-Profit			

County	Municipality	Primary Loc.	CLG
ATLANTIC	Egg Harbor Township	☑	☐

EFO PRG 12-14-23 Date

CORRESPONDENCE DISTRIBUTION

☐ Mail ☐ Certified ☐ Express ☐ Interoffice ☐ Hand Carry ☑ E-Mail ☐ None

☐ CC List *(Attach list of addresses / fax numbers for cc's or other fax recipients)*

☐ Fax (Fax Number) (To Attention) See below

☐ Hand Carry (Name) (Location)

Attachment Mailing: ☐ w/Original ☐ w/CC

Attachments are: ☐ Included w/PRG package? ☐ Other Location (Attachment Location)

Other Copies: ☒ File ☐ Reviewer ☐ Other (How many?)

	Copy Tally:
CC:	
SHPO /COE:	
Other:	
Total:	

EFO PRG 12-14-23 Date

LOG ACTIONS (OBLIGATION)

☑ Log Out ☐ Log In/Out *(Completed review info sheet attached)* Review ID: 82756

Review #:	Staff:	Received:	Due:	☑ Complete:	Chrono:
24-0225-1	Gerlica, S. JWR	11/16/2023	12/16/2023	(Date) 12/1/2023	HPO- L2023-093

Review Process	Review Step
106	Initiation of Review (800.3)

☐ Update Project Name (Project Name)

☐ Update Proc. or Step (Review Proc) (Review Step)

☐ Update other fields as noted above at PROJECT INFO

☐ Update Project Location(s)
____Change Primary municipality as marked above
____Update/Add counties/municipalities (attached)

1 0 6 ☑ Update Project Outcomes / Key-Dates

106 Findings: ☒ NHPA - NP ☐ NHPA - NE ☐ NHPAA ☐ Conditional NHPAA ☐ HPAA ☐ MORE INFO

Date MOA Signed:

☐ Add/Update Review Notes ☐ Add/Update Project Conditions

☐ Initiate New Review Action: ☐ Obligation ☑ Internal ☐ Expectation *(See notes below / attached)*

FILE DISPOSITION

☐ Return to Reviewer ☑ File ☐ Batch File ____FCC / ____HUD / ____LUR / ____USACE / ____Other

PRG1 Date

Filed Location: Central PF

☐ Create File Folder

☐ Existing File: ____Attached / ____with Reviewer / ____Filed

☐ Update Location (File Location) → efile / Recycle

PRG2 Date

☐ New COE/SHPO Opinion(s) How many?____ SHPO File materials are: ____ Marked for copying / ____ Attached for file

____C to HD ONLY

☐ New Accessionable Report(s) (Agency Code) (Prior Series #)

PRG (Shelf Code) (ID #)

email: Holly Bisbee - [redacted]

CC: DSTAR_EA@hq.dhs.gov, SG, JWR

JWR: no concerns

PROJECT 50932

Log#:	ProjectName ☐ Bridge Bond ☐ ISTEA/TEA-21	PrimeStaff
24-0225	Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR) Project at the Transportation Security Laboratory	Gerlica, S.

Project Sponsor: Homeland Security / Federal Emergency Management Administration — **HPO Section:** TS

Local Government ○ County ○ Municipal

Consultant / Citizen / Non-Profit

Location(s)

County	Municipality	Primary Loc.	CLG
ATLANTIC	Egg Harbor Township	☑	☐

Address | **Apartment** | **Zip**

FileLocation: Central PF

Old Log #(s) | **Agency Project Number**

REVIEW (OBLIGATION) 82756

Review Log#:	Staff:	Received:	Due:	Complete: ☐	Chrono
24-0225-1	Gerlica, S.	11/16/2023	12/16/2023		

Review Process	Review Step
106	Initiation of Review (800.3)

Received From: Homeland Security / Federal Emergency Management Administration

Local Government: ○ County ○ Municipal

Consultant / Citizen / Non-Profit

Description: Rcvd eform and letter, scope of work

Materials Submitted: ☐ Plans ☐ Specs ☐ Photos ☐ Report ☐ Nomination ☐ Map ☐ Other

Report ID: | Accession #:

Notes

NR/SR FILE LABEL:

ATL **Egg Harbor Township**
Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for

PROJECT FILE LABEL:

Central PF **24-0225**

ATL: Egg Harbor Township
Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR) Project at the Transportation Security Laboratory

U.S. Department of Homeland Security
Washington, DC

Science and Technology

November 15, 2023

Ms. Erin Frederickson
Section 106 Review
New Jersey State Historic Preservation Office
Historic Preservation Office, Mail Code 501-04B, PO Box 420
Trenton, NJ 08625-0402

SUBJECT: Initiation of Section 106 Consultation

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Thank you for your support of the DHS mission. Should you need additional information, please do not hesitate to contact me via email at DSTAR_EA@hq.dhs.gov.

Sincerely,

HOLLY J BISBEE

Digitally signed by HOLLY J BISBEE
Date: 2023.11.16 12:57:08 -05'00'

Holly Bisbee
NEPA Program Lead

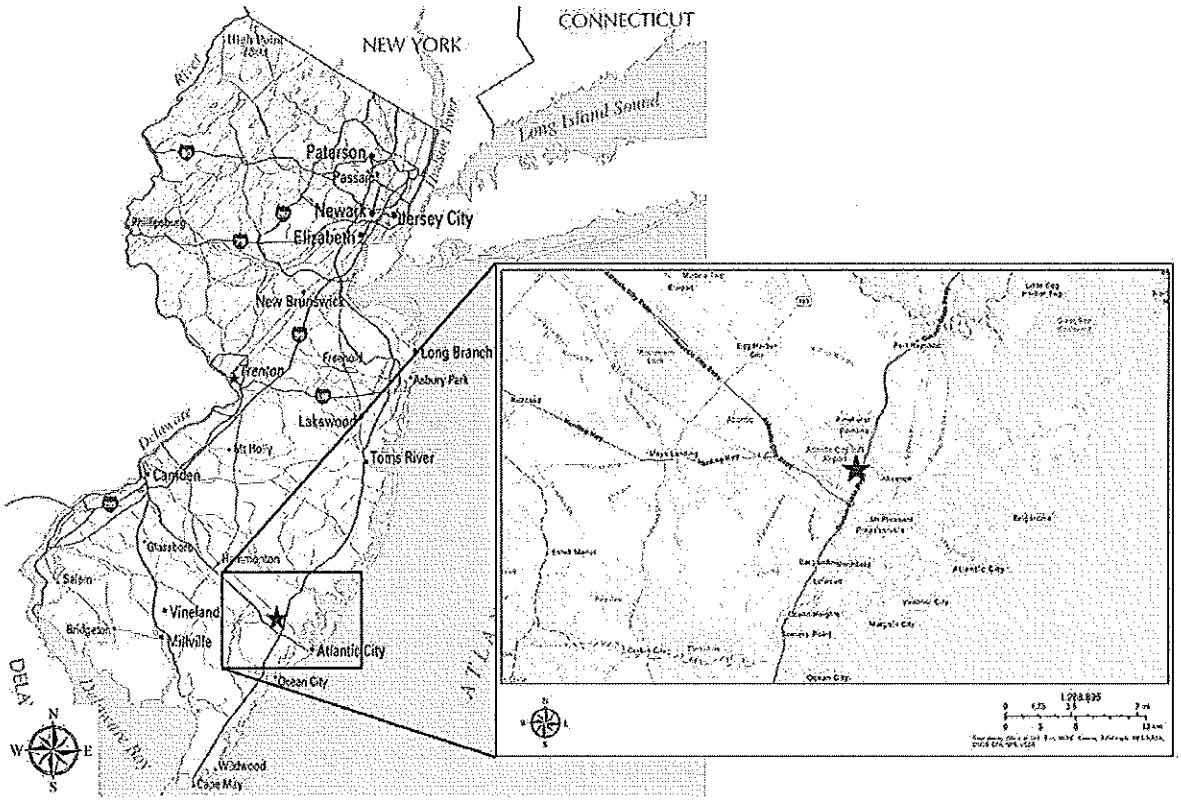
Attachment 1 – TSL Site Location Map

Attachment 2 – DSTAR Project Area of Potential Effect

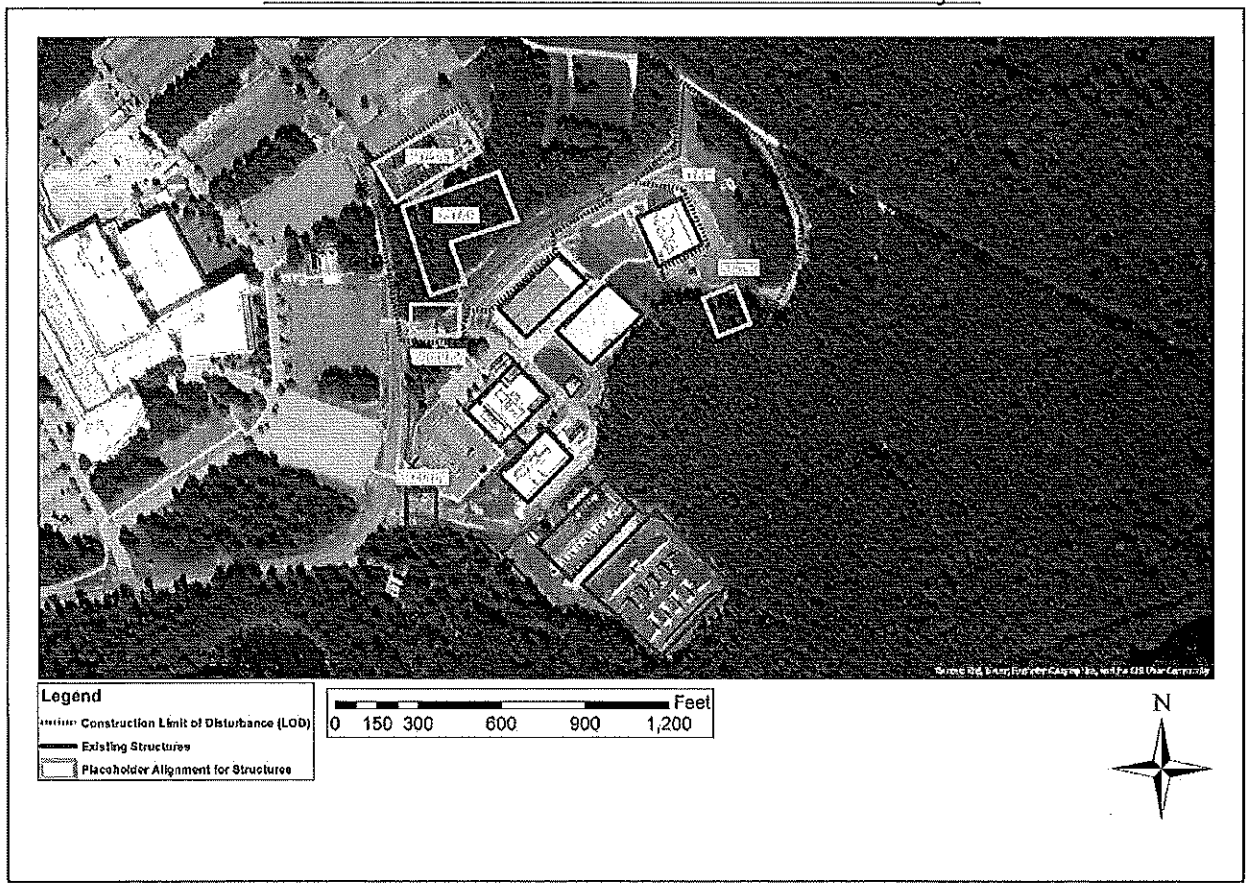
CONCUR

Katherine J. Marcopul 12/14/2023
Katherine J. Marcopul DATE
DEPUTY STATE HISTORIC PRESERVATION OFFICER

Attachment 1 – TSL Site Location Map



Attachment 2 – Area of Potential Effect for the DSTAR Project



NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

NATURAL HERITAGE DATABASE REPORT

State of New Jersey
MAIL CODE 501-04
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE PARKS, FORESTS & HISTORIC SITES
OFFICE OF NATURAL LANDS MANAGEMENT
501 East State Street
P.O. Box 420, Mail Code 501-04
Trenton, NJ 08625-0420
Tel. (609) 984-1339 • Fax (609) 984-0427

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

SHAWN M. LATOURETTE
Commissioner

August 14, 2023

Andrew Glucksman
Mabbett & Associates
105 Central Street, Suite 4100
Stoneham, MA 02180

Re: Transportation Security Lab, Atlantic City International Airport, Egg Harbor Township, NJ 08405
Block(s) - 101, Lot(s) - part of 9
Egg Harbor Township, Atlantic County

Dear Andrew Glucksman:

Thank you for your data request regarding rare species information for the above referenced project site.

Searches of the Natural Heritage Database and the Landscape Project (Version 3.3) are based on a representation of the boundaries of your project site in our Geographic Information System (GIS). We make every effort to accurately transfer your project bounds from the map(s) submitted with the Natural Heritage Data Request Form into our GIS. We do not typically verify that your project bounds are accurate, or check them against other sources.

We have checked the Landscape Project habitat mapping and the Biotics Database for occurrences of any rare wildlife species or wildlife habitat on the referenced site. The Natural Heritage Database was searched for occurrences of rare plant species or ecological communities that may be on the project site. Please refer to Table 1 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented on site. A detailed report is provided for each category coded as 'Yes' in Table 1.

We have also checked the Landscape Project habitat mapping and Biotics Database for occurrences of rare wildlife species or wildlife habitat in the immediate vicinity (within ¼ mile) of the referenced site. Additionally, the Natural Heritage Database was checked for occurrences of rare plant species or ecological communities within ¼ mile of the site. Please refer to Table 2 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented within the immediate vicinity of the site. Detailed reports are provided for all categories coded as 'Yes' in Table 2. These reports may include species that have also been documented on the project site.

The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State's best habitats for rare and endangered species and ecological communities. Please refer to Tables 1 and 2 (attached) to determine if any priority sites are located on or in the immediate vicinity of the site.

A list of rare plant species and ecological communities that have been documented from the county (or counties), referenced above, can be downloaded from https://nj.gov/dep/parksandforests/natural/heritage/database.html. If suitable habitat is present at the project site, the species in that list have potential to be present.

Status and rank codes used in the tables and lists are defined in EXPLANATION OF CODES USED IN NATURAL HERITAGE REPORTS, which can be downloaded from https://nj.gov/dep/parksandforests/natural/docs/nhpcodes_2010.pdf.

Beginning May 9, 2017, the Natural Heritage Program reports for wildlife species will utilize data from Landscape Project Version 3.3. If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend that you visit the interactive web application at the following URL,

https://njdep.maps.arcgis.com/apps/webappviewer/index.html?id=0e6a44098c524ed99bf739953cb4d4c7, or contact the Division of Fish and Wildlife, Endangered and Nongame Species Program at (609) 292-9400.

For additional information regarding any Federally listed plant or animal species, please contact the U.S. Fish & Wildlife Service, New Jersey Field Office at http://www.fws.gov/northeast/njfieldoffice/endangered/consultation.html.

Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements (species and/or ecological communities) or their locations. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Thank you for consulting the Natural Heritage Program. The attached invoice details the payment due for processing this data request. Feel free to contact us again regarding any future data requests.

Sincerely,

Robert J. Cartica
Administrator

c: NHP File No. 23-3907445-28310

Table 1: On Site Data Request Search Results (6 Possible Reports)

Report Name	Included	Number of Pages
1. Possibly on Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites On Site	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat on the Project Site Based on Search of Landscape Project 3.3	No	0 pages included
5. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Stream Habitat File	No	0 pages included
6. Other Animal Species On the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	Yes	1 page(s) included

Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Aves								
	Barred Owl	Strix varia	Breeding Sighting	3	NA	State Threatened	G5	S2B,S2N
	Cooper's Hawk	Accipiter cooperii	Breeding Sighting	2	NA	Special Concern	G5	S3B,S4N
	Grasshopper Sparrow	Ammodramus savannarum	Breeding Sighting	3	NA	State Threatened	G5	S2B,S3N
	Upland Sandpiper	Bartramia longicauda	Breeding Sighting	4	NA	State Endangered	G5	S1B,S1N
Insecta								
	Frosted Elfin	Callophrys irus	Breeding/Courtship	3	NA	State Threatened	G3	S2
	Hessel's Hairstreak	Callophrys hesseli	Casual Flyby	2	NA	Special Concern	G3G4	S3
	Leonard's Skipper	Hesperia leonardus	Breeding/Courtship	2	NA	Special Concern	G4	S3
	Leonard's Skipper	Hesperia leonardus	Casual Flyby	2	NA	Special Concern	G4	S3
Mammalia								
	Northern Myotis	Myotis septentrionalis	Active Season Sighting	5	Federally Listed Endangered	State Endangered	G1G2	S1

Other Animal Species On the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program

Scientific Name	Common Name	Federal Protection Status	State Protection Status	Grank	Srank
Invertebrate Animals					
Dargida rubripennis	Pink Streak			G3G4	S3
Heterocampa varia	A Notodontid Moth			G3G4	S3

Total number of records: 2

Table 2: Vicinity Data Request Search Results (6 possible reports)

Report Name	Included	Number of Pages
1. Immediate Vicinity of the Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites within the Immediate Vicinity	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches	Yes	2 page(s) included
4. Vernal Pool Habitat In the Immediate Vicinity of Project Site Based on Search of Landscape Project 3.3	Yes	1 page(s) included
5. Rare Wildlife Species or Wildlife Habitat In the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Stream Habitat File	No	0 pages included
6. Other Animal Species In the Immediate Vicinity of the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	Yes	1 page(s) included

Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Amphibia								
	Pine Barrens Treefrog	Hyla andersonii	Vernal Pool Breeding	3	NA	State Threatened	G4	S2
Aves								
	Bald Eagle	Haliaeetus leucocephalus	Foraging	4	NA	State Endangered	G5	S1B,S2N
	Barred Owl	Strix varia	Breeding Sighting	3	NA	State Threatened	G5	S2B,S2N
	Black Skimmer	Rynchops niger	Foraging	4	NA	State Endangered	G5	S1B,S1N
	Black-crowned Night-heron	Nycticorax nycticorax	Foraging	3	NA	State Threatened	G5	S2B,S3N
	Caspian Tern	Hydroprogne caspia	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Common Tern	Sterna hirundo	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Cooper's Hawk	Accipiter cooperii	Breeding Sighting	2	NA	Special Concern	G5	S3B,S4N
	Glossy Ibis	Plegadis falcinellus	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Grasshopper Sparrow	Ammodramus savannarum	Breeding Sighting	3	NA	State Threatened	G5	S2B,S3N
	Great Blue Heron	Ardea herodias	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Little Blue Heron	Egretta caerulea	Foraging	2	NA	Special Concern	G5	S3B,S3N
	Snowy Egret	Egretta thula	Foraging	2	NA	Special Concern	G5	S3B,S4N
	Tricolored Heron	Egretta tricolor	Foraging	2	NA	Special Concern	G5	S3B,S3N
	Upland Sandpiper	Bartramia longicauda	Breeding Sighting	4	NA	State Endangered	G5	S1B,S1N

Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
Insecta								
	Frosted Elfin	Callophrys irus	Breeding/Courtship	3	NA	State Threatened	G3	S2
	Hessel's Hairstreak	Callophrys hesseli	Casual Flyby	2	NA	Special Concern	G3G4	S3
	Leonard's Skipper	Hesperia leonardus	Breeding/Courtship	2	NA	Special Concern	G4	S3
	Leonard's Skipper	Hesperia leonardus	Casual Flyby	2	NA	Special Concern	G4	S3
Mammalia								
	Northern Myotis	Myotis septentrionalis	Active Season Sighting	5	Federally Listed Endangered	State Endangered	G1G2	S1

Vernal Pool Habitat
In the Immediate Vicinity of
Project Site Based on Search of
Landscape Project 3.3

Vernal Pool Habitat Type	Vernal Pool Habitat ID
Potential vernal habitat area	330

Total number of records: 1

Sunday, August 13, 2023

NHP File No.: 23-3907445-28310

Other Animal Species
In the Immediate Vicinity of the Project Site Based on
Additional Species Tracked by
Endangered and Nongame Species Program

Scientific Name	Common Name	Federal Protection Status	State Protection Status	Grank	Srank
Invertebrate Animals					
Catocala pretiosa pretiosa	Precious Underwing			G4T2	S2S3
Dargida rubripennis	Pink Streak			G3G4	S3
Heterocampa varia	A Notodontid Moth			G3G4	S3

Total number of records: 3

Department of Environmental Protection
Office of Natural Lands Management
Mail Code 501-04, P.O. Box 420
Trenton, New Jersey 08625-0420
Tel. (609) 984-1339; Fax. (609) 984-1427

Invoice

Date	Invoice #
8/14/2023	28310

Bill to:
Mabbett & Associates
105 Central Street, Suite 4100
Stoneham, MA 02180

Make check payable to:
DEP Office of Natural Lands Management

Include this invoice with payment & send to:
NJDEP Office of Natural Lands Management
Mail Code 501 04, P.O. Box 420
Trenton, New Jersey 08625 0420

Quantity (hrs.)	Description	Rate (per hr.)	Amount
1	Natural Heritage Database search for locational information of rare species and ecological communities. Project: 23-3907445-28310	$ 70.00	$ 70.00
Andrew Glucksman Project Name: Transportation Security Lab, Atlantic City International Airport, Egg Harbor Township, NJ 08405		**Total**	$ 70.00

NEW JERSEY PINELANDS COMMISSION RESPONSE

From: appinfo@pinelands.nj.gov <appinfo@pinelands.nj.gov>
Sent: Thursday, January 4, 2024 2:27 PM
To: DSTAR_EA <DSTAR_EA@hq.dhs.gov>
Subject: Pinelands Application #1987-1058.087, U.S. Department of Homeland Security

Attached is a letter issued for Pinelands Application #19871058.087.

Ernest M. Deman
Pinelands Commission
PO BOX 359
New Lisbon, NJ 08064
609-894-7300

State of New Jersey
THE PINELANDS COMMISSION
PO BOX 359
NEW LISBON, NJ 08064
(609) 894-7300
www.nj.gov/pinelands

PHILIP D. MURPHY
Governor
TAHESHA L. WAY
Lt. Governor

General Information: Info@pinelands.nj.gov
Application Specific Information: AppInfo@pinelands.nj.gov

LAURA E. MATOS
Chair
SUSAN R. GROGAN
Executive Director

January 4, 2024

Dimitri Kusnezov (via email)
U.S. Department of Homeland Security
Washington, DC

Re: Application # 1987-1058.087
William J. Hughes Technical Center
Block 101, Lot 9
Egg Harbor Township

Dear Mr. Kusnezov:

Thank you for your December 19, 2023 letter requesting comments on an Environmental Assessment for the development of DSTAR and FEMR facilities at the William J. Hughes Technical Center.

