

FINAL ENVIRONMENTAL ASSESSMENT

**Consolidated Dining Facility at
Joint Base McGuire-Dix-Lakehurst, New Jersey**



MAY 2013

Prepared by: EHS Technologies, Moorestown, NJ

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Finding of No Significant Impact (FONSI)
Environmental Assessment (EA)
Consolidated Dining Facility at
Joint Base McGuire-Dix-Lakehurst (JB MDL) New Jersey

PURPOSE

The purpose of the Proposed Action is to provide a permanent consolidated dining facility conveniently located close to training and billeting facilities.

The U.S. Army on JB MDL has prepared this EA IAW the National Environmental Policy Act (NEPA); Council on Environmental Quality (CEQ) regulations implementing NEPA; and Title 32, Code of Federal Regulations, Part 989, as amended, "Environmental Impact Analysis Process" (EIAP).

Description of the Proposed Action

The Proposed Action is to provide a permanent consolidated dining facility conveniently located close to training and billeting facilities in the Dix cantonment area within the boundaries of JB MDL. A consolidated dining facility will centralize dining functions being performed in three separate inadequate locations and will operate at higher efficiency.

Alternatives Considered

Alternative 1 – Construct and Operate a Consolidated Dining Facility on the Dix portion of JB MDL (Preferred Alternative).

Under Alternative 1, the Army will construct a 31,000 square foot centralized, modern and efficient dining facility for military personnel at the northwest corner of the intersection of 8th Street and Texas Avenue, bounded by North Street and Trenton Avenue. This location is preferred as it is adjacent to several enlisted dormitories and is centrally located in the Dix cantonment area on JB MDL. The consolidated dining facility will include: dining; food service; kitchen areas; offices; restrooms; storage areas; mechanical, electrical, and communications rooms; and fire alarm and suppression systems. The three existing facilities in Buildings 5509, 5610, and 5640 will be repurposed for a combination of classroom and administration upon completion of the Proposed Action.

Alternative 2 – No Action Alternative.

As required under NEPA and 32 CFR 989, the No Action Alternative (Alternative 2) is retained in this EA for comparative analysis. Under this alternative, JB MDL would not conduct the Proposed Action described under Alternative 1. The No Action Alternative equates with a "no-build" scenario whereby the project site would remain in its current condition.

Summary of Anticipated Environmental Impacts Associated with the Proposed Action

Based on the analysis in the EA, which is herewith incorporated by reference, I determine that no significant adverse effects are expected on any resource area as a result of the implementation of the proposed action. We will adhere to all installation management plans, policies and procedures. Furthermore, the project will adhere to several best management practices to minimize environmental impacts. Overall, the analysis in the EA indicates that the construction and operation of a consolidated dining facility, as described under the Proposed Action, will not result in or contribute to significant adverse direct, indirect, or cumulative impacts to the resources in the region.

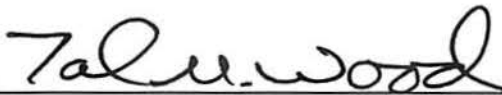
Public Review and Comment

The Interagency and Intergovernmental Coordination for Environmental Planning process associated with the preparation of the EA was conducted for 30 days, beginning 18 January 2013. The public and agency review of the Draft EA and Draft FONSI was conducted between 12 April 2013 and 13 May 2013. The notification of availability of the Draft EA and Draft FONSI was accomplished through publication of a legal Notice of Availability (NOA) in the *Burlington County Times*, the local newspaper that services the Dix region. A copy of the Draft EA and related documents were made available for public review at the Pemberton Branch of the Burlington County Library. All public comments received were addressed in the Final EA.

Finding of No Significant Impact (FONSI)

The Air Force, JB MDL has determined that the Preferred Alternative is Alternative 1 and that JB MDL will proceed with the construction of the consolidated dining facility on Dix.

I conclude that the environmental effects of the Proposed Action at JB MDL are not significant, that preparation of an Environmental Impact Statement (EIS) is unnecessary, and that a FONSI is appropriate. The EA, prepared IAW NEPA, CEQ regulations, and 32 Code of Federal Regulations 989 as amended, is herein incorporated by reference.