The Pinelands Comprehensive Management Plan (CMP) contains many land use and environmental standards. For example, the land use standards of the CMP require that, where feasible, development at military and federal installations be located in that portion of the installation located within the Pinelands Protection Area and avoid the Pinelands Preservation Area District and Forest Area. Examples of CMP environmental standards include a prohibition on most development in wetlands and a required buffer to wetlands, the protection of threatened and endangered plants and animals and stormwater management.

To discuss these standards, you may wish to schedule a pre-application conference with our staff. During this conference we can discuss the proposed development and advise of the specific standards of the CMP that appear to be of concern. There is no fee required for a pre-application conference.

Please note that the proposed development requires the completion of an application with the Commission. The CMP requires an application review fee. Applications filed with the Pinelands Commission may not be reviewed or considered complete unless the application review fee and supporting documentation required by the CMP (N.J.A.C. 7:50-1.6) have been submitted.

Please contact me if you have any questions.

Sincerely,

Ernest M. Deman, CPM
Supervising Environmental Specialist

U.S. ENVIRONMENTAL PROTECTION AGENCY RESPONSE

From: Benjamin, Arielle
Sent: Thursday, January 25, 2024 12:29 PM
To: DSTAR_EA <DSTAR_EA@hq.dhs.gov>; Bisbee, Holly **Subject:** DSTAR EA - EPA Comments

Good afternoon,

Thanks for the opportunity to comment on the DSTAR EA. While we recognize the formal comment period closed on January 15, we hope that this letter will be considered.

Thanks,

Arielle M. Benjamin
U.S. Environmental Protection Agency, Northeast & Caribbean Region
Environmental Engineer, Office of Strategic Programs
Office of the Regional Administrator
290 Broadway, 26th Floor
New York, NY 10007
212.637.3650

REGION 2
NEW YORK, N.Y. 10007

January 25, 2024

Dimitri Kusnezov
Under Secretary
Science and Technology Directorate
U.S. Department of Homeland Security

RE: Draft Environmental Assessment and Draft Finding of No Significant Impact for Detection Sciences Testing and Applied Research and Facility for Energetic Material Research Projects – Egg Harbor Township, Atlantic County, New Jersey

Dear Under Secretary Kusnezov,

In accordance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1500-1509), the United States Environmental Protection Agency (EPA) has reviewed the Draft Environmental Assessment (EA) prepared by the U.S. Department of Homeland Security (DHS).

The Draft EA has been developed to address potential environmental impacts from the proposed action. This action includes construction and operation of the Detection Sciences, Testing and Applied Research (DSTAR) Center, the Facility for Energetic Materials Research (FEMR), and necessary supporting infrastructure ("the Project"). EPA understands that the Draft EA assesses environmental impacts of the Proposed Action and offers the following comments focused on our review of the Preferred Alternative to address the Purpose and Need of the Project.

Thank you for the opportunity to provide comments on this Draft EA. EPA looks forward to the receipt and review of the Final EA, and we are committed to continuing to work with your team throughout the NEPA process and in the future, especially as full projects come to fruition. Should you have questions on our comments noted above or related to this project, please contact Arielle M. Benjamin at benjamin.arielle@epa.gov or 212-637-3650.

Sincerely,

Mark Austin

Mark Austin
Environmental Review Team Lead

Cc: Holly J. Bisbee, Program Lead – NEPA, DHS S&T

EPA Detailed Comments

Draft Environmental Assessment and Draft Finding of No Significant Impact for Detection Sciences Testing and Applied Research and Facility for Energetic Material Research Projects

January 25, 2024

General Comments

- EPA encourages DHS S&T to change "minimization measures" to "mitigation measures" throughout the document in order to align with language determined by CEQ Guidance (40 CFR § 1500-1508) and to account for commitments made to address identified adverse impacts due to the Project.

Visual Aesthetics

- **Section 4.1.3 -** The Draft EA mentions that the clearing of vegetation would include "…trees and shrubs that require clearing for the construction…"
    - EPA recommends that the project consult the Township of Egg Harbor's Design Performance and Improvement Standards with respect to landscaping (§ 94-22.11(e)) to ensure the replanting of trees and shrubs are conducted during the construction phase prior to operation of the proposed facilities.

Air Quality

- **Section 3.31 –** EPA supports methodology for determining adverse impacts due to existing non-attainment for 8-hour ozone National Ambient Air Quality Standards (NAAQS) in the Project Study Area and the resulting conformity analysis performed to determine if the Proposed Action would potentially cause a violation of NAAQS.
- **Section 4.2.3 –** EPA supports proposed mitigation measures for potential adverse impacts that may be experienced during the construction phase of the project, including but not limited to combustion emissions and particulate emissions due to equipment use and earth-moving or demolition activities.
- **Section 4.2.3 –** While emissions associated with the operation of the Proposed Action are not expected to exceed conformity thresholds established at 40 CFR Part 93.153(b), and the requirements of the General Conformity Rule is not applicable, EPA recommends that because there is a school and a hospital within 2 miles of the study area, the Lead Agency and Project Sponsor implement appropriate BMPs to adequately monitor and respond to emissions that may occur. EPA acknowledges the use of fume hoods at the Transportation Security Laboratory (TSL) and associated regular maintenance.

NEW JERSEY FIELD OFFICE, FISH AND WILDLIFE SERVICE RESPONSE AND EMAIL CORRESPONDENCE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Jersey Field Office
4 East Jimmie Leeds Road, Suite 4
Galloway, New Jersey 08205
(609) 646-9310

In Reply Refer To:
N/A (Number will be generated once the official species list is requested)

January 12, 2024

Program Manager
Science and Technology Directorate
Office of National Laboratories
United States Department of Homeland Security
Washington, D.C. 20001

Dear Program Manager:

The U.S. Fish and Wildlife Service (Service) New Jersey Field Office has reviewed the Department of Homeland Security's (DHS) Draft Environmental Assessment (EA) to construct and operate the Detection Sciences Testing and Applied Research (DSTAR) Center and associated Facility for Energetic Materials Research (FEMR), including supporting infrastructure (hereafter referred to as the "project"). The project is located at the Federal Aviation Administration's (FAA) William J. Hughes Technical Center property (adjacent to the Atlantic City Airport) in Egg Harbor Township, Atlantic County, New Jersey. The proposed action involves the construction of new buildings for DSTAR and FEMR laboratories and office support, demolition of the existing annex of Building B315, and renovations to buildings B318 and B319. The work will require utility construction, including groundwater infiltration, and updates to or new paving, grading, fencing, and security. Additionally, tree clearing and permanent disturbances to previously undisturbed areas are anticipated to occur.

AUTHORITIES

The following comments are provided pursuant to the to the National Environmental Policy Act (83 Stat. 852, as amended; 42 U.S.C. 4321 *et seq.*) (NEPA); the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) (ESA); Executive Order (EO) 13186, Responsibilities of Federal Agencies to Protect Migratory Birds (January 10, 2001; 66 *Federal Register* (FR) 3853); and the Migratory Bird Treaty Act of 1918 (40. Stat 755, as amended; 16 U.S.C. Section 703-712) (MBTA). Comments provided do not preclude additional comments on future phases of the project, including consultation on effects to federally listed species pursuant to Section 7 of the ESA.

ENDANGERED SPECIES ACT SECTION 7 CONSULTATION

For this and future projects, please use the Service's Information for Planning and Consultation (IPaC) tool (available at: *https://ipac.ecosphere.fws.gov/*) to obtain an official species list. Requesting an official species list is required to ensure compliance with Section 7 of the ESA. The IPaC resources list that is currently included within Appendix D of the EA is not for consultation purposes.

If the DHS is unsure of the proposed actions effects (*i.e.*, no effect; may affect, not likely to adversely affect; may affect, likely to adversely affect) to the species listed on the official species list, please use the Service's Northeast Endangered Species Determination Key on the IPaC website to evaluate further. You may also utilize the New Jersey Field Office's project screening questions (available at: *https://www.fws.gov/media/new-jersey-field-office-project-screening-questions*) to help evaluate effects. If the determination keys or screening chart result in further consultation or coordination required with the Service, please follow the step-by-step guide for project review on our website about what information to submit to us. Our project review website is located at: *https://www.fws.gov/office/new-jersey-ecological-services/new-jersey-field-office-project-review-guide*. If the DHS has assessed the proposed actions effects to the species on the official species list and determined that no effects will occur to them, please keep the official species list for your records and attach the New Jersey Field Office No Effect Letter (available at: *https://www.fws.gov/media/new-jersey-field-office-no-effect-letter*).

The EA currently explains that the DHS has determined that the proposed action would have no effect to the federally endangered American chaffseed (*Schwalbea americana*) and threatened swamp pink (*Helonias bullata*). However, a may affect, not likely to adversely affect determination was made for the federally endangered northern long-eared bat (*Myotis septentrionalis*) (NLEB). Consultation with the Service pursuant to Section 7(a)(2) of the ESA is required to obtain concurrence with may affect, not likely to adversely affect determinations. Please ensure that the Section 7(a)(2) consultation is completed before the Final EA is issued. Through implementation of the conservation measures described below, impacts to federally listed and proposed species can be minimized, and the Service will likely concur with a may affect, not likely to adversely affect determination.

Please be aware that the ESA comments within this letter are not providing the Service's concurrence with the DHS's effects determinations related to federally listed, proposed, or candidate species and is provided for technical assistance regarding future consultation. If the DHS has reviewed the information within this letter and is uncertain on how to proceed with an ESA Section 7(a)(2) consultation, please contact Michael Ciappi at Michael_ciappi@fws.gov for additional guidance.

FEDERALLY LISTED, PROPOSED, AND CANDIDATE SPECIES

Northern long-eared bat and tricolored bat (*Perimyotis subflavus*, proposed endangered)

NLEB's utilize summer habitats from April to September. Suitable summer habitat consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also

include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields, and pastures. This includes forests and woodlots containing potential roosts (*i.e.*, live trees and/or snags greater than or equal to 3 inches diameter at breast height (DBH). that have exfoliating bark, cracks, crevices, and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit characteristics of suitable roost trees and are within 1,000 feet of other forested/wooded habitat. NLEB are also known to roost in artificial structures such as buildings, bridges, barns, sheds, and under window eaves. Therefore, these structures should also be considered potential summer habitat. During the winter, NLEBs predominately hibernate in caves and abandoned mine portals (USFWS 2023).

The tricolored bat (TCB) is a small insectivorous bat that typically overwinters in caves, abandoned mines and tunnels, and road-associated culverts (southern portion of the range). They spend the rest of the year in a wide variety of forested/wooded habitats where they roost and forage, including adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields, and pastures. This also includes forests and woodlots containing trees with potential roost substrate (*i.e.*, live and dead leaf clusters of live and recently deceased deciduous trees, Spanish moss (*Tillandsia usneoides*), and beard lichen (*Usnea trichodea*)), as well as linear features such as fencerows, riparian forests, and other wooded corridors. TCBs will roost in a variety of tree species, especially oaks (*Quercus spp.*), and often select roosts in tall, large diameter trees, but will roost in smaller diameter trees when potential roost substrate is present (*e.g.*, 4-inch [10-centimeter]; Leput 2004). They may also roost in human-made structures, such as bridges and culverts, and occasionally in barns or the underside of open-sided shelters (*e.g.*, porches, pavilions) (USFWS 2023).

On September 14, 2022, the Service published a proposal in the FR to list the TCB as endangered under the ESA (FR Vol. 87 (177): 56381-56393). A final determination to either list the TCB under the ESA or to withdraw the proposal is anticipated during Fiscal Year 2024. The Service determined this bat species faces extinction primarily due to the range-wide impacts of white-nose syndrome, a deadly fungal disease affecting cave dwelling bats across North America. Since TCB populations have been greatly reduced due to white-nose syndrome, surviving bat populations are now more vulnerable to other stressors such as human disturbance and habitat loss.

The TCB has begun appearing on Official Species Lists requested from the Service. Species proposed for listing are afforded limited protections under the ESA and only the "conference" provisions of ESA Section 7 apply to them. A conference is only required if the proposed action is likely to jeopardize the continued existence of a proposed species (as defined by implementing ESA regulations at 50 Code of Federal Regulations Part 402). However, informal Service review may be requested for actions that may affect a proposed species. The Service encourages that project impacts are analyzed to ensure that effects to proposed species are reviewed if/when they are officially listed. This is also beneficial to the DHS since it will help to prevent potential future delays or complications for project construction. Therefore, the Service recommends that the effects of the proposed project on TCB and their habitat is analyzed and minimized.

The EA currently explains that there is no suitable habitat for the NLEB within the Project Study Area and does not address concerns related to TCB. However, as currently presented, it appears that suitable habitat for NLEB and TCB does occur within and will be impacted by the proposed project. If the DHS believes suitable habitat is not present, the reasoning should be described in detail (including DBH of trees to be cleared). Otherwise, the Service recommends the measures described below.

The project area appears to contain suitable habitat for NLEB and TCB. For NLEB, the project area is within 1.5 miles of a maternity capture site and is also within the range of potential summer habitat. For TCB, the project area may be within the range of potential summer habitat. As such, NLEB and TCB bats may forage and/or roost within the project area from April 1 to September 30. The project will include tree removal, which could destroy and/or degrade NLEB and TCB habitat. Additionally, the bats may roost in buildings, such as those that are proposed for demolition or renovation. If bats are present during the time of demolition or if renovations include the exterior of buildings where they may be roosting, they may be affected. Therefore, the Service recommends the conservation measures described within the "Northern long-eared bat and tricolored bat conservation measures" section below.

Northern long-eared bat and tricolored bat conservation measures

The Service recommends the following:

1. Listed in order of preference:

    A. Avoid cutting or other means of knocking down, bringing down, or trimming of trees that are greater than or equal to 3 inches DBH. This is inclusive of the 3-inch DBH trees NLEBs may roost in and the 4-inch DBH trees TCB may roost in; or

    B. If cutting or other means of knocking down, bringing down, or trimming of trees is less than or equal to 10 acres: avoid those activities for trees that are greater than or equal to 3 inches DBH from April 1 to September 30; or

    C. Commission a presence/absence survey (see information about surveys below). Additionally, the following would apply to the results of this survey:

        a. If the survey is negative, the entire time of year restriction may be able to be lifted (depending on acreage and locations of knocking down, bringing down, or trimming of trees).

        b. If the survey is positive, the time of year restriction would be recommended to avoid adverse effects. Additionally, if the survey is positive, further coordination with the Service to develop appropriate conservation measures and avoid adverse effects would be recommended.

2. Avoid removal or modifications to structures (*i.e.*, buildings proposed for demolition or renovations to exterior areas bats may roost) that could potentially harm roosting bats from April 1 to September 30. Alternatively, the DHS may survey or visibly inspect these structures for bats before construction begins. Please see the structure survey information below for more information on structure surveys/visible inspections.

Please be aware that the Service will request the measurement and locations of the tree areas proposed for knocking down, bringing down, or trimming during our ESA Section 7 consultation. If the DHS is proposing over 10 acres of this activity, further review by the Service of the locations will be required to determine if presence/absence surveys are needed to result in a not likely to adversely affect determination.

For presence/absence surveys:

Survey plans shall be submitted to this office for approval (attention: Michael Ciappi, michael_ciappi@fws.gov) prior to the field survey. The surveys shall follow the 2023 Range wide Indiana Bat and NLEB Survey Guidelines available at: *https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines*. Please note that the survey season is from May 15 to August 15 and that the 2023 guidance also includes survey recommendations for TCB. Survey results are valid for five years. Additionally, a recognized and qualified bat surveyor must conduct the survey (see Enclosure A).

The project proponent may opt to conduct either an acoustic or mist netting presence/absence survey (unless noted otherwise in the text above). Emergence surveys may also be conducted if individual trees are proposed for clearing. Please note, if an acoustic survey confirms presence, a follow up mist netting survey would be requested to determine if maternity roosts are located within the project area. As part of the mist netting survey, captured reproductive female and juvenile bats should be tracked with radio telemetry back to maternity roosts.

For structure surveys:

The project may encounter delays if a bat colony is unexpectedly discovered on an existing structure planned for construction, including the building proposed for demolition or if building renovations include exterior areas. The Service recommends the following:

1. If construction to structures is proposed during April 1 to September 30: The buildings proposed for demolition and the exterior areas of the buildings receiving renovations are potentially suitable for bat roosting. If the buildings have not been surveyed for evidence of bat occupancy, the Service recommends doing so. As such, each structure should be surveyed (at the most) 5 days before construction begins for evidence of bat occupancy (*e.g.*, live or dead bats, guano, staining at entry points). Please refer to Enclosure B, which illustrates and explains evidence of bat occupancy on structures for guidance. Enclosure B also includes guidance on surveying transportation structures for bat occupancy, which can be reviewed for applicability to buildings. The DHS shall ensure that the individuals conducting the pre-construction survey on the structures receive Enclosure B and are trained on how to identify evidence of bat occupancy. If evidence is

observed or suspected at any point (including during construction), the work on the structure shall immediately pause and the DHS must contact the Service for further guidance on how to move forward. If a federally listed bat species is determined to be present, the federal action agency must reinitiate consultation with the Service before continuing project activities that may adversely affect the bats.

Alternatively, the DHS may wish to conduct emergence surveys on the structures before construction begins. Information on emergence surveys can be found in the guidance for conducting bat emergence surveys at structures in New Jersey form at: *https://www.fws.gov/media/guidance-conducting-bat-emergence-surveys-structures-new-jersey*. The bat emergence survey form can be found at: *https://www.fws.gov/media/bat-emergence-survey-form-new-jersey-structures*. These forms focus on transportation structures but may also be applied to buildings as well.

Monarch butterfly (*Danaus plexippus*, candidate)

The monarch butterfly was added to the list of Federal candidate species in 2020. Candidate species are those that the Service has determined warrant listing under the ESA and await formal listing. Although these species receive no substantive or procedural protection under the ESA until formal listing, the Service encourages consideration of candidate species in project planning and opportunities that may aid in their conservation. A listing determination for this species is expected in Fiscal Year 2024. The Service recommends including the monarch butterfly in any future effects analyses, to help avoid or minimize project delays if the species is listed before or during project construction.

Adult monarch butterflies are large and conspicuous, with bright orange wings surrounded by a black border and covered with black veins. The black border has a double row of white spots, present on the upper side of the wings. Adult monarch butterflies are sexually dimorphic, with males having narrower wing venation and scent patches. Each spring, monarch butterflies disperse from overwintering grounds to areas across the United States, including New Jersey. During the breeding season, monarch butterflies lay eggs on their obligate milkweed host plant (primarily *Asclepias spp.*), and larvae emerge after 2 to 5 days. Larvae develop through five larval instars (intervals between molts) over a period of 9 to 18 days, feeding on milkweed and sequestering toxic chemicals (cardenolides) as a defense against predators. The larva then pupates into a chrysalis before emerging 6 to 14 days later as an adult butterfly. There are multiple generations of monarch butterflies produced during the breeding season, with most adult butterflies living approximately 2 to 5 weeks; overwintering adults enter reproductive diapause (suspended reproduction) and live 6 to 9 months.

Within the project area, monarch butterflies may be present during migration and breeding from April 1 to October 31 (Monarch Joint Venture 2019). Monarch butterfly habitat requires suitable shelter from poor weather such as fallen logs and leaf litter; food from plants such as milkweed and other nectar plants to support them throughout the breeding season; and water within brief flying range (New Jersey Department of Environmental Protection (NJDEP) 2017). Suitable breeding habitat requires all the same conditions but also their obligate milkweed host plant. In

the fall, surviving monarch butterflies migrate from and through New Jersey to their respective overwintering sites which is generally in the mountains of central Mexico.

The Service recommends the following for monarch butterfly:

1. Avoid removing of or impacting suitable monarch habitat. If avoiding impacts to suitable monarch habitat is not possible, avoid impacts during times of year monarch's may be present from April 1 to October 31. Review the "Mowing and Management: Best Practices for Monarch's" handout at: *https://monarchjointventure.org/blog/revised-handout-mowing-and-management-best-practices-for-monarchs* to see if any other conservation measures are applicable to this project/can be implemented.

2. Review the conservation measures and descriptions included in Section VII of the "Monarch CCAA Application" that can be found at: *https://rightofway.erc.uic.edu/working-group-access/monarchccaatoolkit.* Although the Candidate Conservation Agreement for monarch butterfly is not applicable for this project, we recommend reviewing the application to help aid in the development of possible conservation measures.

3. Review the Services website at: *https://www.fws.gov/initiative/pollinators/monarchs* and the NJDEP's (2017) Monarch Butterfly Conservation Guide for possible conservation measures to implement.

If future listing of the monarch butterfly occurs before or during project construction, the Service will likely recommend additional conservation measures.

SPECIES UNDER REVIEW FOR ENDANGERED SPECIES ACT LISTING AND SERVICE PRIORITY AT-RISK SPECIES

The little brown bat (*Myotis lucifugus*) and frosted elfin (*Callophrys irus*) are under review for listing pursuant to the ESA and may be present in the project area. Additionally, the frosted elfin is a Service identified priority at-risk species. Service at-risk species are those that are declining and are "at-risk" of becoming candidates for ESA listing. The little brown bat and frosted elfin are not federally listed, proposed or candidate species pursuant to the ESA. As such, the ESA does not currently offer them any protections. However, the Service promotes and recommends proactive conservation with the goal of preventing the need for a future ESA listing. Since these species are not currently listed or proposed per the ESA, additional conservation measures may be recommended by the Service as more information is developed in the future. The National Listing workplan for Fiscal Years 2023-2027 can be found at: *https://www.fws.gov/project/national-listing-workplan* for more information on species listing timelines.

Little brown bat

The Service is reviewing the little brown bat to determine if the species warrants protections under the ESA, with a decision expected during Fiscal Year 2024. The range of this species

possibly includes the project area. To conserve the little brown bat, the Service will likely recommend similar/the same conservation measures for NLEB and TCB. If a bat presence/absence survey is conducted (as explained within the "northern long-eared bat and tricolored bat conservation measures" information above) the Service would also request any captured reproductive female/juvenile little brown bats are tracked to their maternity roost trees. Information about the little brown bat can be found on the Services website at: *https://www.fws.gov/species/little-brown-bat-myotis-lucifugus.*

Frosted Elfin

The Service is reviewing the frosted elfin to determine if the species warrants protections under the ESA, with a decision expected during Fiscal Year 2025. The frosted elfin is a small, non-migratory butterfly that has experienced population declines across its historic range due to habitat loss. Frosted elfin typically occur in small, localized populations that are reliant on managed or disturbance-dependent habitats. These areas are composed of a mosaic of habitat types ranging from herbaceous openings with abundant host plants to forested areas with relatively closed canopies (Wagner et al. 2003). Frosted elfin are found within oak-pine barrens, oak savannahs, prairie and dry oak woodlands, and similar anthropogenic habitats such as powerline cuts, railways, old sand/gravel pits, and airports (Wagner et al. 2003; Schweitzer et al. 2011; Thom 2013). They depend upon pine barrens, a rare habitat type characterized by fire-dependent conifers, dense thickets of scrub oak, and grassy openings that support specialized plants such as wild indigo (*Baptisa spp.*) and wild blue lupine (*Lupinus spp.*) — host plants frosted elfin larvae require to survive. Adults start to emerge in spring (usually around April), mate, and lay eggs on host plants short after until June. In addition to host plants, adult frosted elfin also require nectar sources that are available during their short spring/summer flight windows. However, adults are closely associated with and are rarely observed more than 65 feet away from a host plant. Larvae pupate by July and then hibernate in chrysalis on or near host plants in the leaf litter or just beneath the soil surface, until they emerge as adults in the following spring (USFWS 2018; USFWS Accessed 2024).

As mentioned within the EA, a frosted elfin population exists at the William J. Hughes Technical Center property. The EA explains that the proposed construction activities will occur within areas that are not suitable frosted elfin habitat. However, tree clearing and disturbances to adjacent herbaceous areas that (from desktop review) appear as though they may contain potentially suitable habitat, is proposed. As such, the Service recommends providing a more in-depth description of why the area proposed to be impacted is not suitable frosted elfin habitat. If, after further review, the DHS determines that the area to be impacted may contain frosted elfin suitable habitat, the Service recommends the following conservation measures:

1. Evaluate the project area to determine presence of frosted elfin suitable habitat. This should be conducted during times of year that host plants are likely to be visible (spring and summer).

2. If suitable habitat occurs within the project area, survey to determine if frosted elfin are present. Surveys should be conducted during times of year host plants become clearly visible because the area occupied by the host plants indicates where to conduct butterfly

counts.

3. If suitable habitat and presence of frosted elfin is confirmed within the project area, the Service recommends that new structures/installations within those areas are avoided. Work that will cause temporary impacts to these areas should be avoided from April 1 to September 15 when adults, eggs, and larvae may be present. Work during all other times of the year should use machinery with the smallest footprint possible and avoid impacts around the base of host plants to avoid crushing pupae.

4. If new structures/installations are proposed within habitat containing frosted elfin presence, the Service recommends that a protection plan is created to ensure that injury or death to frosted elfin is avoided and minimized. The protection plan should be developed in coordination with the NJDEP and Service to work out any details or uncertainties.

5. In addition, the Service recommends the creation and implementation of a mitigation plan to compensate for any loss of suitable habitat, injury or death that may be caused by the proposed project. At a minimum, a 1:1 ratio for replacement of lost habitat should be implemented. This may involve the creation of new frosted elfin habitat somewhere else on the property and a replanting plan for lost host plants.

Please contact us if survey protocols or methodology is needed. Also, please be aware that FAA employee, Michael Denisi, has conducted frosted elfin surveys at the William J. Hughes Technical Center property and may be a good resource for discussing effects to frosted elfin from the proposed project.

The frosted elfin is a State threatened species per the New Jersey Endangered and Nongame Species Conservation Act. As such, a scientific collecting permit from the NJDEP Fish and Wildlife Endangered and Nongame Species Program (ENSP) may be required for frosted elfin surveys. Please contact the ENSP before conducting any surveys to ensure compliance with necessary protocols and State law.

The Service priority at-risk eastern whip-poor-will (*Antrostomus vociferus*) may also be present within the project area. The conservation measures described in the MBTA section below are the same that would be recommended for this species.

MIGRATORY BIRD TREATY ACT

Native migratory birds are a Federal trust responsibility and are afforded protection under the MBTA. Unlike the ESA, the MBTA does not currently have a regulation specific to the incidental take of migratory birds. The proposed project includes construction and new structures that will likely introduce new lighting into areas where birds may be present. As such, the Service recommends that the DHS uses (as applicable) lighting that reduces adverse effects to migratory birds at night. For more information, please refer to Enclosure C – Beneficial Practices to Reduce the Potential Impact of Lighting on Migratory Birds.

Breeding birds may be present within the proposed project area at the time of construction.

Nests, eggs, and chicks are most at risk of being impacted by the proposed project since they are unable or unlikely to fly away from activities such as the proposed tree clearing. As explained within the EA, multiple birds such as the upland sandpiper (*Bartramia longicauda*), barred owl (*Strix varia*), grasshopper sparrow (*Ammodramus savannarum*), and coopers hawk (*Accipiter cooperii*) have been documented breeding within the vicinity of the project area. These species breed and nest within forested areas, grasslands, fields, and meadows that may be impacted by the proposed project. Once requested/received, please also refer to the Migratory Birds section of your IPaC official species list for additional information on birds of conservation concern in your projects action area, including their breeding season dates and links to websites that will help to identify stressors and guide independent conservation measures.

The EA explains that vegetation removal will be avoided from June through August. It goes on to explain that if any nesting birds are observed on or near areas where heavy machinery may be operating, all work will immediately cease, and environmental managers will be contacted. The Service appreciates the implementation of these conservation measures. In addition, the Service recommends that the DHS identifies areas that have the potential to contain nests, eggs, and flightless migratory birds and develops conservation measures that protect them from being adversely impacted from March 15 to September 10. This may include conducting nest clearance surveys during that time period and no more than five days prior to the proposed activities to ensure recently constructed nests, eggs, and flightless birds are identified. Additionally, regardless of time of year, if native migratory birds are present at the time of the proposed work, the Service recommends providing an opportunity for those birds to leave the area before work occurs.

If present, the Service recommends avoiding work that could cause actions prohibited under the MBTA (such as the wounding, killing, trapping, capturing, or collecting of migratory birds and their nests or eggs) without prior authorization by the Service. Any action that can neither be postponed or avoid impacts that would cause actions prohibited under the MBTA should contact the Service's Migratory Birds Program for more information (available at *https://www.fws.gov/program/migratory-bird-permit*).

The Service appreciates the opportunity to comment on the proposed projects Draft EA. For further assistance or questions, please contact Michael Ciappi at michael_ciappi@fws.gov.

Sincerely,

ERIC SCHRADING

Digitally signed by ERIC SCHRADING
Date: 2024.01.12 09:57:48 -05'00'

Eric Schrading
Field Supervisor

Enclosures:

Enclosure A – Recognized Qualified Indiana Bat/Northern Long-eared Bat Surveyors
Enclosure B – Evidence of Bat Occupancy on Buildings/Structures
Enclosure C – Beneficial Practices to Reduce the Potential Impact of Lighting on Migratory Birds

cc:
Ross Conover, USFWS
Robert Somes, NJDEP
Holly Bisbee, DHS

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Enclosure A

Recognized Qualified Indiana Bat/Northern Long-eared Bat Surveyors

RECOGNIZED QUALIFIED INDIANA BAT/NORTHERN LONG-EARED BAT SURVEYORS

The following list includes individuals recognized by the U.S. Fish and Wildlife Service, New Jersey Field Office, and the New Jersey Department of Environmental Protection (NJDEP), Endangered and Nongame Species Program as qualified to conduct surveys for Indiana bats and northern long-eared bats. This list may not include all individuals qualified to survey for this species. This list will be updated periodically. Inclusion of names on this list does not constitute endorsement by the Service, the NJDEP, or any other U.S. Government agency or State agency.

Various techniques are used to sample and study bats in New Jersey (including hibernacula surveys, mist netting, acoustic detection, and radio-telemetry) and some surveyors on this list may not be qualified to conduct all techniques. Surveyors qualified to conduct only habitat assessments (Phase I) and acoustic surveys (Phase II) are marked with an asterisk (*) to differentiate them from surveyors qualified to conduct trapping efforts. A scientific collecting permit from the NJDEP is required to capture bats in New Jersey.

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Enclosure B

Evidence of Bat Occupancy on Buildings/Structures

Bats roosting out in the open (sort of)…look for them in corners, along center beams, and in tight spots where they feel warm & safe.

Often you won't see bats (especially from late summer through early spring, when they probably aren't there). But droppings are left behind wherever they've roosted. This is guano…

< Guano beneath bat houses on a barn

Line of bats roosting in narrow space between ceiling joists

Guano visible on lath & plaster attic walls

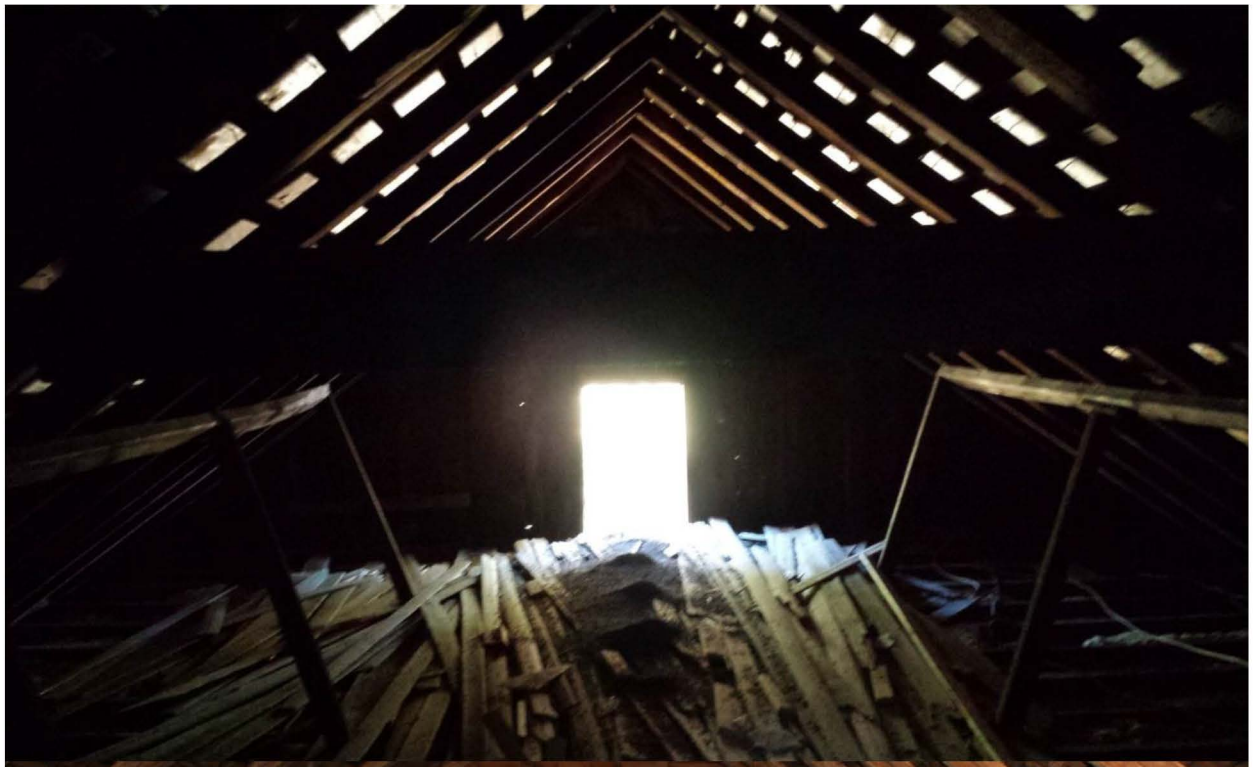
Small guano pile & some sprinkles on attic ducts

Guano is heaviest beneath favorite roost spots and exits

< Looking up at a colony of bats in a bat house. They can really cram in together.

It's not unusual to see a fallen pup beneath a roost. Sometimes they slip off their mom or the roost surface and can't get back up. At left is a very young (few days old) pup; at right is one that's a little older (~3 weeks).

Guano is common along the center line of attics & barns, because bats like to roost in the peaks where it's warmer and snugger. The top photo shows guano piles made by a colony of ~50 big brown bats. The barn loft in the bottom photo had >1,000 little brown bats before White-nose Syndrome hit (now there are 80 left).



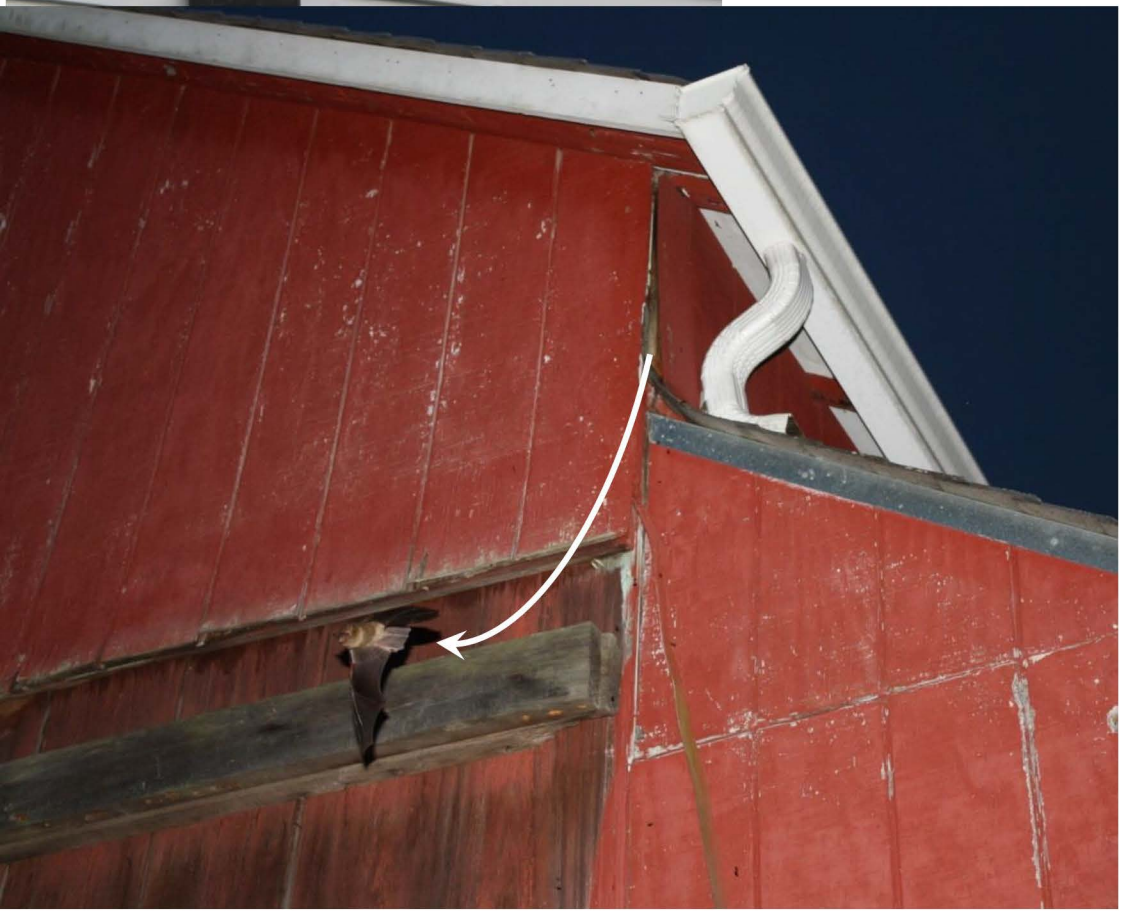
Bats are not rodents and they can't chew or claw their way into a structure. But they only need a space ~1/2" wide to enter a building. Unscreened (or torn screen) attic vents are a common entry point.

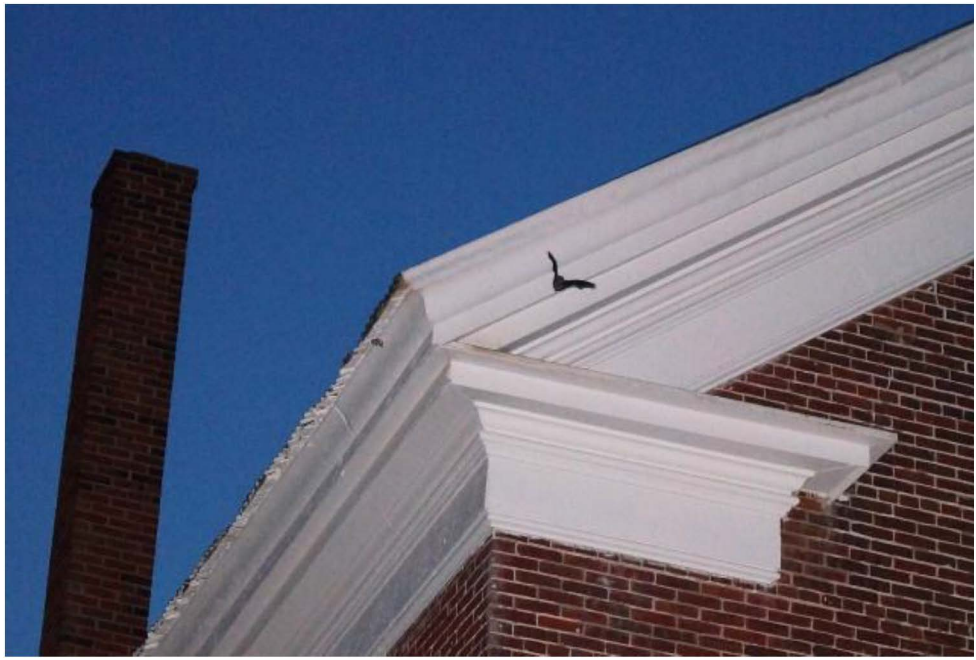
From the outside, look for small openings (>1/2”) or stains from the bats’ body oils, which build up over time as the bats leave & re-enter the structure nightly spring through late summer.

Attic vents, the peaks of eaves, and the corners where building materials don’t quite fit together are common bat entry points.

< The dirty look of this shutter is from the guano of bats roosting behind it. Also look for droppings beneath shutters.

Sometimes it's hard to identify the bats' entry/exit point…maybe it's too high up or not obvious. Watch to see where the bats exit from at dusk (or enter at dawn).





< A big brown bat exiting her barn roost at dusk

New Jersey Guidance on Surveying Transportation Structures for Bat Occupancy

For reporting bat presence/absence to the U.S. Fish and Wildlife Service's New Jersey Field Office (Service) and the NJ Division of Fish and Wildlife's Endangered and Nongame Species Program (ENSP)

Why Survey for Bats?

Our nation's bridges, culverts, and other transportation structures inadvertently provide thousands of potential artificial bat roosts per state, supporting an inestimable number of bats. Construction, maintenance, and operational activities at these structures may destroy roost features or cause direct disturbance to the bats, especially if done during sensitive times of the year. However, surveying structures for bat occupancy ahead of time allows the appropriate avoidance and minimization measures to be incorporated into the project plans, specifications or standard operating procedures as needed, reducing on-site conflicts while conserving bats. All of NJ's native nongame wildlife are protected under the NJ Endangered and Nongame Species Conservation Act (N.J.S.A. 23:2A-1-13), making it illegal to "take" them (meaning to harass, hunt, capture, kill, or attempt to harass, hunt, capture or kill). Two species of bat in New Jersey - the Indiana bat (*Myotis sodalis*) and the northern long-eared bat (*Myotis septentrionalis*) - also are afforded protection under the federal Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Surveys in New Jersey

Surveys shall be conducted or supervised by personnel that have received training on identifying suitable bat roosts in transportation structure. Surveyors must employ appropriate safety measures and avoid touching any bats. Surveys should be conducted from May 1 - October 31, but may occur outside this window with permission from the Service/ ENSP. Individuals assessing bridges/structures for evidence of bat occupancy must use the New Jersey Bats in Bridges Survey Form and must retain a copy of the form and any supplementary documentation (*e.g.,* survey photographs) in their project file. Negative survey results are considered valid for two years.

Recommended Equipment

- High-power light (>600 lumens, *e.g.*, Gerber Myth spotlight, Fenix flashlights)
- Binoculars
- Camera with zoom/telephoto lens (*e.g.*, variable focal length reaching 300+ mm)
- Video/camera on an telescoping pole for viewing high up spaces (*e.g.,* GoPro on a Wonder Pole)
- Mirror with telescoping handle for seeing into tight or awkward spaces
- Safety equipment (*e.g.*, hard hat, safety vest, dust mask/respirator, gloves, appropriate footwear)
- Survey form and pencil

Scouting the field location in advance using Google Maps street view, if available, can help to identify a safe parking spot and to predict any accessibility hazards (*e.g.*, water, ravine, high traffic) or additional equipment you may need to conduct a thorough survey (*e.g.,* ladder, snooper truck).

Where to Look

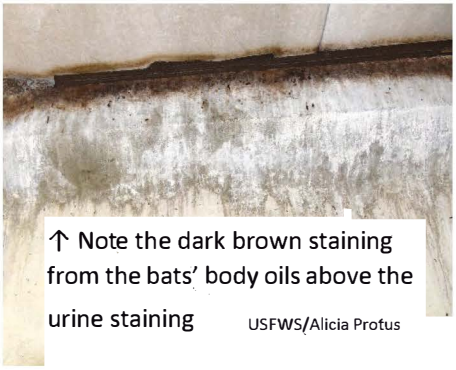
- All vertical crevices (note: the most ideal for bats are those ½ - 1¼" wide and >4" deep if sealed at the top, or >12" deep if not sealed)
- Expansion joints and vertical spaces between end walls/bridge deck
- Pier caps or surfaces that may catch guano
- Other crevices in the structure
- Rough surfaces/spalls and vertical surfaces on I-beams
- Guiderails and gaps in concrete parapet
- Plugged drain pipes
- Bird nests (bats can hang on these!)

New Jersey Guidance on Surveying Transportation Structures for Bat Occupancy

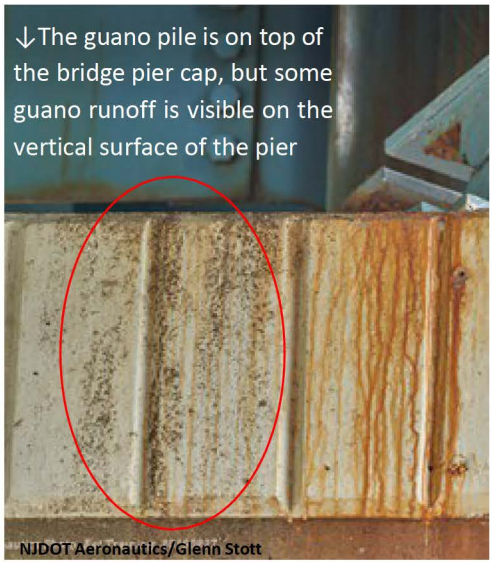
For reporting bat presence/absence to the U.S. Fish and Wildlife Service's New Jersey Field Office (Service) and the NJ Division of Fish and Wildlife's Endangered and Nongame Species Program (ENSP)

Evidence of Bat Occupancy

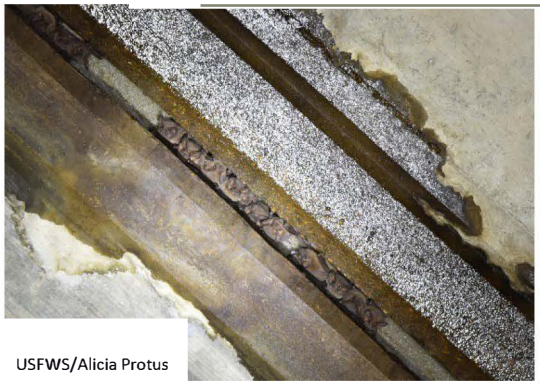
Urine Staining: Urine stains appear as wet-looking areas when bats have recently used the structure as a roost. When dry, urine staining may have light-colored mineral deposits, but it can difficult to tell apart from water staining. If staining has algae growing in it, it's more likely to be water staining.