JOHN M. WOOD, Colonel, USAF
Commander, Joint Base McGuire-Dix-Lakehurst



Date

1 Attachment:

Environmental Assessment

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List of Acronyms

ADNL	Average Day/Night Sound Level	NEPA	National Environmental Policy Act
AFI	Air Force Instruction	NHPA	National Historic Preservation Act
AICUZ	Air Installation Compatibility Use Zone	NJ	New Jersey
APE	Area of Potential Effect	NJAC	New Jersey Administrative Code
AST	Aboveground storage tank	NJDEP	New Jersey Department of Environmental Protection
BMPs	Best Management Practices	NOA	Notice of Availability
BRAC	Base Realignment and Closure	NOx	Nitrogen oxide
CAA	Clean Air Act	NPDES	National Pollutant Discharge Elimination System
CDP	Census designated place	NRHP	National Register of Historic Places
CEA	Classification exception area	O ₃	Ozone
CEQ	Council on Environmental Quality	OSHA	Occupational Safety and Health Administration
CFR	Code of Federal Regulations	Pb	Lead
CIP	Capital Improvements Program	PCB	Polychlorinated biphenyls
CMP	Comprehensive Management Plan	PM	Particulate matter
CO	Carbon monoxide	PNR	Pinelands National Reserve
CR	County route	POV	Privately owned vehicle
CWA	Clean Water Act	QD	Quantity Distance
dB	Decibels	RCRA	Resource Conservation and Recovery Act
dBA	A-weighted decibels	RONA	Record of Non Applicability
DERP	Defense Environmental Restoration program	SDWA	Safe Drinking Water Act
EA	Environmental Assessment	SFS	Security Forces squadron
EO	Executive Order	SHPO	State Historic Preservation Office
ESA	Endangered Species Act	SIP	State Implementation Plan
FDA	Food and Drug Administration	SO ₂	Sulfur dioxide
FONSI	Finding of No Significant Impact	SWPPP	Stormwater Pollution Prevention Plan
G2G	Government to Government	Tpy	Tons per year
ICRMP	Integrated Cultural Resources Management Plan	TSP	Total suspended particulate
IDP	Installation Development Plan	U.S.	United States
INRMP	Integrated Natural Resources Management Plan	USACE	United States Army Corps of Engineers
IRP	Installation Restoration Program	USAR	United States Army Reserve
JB MDL	Joint Base McGuire-Dix-Lakehurst	USEPA	United States Environmental Protection Agency
kV	kilovolt	USC	United States Code
LBP	Lead based paint	USFWS	United States Fish and Wildlife Service
LEED	Leadership in Energy and Environmental Design	USGBC	United States Green Building Council
LUPZ	Land Use Planning Zone	USGS	United States Geological Survey
mgd	Million gallons per day	UST	Underground storage tank
Mgm	Million gallons per month	UXO	Unexploded ordnance
MMRP	Military Munitions Response Program	VOC	Volatile organic compounds
NAAQS	National Ambient Air Quality Standards		

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1. PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

The United States (U.S.) Army Corps of Engineers (USACE) and U.S. Army Reserve (USAR) propose to construct a 1,300 person consolidated dining facility on the Dix portion of Joint Base McGuire-Dix-Lakehurst (JB MDL) in Burlington County, New Jersey (NJ) (Figure 1-1). This Environmental Assessment (EA) addresses the potential environmental, socioeconomic, and cultural impacts of this proposal at JB MDL.

This EA has been prepared to document the potential for environmental impacts resulting from the construction and operation of a consolidated dining facility (the Proposed Action) on JB MDL. This EA has been prepared under the provisions of, and in accordance with, the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] 4321 et seq.), Council on Environmental Quality [CEQ] Regulations Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] 1500-1508), Army Regulation 200-1 (Environmental Protection and Enhancement), 32 CFR 651 (Environmental Analysis of Army Actions), and 32 CFR 989 (Air Force Environmental Impacts Analysis Process).