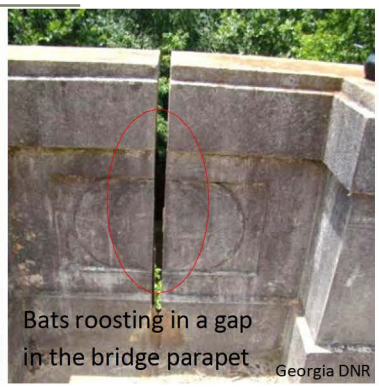


Guano: Piles of guano accumulate on horizontal surfaces (*e.g.* ledge or ground) under colony roost locations, especially near the bats entrance/exit points. Unlike fibrous rodent droppings, bat guano pellets can be crushed easily and contain shiny bits of insects. When stormwater hits guano piles it can cause guano staining along vertical surfaces- this staining looks 'gritty', like coffee grounds. Guano piles and staining can be very dark and obvious for extremely large colonies, but is usually more subtle.



Visible or Audible Bats: Bats may be visible in crevices or hanging exposed on the structure. Listen carefully for high-pitched squeaking/chirping sounds - bats make social calls audible to humans.





Revised September 2022

New Jersey Guidance on Surveying Transportation Structures for Bat Occupancy

For reporting bat presence/absence to the U.S. Fish and Wildlife Service's New Jersey Field Office (Service) and the NJ Division of Fish and Wildlife's Endangered and Nongame Species Program (ENSP)

Evidence of Birds Nesting

Besides pigeons, the most likely birds to find nesting on transportation structures include eastern phoebes, cliff swallows, and barn swallows. While less common, state endangered peregrine falcons sometimes nest on tall bridges, which mimic their natural cliff-side nesting sites.

Cliff swallow nests

Eastern phoebe nest

Eastern phoebe eggs & hatchlings

Cliff swallow nests (above left) are cavity-type structures made of dried mud, with an entry hole in the front or side, and usually attached to a vertical surface with overhead shelter. Cliff swallows are colonial, so their nests are often found in groups along the underdecks of bridges. Eastern phoebe nests (above center and right) are made of moss, leaves and grasses, and are typically built atop ledges and other horizontal surfaces. This example is attached vertically, though, to a spalling concrete culvert wall. Barn swallow nests are similar to phoebe nests but are made of mud mixed with grass.

Telescoping Tools

Surveying with a camera – especially a digital video camera – atop a telescoping pole can help you visually access high-up places like pier caps and expansion joints without a snooper truck or ladder. This saves time, money and coordination and provides good documentation of the surveyed areas. Attach a flashlight to the pole or camera to illuminate the view.

Below is still-shot taken with a GoPro camera showing the surface of a pier cap.

At far right is an example of a telescoping rod with a camera attachment being used during a bridge bat survey in NJ.

Revised September 2022

Enclosure C

Beneficial Practices to Reduce the Potential Impact of Lighting on Migratory Birds

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Migratory Bird Program
https://www.fws.gov/program/migratory-birds

May 12, 2023

Subject: Beneficial practices to reduce the potential impact of lighting on migratory birds

To Whom It May Concern:

The enclosed document identifies beneficial practices to reduce the potential adverse effects of artificial light at night on migratory birds. The U.S. Fish and Wildlife Service (Service) is the Federal agency delegated with the primary responsibility for managing migratory birds. Our authority derives from the Migratory Bird Treaty Act of 1918, as amended (MBTA; 16 U.S.C. 703 et seq.), which implements treaties with Canada, Mexico, Japan, and the Russian Federation. Migratory bird in 50 CFR 10.12 means "any bird, whatever its origin and whether or not raised in captivity, which belongs to a species listed in 50 CFR 10.13, or which is a mutation or a hybrid of any such species, including any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof." The list of protected birds is maintained in regulation at 50 CFR 10.13 and includes over 1,000 species.

The Service interprets MBTA to prohibit incidental take of migratory birds and will enforce the statute accordingly (see https://www.fws.gov/policy-library/do225). Incidental take means the taking or killing of migratory birds that results from, but is not the purpose of, an activity. The Service recognizes that a wide range of activities may result in incidental take of migratory birds. Pursuing enforcement for all these activities would not be an effective or judicious use of our law enforcement resources. For that reason, the Service will focus our enforcement efforts on specific types of activities that both foreseeably cause incidental take and where the proponent fails to implement known beneficial practices to avoid or minimize incidental take. Our intention through this policy is to apply a transparent and consistent approach to managing and prioritizing our enforcement of incidental take, taking into account the case law applicable in a given jurisdiction and the facts and circumstances of each case.

a. The following types of conduct are not a priority for enforcement:
   (1) A member of the general public conducting otherwise legal activities that incidentally take migratory birds;
   (2) A Federal agency conducting activities in accordance with a signed memorandum of understanding with the Service developed under Executive Order 13186 for the conservation of migratory birds; or
   (3) A public- or private-sector entity conducting activities in accordance with applicable beneficial practices for avoiding and minimizing incidental take.

b. The Service prioritizes the following types of conduct for enforcement:
    (1) Incidental take that is the result of an otherwise illegal activity; or
    (2) Incidental take that:
        (i) results from activities by a public- or private-sector entity that are otherwise legal;
        (ii) is foreseeable; and
        (iii) occurs where known general or activity-specific beneficial practices were not implemented.

To better protect migratory bird populations and provide more certainty for the regulated public, the Service seeks to address human-caused mortality by providing information on beneficial practices to avoid and minimize the incidental injury and killing of migratory birds. Beneficial practice means an action implemented to avoid or minimize the incidental take of migratory birds. We also refer to beneficial practices as best management practices, conservation measures, best practices, mitigation measures, etc.

Artificial light at night can attract and disorient migratory birds, leading to exhaustion and collisions with humanmade structures such as buildings and communications towers. Under certain circumstances (*e.g.*, low cloud ceiling, precipitation, high migration passage rate), artificial light at night may contribute to mass mortality of nocturnally migrating birds. This risk may be significantly reduced or eliminated through informed design and operation of artificial lighting. Effective interventions include modifying lighting's angle/direction, timing, and color/wavelength. Please use the attached Service-provided beneficial practices as your guide for reducing risk of incidental take from lighting.

Attachment:
Incidental Take Beneficial Practices: Lighting

PROTECT OUR NIGHT SKIES

Using Bird-Conscious Lighting

Why We Should Protect Our Night Skies

The night sky is a resource that all people and wildlife, including birds, share. The cycle of day and night is important for the natural rhythms of all living things, promoting natural behavior, health, and well-being. For example, a dark sky is important for billions of birds to properly navigate their nighttime migrations. Artificial lighting at night (lighting), meaning light from sources created by people, may be helpful for security and increasing visibility when it is used well, to the extent it is needed, and when it illuminates only what is intended. However, lighting can attract large numbers of night-migrating birds from as far as 5 kilometers away. Birds can become entrapped in these areas of bright lights, circling endlessly, depleting energy stores needed for migration, and colliding with buildings and infrastructure. This phenomenon can be exaggerated on nights with low-cloud ceilings or foggy weather, when birds tend to migrate at lower altitudes and light reflecting on clouds is disorienting. Multiple mass-mortality events involving hundreds of birds have been documented associated with lighting at substations and other towers, buildings, and construction sites on foggy nights during migration.

Bird-conscious lighting is using lighting only where and when it is necessary and illuminating only the intended area. When lighting is necessary, the direction of the light, how long the light is on, the color of the light, and restricting light to the minimum required for safety can all help reduce lighting's negative effects. Below are voluntary approaches to reduce lighting, and we recommend special attention to reduce lighting on foggy nights at substations and other towers, buildings, and construction sites.

Spotlight on Practical and Easy Solutions

Use this step-by-step guide to adopt bird-conscious lighting and make our skies safer for birds.

Turn It Off

- If the lighting is not needed, consider turning it off permanently or see "Timing" below.
- Birds are at greater risk from lighting during spring and fall migration on cloudy nights. Consider if lighting can be temporarily turned off on cloudy nights April-May and August-October.
- If birds become entrapped in an area of bright light that cannot be turned off permanently, turning lights off for 15 to 20 minutes can allow birds to escape the disorienting light and return to normal behavior. If you are unsure whether birds are or will be entrapped, plan regular breaks in the lighting or implement timers (see below) to allow an opportunity for birds to escape.

Migrating birds become disoriented by lights and drawn into brightly lit areas where they can easily collide with structures, injuring or killing them.

To the left, you see an example of a shielded light, using amber light, which is less impactful to birds.

U.S. FISH & WILDLIFE SERVICE

Turning Lights Off

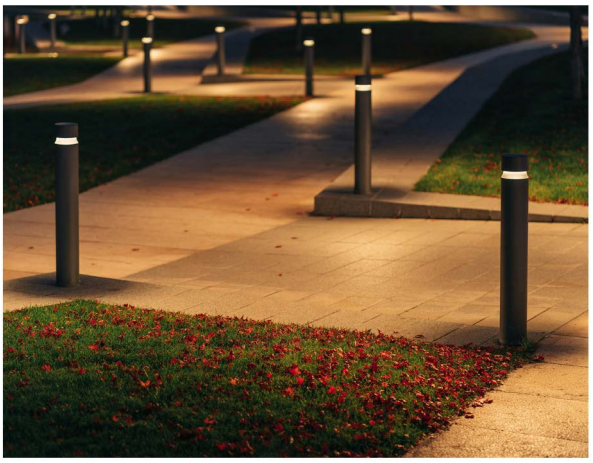
Always In Fashion!

Timing

- Limit lighting to necessary times only.
- Use timers, dimmers, or motion sensors to turn lights on and off automatically and as needed.

Direction

- Turn off lights that face up into the sky or lights that illuminate the surrounding landscape.
- Avoid upward light scatter by shielding, selecting, or positioning lights where light is not emitted above the horizontal plane.
- Keep lighting as low to ground as possible, only illuminating necessary structures.



Illuminate paths as close to the ground as possible with shielded amber or red lights.

Color and Brightness

- Use amber, or "warmer", light that is less harmful for most species.
    - Warmer colors have longer wavelengths (≥560 nm) and lower correlated color temperatures (CCT ≤ 3000 Kelvin degrees)
- Avoid using blue, white, or "cooler", light that is least favorable for birds and other wildlife.
    - Cooler colors have short wavelengths (<560 nm) and higher correlated color temperatures (CCT >3000 Kelvin degrees)
- Keep light as dim as possible or is necessary.

Benefits Of Bird-Conscious Lighting

- Immediately effective
- Saves money through less infrastructure and lower energy consumption
- Increases visibility of night skies
- Helps preserve natural cycles important to the health of people, birds, and other wildlife

Additional Resources To Help You Preserve The Night Sky

- Learn when seasonal lighting restrictions can be most helpful to migrating birds: https://birdcast.info/
- More information about requirements to light tall structures is here: https://www.faa.gov/faq/what-are-requirements-aircraft-warning-lights-tall-structures, and Communication Tower lighting recommendations are here: https://www.fws.gov/sites/default/files/documents/usfws-communication-tower-guidance.pdf
- Illuminating Engineering Society. 2020. Lighting Practice: Environmental Considerations for Outdoor Lighting, An American National Standard. Illuminating Engineering Society, 120 Wall Street, New York, New York 10005.
- Guide for parking lot lighting: ParkingLotLightingGuide.pdf (rpi.edu)
- States with laws to reduce light pollution: https://www.ncsl.org/environment-and-natural-resources/states-shut-out-light-pollution
- Night sky friendly products (*these products can be considered bird-conscious when the voluntary approaches described above are used)*: https://www.darksky.org/our-work/lighting/lighting-for-industry/fsa/fsa-products/

Questions? Please contact your local Ecological Services Field Office or Regional Migratory Birds office for more information.

Using timers to turn lights off in office buildings is an effective and easy solution to keeping our night skies dark.

HOW TO IMPROVE YOUR LIGHTS

1. To adopt bird-conscious lighting, first evaluate individual or groups of lights wherever they occur, for example: buildings, parking lots, roadways, walkways, nighttime projects and construction, towers, and any supporting infrastructure. Evaluate lights for whether they are required, useful, or aesthetic. If you are in the design phase of the project, consider the questions below for outdoor and indoor lighting; if your project is already constructed, visit lit areas at nighttime and include visible indoor lighting in the evaluation. Below is an example data sheet for conducting an evaluation.

Location	Interior or Exterior	# of lights	Required or Useful (Y or N)	Aesthetic (Y or N)	Illuminating more than intended area (Y or N)	Steady burning (Y or N)	Color	Direction

2. Review the results of the evaluation using the if/then table below, create an action plan, and then implement the action plan.

If:	and:	then you should:
lighting is not required, useful, or aesthetic		turn the lighting off
lighting is required or useful	illuminating more than the intended area	physically adjust, shield, or lower exterior lighting and block interior lighting with blinds to only illuminate desired areas or switch to lower intensity or dimmer lighting
lighting is required or useful	steady-burning	use timers, dimmers, or motion sensors to turn lighting on/off as needed and turn lights off during spring and fall migration
lighting is required or useful	a 'colder' color (e.g., blue or white)	switch to warmer amber lighting (wavelength > 560 nm, color temperature < 3000 K)
lighting is required or useful	pointing upward (i.e., uplighting)	turn the lighting off during spring and fall migration or if this is not feasible, turn it off intermittently and during bad weather/low cloud ceiling
lighting is not required or useful but is aesthetic		discuss with the people using the lighting whether it can be turned off when not in use or made unnecessary by shifting activity from night to day

From: Ciappi, Michael A
Sent: Friday, January 19, 2024 1:14 PM
To: Bisbee, Holly
Cc: DSTAR_EA <DSTAR_EA@hq.dhs.gov>; Michael Denisi; Conover, Ross R
Subject: RE: [EXTERNAL] DSTAR Informal Consultation Request

Hi Holly,

Please see the attached U.S. Fish and Wildlife Service New Jersey Ecological Services Field Office not likely to adversely affect concurrence letter for the DSTAR project. Let me know if there are any issues or concerns.

Michael Ciappi ***{He/Him)***
Senior Fish and Wildlife Biologist
Conservation Planning Assistance

U.S. Fish and Wildlife Service | New Jersey Ecological Services Field Office | 4 E Jimmie Leeds Road, Suite 4 | Galloway, New Jersey 08205 |

From: Ciappi, Michael A
Sent: Wednesday, January 17, 2024 1:00 PM
To: Bisbee, Holly
Cc: DSTAR_EA <DSTAR_EA@hq.dhs.gov>; Michael Denisi
Subject: RE: [EXTERNAL] DSTAR Informal Consultation Request

Holly,

Thanks for all of this! That should be enough for us to work on finalizing our review. I will reach out if we need anything else. You should receive a letter from us for the ESA Section 7 consultation within the next few weeks.

Let me know if you have any questions in the meantime.

Michael Ciappi (*He/Him*)
Senior Fish and Wildlife Biologist
Conservation Planning Assistance

U.S. Fish and Wildlife Service | New Jersey Ecological Services Field Office | 4 E. Jimmie Leeds Road, Suite 4 | Galloway, New Jersey 08205 |

From: Bisbee, Holly
Sent: Wednesday, January 17, 2024 12:37 PM
To: Ciappi, Michael A
Cc: Michael Denisi; DSTAR_EA <DSTAR_EA@hq.dhs.gov>;

Subject: RE: [EXTERNAL] DSTAR Informal Consultation Request

Michael,
I hit 'send' too soon.

1. Attached is the official species list. We will replace in the Environmental Assessment.
2. Based on your recommendation, DHS would also like to make a may affect, not likely to adversely affect determination for TCB. This change will be reflected in the Final EA.
3. DHS confirms that the

4. DHS will contact our agency in the future to determine if re-initiation of ESA Section 7 consultation is necessary if project plans change or we are not able to employ the BMP.
5. No removal or modifications to structures (*i.e.*, buildings proposed for demolition or renovations to exterior areas bats may roost) that could potentially harm roosting bats are planned, however if DHS finds removal or modifications necessary, the action will be avoided from April 1 to September 30.

Please let me know if this email is sufficient or if you would like a signed letter response.

Thank you,
Holly

Holly J. Bisbee
Program Lead – National Environmental Policy Act (NEPA)
Environment, Safety, Health, and Energy Branch
Science and Technology Directorate
U.S. Department of Homeland Security

From: Ciappi, Michael A
Sent: Friday, January 12, 2024 11:40 AM
To: Bisbee, Holly
Subject: RE: [EXTERNAL] DSTAR Informal Consultation Request

Hello Holly,

Thanks for submitting the information within this Endangered Species Act (ESA) Section 7 consultation request. I will be leading the review of this consultation.

We submitted technical assistance ESA comments within our recent Environmental Assessment (EA) comments (attached) that can provide more information on the information requested below. As I mentioned in my earlier email today, I've put together a list of the additional information needed/comments for the ESA Section 7 consultation.

When you get a chance please complete and provide us with the following information so that we can receive all the necessary materials to finalize our review:

1. For this and future projects, please use the Service's Information for Planning and Consultation (IPaC) tool (available at: *https://ipac.ecosphere.fws.gov/*) to obtain an official species list. Requesting an official species list is required to ensure compliance with Section 7 of the ESA. We will not be able to complete the consultation without the official species list.

   Please send me a copy of the official species list once it has been requested/received.

2. A may affect, not likely to adversely affect determination has been made for the federally endangered northern long-eared bat (NLEB). To avoid potential delays in future construction, we also recommend that this determination is made for the proposed endangered tricolored bat (TCB). The same conservation measures explained below for NLEB would be recommended for TCB.

   As such, lease let us know if the Department of Homeland Security (DHS) would also like to make a may affect, not likely to adversely affect determination for TCB.

3. Please be aware that the NLEB is now an endangered species and that the 4(d) rule is no longer effective (since it was mentioned within Attachment 2 that you submitted). As such, please confirm the following recommendations:

   a. That the

      OR

   b. If

information within pages 4 to 5 and the enclosures of the EA comments.

4. Please confirm that you will contact our agency in the future to determine if re-initiation of ESA Section 7 consultation is necessary if project plans change and the

5. Please let us know if removal or modifications to structures (*i.e.*, buildings proposed for demolition or renovations to exterior areas bats may roost) that could potentially harm roosting bats can be avoided from April 1 to September 30.

   If not, we would request that the DHS survey or visibly inspect these structures for bats before construction begins. Please see the "For structure surveys" information within page 5 of our Environmental Assessment comments for additional information.

   Please let us know how the DHS intends to proceed.

Please reach out if you have any questions or concerns. FYI, I work from home Wednesdays through Fridays and won't hear the phone ring if you call. However, I try to remotely check voicemails as much as possible. If email is not preferred, the best way to talk with me is to schedule a team's meeting.

I look forward to chatting with you later today!

Thanks.

Michael Ciappi (*He/Him*)
Senior Fish and Wildlife Biologist
Conservation Planning Assistance

U.S. Fish and Wildlife Service | New Jersey Ecological Services Field Office | 4 E. Jimmie Leeds Road, Suite 4 | Galloway, New Jersey 08205 |

From: Bisbee, Holly
Sent: Wednesday, January 10, 2024 6:42 PM
To: NJFO Project Review, FW5 <NJFO_ProjectReview@fws.gov>
Cc: DSTAR_EA <DSTAR_EA@hq.dhs.gov>
Subject: [EXTERNAL] DSTAR Informal Consultation Request

Hello,

DHS S&T is proposing to conduct activities relating to the construction and operation of the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR), including supporting infrastructure (hereafter referred to as the "DSTAR Project"). The DSTAR Project would be located adjacent to existing Transportation Security Laboratory (TSL) facilities on Federal Aviation Administration's (FAA) William J. Hughes Technical Center (WJHTC) property, located in Egg Harbor Township, Atlantic County, New Jersey (NJ).

DHS S&T has determined the Proposed Action *may affect but is not likely to adversely affect* the Northern long-eared bat (*Myotis septentrionalis*), and would have *no effect* on all other federally listed species identified within the Proposed Action area. DHS S&T requests your concurrence with this determination.

Please see attached.

Sincerely,
Holly Bisbee

Holly J. Bisbee
Program Lead – National Environmental Policy Act (NEPA)
Environment, Safety, Health, and Energy Branch
Science and Technology Directorate
U.S. Department of Homeland Security

NEW JERSEY FIELD OFFICE, FISH AND WILDLIFE SERVICE CONCURRENCE

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Jersey Field Office
4 East Jimmie Leeds Road, Suite 4
Galloway, New Jersey 08205
(609) 646-9310

In Reply Refer To:
2024-0037210

January 19, 2024

Holly Bisbee
National Environmental Policy Act Program Lead
Science and Technology Directorate
Office of National Laboratories
United States Department of Homeland Security
Washington, D.C.

Reference: DSTAR Project, Egg Harbor Township, Atlantic County, New Jersey

The U.S. Fish and Wildlife Service (Service) has reviewed the above-referenced proposed project pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) (ESA) and the Migratory Bird Treaty Act of 1918 (40 Stat. 755, as amended; 16 U.S.C. 703-712 *et seq.*) (MBTA). The following comments do not address all Service concerns for fish and wildlife resources and do not preclude separate review and comment by the Service as afforded by other applicable environmental legislation.

A known occurrence or potential habitat for the following federally listed or proposed listed species is located on or near the project's action area. However, the Service concurs that the proposed project is not likely to adversely affect federally listed or proposed listed species for the reasons listed below.

Species	**Basis for Determination**
Northern long-eared bat (*Myotis septentrionalis,* endangered*)* and tricolored bat (*Perimyotis subflavus*, proposed endangered)	The project area appears to contain suitable habitat for Northern long-eared bat (NLEB) and tricolored bat (TCB). For NLEB, the project area is within 1.5 miles of a maternity capture site and is also within the range of potential summer habitat. For TCB, the project area may be within the range of potential summer habitat. As such, NLEB and TCB may forage and/or roost within the project area from April 1 to September 30. The project will include tree removal, which could destroy and/or degrade NLEB and TCB habitat. Additionally, the bats may roost in human made structures

	(*e.g.,* buildings) from April 1 to September 30. If modifications to structures is proposed, and bats are present, they may be affected. Cutting or other means of knocking down, bringing down, or trimming of trees that are greater than or equal to 3 inches diameter at breast height will be avoided from April 1 to September 30. Additionally, (if proposed) removal or modifications to structures (*i.e.*, buildings proposed for demolition or renovations to exterior areas bats may roost in) will also be avoided from April 1 to September 30. Through usage of these time of year restrictions, effects to bats are discountable.

In addition, the federal action agency, designated non-federal representative or non-federal project proponent has determined that the proposed action will have no effect to the following species: American chaffseed (*Schwalbea americana,* endangered) and swamp pink (*Helonias bullata*, threatened). Service concurrence with no effect determinations is not required under the ESA and is not included as part of this letter. The federal action agency, designated non-federal representative or non-federal project proponent is responsible for generating and maintaining adequate documentation in their files to support a no effect determination by following the instructions on our website listed below.

Except for the above-mentioned species, no other federally listed or proposed threatened or endangered flora or fauna under Service jurisdiction are known to occur within the proposed project's impact area. Therefore, no further consultation pursuant to the ESA is required. If additional information on federally listed species becomes available, or if project plans change, this determination may be reconsidered.

The monarch butterfly (*Danaus plexippus*) was made a candidate for ESA listing in December 2020. The monarch range includes all of New Jersey, and this species may occur in even small habitat patches within developed areas. The Service encourages adherence to best management practices for avoiding impacts to the monarch from project activities and improving habitat where possible; see *https://monarchjointventure.org/mjvprograms/science/roadside-habitat-for-monarchs/best-management-practices-resources*. Please refer to the monarch butterfly comments within the Service's Environmental Assessment (EA) review letter submitted to the Department of Homeland Security on January 12, 2024.

Please refer to this office's web site at *https://www.fws.gov/office/new-jersey-ecological-services/* for further information including federally listed and candidate species lists, procedures for requesting ESA review, the National Bald Eagle Management Guidelines, and contacts for obtaining information from the New Jersey Natural Heritage and Endangered and Nongame Species Programs regarding State-listed and other species of concern.

Migratory Bird Treaty Act

Thank you for submitting information regarding migratory birds within Attachment 2. Please refer to our EA comments/recommendations related to birds and the Migratory Bird Treaty Act for our comments.

Reviewing Biologist: MICHAEL CIAPPI
Digitally signed by MICHAEL CIAPPI
Date: 2021.01.19 12:57:42
Michael Ciappi

Authorizing Supervisor: ROSS CONOVER
Digitally signed by ROSS CONOVER
Date: 2024.01.19 13:04:57 -05'00'
Ross Conover

Appendix B
Stakeholder Correspondence

NOTICE OF AVAILABILITY SAMPLE LETTER

Under Secretary
U.S. Department of Homeland Security
Washington, DC

[DATE]

Science and Technology

The Honorable [Name]
United States [Senate/House]
Washington, DC [zipcode]

Dear [title / name]:

The purpose of this letter is to notify you of the 30-day public comment period beginning December 15, 2023, and to solicit your comments therein, regarding the U.S. Department of Homeland Security (DHS) Science and Technology Directorate's (S&T) proposal to construct and operate the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR), including supporting infrastructure (hereafter referred to as the "DSTAR Project"). The DSTAR Project would be located adjacent to existing Transportation Security Laboratory (TSL) facilities on Federal Aviation Administration's (FAA) William J. Hughes Technical Center (WJHTC) property, located in Egg Harbor Township, Atlantic County, New Jersey (NJ). The WJHTC property includes over 250 existing buildings and associated infrastructure and is classified as a "Military and Federal Installation Area" where permitted uses are those associated with the function of the installation or other public purpose uses.

DHS is preparing an Environmental Assessment (EA) to evaluate the potential impacts associated with the Proposed Action pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 United States Code §§ 4321 et seq.); the *Regulations Implementing the Procedural Provisions of NEPA* (40 Code of Federal Regulations [CFR] Parts 1500-1508); and the Department's own policies and practices on implementing NEPA. The Draft EA will be made available for viewing on: http://www.dhs.gov/national-environmental-policy-act.

No impacts to the public are anticipated and mitigation measures will be implemented to reduce and prevent impacts to the natural environment. Measures, such as consulting the U.S. Fish and Wildlife Service's Information for Planning and Consultation (IPaC) database, the New Jersey State Historic Preservation Office, and other appropriate federal and state environmental protection, natural resource, historic and cultural agencies, have been used during planning to prevent impacts to biological and cultural resources.

The TSL is a federal laboratory under the S&T Office of National Laboratories (ONL) and is responsible for researching, developing, testing, and evaluating technologies to detect and mitigate the threat of explosives and other weapons that may be used against the nation's transportation systems and infrastructure.

The DSTAR Project will interface with existing TSL operations by co-locating multiple laboratories that perform research and technical functions foundational to the entire breadth of the laboratory's mission. The research functions to be consolidated are currently performed in less-than-ideal temporary and ad-hoc facilities across the TSL campus. Co-location of the laboratories is needed to improve safety, enhance capabilities, and improve efficiency of TSL activities, while also allowing for the existing warehouse facilities to return to their original use – providing critical storage for test articles and technologies.

In addition to constructing the two new facilities, the Proposed Action includes elements to facilitate traffic flow and maintain security by installing new perimeter fencing and asphalt parking for the DSTAR Center. An existing gantry crane will be removed to make room for new construction.

DHS S&T appreciates receiving comments that you may have about the Draft EA within the 30-day public comment period. The Final EA will address relevant comments and concerns received from all interested parties during the public comment period. Following that, a Notice of Availability (NOA) announcing the completion and release of the Final EA and Finding of No Significant Impact (FONSI), if applicable, will be published on the aforementioned DHS website and in local newspapers on or around March 1, 2024.

Additionally, DHS S&T has published a Notice of Availability in *The Press of Atlantic City* and the *Vineland Daily Journal* newspapers to inform the public about the opportunity to review and comment on the Draft EA during the 30-day public comment period. All comments or questions regarding the Proposed Action, including those from you and from the public, including those from your constituents, may be submitted via email at: DSTAR_EA@hq.dhs.gov. It is important that any comments submitted include a reference to "DSTAR EA Comments" in the subject line. Thank you for your support of the DHS mission.

Respectfully,

Dimitri Kusnezov
Under Secretary

STAKEHOLDER COMMENT MATRIX

Comment ID	Commentor	Date Received	Method	Resource Areas	Summary	Response	Resolution Status
USFWS-1	Eric Schrading Field Supervisor New Jersey Ecological Services Field Office US Fish and Wildlife Service (USFWS)	12-Jan-24	Letter, via email	Biological resources	Outlined concerns about potential proposed project impacts and avoidance measures for proposed, listed, and candidate threatened and endangered species including the Northern Long-Eared Bat, the Tri-Colored Bat, the Little Brown Bat, the Monarch Butterfly, Frosted Elfin, and migratory birds, in general.	On January 17, 2024, DHS S&T emailed a response back to USFWS addressing their concerns and outlining the mitigation measures that would be undertaken to avoid impacting these species, such as avoiding tree removal and any removal or modifications to existing structures from April 1 to September 30.	Resolved
USFWS-2	Michael Ciappi Senior Fish and Wildlife Biologist Conservation Planning Assistance NJ Ecological Services Field Office USFWS	19-Jan-24	Letter, via email	Biological resources	On January 19, 2024, USFWS emailed a concurrence letter to DHS S&T.	No further response required	Resolved
NJPC-1	Ernest M. Deman, CPM New Jersey Pinelands Commission (NJPC)	4-Jan-24	Letter, via email	NJ Pinelands Consistency	Letter of review of NJ Pinelands requirements with recommendation to hold pre-application meeting.	No further response required	Resolved
USEPA-1	Arielle M. Benjamin Office of Strategic Programs US Environmental Protection Agency (USEPA) Region 2 (Northeast & Caribbean)	25-Jan-24	Letter, via email	General comment on NEPA language, Visual aesthetics, Air quality	The USEPA comments recommended replacement of the term “minimization” with “mitigation” to align with Council on Environmental Quality Guidance (40 CFR § 1500-1508); consulting with the Township of Egg Harbor regarding their standards for vegetation replanting; and noted support of the air emissions methodology, mitigation for reducing air emissions during construction, and ensuring fume hoods are properly maintained to avoid impacts to sensitive receptors 2 miles from the DSTAR Project Study Area.	No further response required	Resolved. DHS S&T will replace the term “minimization” with “mitigation” in the Final EA.

Comment ID	Commentor	Date Received	Method	Resource Areas	Summary	Response	Resolution Status
DSTAR3	Emilio Caucci New Jersey State Historic Preservation Office (NJ SHPO) NJ Dept of Environmental Protection	14-Dec-23	Letter, via email	Section 106 consultation	USFWS concurred with DHS S&T's finding of no adverse effects to historic properties for the proposed DSTAR Project (#HPO-L2023-093).	No further response required	Resolved
DN-1	Katelyn LucasDelaware Nation Tribal Historic Preservation OfficerDelaware Nation	13-Dec-23	Letter, via email	Section 106 consultation	Acceptance of invitation to consult and request for further information about the proposed project to assist them in their review and response.	On January 5, 2024, DHS S&T provided the Delaware Nation with the requested information, including the registered historic properties within a mile of the proposed project site along with a map showing their proximity.	Resolved
DN-2	Same as Comment ID DN-1	9-Jan-24	Letter, via email	Section 106 consultation	On January 9, 2024, The Delaware Nation requested a copy of the 1994 cultural resources survey report performed at the William J. Hughes Technical Center.	On January 10, 2024, DHS S&T provided a copy of the report.	Resolved
DN-3	Same as Comment ID DN-1	18-Jan-24	Letter, via email	Section 106 consultation	On January 18, 2024, the Delaware Nation requested additional maps showing the location of the proposed DSTAR Project relative to the Doughty Mill Complex, an historic property described in the 1994 cultural resources survey report.	On January 24, 2024, DHS S&T provided the requested maps.	Resolved
DN-4	Same as Comment ID DN-1	24-Jan-24	Letter, via email	Section 106 consultation	On January 24, 2024, the Delaware Nation informed DHS S&T that since the previous survey did not identify any Native American archaeological resources within the project area, they had no further concerns. The Delaware Nation requested they be notified immediately and work halted if any Native American archaeology is found during construction.	Consultation complete.	Resolved

Appendix C
Tribal Consultations

From: Bisbee, Holly
Sent: Wednesday, November 15, 2023 1:47 PM
To: sbachor@delawaretribe.org
Cc: DSTAR_EA <DSTAR_EA@hq.dhs.gov>
Subject: DHS S&T Proposed Project in Atlantic City NJ - Scoping and Invitation to Consult

Good Afternoon,

The United States Department of Homeland Security (DHS) Science and Technology Directorate (S&T) is proposing to construct and operate the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR), including supporting infrastructure (hereafter referred to as the "DSTAR Project") (Proposed Action) on Federal Aviation Administration's (FAA) William J. Hughes Technical Center (WJHTC) property, located in Egg Harbor Township, Atlantic County, New Jersey (NJ). DHS S&T invites your comments on the Proposed Action, in accordance with 36 Code of Federal Regulations (CFR) 800.3 and Section 106 of the National Historic Preservation Act of 1966 (NHPA). We are preparing an Environmental Assessment (EA) to evaluate the potential impacts associated with the Proposed Action pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 United States Code §§ 4321 et seq.); the White House Council on Environmental Quality *Regulations Implementing the Procedural Provisions of NEPA* (40 CFR Parts 1500-1508); and the Department's own policies and practices on implementing NEPA. The EA will be made available for viewing on dhs.gov.

We invite comments or requests to consult on the proposed action. I invite your responses by December 22, 2023, to me or via our general email inbox at DSTAR_EA@hq.dhs.gov. Until then, please let me know if I can answer any questions you may have.

Sincerely,
Holly

Holly J. Bisbee
Program Lead – National Environmental Policy Act (NEPA)
Environment, Safety, Health, and Energy Branch
Science and Technology Directorate
U.S. Department of Homeland Security

Science and Technology

Susan Bachor
Preservation Representative
Delaware Tribe of Indians
P.O. Box 64
Pocono Lake, PA 18347

Dear Ms. Bachor,

The U.S. Department of Homeland Security (DHS) is committed to using cutting-edge technologies and providing scientific expertise in its quest to make America safer. As such, the Science & Technology Directorate (S&T) is proposing to construct and operate the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR), including supporting infrastructure (hereafter referred to as the "DSTAR Project"). We recognize the sovereignty of Tribal Nations and support the nation-to-nation relationship between sovereign Indian Tribes and the United States.

DHS S&T would like to offer the opportunity to consult with the Delaware Tribe of Indians on this project. I invite your responses by December 22, 2023.

Project Overview:

The Transportation Security Lab (TSL) is a federal laboratory under S&T Office of National Laboratories (ONL) and is responsible for researching, developing, testing, and evaluating technologies to detect and mitigate the threat of explosives and other weapons that may be used against the nation's transportation systems and infrastructure.

The DSTAR Project will interface with existing TSL operations by co-locating multiple laboratories that perform research and technical functions foundational to the entire breadth of the laboratory's mission. The research functions to be consolidated are currently performed in less-than-ideal temporary and ad-hoc facilities across the TSL campus. Co-location of the laboratories is needed to improve safety, enhance capabilities, and improve efficiency of TSL activities, while also allowing for the existing warehouse facilities to return to their original use – providing critical storage for test articles and technologies.

In addition to constructing the two new facilities, the Proposed Action includes elements to facilitate traffic flow and maintain security by installing new perimeter fencing, and asphalt parking for the DSTAR Center. An existing gantry crane will be removed to make room for new construction.

Project Area:

The DSTAR Project would be located adjacent to existing TSL facilities on Federal Aviation Administration's (FAA) William J. Hughes Technical Center (WJHTC) property, located in Egg Harbor Township, Atlantic County, New Jersey (NJ). The WJHTC property includes over 250 existing buildings and associated infrastructure and is classified as a "Military and Federal Installation Area" where permitted uses are those associated with the function of the installation or other public purpose uses.

Invitation to Consult:

We value your history, culture, and experience in this area and would appreciate any input to help us identify any potential Tribal impacts this project may have. DHS S&T wishes to invite you to formally consult for the Proposed Action, in accordance with 36 Code of Federal Regulations (CFR) 800.3, Section 106 of the National Historic Preservation Act of 1966 (NHPA), and Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*. Email responses are preferred.

The lead Tribal Consultation Official for this project is Holly Bisbee. You can contact her at DSTAR_EA@hq.dhs.gov for additional information and to schedule the initial consultation meeting.

Sincerely,

KAVITA MAINKAR-PAHLAJANI

Digitally signed by KAVITA MAINKAR-PAHLAJANI
Date: 2023.11.09 10:16:45 -05'00'

Kavita Mainkar-Pahlajani
Program Manager

From: Bisbee, Holly
Sent: Wednesday, November 15, 2023 1:47 PM
To: tribe@delawaretribe.org
Cc: DSTAR_EA <DSTAR_EA@hq.dhs.gov>
Subject: DHS S&T Proposed Project in Atlantic City NJ - Scoping and Invitation to Consult

Good Afternoon,

The United States Department of Homeland Security (DHS) Science and Technology Directorate (S&T) is proposing to construct and operate the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR), including supporting infrastructure (hereafter referred to as the "DSTAR Project") (Proposed Action) on Federal Aviation Administration's (FAA) William J. Hughes Technical Center (WJHTC) property, located in Egg Harbor Township, Atlantic County, New Jersey (NJ). DHS S&T invites your comments on the Proposed Action, in accordance with 36 Code of Federal Regulations (CFR) 800.3 and Section 106 of the National Historic Preservation Act of 1966 (NHPA). We are preparing an Environmental Assessment (EA) to evaluate the potential impacts associated with the Proposed Action pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 United States Code §§ 4321 et seq.); the White House Council on Environmental Quality *Regulations Implementing the Procedural Provisions of NEPA* (40 CFR Parts 1500-1508); and the Department's own policies and practices on implementing NEPA. The EA will be made available for viewing on dhs.gov.

We invite comments or requests to consult on the proposed action. I invite your responses by December 22, 2023, to me or via our general email inbox at DSTAR_EA@hq.dhs.gov. Until then, please let me know if I can answer any questions you may have.

Sincerely,
Holly

Holly J. Bisbee
Program Lead – National Environmental Policy Act (NEPA)
Environment, Safety, Health, and Energy Branch
Science and Technology Directorate
U.S. Department of Homeland Security

Science and Technology

Jeremy Johnson
Tribal Historic Preservation Officer
Delaware Tribe of Indians
5100 Tuxedo Blvd.
Bartlesville, OK 74006-2838

Dear Mr. Johnson,

The U.S. Department of Homeland Security (DHS) is committed to using cutting-edge technologies and providing scientific expertise in its quest to make America safer. As such, the Science & Technology Directorate (S&T) is proposing to construct and operate the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR), including supporting infrastructure (hereafter referred to as the "DSTAR Project"). We recognize the sovereignty of Tribal Nations and support the nation-to-nation relationship between sovereign Indian Tribes and the United States.

DHS S&T would like to offer the opportunity to consult with the Delaware Tribe of Indians on this project. I invite your responses by December 22, 2023.

Project Overview:

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Invitation to Consult:

We value your history, culture, and experience in this area and would appreciate any input to help us identify any potential Tribal impacts this project may have. DHS S&T wishes to invite you to formally consult for the Proposed Action, in accordance with 36 Code of Federal Regulations (CFR) 800.3, Section 106 of the National Historic Preservation Act of 1966 (NHPA), and Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*. Email responses are preferred.

The lead Tribal Consultation Official for this project is Holly Bisbee. You can contact her at DSTAR_EA@hq.dhs.gov for additional information and to schedule the initial consultation meeting.

Sincerely,

KAVITA MAINKAR-PAHLAJANI

Digitally signed by KAVITA MAINKAR-PAHLAJANI
Date: 2023.11.09 10:17:55 -05'00'

Kavita Mainkar-Pahlajani
Program Manager

From: Bisbee, Holly
Sent: Wednesday, November 15, 2023 1:47 PM
To: bkillscrow@delawaretribe.org
Cc: DSTAR_EA <DSTAR_EA@hq.dhs.gov>
Subject: DHS S&T Proposed Project in Atlantic City NJ - Scoping and Invitation to Consult

Good Afternoon,

The United States Department of Homeland Security (DHS) Science and Technology Directorate (S&T) is proposing to construct and operate the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR), including supporting infrastructure (hereafter referred to as the "DSTAR Project") (Proposed Action) on Federal Aviation Administration's (FAA) William J. Hughes Technical Center (WJHTC) property, located in Egg Harbor Township, Atlantic County, New Jersey (NJ). DHS S&T invites your comments on the Proposed Action, in accordance with 36 Code of Federal Regulations (CFR) 800.3 and Section 106 of the National Historic Preservation Act of 1966 (NHPA). We are preparing an Environmental Assessment (EA) to evaluate the potential impacts associated with the Proposed Action pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 United States Code §§ 4321 et seq.); the White House Council on Environmental Quality *Regulations Implementing the Procedural Provisions of NEPA* (40 CFR Parts 1500-1508); and the Department's own policies and practices on implementing NEPA. The EA will be made available for viewing on dhs.gov.

We invite comments or requests to consult on the proposed action. I invite your responses by December 22, 2023, to me or via our general email inbox at DSTAR_EA@hq.dhs.gov. Until then, please let me know if I can answer any questions you may have.

Sincerely,
Holly

Holly J. Bisbee
Program Lead – National Environmental Policy Act (NEPA)
Environment, Safety, Health, and Energy Branch
Science and Technology Directorate
U.S. Department of Homeland Security

Science and Technology

Brad KillsCrow
Chief
Delaware Tribe of Indians
5100 Tuxedo Blvd.
Bartlesville, OK 74006-2838

Dear Chief KillsCrow,

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Sincerely,

Kavita Mainkar-Pahlajani
Program Manager

From: Bisbee, Holly
Sent: Wednesday, November 15, 2023 1:47 PM
To: ddotson@delawarenation-nsn.gov
Cc: DSTAR_EA <DSTAR_EA@hq.dhs.gov>
Subject: DHS S&T Proposed Project in Atlantic City NJ - Scoping and Invitation to Consult

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Sincerely,
Holly

Holly J. Bisbee
Program Lead – National Environmental Policy Act (NEPA)
Environment, Safety, Health, and Energy Branch
Science and Technology Directorate
U.S. Department of Homeland Security

Science and Technology

Deborah Dotson
President
Delaware Nation
P.O. Box 825
Anadarko, OK 73005

Dear President Dotson,

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The lead Tribal Consultation Official for this project is Holly Bisbee. You can contact her at DSTAR_EA@hq.dhs.gov for additional information and to schedule the initial consultation meeting.

Sincerely,

KAVITA MAINKAR-PAHLAJANI

Digitally signed by KAVITA MAINKAR-PAHLAJANI
Date: 2023.11.09 10:14:04 -05'00'

Kavita Mainkar-Pahlajani
Program Manager

From: Bisbee, Holly
Sent: Wednesday, November 15, 2023 1:47 PM
To: klucas@delawarenation-nsn.gov
Cc: DSTAR_EA <DSTAR_EA@hq.dhs.gov>
Subject: DHS S&T Proposed Project in Atlantic City NJ - Scoping and Invitation to Consult

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Sincerely,
Holly

Holly J. Bisbee
Program Lead – National Environmental Policy Act (NEPA)
Environment, Safety, Health, and Energy Branch
Science and Technology Directorate
U.S. Department of Homeland Security

Science and Technology

Katelyn Lucas
Tribal Historic Preservation Officer
Delaware Nation
P.O. Box 825
Anadarko, OK 73005

Dear Ms. Lucas,

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Sincerely,

KAVITA MAINKAR-PAHLAJANI

Digitally signed by KAVITA MAINKAR-PAHLAJANI
Date: 2023.11.09 10:14:57 -05'00'

Kavita Mainkar-Pahlajani
Program Manager

From: Bisbee, Holly
Sent: Wednesday, November 15, 2023 1:47 PM
To: chief@shawnee-tribe.com
Cc: DSTAR_EA <DSTAR_EA@hq.dhs.gov>
Subject: DHS S&T Proposed Project in Atlantic City NJ - Scoping and Invitation to Consult

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Holly

Holly J. Bisbee
Program Lead – National Environmental Policy Act (NEPA)
Environment, Safety, Health, and Energy Branch
Science and Technology Directorate
U.S. Department of Homeland Security

Science and Technology

Benjamin Barnes
Chief
Shawnee Tribe
29 South Highway 69A
Miami, OK 74354

Dear Chief Barnes,

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DHS S&T would like to offer the opportunity to consult with the Shawnee Tribe on this project. I invite your responses by December 22, 2023.

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KAVITA MAINKAR-PAHLAJANI

Digitally signed by KAVITA MAINKAR-PAHLAJANI
Date: 2023.11.09 10:46:19 -05'00'

Kavita Mainkar-Pahlajani
Program Manager

From: Bisbee, Holly
Sent: Wednesday, November 15, 2023 1:47 PM
To: tonya@shawnee-tribe.com
Cc: DSTAR_EA <DSTAR_EA@hq.dhs.gov>
Subject: DHS S&T Proposed Project in Atlantic City NJ - Scoping and Invitation to Consult

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Holly

Holly J. Bisbee
Program Lead – National Environmental Policy Act (NEPA)
Environment, Safety, Health, and Energy Branch
Science and Technology Directorate
U.S. Department of Homeland Security

Science and Technology

Tonya Tipton
Tribal Historic Preservation Officer
Shawnee Tribe
29 South Highway 69A
Miami, OK 74354

Dear Ms. Tipton,

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KAVITA MAINKAR-PAHLAJANI

Digitally signed by KAVITA MAINKAR-PAHLAJANI
Date: 2023.11.09 10:47:02 -05'00'

Kavita Mainkar-Pahlajani
Program Manager

DELAWARE NATION CORRESPONDENCE

Delaware Nation
Tribal Historic Preservation Department
31064 State Highway 281
Anadarko, OK 73005

December 13, 2023

To Whom It May Concern:

The Delaware Nation Historic Preservation Department received correspondence regarding the following referenced project(s):

Project:

Dept Homeland Security Detection Sciences Testing & Applied Research Center construction Atlantic County NJ

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires federal agencies to consider the effects on historic properties of projects they carry out, assist, fund, permit, license, or approve throughout the country. The Section 106 process begins when a federal or federally-assisted project has the potential to affect historic properties, if any are present (achp.gov). In accordance with Section 106 as amended (16 U.S.C. 470f) and implementing regulation 36 CFR 800, "Protection of Historic Properties," **Delaware Nation accepts your invitation for consultation on this project.**

Our office is committed to protecting tribal heritage, culture, and religion with particular concern for Native American archaeological sites potentially containing burials and associated funerary objects. **In order to meet the federal Section 106 requirements for us to properly review and respond to your project within 30 days, our office must receive the following information.** Please also read through our attached consultation preferences prior to submitting a request.