Figure 1-1. Location of JB MDL

1.2 Purpose and Need

The mission of the Dix area of JB MDL is to provide support to assigned and attached activities and support the training of active and reserve soldiers. The Proposed Action is needed to provide a permanent dining facility conveniently located close to training and billeting facilities. A consolidated dining facility would centralize dining functions being performed in three separate inadequate locations and would operate at higher efficiency. The existing facilities were retrofitted into barracks constructed in 1954 and lack adequate fire suppression systems, are not handicap accessible, have failing utility systems, and lack adequate sanitary facilities. If the project is not provided, dining services will continue to be performed in facilities inadequate in size, configuration, and condition, thereby adversely impacting operational efficiency, personnel safety, cost efficiency, and morale of users and employees occupying the existing dining facilities.

1.3 Scope and Content of the Environmental Assessment

This EA evaluates the individual and cumulative effects of the alternatives with respect to land use, air quality, topography and soils, water resources, biological resources, cultural resources, hazardous materials and waste, socioeconomics and environmental justice, infrastructure, noise, transportation and traffic, and human health and safety.

1.4 Decisions to be Made

The Army Reserve will decide on whether to implement the Proposed Action to construct a consolidated dining facility or to continue to administer dining services in the three existing inadequate facilities (No

Action Alternative). JB MDL will decide whether or not to allocate the land for the project. If necessary, JB MDL will also decide upon the methodology and best management practices (BMPs) that would be followed to safely and effectively conduct the Proposed Action while minimizing adverse environmental effects.

1.5 Interagency Coordination and Public Involvement

NEPA ensures that environmental information is made available to the public during the decision-making process and prior to actions being taken. The premise of NEPA is that the quality of Federal decision-making will be enhanced if proponents provide information on their actions to State and local governments and the public involving them in the planning process. The Intergovernmental Coordination Act and Executive Order (EO) 12372 – *Intergovernmental Review of Federal Programs*, which has since been superseded by EO 12416 – *Intergovernmental Review of Federal Programs* and subsequently supplemented by EO 13132 – *Federalism*, require Federal agencies to cooperate with and consider State and local views in implementing a Federal proposal.

Public participation is a significant component of the NEPA process. The following provides a listing of key public notification and participation events that have occurred as part of this environmental review process:

- JB MDL conducted intergovernmental coordination for environmental planning pursuant to the requirements of NEPA by sending letters regarding the scope of the assessment to Federal, State and local governmental agencies and Federally-recognized Native American Tribes. The Final EA provides a list of agencies contacted during initial scoping (Chapter 8). Copies of the letters received from the respective agencies are included in Appendix A.
- JB MDL published and distributed the Draft EA and Draft Finding of No Significant Impact (FONSI) for a 30-day public comment period between April 12, 2013 and May 13, 2013. The mailing list for the Draft EA is provided in Chapter 9. Notification of the availability of the Draft EA and FONSI has been accomplished through publication of a legal Notice of Availability (NOA) in the Burlington County Times, the local newspaper that services the Dix region (Appendix D). Upon distribution of the Draft EA to the public, a copy of the Draft EA and related documents were made available for public review at the Pemberton Branch of the Burlington County Library. The JB MDL Public Affairs Officer was the primary point of contact for any inquiries from the local news media.
- Copies of received responses/comments on the Draft EA have been provided in the Final EA (Appendix E). Revisions were made as appropriate, to the Final EA and Final FONSI based on the comments received.

2. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The Proposed Action is to construct a 1,300 person, approximately 31,000 square foot, consolidated, centralized, and modern dining facility on Dix to replace three separate, inadequate and inefficient facilities contained in Buildings 5509, 5610, and 5640.



Figure 2-1. Location of Proposed Dining Facility

2.2 Alternatives

This EA evaluates the individual and cumulative effects of the following alternatives with respect to land use, air quality, topography and soils, water resources, biological resources, cultural resources, hazardous materials and waste, socioeconomic and environmental justice, infrastructure, noise, transportation and traffic, and human health and safety.