- Name of project and project number (if applicable)
- Address and/or Geographic coordinates of project including Town/City, County, and State of project
- Funding Federal Agency
- Description of ground disturbing work (**especially a specific depth of ground disturbance**, and any information or **documentation for proven prior depth of ground disturbance** within the APE)
- List of registered historic properties **and/or any known archaeological sites** within a mile of the project
- Any supporting shapefiles, Google Earth files, or maps of the project APE (especially any noting proximity to existing archaeological sites)
- Responses from SHPO or other consulting federally recognized tribes (when received)
- Any existing Cultural/Archaeological Resource Survey Reports within APE or half mile of APE, and/or indicate if there are any plans for forthcoming surveys
    - ***Please note**:* we are not necessarily requesting a survey at this stage, we just want to know if there are any past survey reports for the area and/or existing plans for new surveys which can inform our review
    - ***If applicable:*** Provide name, CV, and contact information for principal investigator and/or all archaeologists who conducted any field surveys or produce cultural survey reports

Delaware Nation
Tribal Historic Preservation Department
31064 State Highway 281
Anadarko, OK 73005

- ***For all archaeology work:*** Include project site plan maps depicting labeled shovel test locations
- At the end of this letter, I have included our Cultural Resource Survey Report Standards for your convenience.

Please note that Delaware Nation, the Delaware Tribe of Indians, and the Stockbridge Munsee Community are the only Federally Recognized Delaware/Lenape entities in the United States, and government to government consultation for Lenape homelands must be made with only the designated staff of these three sovereign Nations (and/or other federally recognized tribal Nations who may have overlapping areas of interest). It is Delaware Nation's official governmental policy that we do not acknowledge or work with any non-federally recognized groups claiming Native identity in order to protect our tribal sovereignty. We appreciate your cooperation in contacting the Delaware Nation Historic Preservation Office to conduct proper Section 106 consultation. Should you have any questions, feel free to contact our offices at 405-247-2448 ext. 1403.

Katelyn Lucas

Katelyn Lucas
Tribal Historic Preservation Officer
Delaware Nation
405-544-8115
klucas@delawarenation-nsn.gov

Delaware Nation
Tribal Historic Preservation Department
31064 State Highway 281
Anadarko, OK 73005

Delaware Nation Section 106 Consultation Preferences

- Our office prefers digital copies sent via email to our acting THPO and/or Director of Historic Preservation.
    - Digital copies will ensure a quicker review time than hard copies. There are currently only two staff members reviewing projects and since we process over 300 emails per month, we do not have the capacity to check hard copies on a consistent basis.
    - Please check our official website for updated contact information. General databases (i.e. TDAT) are often not current. If you are unsure, please call our tribal administration office to be directed to the correct department. Failure to do so may result in your emails bouncing back thus our office never receiving your request.
- Please ensure you update our contact information. We do not like to receive several copies of the same requests because your office has not done its due diligence in updating contact lists for the Tribes with whom you consult with.
    - This can be solved with a quick phone call to the Tribe's administration office or checking our website.
    - Please be sure that your office actually updates our contact information when asked to do so or when that information has been received.
- Do not send requests to our Tribal Leader unless otherwise directed to do so. Contacting our leadership directly is <u>not</u> considered respectful consultation.
    - For example, you would not submit a review to the state governor and expect the SHPO to receive your email and respond.
    - We have a signed agreement between our Nation and the Secretary of the Interior executed through the NPS designating our office, and our THPO, as the official point of contact.
    - It is our governmental function to receive consultation requests and update our leadership accordingly.
    - You may copy our elected officials; however, all correspondence must be sent to our office or your request will not have been officially received by the Delaware Nation.
- We ask that you provide in your Section 106 request, at minimum, a brief description of the undertaking, an explanation of proposed ground disturbance which includes the expected <u>depth</u> of disturbance, the agency's determination of effect, a description of any attachments or relevant information about the project and your contact information. Descriptive information about your organization is not necessary.

Delaware Nation
Tribal Historic Preservation Department
31064 State Highway 281
Anadarko, OK 73005

Cultural Resource Survey Report Standards

Below are the requirements for a cultural resource survey report that will enable the Delaware Office of Historic Preservation to efficiently and effectively assess the proposed project. Please include in all reports:

1. Abstract
    a. Brief summary of the project, survey results, and recommendations
2. Introduction
    a. Introduce project and project design
3. Environmental Setting
    a. Specific location, legal description, composition of project site
    b. General location, geomorphology, landform, soils, vegetation, hydrology
4. Cultural History
    a. Brief overview of cultural occupation represented in locale
5. File Search and Previous Research
    a. Results of file search in state database for previously recorded archaeological sites and review of previous archaeological investigations
    b. The file search should be for both below ground archaeological sites and above ground historic sites as some states have two repositories for this information
6. Field Methods and Analytical Techniques
    a. How field survey and analysis were conducted
    b. Include project site plan maps depicting labeled shovel test locations
7. Results of Archaeological Field Investigations
    a. Review of finding and identification of National Register of Historic Places
    b. Always provide full list of any artifacts found and where they were found
8. Recommendations
    a. Summarization of archaeological sites identified, NRHP determinations, and project recommendations
9. References Cited

Science and Technology

January 05, 2024

Ms. Katelyn Lucas
Tribal Historic Preservation Officer
Delaware Nation
Tribal Historic Preservation Department
31064 State Highway 281
Anadarko, OK 73005

Via email: klucas@delawarenation-nsn.gov

Dear Ms. Lucas,

We appreciate your timely response and acceptance for consultation. In response to your letter of December 13, 2023, regarding the Delaware Nation's acceptance for consultation on the construction of the proposed project in fulfillment of consultation for Section 106 of the National Historic Preservation Act of 1966 (NHPA), the Department of Homeland Security (DHS) Science and Technology Directorate (S&T) offers the following response to your request for additional information. We have also read the referenced consultation preferences you provided and will adhere to them for any future consultations with the Delaware Nation.

Requested Information Responses:

Name of project and project number: DHS S&T Transportation Security Lab (TSL) Detection Sciences Testing & Applied Research Center (DSTAR) and the associated Facility for Energetic Materials Research (FEMR), together with ancillary projects, is referred to as the "DSTAR Project". There is no project number currently assigned to this project.

Address and/or Geographic coordinates of project including Town/City, County, and State of project: *Address*: U.S. Department of Homeland Security, William J. Hughes Technical Center, Atlantic City International Airport, Egg Harbor Township, Atlantic County, New Jersey 08405. *Geographic coordinates*: 39°26'37.41"N, 74°33'33.17"W

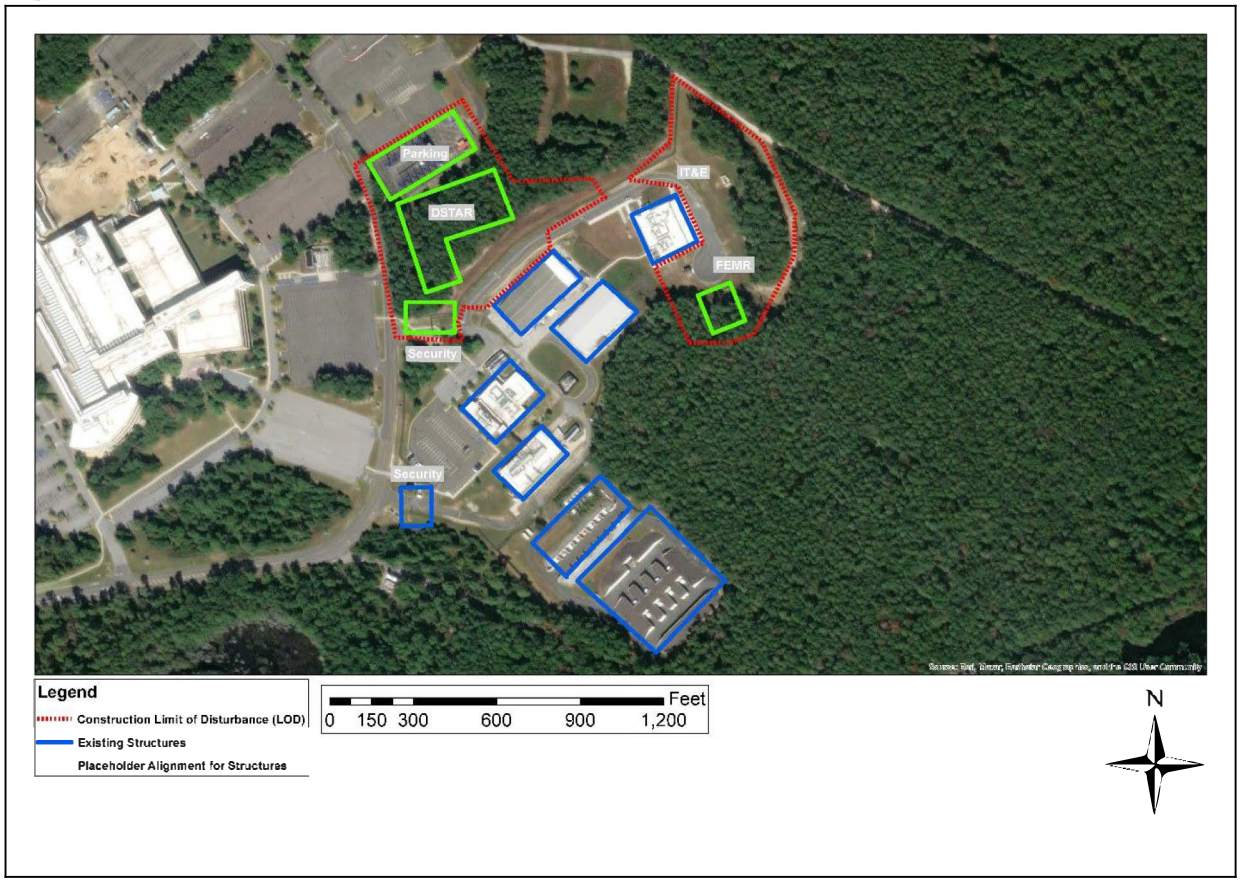
Funding Federal Agency: Department of Homeland Security, Science & Technology Directorate

Description of ground disturbing work (especially a specific depth of ground disturbance, and any information or documentation for proven prior depth of ground disturbance within the area of potential effects (APE): The limit of disturbance (LOD) is where the physical construction of the DSTAR Project elements would occur and include both developed and undeveloped (wooded) grounds. These elements include the DSTAR Center (the building

and apron, parking, utility corridors, fencing), FEMR (the building and apron), and supporting infrastructure including but not limited to new pavements, hardscape, utility corridors, and fencing. The depth of ground disturbance is anticipated to be no deeper than six (6) feet below ground surface.

Although the final design of the DSTAR Project has not yet been developed, the conceptual plan for the location of the DSTAR Center is within an approximately 6-acre area as shown in Figure 1.

Figure 1. DSTAR Project Study Area



This 6-acre area is situated between the developed portions of TSL to the south and an asphalt-paved parking area to the north. This 6-acre area includes an approximately 1.5-acre asphalt paved area in its northern portion and an approximately 4.5-acre wooded upland forested area in the remainder of the LOD. The wooded area is effectively isolated from other undeveloped land at WJHTC.

The conceptual location for the FEMR is within an approximately 4-acre LOD on the northeastern portion of the DSTAR Project Study Area, southeast of the IT&E building and asphalt-paved cul-de-sac, and partially within a 1.5-acre wooded upland forested area to the east. The 4-acre LOD includes 2.5 acres of an existing asphalt-paved cul-de-sac and landscaped grounds, and 1.5 acres of wooded upland area. The wooded area is isolated from other WJHTC woodlands to the east by the TSL security corridor, which is 50-feet wide and improved with a

perimeter fence and routine mowing. The footprint of FEMR is approximately 0.2 acres and may be partially or entirely within the 1.5-acre wooded area.

The final design for the DSTAR Project may require adjustment of building, parking, and road alignments to meet functional, operational, security, or other requirements, resulting in the need to disturb grounds within or immediately adjacent to the current DSTAR Project Study Area. Therefore, additional tree clearing may occur, however any tree clearing will be performed within the LOD.

List of registered historic properties and/or any known archaeological sites within a mile of the project: To identify listed properties at the DSTAR Project Study Area, a search was performed using the New Jersey Historic Preservation Officer (NJHPO) cultural resources database and the National Register of Historic Places (NRHP) database. Below ground historic properties of a sensitive nature are not publicly listed in the database. Properties listed in the NRHP possess historic significance and integrity and take the form of either a building, site, structure, object, or district. The databases indicate that there are no listed properties within the DSTAR Project Study Area. According to the NJHPO database, the nearest NRHP-eligible properties are located in the town of Absecon approximately 3.5 miles east of the DSTAR Project Study Area.

Additionally, in 1994, a Cultural Resources Survey was conducted for the entire WJHTC (Hunter Research, 1994; reference provided below) which concluded that there is no evidence of historic or archaeological resources occurring in the vicinity of the proposed DSTAR Project Study Area

Any supporting shapefiles, Google Earth files, or maps of the project APE (especially any noting proximity to existing archaeological sites): There are no supporting shapefiles, Google Earth files, or maps of the project APE.

Responses from SHPO or other consulting federally recognized Tribes (when received): On December 14, 2023, the NJ State Historic Preservation Officer concurred with DHS's finding of no adverse effects to historic properties. The Delaware Nation is the first federally recognized Tribe to accept DHS S&T's invitation to consult on the DSTAR Project.

Any existing Cultural/Archaeological Resource Survey Reports within APE or half mile of APE, and/or indicate if there are any plans for forthcoming surveys: In 1994, FAA completed a Stage IA, IB, and II Cultural Resources Survey for the entire WJHTC (Hunter Research, Stage 1A Survey, Archaeological & Historic Literature Search, FAA Technical Center, Galloway, Great Egg Harbor and Hamilton Townships, Atlantic County, New Jersey, 1994; Hunter Research, Stage 1B and II Cultural Resources Surveys, FAA Technical Center, Galloway, Great Egg Harbor and Hamilton Townships, Atlantic County, New Jersey, 1994).

Currently, there is no plan for additional surveys.

Closing:

We value the Delaware Nation's history and culture and your experience in this area. We would appreciate any additional input to help us identify any potential Tribal impacts associated

with this project. We hope that this information is responsive to your request. If you have additional questions or need additional information, please reach out to Holly Bisbee, the lead Tribal Consultation Official for this project. You can contact her at DSTAR_EA@hq.dhs.gov for additional information or to schedule a consultation meeting. Additionally, a draft Environmental Assessment is available for review at Draft Environmental Assessment (dhs.gov) which provides more detail regarding the Proposed Action and potential impacts.

Sincerely,

HOLLY J BISBEE

Digitally signed by HOLLY J BISBEE
Date: 2024.01.05 16:34:12 -05'00'

Holly Bisbee, on behalf of,
Kavita Mainkar-Pahlajani
Program Manager

Enclosures:

1. DHS S&T Invitation to Consult, November 11, 2023
2. Delaware Nation Response, December 13, 2023
3. New Jersey SHPO Concurrence, December 14, 2023

From: Katelyn Lucas
Sent: Wednesday, January 24, 2024 5:30 PM
To: Bisbee, Holly
Cc: DSTAR_EA <DSTAR_EA@hq.dhs.gov>
Subject: RE: DHS S&T Proposed Project in Atlantic City NJ - Scoping and Invitation to Consult

Thank you for this. Since the previous survey did not identify any Native American archaeological resources within the project area, we won't have concerns. However we do request to be notified immediately and work halted if any Native American archaeology is found during construction.

Sincerely,

Katelyn Lucas
Delaware Nation Tribal Historic Preservation Officer
PhD Candidate

From: Bisbee, Holly
Sent: Wednesday, January 24, 2024 8:45 AM

To: Katelyn Lucas
Cc: DSTAR_EA
Subject: RE: DHS S&T Proposed Project in Atlantic City NJ - Scoping and Invitation to Consult

Hi Katelyn

We put together the attached to provide you with an idea of where the Doughty Mill Complex site is with relation to the Project study area. You will see that it's roughly 0.75mi away. I'm also attaching the NJ SHPO concurrence with our determination that there will be no impact to Cultural Resources.

Thank you,
Holly

From: Katelyn Lucas
Sent: Thursday, January 18, 2024 12:00 AM
To: Bisbee, Holly
Subject: RE: DHS S&T Proposed Project in Atlantic City NJ - Scoping and Invitation to Consult

Thank you for this. Do you have any more recent maps which could show me where exactly this project is located, in comparison to some of the locations pinpointed in the report? It was mentioned in the original documents for this project that the 1994 report suggest that there is no archaeological sensitivity for your project area. But I'm seeing in the 1994 report that they were recommending further Phase II work be done, at least for the Doughty Mill Complex site, but I'm unclear on where that particular site is in location to your project. Any clarification you could provide would be helpful, thanks.

Sincerely,

Katelyn Lucas
Delaware Nation Tribal Historic Preservation Officer
PhD Candidate

From: Bisbee, Holly
Sent: Wednesday, January 10, 2024 2:28 PM
To: Katelyn Lucas
Cc: DSTAR_EA; Cross, Catherine
Subject: RE: DHS S&T Proposed Project in Atlantic City NJ - Scoping and Invitation to Consult

Dear Ms Lucas,
Please find attached a pdf copy of the 1994 cultural resources survey.

Thank you,
Holly

From: Katelyn Lucas
Sent: Tuesday, January 9, 2024 7:40 PM
To: Bisbee, Holly
Cc: DSTAR_EA <DSTAR_EA@hq.dhs.gov>; Cross, Catherine

Subject: RE: DHS S&T Proposed Project in Atlantic City NJ - Scoping and Invitation to Consult

Hello,

Would you be able to send us a copy of the 1994 cultural resources survey work that was done? We would like to review that to inform our determination. Thank you.

Sincerely,

Katelyn Lucas
Delaware Nation Tribal Historic Preservation Officer
PhD Candidate

From: Bisbee, Holly
Sent: Friday, January 5, 2024 4:39 PM
To: Katelyn Lucas
Cc: DSTAR_EA; Cross, Catherine
Subject: RE: DHS S&T Proposed Project in Atlantic City NJ - Scoping and Invitation to Consult

Dear Ms. Lucas,

We appreciate your timely response and acceptance for consultation. In response to your letter of December 13, 2023, regarding the Delaware Nation's acceptance for consultation on the construction of the proposed project in fulfillment of consultation for Section 106 of the National Historic Preservation Act of 1966 (NHPA), the Department of Homeland Security (DHS) Science and Technology Directorate (S&T) offers the following response to your request for additional information. Additionally, a draft Environmental Assessment is available for review at Draft

Environmental Assessment (dhs.gov) which provides more detail regarding the Proposed Action and potential impacts.

We have also read the referenced consultation preferences you provided and will adhere to them for any future consultations with the Delaware Nation.

Sincerely,
Holly

From: Katelyn Lucas
Sent: Wednesday, December 13, 2023 12:58 PM
To: Bisbee, Holly
Cc: DSTAR_EA <DSTAR_EA@hq.dhs.gov>
Subject: RE: DHS S&T Proposed Project in Atlantic City NJ - Scoping and Invitation to Consult

Hello,

Please see the attached letter accepting consultation and requesting more information to complete our review.

Sincerely,

Katelyn Lucas
Delaware Nation Tribal Historic Preservation Officer
PhD Candidate

From: Bisbee, Holly
Sent: Wednesday, November 15, 2023 1:46 PM
To: Katelyn Lucas
Cc: DSTAR_EA
Subject: DHS S&T Proposed Project in Atlantic City NJ - Scoping and Invitation to Consult

Good Afternoon,

The United States Department of Homeland Security (DHS) Science and Technology Directorate (S&T) is proposing to construct and operate the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research (FEMR), including supporting infrastructure (hereafter referred to as the "DSTAR Project") (Proposed Action) on Federal Aviation Administration's (FAA) William J. Hughes Technical Center (WJHTC) property, located in Egg Harbor Township, Atlantic County, New Jersey (NJ). DHS S&T invites your comments on the Proposed Action, in accordance with 36 Code of Federal Regulations (CFR) 800.3 and Section 106 of the National Historic Preservation Act of 1966 (NHPA). We are preparing an Environmental Assessment (EA) to evaluate the potential impacts associated with the Proposed Action pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 United States Code §§ 4321 et seq.); the White House Council on Environmental Quality *Regulations Implementing the Procedural Provisions of NEPA* (40 CFR Parts 1500-1508); and the Department's own policies and practices on implementing NEPA. The EA will be made available for viewing on dhs.gov.

We invite comments or requests to consult on the proposed action. I invite your responses by December 22, 2023, to me or via our general email inbox at DSTAR_EA@hq.dhs.gov. Until then, please let me know if I can answer any questions you may have.

Sincerely,
Holly

Appendix D
Supporting Background Information

NOTICE OF AVAILABILITY

NOTICE OF AVAILABILITY

Environmental Assessment for the
Detection Sciences Testing and Applied Research and
Facility for Energetic Material Research Projects
Department of Homeland Security
Science & Technology Directorate

The U.S. Department of Homeland Security (DHS) Science and Technology Directorate (S&T), Transportation Security Lab (TSL) announces the availability of an Environmental Assessment (EA) analyzing the potential environmental impacts associated with the construction and operation of the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research, together with supporting infrastructure.

The TSL is a DHS S&T federal laboratory located at the Federal Aviation Administration's William J. Hughes Technical Center, Atlantic City International Airport, in Egg Harbor Township, Atlantic County, New Jersey. The TSL is a federal laboratory is responsible for researching, developing, testing, and evaluating technologies to detect and mitigate the threat of explosives and other weapons that may be used against the Nation's transportation systems and infrastructure. The DSTAR Project would serve to fill existing capability gaps and outstanding needs. No impacts to the public are anticipated and mitigation measures will be implemented to reduce and prevent impacts to the natural environment.

The EA has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code §§ 4321 et seq.); the *Regulations Implementing the Procedural Provisions of NEPA* (40 Code of Federal Regulations [CFR] Parts 1500-1508); and the Department's own policies and practices on implementing NEPA. The EA is available to view/download electronically at http://www.dhs.gov/national-environmental-policy-act..