2.2.1 Alternative 1- Preferred Alternative

Under Alternative 1, the Army would construct a 31,000 square foot centralized, modern and efficient dining facility for military personnel at the northwest corner of the intersection of 8th Street and Texas Avenue, bounded by North Street and Trenton Avenue (Figure 2-1). This location is preferred as it is adjacent to several enlisted dormitories and is centrally located in the cantonment area of Dix. The consolidated dining facility would include: dining; food service; kitchen areas; offices; restrooms; storage

areas; mechanical, electrical, and communications rooms; and fire alarm and suppression systems. The three existing facilities in Buildings 5509, 5610, and 5640 would be repurposed for a combination of classroom and administration upon completion of the Proposed Action.

The majority of the site consists of maintained lawn. The site currently contains concrete picnic tables, a basketball court, and a pavilion that has sustained recent storm damage, all of which would be removed prior to constructing the dining facility. There is also playground equipment onsite, which would be moved to another playground in the vicinity.

The design of the building would meet Leadership in Energy and Environmental Design (LEED) Silver criteria and would follow USACE standard designs for enlisted personnel dining facilities. Section 2.2.1.2 discusses the LEED components planned to be incorporated into the facility to obtain LEED Silver status. All proposed construction in this project would comply with the Anti-Terrorism/Force Protection standards outlined in United Facilities Criteria 4-010-01 'DoD Minimum Antiterrorism Standards for Buildings. As shown in pink in Figure 2-2 a 30 foot anti-terrorism/force protection buffer has been included into the design and the trees along Texas Avenue and 8th Street would remain to act as a protective barrier.

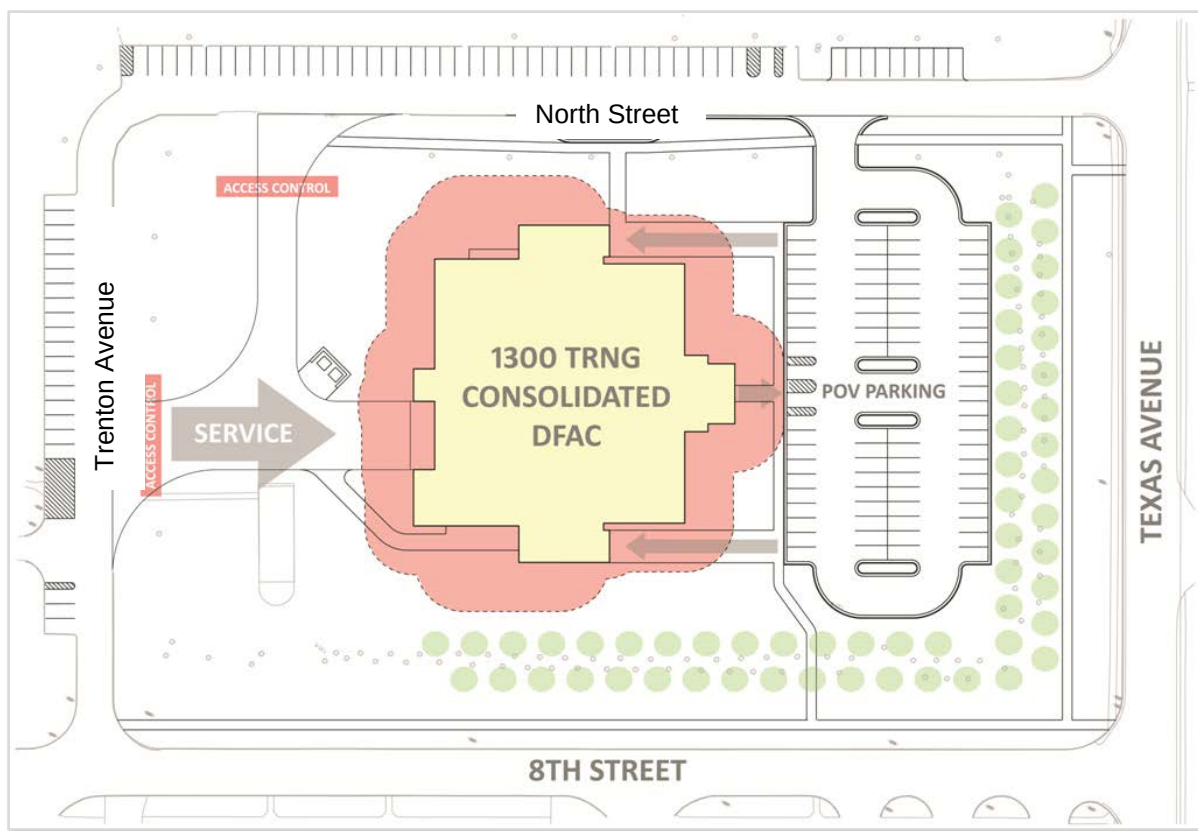


Figure 2-2. Proposed Site Plan

Construction of the facility would take approximately 2 years beginning in Spring 2014. It is estimated that up to 60 construction workers would be required at the site at any given time. Construction activities would include site clearing and preparation; build-out of support areas and the dining facility; installation of equipment; and final systems check. A National Pollutant Discharge Elimination System (NPDES) permit would be required as there would be more than one acre of disturbance. Specific stormwater

control BMPs would be developed during final site design and could include BMPs such as temporarily seeding bare soil areas with appropriate native vegetation to reduce onsite soil erosion. See Section 2.2.3 for a list of BMPs known at this time to be implemented during construction of the dining facility. Figure 2-3 is a depiction of what the facility would look like once constructed on the proposed site location. The building would be brick and metal panel to be consistent with Installation Design Guidelines. The metal panel would be used sparingly to delineate the building entrance. The front of the facility and main entrance would face the Marine Aircraft Group (MAG) 49 headquarters building and the service entrance would face the pond side of the property. The facility would have a standing seam metal roof that would run vertically. There would also be a modified bituminous flat roof over the kitchen to allow for the placement of equipment. All necessary utilities (e.g., electricity, natural gas, communications, sanitary sewer and potable water) needed for operations of the facility are in close proximity to the site (i.e. along Texas Avenue and 8th Street).



Figure 2-3. Proposed Site Layout

Parking spaces would be provided for 65 employees along Trenton Avenue and North Street and 70 parking spaces would be provided for patrons in the privately owned vehicle (POV) parking area by the main entrance (Figure 2-2 and 2-3). There is also an existing parking area south of 8th street that can be utilized to park tactical vehicles and to serve any overflow POV parking requirements if necessary. It is anticipated that most patrons would walk to the dining facility as it would be centrally located; however, the site has been designed to allow buses to drop off and pick up patrons as well.

2.2.1.1 Site History

The Proposed Action site was previously developed in 1956. It contained barracks which consisted of 18 buildings. According to historic aerial photographs, these buildings were demolished sometime between 1970 and 1995. In early 2013, a ground penetrating radar survey will be conducted on the site to identify any old building foundations or other subsurface obstructions that would need to be removed prior to construction of the facility. In 1995 the site was repurposed with a playground, pavilion, concrete picnic tables, and a basketball court. To date, all of these items are still present onsite. The remainder of the site is currently maintained lawn with rows of pine trees lining 8th Street and Texas Avenue. In the early

1960's, a narrow drainage feature was dammed to create Willow Pond, which is located to the north and west of the site. Willow Pond is now used for recreational purposes.

2.2.1.2 LEED Components

The proposed facility would attain a U.S. Green Building Council (USGBC) LEED Green Building Silver Rating. By meeting LEED Silver certification, the project would meet the requirements stated in United Facilities Criteria 4-030-01 Sustainable Development Section 2-2.1 Army which states, "All military vertical building construction projects starting with the fiscal year 2008 military construction program will achieve the Silver level of LEED. LEED ratings have a scoring system based on a set of required "prerequisites" and a variety of "credits" in six major categories: sustainable sites; water efficiency; energy and atmosphere; materials and resources; indoor environmental quality; and innovation and design process. In LEED Version 3, new construction and major renovations for commercial buildings can qualify for 4 levels of certification: Certified, Silver, Gold, and Platinum. Certification is granted solely by the USGBC responsible for issuing the LEED system used on the project. LEED is a point-based system where building projects earn LEED points for satisfying the specific green building criteria. The minimum certification at Silver level is 50 to 59 points. The Army's pre-certification estimates for the facility total 52 points out of the possible 59 points.