Comments or questions on the EA may be directed in writing to: Kavita Mainkar, Program Manager, Office of National Laboratories, DHS, S&T, via email at: DSTAR_EA@hq.dhs.gov. Comments must be received within 30 days following publication of this notice. Thank you for your support of the DHS mission.

PUBLICATION AFFIDAVITS

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stoneham MA 02810
Acct: 1263539

Client:

andrew glucksman
105 central street suite 4100
stoneham MA 02810
Acct: 1263539

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I, HAVING KNOWLEDGE OF THE FACTS, CERTIFY AND DECLARE THAT THE GOODS HAVE BEEN RECEVIED OR THE SERVICES RENDERED AND ARE IN COMPLIANCE WITH THE SPECIFICATIONS OR OTHER REQUIREMENTS, AND SAID CERTIFICATION IS BASED ON SIGNED DELIVERY SLIPS OR OTHER REASONABLE PROCEDURES OR VERIFIABLE INFORMATION.

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I CERTIFY AND DECLARE THAT THIS ORDER CONFIRMATION IS CORRECT, AND THAT SUFFICIENT FUNDS ARE AVELABLE TO SATISFY THIS CLAIM. THE PAYMENT SHALL BE CHARGEABLE TO:

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Brown County

Of the **Daily Journal**, a newspaper printed in Freehold, New Jersey and published in Vineland, in State of New Jersey and Cumberland County, and of general circulation in Cumberland County, who being duly sworn, deposeth and saith that the advertisement of which the annexed is a true copy, has been Published in said newspaper in the issue:

12/15/2023

Legal Clerk

Notary Public State of Wisconsin County of Brown

5.15.27

My commission expires

NANCY HEYRMAN
Notary Public
State of Wisconsin

NOTICE OF AVAILABILITY
Environmental Assessment for the
Detection Sciences Testing and Applied Research and
Facility for Energetic Material Research Projects
Department of Homeland Security
Science & Technology Directorate

The U.S. Department of Homeland Security (DHS) Science and Technology Directorate (S&T), Transportation Security Lab (TSL) announces the availability of an Environmental Assessment (EA) analyzing the potential environmental impacts associated with the construction and operation of the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research, together with supporting infrastructure.

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The EA has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code §§ 4321 et seq.); the Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508); and the Department's own policies and practices on implementing NEPA. The EA is available to view/download electronically at http://www.dhs.gov/national-environmental-policy-act.

Comments or questions on the EA may be directed in writing to: Kavita Mainkar, Program Manager, Office of National Laboratories, DHS, S&T, via email at: DSTAR_EA@hq.dhs.gov. Comments must be received within 30 days following publication of this notice. Thank you for your support of the DHS mission.

December 15 2023
LNYS0042271
$30.42

THE PRESS OF ATLANTIC CITY

See Proof on Next Page

AFFIDAVIT OF PUBLICATION

State of New Jersey, County of Hudson, ss:

Ayesha Carletta M Cochran-Worthen, being first duly sworn, deposes and says: That (s)he is a duly authorized signatory of Column Software, PBC, duly authorized agent of The Press of Atlantic City, a newspaper printed and published in the City of Linwood, distributed in the following counties: Atlantic, Camden, Cape May, Cumberland, Gloucester, and Ocean and mailed to various parts of the State of New Jersey, the United States, and foreign countries, does hereby certify that the Notice was published in The Press of Atlantic City on:

PUBLICATION DATES:
Dec. 16, 2023

NOTICE ID: gBPUXOm9TCFyTycuTPCa
PUBLISHER ID: COL2445
NOTICE NAME: DHS DSART EA Draft NOA - Press Atlantic City
Publication Fee: 62.72

All interested parties may rely upon the representations contained herein limited solely to the authenticity of the Notice accompanying this Certification to be an accurate reproduction of the same and the date upon which it was published.

I certify that the foregoing statements made by me are true. I am aware that if any of the foregoing statements made by me are willfully false, I am subject to punishment.

(Signed) Ayesha Carletta M Cochran-Worthen

VERIFICATION

State of New Jersey
County of Hudson

SHANNEA H HOLMES
NOTARY PUBLIC
STATE OF NEW JERSEY
My Commission Expires August 1, 2026

Subscribed in my presence and sworn to before me on this: 12/19/2023

Shannea H. Holmes
Notary Public
This notarial act involved the use of communication technology

NOTICE OF AVAILABILITY

Environmental Assessment for the Detection Sciences Testing and Applied Research and Facility for Energetic Material Research Projects Department of Homeland Security Science & Technology Directorate

The U.S. Department of Homeland Security (DHS) Science and Technology Directorate (S&T), Transportation Security Lab (TSL) announces the availability of an Environmental Assessment (EA) analyzing the potential environmental impacts associated with the construction and operation of the Detection Sciences, Testing and Applied Research (DSTAR) Center and the associated Facility for Energetic Materials Research, together with supporting infrastructure.

The TSL is a DHS S&T federal laboratory located at the Federal Aviation Administration's William J. Hughes Technical Center, Atlantic City International Airport, in Egg Harbor Township, Atlantic County, New Jersey. The TSL is a federal laboratory is responsible for researching, developing, testing, and evaluating technologies to detect and mitigate the threat of explosives and other weapons that may be used against the Nation's transportation systems and infrastructure. The DSTAR Project would serve to fill existing capability gaps and outstanding needs. No impacts to the public are anticipated and mitigation measures will be implemented to reduce and prevent impacts to the natural environment.

The EA has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code §§ 4321 et seq.); the Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508); and the Department's own policies and practices on implementing NEPA. The EA is available to view/download electronically at: http://www.dhs.gov/national-environmental-policy-act.

Comments or questions on the EA may be directed in writing to: Kavita Mainkar, Program Manager, Office of National Laboratories, DHS, S&T, via email at: DSTAR_EA@hq.dhs.gov. Comments must be received within 30 days following publication of this notice. Thank you for your support of the DHS mission.
Printer Fee: $62.72
Pub Date: December 16th, 2023

Order #: COL2445

RECORD OF NON-APPLICABILITY (RONA)

RECORD OF NON-APPLICABILITY (RONA)
DSTAR Project

1. General Information: This Record of Non-Applicability (RONA) is based on the Air Conformity Applicability Model (ACAM), which was used to assess the potential air quality impact/s associated with the action in accordance with the General Conformity Rule (GCR, 40 CFR 93 Subpart B) and the Environmental Impact Analysis Process (EIAP, 32 CFR 989). This RONA provides a summary of the ACAM analysis.

a. Action Location:

Location: Transportation Security Lab, Federal Aviation Administration, William J. Hughes Technical Center, Egg Harbor Township, Atlantic County, New Jersey
State: New Jersey
County(s): Atlantic
Regulatory Area(s): Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE

b. Action Title: Detection Sciences Testing and Applied Research and Facility for Energetic Material Research Projects, Transportation Security Lab, Federal Aviation Administration, William J. Hughes Technical Center, Egg Harbor Township, Atlantic County, New Jersey, Science and Technology Directorate, Department of Homeland Security, Washington, D.C.

c. Project Number/s (if applicable):

d. Projected Action Start Date: 1 / 2026

e. Action Description:

The purpose of the Proposed Action is to fill existing capability gaps and outstanding needs and to provide the necessary infrastructure to enable Material Characterization, Trace Detection Technology T&E, Methods and Tools, Explosives Synthesis and Preparation, and Full-Scale Shock and Thermal Testing.
The need for the Proposed Action is to meet critical mission needs and ensure TSL's mission capabilities to protect the homeland are met.

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

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

Conformity Analysis Summary:

2026

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE			
VOC	0.234	50	No
NOx	1.355	100	No
CO	2.005		
SOx	0.004		
PM 10	0.046		
PM 2.5	0.046		
Pb	0.000		
NH3	0.002		
CO2e	428.5		

RECORD OF NON-APPLICABILITY (RONA)
DSTAR Project

2027

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE			
VOC	0.507	50	No
NOx	2.909	100	No
CO	4.156		
SOx	0.010		
PM 10	5.004		
PM 2.5	0.101		
Pb	0.000		
NH3	0.004		
CO2e	990.8		

2028

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE			
VOC	0.571	50	No
NOx	0.388	100	No
CO	0.451		
SOx	0.002		
PM 10	0.024		
PM 2.5	0.024		
Pb	0.000		
NH3	0.000		
CO2e	264.3		

2029 - (Steady State)

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE			
VOC	0.010	50	No
NOx	0.177	100	No
CO	0.148		
SOx	0.001		
PM 10	0.013		
PM 2.5	0.013		
Pb	0.000		
NH3	0.000		
CO2e	212.6		

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

_____ _____

[Signatory] DATE

ATTACHMENT A

Supporting Calculations

RECORD OF NON-APPLICABILITY (RONA)
DSTAR Project

1. General Information

- Action Location

Location: Transportation Security Lab, Federal Aviation Administration, William J. Hughes Technical Center, Egg Harbor Township, Atlantic County, New Jersey

State: New Jersey

County(s): Atlantic

Regulatory Area(s): Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE

- Action Title: DSTAR and FEMR

- Project Number/s (if applicable):

- Projected Action Start Date: 1 / 2026

- Action Purpose and Need:

The purpose of the Proposed Action is to fill existing capability gaps and outstanding needs and to provide the necessary infrastructure to enable Material Characterization, Trace Detection Technology T&E, Methods and Tools, Explosives Synthesis and Preparation, and Full-Scale Shock and Thermal Testing.

The need for the Proposed Action is to meet critical mission needs and ensure TSL's mission capabilities to protect the homeland are met.

- Action Description:

Construct and operate DSTAR and FEMR. Demolish B315. Renovate and restore Buildings B318 and B319. Construct parking area and site improvements.

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Demolish Building 315 Annex
3.	Heating	HVAC for DSTAR and FEMR

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

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location

County: Atlantic

Regulatory Area(s): Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE

- Activity Title: Demolish Building 315 Annex

- Activity Description:

1. Demolish existing Building 315 Annex
2. Construct DSTAR
3. Construct FEMR
4. Construct supporting infrastructure elements

Project is 5.5 years, but construction is FY2026 and FY2027 per Alternative Analysis.

The square footage of the DSTAR and FEMR design was also perturbed between 40,000 ft2 and 4,300 ft2.

It is estimated that approximately 2,500 square feet (ft2) of forest will be impacted by FEMR (50% of its footprint), and 64,000 ft2 of forest will be impacted by DSTAR and pavements. Pavements over 30,000 ft2.

- Activity Start Date
Start Month: 1
Start Month: 2026

- Activity End Date
Indefinite: False
End Month: 3
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	1.302315
SO_x	0.014760
NO_x	4.475012
CO	6.464006
PM 10	5.059955

Pollutant	Total Emissions (TONs)
PM 2.5	0.156841
Pb	0.000000
NH_3	0.005932
CO_2e	1471.0

2.1 Demolition Phase

2.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 6
Number of Days: 0

2.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 2000
Height of Building to be demolished (ft): 20

- Default Settings Used: Yes

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

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	6

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

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

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

- Worker Trips Vehicle Mixture (%)

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

2.1.3 Demolition Phase Emission Factor(s)

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

Concrete/Industrial Saws Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0336	0.0006	0.2470	0.3705	0.0093	0.0093	0.0030	58.539
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

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

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.192	000.002	000.097	002.801	000.004	000.004		000.024	00307.111
LDGT	000.212	000.003	000.169	003.164	000.006	000.005		000.026	00401.039
HDGV	000.878	000.006	000.872	013.616	000.025	000.022		000.052	00923.910
LDDV	000.077	000.001	000.080	003.096	000.003	000.002		000.008	00310.104
LDDT	000.086	000.001	000.121	002.131	000.003	000.003		000.009	00362.685
HDDV	000.127	000.004	002.514	001.592	000.044	000.040		000.032	01232.634
MC	002.487	000.003	000.654	011.966	000.022	000.019		000.053	00389.398

2.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

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

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

- Worker Trips Emissions per Phase

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

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

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

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

2.2 Site Grading Phase

2.2.1 Site Grading Phase Timeline Assumptions

- Phase Start Date

Start Month: 1
Start Quarter: 1
Start Year: 2027

- Phase Duration

Number of Month: 6
Number of Days: 0

2.2.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft^2): 80000

Amount of Material to be Hauled On-Site (yd^3): 10000
Amount of Material to be Hauled Off-Site (yd^3): 10000

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

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

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

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

- Worker Trips Vehicle Mixture (%)

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

2.2.3 Site Grading Phase Emission Factor(s)

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

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

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

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.192	000.002	000.097	002.801	000.004	000.004		000.024	00307.111
LDGT	000.212	000.003	000.169	003.164	000.006	000.005		000.026	00401.039
HDGV	000.878	000.006	000.872	013.616	000.025	000.022		000.052	00923.910
LDDV	000.077	000.001	000.080	003.096	000.003	000.002		000.008	00310.104
LDDT	000.086	000.001	000.121	002.131	000.003	000.003		000.009	00362.685
HDDV	000.127	000.004	002.514	001.592	000.044	000.040		000.032	01232.634
MC	002.487	000.003	000.654	011.966	000.022	000.019		000.053	00389.398

2.2.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

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

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

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

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

- Worker Trips Emissions per Phase

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

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

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

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

2.3 Trenching/Excavating Phase

2.3.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date
Start Month: 6
Start Quarter: 1
Start Year: 2027

- Phase Duration
Number of Month: 4
Number of Days: 0

2.3.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information
Area of Site to be Trenched/Excavated (ft^2): 3000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 18000

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

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Other General Industrial Equipmen Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

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

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

- Worker Trips Vehicle Mixture (%)

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

2.3.3 Trenching / Excavating Phase Emission Factor(s)

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

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

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

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**Pb**	**NH_3**	**CO_2e**
LDGV	000.192	000.002	000.097	002.801	000.004	000.004		000.024	00307.111
LDGT	000.212	000.003	000.169	003.164	000.006	000.005		000.026	00401.039
HDGV	000.878	000.006	000.872	013.616	000.025	000.022		000.052	00923.910
LDDV	000.077	000.001	000.080	003.096	000.003	000.002		000.008	00310.104
LDDT	000.086	000.001	000.121	002.131	000.003	000.003		000.009	00362.685
HDDV	000.127	000.004	002.514	001.592	000.044	000.040		000.032	01232.634
MC	002.487	000.003	000.654	011.966	000.022	000.019		000.053	00389.398

2.3.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

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

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

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

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

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

2.4 Building Construction Phase

2.4.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 24
Number of Days: 0

2.4.2 Building Construction Phase Assumptions

- General Building Construction Information

Building Category: Office or Industrial
Area of Building (ft^2): 45000
Height of Building (ft): 20
Number of Units: N/A

- Building Construction Default Settings

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

- Construction Exhaust (default)

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

- Vehicle Exhaust

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

- Vehicle Exhaust Vehicle Mixture (%)

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

- Worker Trips

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

- Worker Trips Vehicle Mixture (%)

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

- Vendor Trips

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

- Vendor Trips Vehicle Mixture (%)

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

2.4.3 Building Construction Phase Emission Factor(s)

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

Cranes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0680	0.0013	0.4222	0.3737	0.0143	0.0143	0.0061	128.77
Forklifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0236	0.0006	0.0859	0.2147	0.0025	0.0025	0.0021	54.449
Generator Sets Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0287	0.0006	0.2329	0.2666	0.0080	0.0080	0.0025	61.057
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872
Welders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0214	0.0003	0.1373	0.1745	0.0051	0.0051	0.0019	25.650

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

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**Pb**	**NH_3**	**CO_2e**
LDGV	000.192	000.002	000.097	002.801	000.004	000.004		000.024	00307.111
LDGT	000.212	000.003	000.169	003.164	000.006	000.005		000.026	00401.039
HDGV	000.878	000.006	000.872	013.616	000.025	000.022		000.052	00923.910
LDDV	000.077	000.001	000.080	003.096	000.003	000.002		000.008	00310.104
LDDT	000.086	000.001	000.121	002.131	000.003	000.003		000.009	00362.685
HDDV	000.127	000.004	002.514	001.592	000.044	000.040		000.032	01232.634
MC	002.487	000.003	000.654	011.966	000.022	000.019		000.053	00389.398

2.4.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

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

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

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

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

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

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

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

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

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

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

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

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

2.5 Architectural Coatings Phase

2.5.1 Architectural Coatings Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 3
Number of Days: 0

2.5.2 Architectural Coatings Phase Assumptions

- General Architectural Coatings Information
Building Category: Non-Residential
Total Square Footage (ft^2): 45000
Number of Units: N/A

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

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

- Worker Trips Vehicle Mixture (%)

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

2.5.3 Architectural Coatings Phase Emission Factor(s)

- Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.192	000.002	000.097	002.801	000.004	000.004		000.024	00307.111
LDGT	000.212	000.003	000.169	003.164	000.006	000.005		000.026	00401.039
HDGV	000.878	000.006	000.872	013.616	000.025	000.022		000.052	00923.910
LDDV	000.077	000.001	000.080	003.096	000.003	000.002		000.008	00310.104
LDDT	000.086	000.001	000.121	002.131	000.003	000.003		000.009	00362.685
HDDV	000.127	000.004	002.514	001.592	000.044	000.040		000.032	01232.634
MC	002.487	000.003	000.654	011.966	000.022	000.019		000.053	00389.398

2.5.4 Architectural Coatings Phase Formula(s)

- Worker Trips Emissions per Phase
$VMT_{WT} = (1 * WT * PA) / 800$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
1: Conversion Factor man days to trips (1 trip / 1 man * day)
WT: Average Worker Round Trip Commute (mile)
PA: Paint Area (ft^2)
800: Conversion Factor square feet to man days (1 ft^2 / 1 man * day)

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

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

- Off-Gassing Emissions per Phase
$VOC_{AC} = (AB * 2.0 * 0.0116) / 2000.0$

VOC_{AC}: Architectural Coating VOC Emissions (TONs)
BA: Area of Building (ft^2)
2.0: Conversion Factor total area to coated area (2.0 ft^2 coated area / total area)
0.0116: Emission Factor (lb/ft^2)
2000: Conversion Factor pounds to tons

2.6 Paving Phase

2.6.1 Paving Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2028

- Phase Duration
Number of Month: 2
Number of Days: 0

2.6.2 Paving Phase Assumptions

- General Paving Information
Paving Area (ft^2): 30000

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

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	7
Paving Equipment Composite	1	8
Rollers Composite	1	7
Tractors/Loaders/Backhoes Composite	1	7

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

- Vehicle Exhaust Vehicle Mixture (%)

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

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

- Worker Trips Vehicle Mixture (%)

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

2.6.3 Paving Phase Emission Factor(s)

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

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0442	0.0012	0.2021	0.3473	0.0068	0.0068	0.0039	122.60
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

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

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**Pb**	**NH_3**	**CO_2e**
LDGV	000.192	000.002	000.097	002.801	000.004	000.004		000.024	00307.111
LDGT	000.212	000.003	000.169	003.164	000.006	000.005		000.026	00401.039
HDGV	000.878	000.006	000.872	013.616	000.025	000.022		000.052	00923.910
LDDV	000.077	000.001	000.080	003.096	000.003	000.002		000.008	00310.104
LDDT	000.086	000.001	000.121	002.131	000.003	000.003		000.009	00362.685
HDDV	000.127	000.004	002.514	001.592	000.044	000.040		000.032	01232.634
MC	002.487	000.003	000.654	011.966	000.022	000.019		000.053	00389.398

2.6.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

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

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

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

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
PA: Paving Area (ft^2)
0.25: Thickness of Paving Area (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

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

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

- Worker Trips Emissions per Phase

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

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

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

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

- Off-Gassing Emissions per Phase

VOC_P = (2.62 * PA) / 43560

VOC_P: Paving VOC Emissions (TONs)
2.62: Emission Factor (lb/acre)
PA: Paving Area (ft^2)
43560: Conversion Factor square feet to acre (43560 ft2 / $acre)^2$ / acre)

3. Heating

3.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Atlantic
Regulatory Area(s): Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE

- Activity Title: HVAC for DSTAR and FEMR

- Activity Description:
Heating and Cooling for DSTAR and FEMR

- Activity Start Date
Start Month: 1
Start Year: 2028

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions:

Pollutant	Emissions Per Year (TONs)
VOC	0.009711
SO_x	0.001059
NO_x	0.176571
CO	0.148320
PM 10	0.013419

Pollutant	Emissions Per Year (TONs)
PM 2.5	0.013419
Pb	0.000000
NH_3	0.000000
CO_2e	212.6

3.2 Heating Assumptions

- Heating
Heating Calculation Type: Heat Energy Requirement Method

- Heat Energy Requirement Method
Area of floorspace to be heated (ft^2): 45000
Type of fuel: Natural Gas
Type of boiler/furnace: Commercial/Institutional (0.3 - 9.9 MMBtu/hr)
Heat Value ($MMBtu/ft^3$): 0.00105
Energy Intensity ($MMBtu/ft^2$): 0.0824

- Default Settings Used: Yes

- Boiler/Furnace Usage
Operating Time Per Year (hours): 900 (default)

3.3 Heating Emission Factor(s)

- Heating Emission Factors (lb/1000000 scf)

VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
5.5	0.6	100	84	7.6	7.6			120390

3.4 Heating Formula(s)

- Heating Fuel Consumption ft^3 per Year

FC_{HER}= HA * EI / HV / 1000000

FC_{HER}: Fuel Consumption for Heat Energy Requirement Method
HA: Area of floorspace to be heated (ft^2)
EI: Energy Intensity Requirement ($MMBtu/ft^2$)
HV: Heat Value ($MMBTU/ft^3$)
1000000: Conversion Factor

- Heating Emissions per Year

HE_{POL}= FC * EF_{POL} / 2000

HE_{POL}: Heating Emission Emissions (TONs)
FC: Fuel Consumption
EF_{POL}: Emission Factor for Pollutant
2000: Conversion Factor pounds to tons

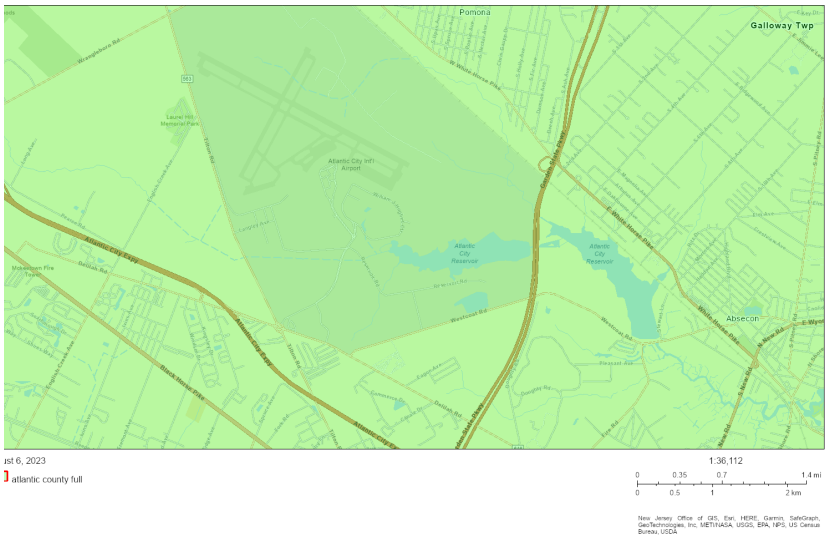
EJ SCREEN COMMUNITY REPORT – ATLANTIC COUNTY

EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Atlantic County, NJ

County: Atlantic
Population: 273,865
Area in square miles: 671.83



LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	73%
Spanish	16%
French, Haitian, or Cajun	1%
Russian, Polish, or Other Slavic	1%
Other Indo-European	4%
Chinese (including Mandarin, Cantonese)	1%
Vietnamese	1%
Tagalog (including Filipino)	1%
Total Non-English	27%

COMMUNITY INFORMATION

- Low income: 30 percent
- People of color: 44 percent
- Less than high school education: 12 percent
- Limited English households: 5 percent
- Unemployment: 9 percent
- Persons with disabilities: 15 percent
- Male: 49 percent
- Female: 51 percent
- 80 years — Average life expectancy
- $36,143 — Per capita income
- Number of households: 105,277
- Owner occupied: 67 percent

BREAKDOWN BY RACE

- White: 62%
- Black: 14%
- Asian: 8%
- Hispanic: 19%
- American Indian: 1%
- Hawaiian/Paci c Islander: 0%
- Other race: 9%
- Two or more races: 7%

BREAKDOWN BY AGE

From Ages 1 to 4	5%
From Ages 1 to 18	21%
From Ages 18 and up	79%
From Ages 65 and up	18%

LIMITED ENGLISH SPEAKING BREAKDOWN

Speak Spanish	61%
Speak Other Indo-European Languages	17%
Speak Asian-Pacific Island Languages	19%
Speak Other Languages	3%

Notes: Numbers may not sum to totals due to rounding. Hispanic popultion can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

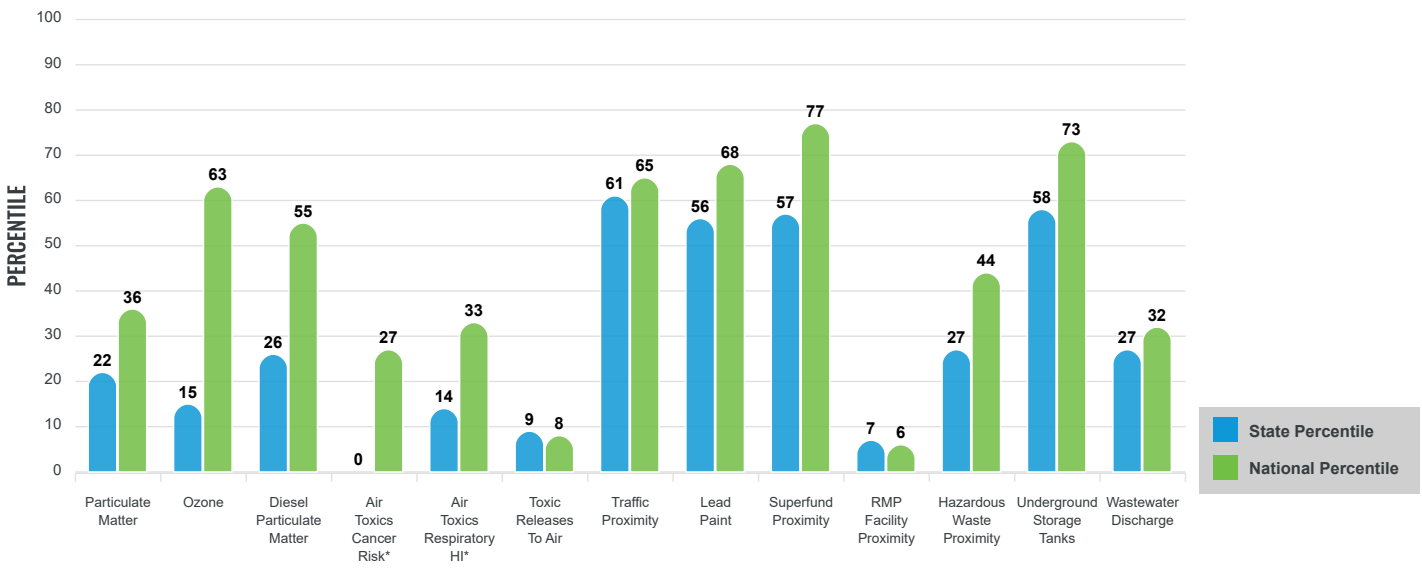
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

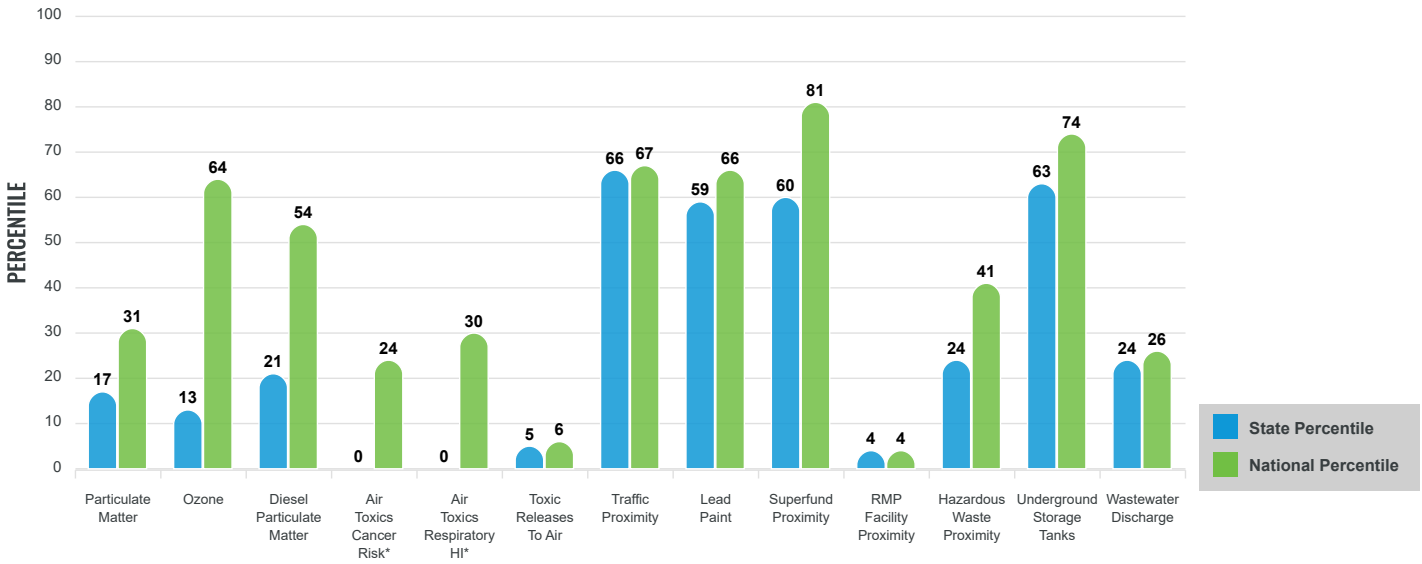
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes o er a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for County: Atlantic

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m^3)	7.03	8.05	11	8.08	21
Ozone (ppb)	61	63.9	6	61.6	49
Diesel Particulate Matter (µg/m^3)	0.158	0.414	7	0.261	33
Air Toxics Cancer Risk* (lifetime risk per million)	20	29	0	28	3
Air Toxics Respiratory HI*	0.21	0.33	0	0.31	4
Toxic Releases to Air	5	1,100	5	4,600	7
Traffic Proximity (daily traffic count/distance to road)	110	210	50	210	60
Lead Paint (% Pre-1960 Housing)	0.31	0.44	37	0.3	59
Superfund Proximity (site count/km distance)	0.29	0.45	61	0.13	90
RMP Facility Proximity (facility count/km distance)	0.026	0.3	3	0.43	3
Hazardous Waste Proximity (facility count/km distance)	0.17	2.8	14	1.9	31
Underground Storage Tanks (count/km^2)	6.9	15	47	3.9	83
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.00027	0.045	29	22	37
SOCIOECONOMIC INDICATORS					
Demographic Index	37%	33%	63	35%	61
Supplemental Demographic Index	15%	12%	72	14%	62
People of Color	44%	45%	55	39%	62
Low Income	30%	22%	73	31%	55
Unemployment Rate	9%	6%	74	6%	77
Limited English Speaking Households	5%	7%	63	5%	75
Less Than High School Education	12%	10%	72	12%	65
Under Age 5	5%	5%	56	6%	54
Over Age 64	18%	17%	65	17%	61
Low Life Expectancy	19%	18%	65	20%	48

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within de ned area:

Superfund 6
Hazardous Waste, Treatment, Storage, and Disposal Facilities 3
Water Dischargers 390
Air Pollution 181
Brownfields 20
Toxic Release Inventory 17

Other community features within de ned area:

Schools 77
Hospitals 6
Places of Worship 45

Other environmental data:

Air Non-attainment ..... Yes
Impaired Waters ..... Yes

Selected location contains American Indian Reservation Lands* ..... No
Selected location contains a "Justice40 (CEJST)" disadvantaged community ..... Yes
Selected location contains an EPA IRA disadvantaged community ..... Yes

Report for County: Atlantic

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	19%	18%	65	20%	48
Heart Disease	6.6	5.6	84	6.1	60
Asthma	10.1	9.5	73	10	55
Cancer	6.4	6.1	54	6.1	52
Persons with Disabilities	14.4%	10.6%	82	13.4%	62

CLIMATE INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	29%	11%	90	12%	90
Wildfire Risk	31%	6%	93	14%	84

CRITICAL SERVICE GAPS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	12%	10%	69	14%	54
Lack of Health Insurance	8%	7%	66	9%	57
Housing Burden	Yes	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	Yes	N/A	N/A	N/A	N/A

Footnotes

Report for County: Atlantic

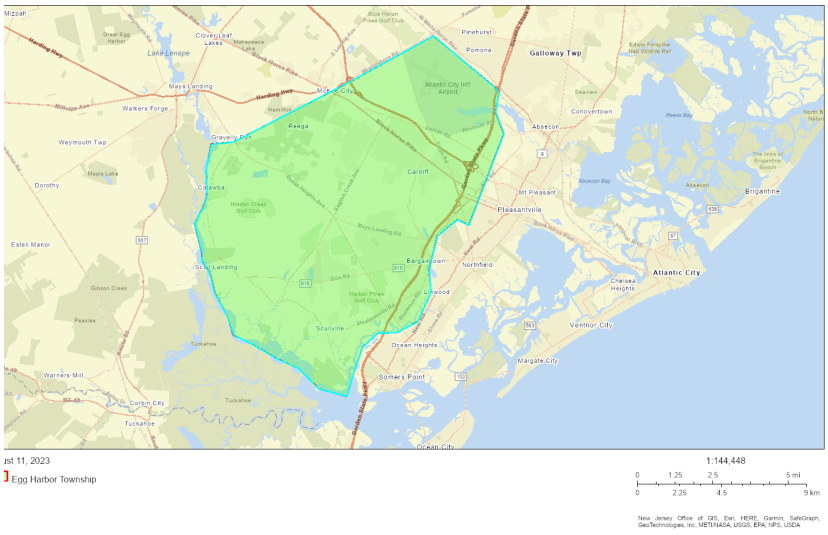
EJ SCREEN COMMUNITY REPORT – ENGLISH CREEK

EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

English Creek, NJ

the User Specified Area
Population: 51,001
Area in square miles: 72.93



COMMUNITY INFORMATION

- Low income: 21 percent
- People of color: 40 percent
- Less than high school education: 8 percent
- Limited English households: 3 percent
- Unemployment: 8 percent
- Persons with disabilities: 14 percent
- Male: 49 percent
- Female: 51 percent
- 77 years — Average life expectancy
- $38,460 — Per capita income
- Number of households: 17,846
- Owner occupied: 85 percent

BREAKDOWN BY RACE

- White: 65%
- Black: 8%
- Asian: 12%
- Hispanic: 16%
- American Indian: 0%
- Hawaiian/Pacific Islander: 0%
- Other race: 9%
- Two or more races: 7%

BREAKDOWN BY AGE

From Ages 1 to 4	6%
From Ages 1 to 18	24%
From Ages 18 and up	76%
From Ages 65 and up	16%

LIMITED ENGLISH SPEAKING BREAKDOWN

Speak Spanish	42%
Speak Other Indo-European Languages	23%
Speak Asian-Pacific Island Languages	35%
Speak Other Languages	0%

Notes: Numbers may not sum to totals due to rounding. Hispanic popultion can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	74%
Spanish	11%
Russian, Polish, or Other Slavic	1%
Other Indo-European	5%
Korean	1%
Chinese (including Mandarin, Cantonese)	2%
Vietnamese	1%
Tagalog (including Filipino)	3%
Total Non-English	26%

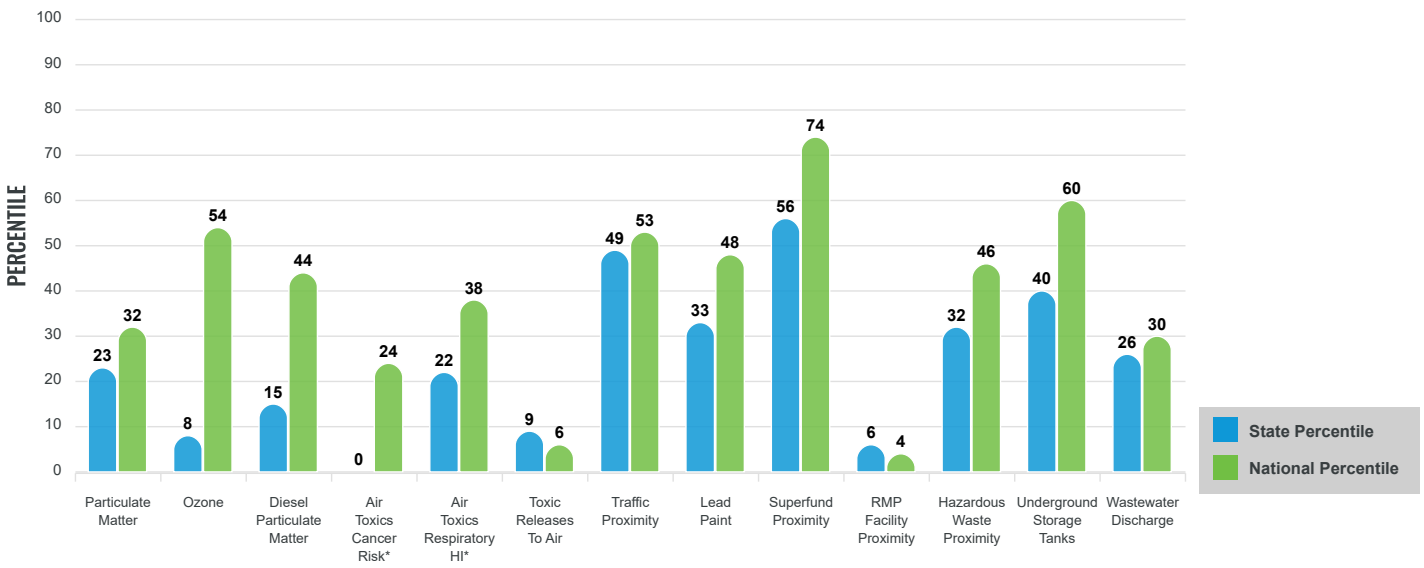
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

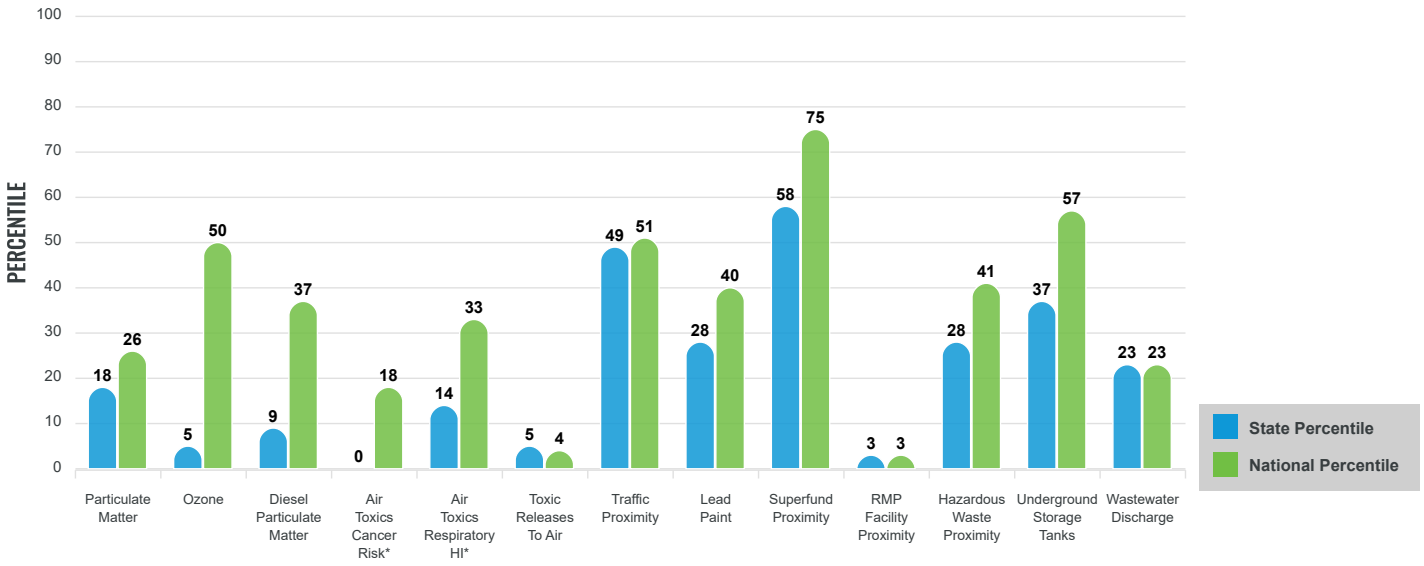
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than highschool education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for the User Specified Area

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m^3)	7.07	8.05	12	8.08	21
Ozone (ppb)	60.5	63.9	3	61.6	45
Diesel Particulate Matter (µg/m^3)	0.144	0.414	4	0.261	30
Air Toxics Cancer Risk* (lifetime risk per million)	20	29	0	28	3
Air Toxics Respiratory HI*	0.22	0.33	0	0.31	4
Toxic Releases to Air	1.6	1,100	4	4,600	5
Traffic Proximity (daily traffic count/distance to road)	75	210	36	210	49
Lead Paint (% Pre-1960 Housing)	0.12	0.44	19	0.3	38
Superfund Proximity (site count/km distance)	0.23	0.45	55	0.13	88
RMP Facility Proximity (facility count/km distance)	0.024	0.3	2	0.43	2
Hazardous Waste Proximity (facility count/km distance)	0.22	2.8	20	1.9	38
Underground Storage Tanks (count/km^2)	1.9	15	25	3.9	57
Wastewater Discharge (toxicity-weighted concentration/m distance)	2.5E-05	0.045	17	22	22
SOCIOECONOMIC INDICATORS					
Demographic Index	31%	33%	54	35%	52
Supplemental Demographic Index	12%	12%	60	14%	46
People of Color	40%	45%	51	39%	59
Low Income	21%	22%	61	31%	39
Unemployment Rate	8%	6%	72	6%	75
Limited English Speaking Households	3%	7%	53	5%	67
Less Than High School Education	8%	10%	59	12%	51
Under Age 5	6%	5%	60	6%	59
Over Age 64	16%	17%	55	17%	51
Low Life Expectancy	19%	18%	63	20%	46

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund 1
Hazardous Waste, Treatment, Storage, and Disposal Facilities 1
Water Dischargers 83
Air Pollution 26
Brownfields 0
Toxic Release Inventory 2

Other community features within defined area:

Schools 9
Hospitals 0
Places of Worship 7

Other environmental data:

Air Non-attainment ..... Yes
Impaired Waters ..... Yes

Selected location contains American Indian Reservation Lands* ..... No
Selected location contains a "Justice40 (CEJST)" disadvantaged community ..... Yes
Selected location contains an EPA IRA disadvantaged community ..... Yes

Report for the User Specified Area

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	19%	18%	63	20%	46
Heart Disease	5.4	5.6	50	6.1	37
Asthma	9.5	9.5	57	10	36
Cancer	5.9	6.1	43	6.1	43
Persons with Disabilities	13.4%	10.6%	77	13.4%	55

CLIMATE INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	6%	11%	56	12%	45
Wildfire Risk	16%	6%	92	14%	82

CRITICAL SERVICE GAPS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	6%	10%	42	14%	30
Lack of Health Insurance	5%	7%	52	9%	40
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	Yes	N/A	N/A	N/A	N/A

Footnotes

Report for the User Specified Area

U.S. FISH AND WILDLIFE SERVICE LIST OF THREATENED AND ENDAGANGERED SPECIES

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Jersey Ecological Services Field Office
4 E. Jimmie Leeds Road, Suite 4
Galloway, NJ 08205
Phone: (609) 646-9310

In Reply Refer To:
Project Code: 2024-0037210

January 17, 2024

Project Name: Detection Sciences Testing and Applied Research and Facility for Energetic Material Research Project

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

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

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

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

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

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

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

This species list is provided by:

New Jersey Ecological Services Field Office
4 E. Jimmie Leeds Road, Suite 4
Galloway, NJ 08205
(609) 646-9310

PROJECT SUMMARY

Project Code: 2024-0037210

Project Name: Detection Sciences Testing and Applied Research and Facility for Energetic Material Research Project

Project Type: Government / Municipal (Non-Military) Construction

Project Description: The DSTAR Project would be located adjacent to existing Transportation Security Laboratory (TSL) facilities on Federal Aviation Administration's (FAA) William J. Hughes Technical Center (WJHTC) property, located in Egg Harbor Township, Atlantic County, New Jersey (NJ). In addition to constructing the two new facilities, the Proposed Action includes elements to facilitate traffic flow and maintain security by installing new perimeter fencing and asphalt parking for the DSTAR Center. An existing gantry crane will be removed to make room for new construction. Although the final design of the DSTAR Project has not yet been developed, the conceptual plan for the location of the DSTAR Center is within an approximately 6-acre area. Additional information can be found in the Draft EA for this project. https://www.dhs.gov/dhs-compliance-national-environmental-policy-act

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.4460767,-74.55903813353623,14z

Counties: Atlantic County, New Jersey

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

MAMMALS

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

INSECTS

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

FLOWERING PLANTS

NAME	STATUS
American Chaffseed *Schwalbea americana*	Endangered
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/1286	
Swamp Pink *Helonias bullata*	Threatened
Population:	
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/4333	

CRITICAL HABITATS

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

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

IPAC USER CONTACT INFORMATION

Agency: Department of Homeland Security
Name: Holly Bisbee
Address: S&T ASD BRSO MAIL STOP 0202
Address Line 2: 2707 MARTIN LUTHER KING JR. AVE SE
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State: DC
Zip: 20528-0202