The Army plans to utilize sustainable building materials to the extent practicable and would integrate a variety of green construction practices. The Army intends to use onsite renewable energy systems to offset building energy costs. Permeable surfaces (pervious concrete), stormwater bioretention, a cool roof, thermal mass, photovoltaics, solar powered lighting, skylights and solar tubes, and geothermal heating and cooling are all planned to be implemented into the proposed consolidated dining facility. The renewable energy components would help JB MDL meet renewable energy goals from the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007. Below is a brief description of the proposed onsite sustainable design measures:

- **Permeable Surfaces:** Paving material such as concrete or asphalt that allows stormwater to penetrate with a base or sub-base that traps suspended solids and filters pollutants from the stormwater.
- **Stormwater Bioretention:** A planted depression designed to retain or detain stormwater prior to infiltrating or discharging downstream. The plantings filter pollutants from the stormwater.
- **Cool Roof:** A roofing that has high solar reflectance and absorbs only small amounts of heat, which can reduce heat transfer to the indoors and enhance roof life and durability.
- **Thermal Mass:** A mass, such as concrete, stone, or brick, used to store heat and reduce temperature fluctuation in a space, by releasing heat slowly over time, reducing the need for artificial heating and cooling. Buildings constructed of concrete and masonry have a unique energy-saving advantage because of their inherent thermal mass.
- **Photovoltaics Including Solar Powered Lighting:** Photovoltaics generate electrical power by converting solar radiation into direct current electricity. The solar-powered exterior site lighting would contain solar panels that convert sunlight into energy during the day.
- **Skylights and Solar Tubes:** These items provide the opportunity to bring daylight into spaces not located adjacent to exterior walls.
- **Closed Loop Geothermal Heating and Cooling:** Uses the earth's temperature to boost efficiency and reduce the operational costs of heating and cooling systems by holding fluid in underground pipes at ambient ground temperature before being circulated around the building to heat/cool the space depending on the season and air temperatures.

2.2.2 Alternative 2 – No Action Alternative.

As required under NEPA and 32 CFR 989, the No Action Alternative (Alternative 2) is retained in this EA for comparative analysis. Under this alternative, JB MDL would not conduct the Proposed Action described under Alternative 1. For purposes of analysis in this EA, the impact discussions in Chapter 4 equate the No Action Alternative with a “no-build” scenario whereby the project site would remain in its current condition.

2.2.3 Best Management Practices

To minimize impacts on the environment, the Army would incorporate the following BMPs into the implementation of the Proposed Action:

- The building would be designed to meet LEED Silver criteria.
- The entire Dix cantonment area is within a classification exception area (CEA) which extends to a depth of 100 feet; therefore, temporary storage of water, drill cuttings, and drilling mud produced from the wells during construction and geothermal fluid produced during flow testing would be placed in an on-site holding area. The holding area would be sampled for hazardous contaminants. If test results indicate that the water and solids are hazardous, then they shall be removed and relocated to an approved disposal site in accordance with applicable regulations under the supervision of JB MDL environmental staff.
- The contractor would stage all necessary equipment and materials within the proposed project site as well as limit disturbance on site to the maximum extent practicable.
- All on-road vehicles and non-road construction equipment at the construction site shall comply with the three minute idling limit pursuant to New Jersey Administrative Code (NJAC) 7:27-14 and NJAC 7:27-15.
- During construction the contractor would implement dust control measures such as installation of barriers to prevent dust from blowing off site, sprinkling bare areas with water, and establishing vegetation at the earliest possible opportunity.
- All diesel non-road construction equipment operating at the construction site shall use ultra-low sulfur diesel fuel in accordance with the 2004 Federal Clean Air Non-road Diesel Rule.
- All non-road diesel construction equipment greater than 100 horsepower used on the project for more than ten days shall have engines that meet the U.S. Environmental Protection Agency (USEPA) Tier 4 non-road emission standards, or the best available emission control technology that is technologically feasible for that application.
- All non-road diesel vehicles used to haul materials or traveling to and from the construction site shall use designated truck routes that are designated to minimize impacts on residential areas and sensitive receptors (i.e., hospitals, schools, daycare facilities, convalescent facilities etc.).
- Standard operating procedures for safe operation of a construction site would be adhered to, including procedures for the safe operation and movement of vehicles, maintaining staging areas, and adherence to a Spill Prevention Control and Countermeasures Plan.
- A site specific construction and operation health and safety plan, a hazardous waste management plan, and material recycling plan would be provided by the contractor and approved by JB MDL, prior to initiation of work on JB MDL. The plans would meet the requirements in USACE EM385-1-1, Safety and Health Requirements Manual.

- Construction contractors would limit work hours to 7 am to 5 pm Monday through Friday, to minimize noise disturbance to nearby residents and employees; exceptions to these work hours must be preapproved by the Contracting Officer.
- The Contractor would work with the JB MDL Public Affairs Office and base safety office to ensure that the base population is made fully aware of any necessary road closures, detours, or other safety measures that would affect workers or residents.
- In the case of inadvertent discovery of human burials, prehistoric or historic artifacts or their remnants during the implementation of the Proposed Action, all land disturbing activities would cease, the site would be secured and the JB MDL Cultural Resource Manager would contact the NJ State Historic Preservation Office (SHPO) and Federally recognized tribes as applicable as outlined in the base Integrated Cultural Resource Management Plan (ICRMP).
- In the event of a hazardous material or petroleum spill, the system operator would immediately contact the base Dispatch Office at 911 in accordance with base spill response policy. To reduce the potential for spills during operation, the system operator would inspect equipment and vehicles for leaks daily and store hazardous materials and wastes in a manner that provides secondary containment in the event of a spill.
- During the design process a contractor would use ground penetrating radar to determine if subsurface obstructions such as underground storage tanks (USTs) are found. Should USTs be found, their locations would be recorded and then the USTs would be removed in accordance with applicable environmental and safety standards. Should contaminated soil be encountered and need to be removed, it would be characterized and disposed of under the watch of a professional to minimize potential cross-contamination and to ensure proper protocols are followed. The UST would be removed and disposed of in accordance with the Resource Conservation and Recovery Act (RCRA), in coordination with the JB MDL installation restoration manager.

2.3 Permits and Approvals

Table 2-1 summarizes permits and agency approvals and potentially applicable regulations.

Table 2-1. Permits and Approvals Needed Prior to Project Implementation

Material, Use, or Resource	Type of Approval/Agency	Requirements
Threatened and Endangered Species	Determination of No Adverse Effect/US Fish and Wildlife Service (USFWS)	Section 7 of the Endangered Species Act (ESA) requires that a Federal agency consult with the USFWS on any action that may affect endangered, threatened, or candidate species, or that may result in adverse modifications of critical habitat. Implementing regulations that describe procedures for interagency cooperation and consultation with regards to effects on threatened, endangered, or proposed species are contained in 50 CFR 402. The Army at JB MDL submitted consultation letters to the NJ regional office of USFWS and to the NJ Department of Environmental Protection (NJDEP), Division of Fish and Wildlife. The consultation letters and responses are presented in Appendix A.
Section 106, historical/archeological	Determination of No Adverse Effect/SHPO	Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to take into account the effects that their Federally funded activities and programs have on significant historic properties.

Material, Use, or Resource	Type of Approval/Agency	Requirements
		"Significant historic properties" are those properties that are included in, or eligible for, the National Register of Historic Places (NRHP). The Army at JB MDL submitted consultation letters to the NJ SHPO office as well as the Delaware Nation and Delaware Tribe of Indians, both of which are Federally-recognized Native American Tribes. The consultation letters and responses are presented in Appendix A.
Stormwater	Construction NPDES Permit/NJDEP	For construction of the facility the contractor would file for authorization via NJDEP's construction General Permit to obtain stormwater management coverage and would adhere to NPDES regulations as required under this permit.
Geothermal Wells	Permit to Drill – Site Wide/NJDEP Bureau of Water Allocation and Well Permitting	For the installation of more than 10 closed-loop geothermal wells, the licensed well driller would need to file for authorization with the NJDEP's Bureau of Water Allocation and Well Permitting and would adhere to NJDEP regulations as required under this permit.
Soil Erosion and Sedimentation Control Plan	Burlington County Soil Conservation District	A site-specific Soil Erosion and Sedimentation Control Plan would be submitted to the Burlington County Soil Conservation District for review and approval. The plan would receive certification from the District prior to initiating construction.
Site Disturbance	Digging Permit/JB MDL	A digging permit from JB MDL would be required prior to any subsurface disturbance.

2.4 Alternatives Eliminated from Further Study

Additional site alternatives were initially considered, but then eliminated from further study. Alternatives included the old boiler plant site which is located northwest of the proposed site along South Scott. It is West of Building 5523 and East of Building 5425. Just North of Building 5425 are several single family homes and the site was eliminated as it was decided that a dining facility would not be a compatible adjacent land use with the homes as well as being a greater walking distance for patrons from nearby barracks. The other site eliminated from further study is located west of the proposed site on 8th Street, East of Building 5437. This site currently has several vehicles which are stored there including those used for hazardous material spill response and the US Army's Deployable Medical System. This site was eliminated as an alternate vehicle storage area would not be conveniently located and the walking distance from billeting and training facilities by dining facility patrons was viewed as long and potentially hazardous due to road crossings.

2.5 Resources not Considered in Detail

2.5.1 Wetlands and Floodplains

Based on National Wetland Inventory mapping the proposed project site does not contain any wetland areas as verified during a site visit. The Army decided that a wetland determination was not needed and further analysis was not warranted. No wetlands are present on or adjacent to the proposed site. The closest NJDEP mapped wetlands are located 700 feet north of the proposed site and 840 feet southwest of

the site; therefore, no wetland areas would be disturbed for the construction of the proposed dining facility and no impacts to wetlands would occur.

Construction would not occur within or adjacent to any designated 100 or 500-year floodplains and therefore, would have no impact on upstream floodplain elevations or downstream flood conveyance. Therefore, floodplains do not require further analysis.

3. AFFECTED ENVIRONMENT

3.1 General Overview

This section specifically describes current baseline environmental, cultural, and socioeconomic conditions of the proposed project site located on the Dix portion of JB MDL. The potential direct, indirect, and cumulative effects of the Proposed Action components and alternatives on each of the resources are addressed in Section 4.

3.1.1 Project Location

The project study area is located on the Dix portion of JB MDL, located in Burlington County, NJ, in the central part of the State. The parcel is approximately 5 acres in size. JB MDL is located within the Pinelands National Reserve, also referred to as the Pinelands. This reserve consists of approximately 1.1 million acres in southern NJ. The Pinelands National Reserve includes portions of seven counties, including: Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, and Ocean.

The proposed site is specifically located within the Dix cantonment area close to training and billeting facilities. The site is bounded by Texas Avenue, 8th Street, Trenton Avenue, and North Street. Willow Pond is located north and northwest of the site, a trailer park campground is located west of the site, the MAG 49 headquarters building (Building 4401) is located east of the site, and Buildings 5603, 5602, and 5601, and a parking lot are located south of the site (see Figure 2-1). The closest residential property, enlisted dormitory Building 5602, is located less than 250 feet south of the site (see Figure 2-1). There are several other billeting dormitories directly north and south of the site along Texas Avenue which would be within walking distance of the proposed consolidated dining facility.

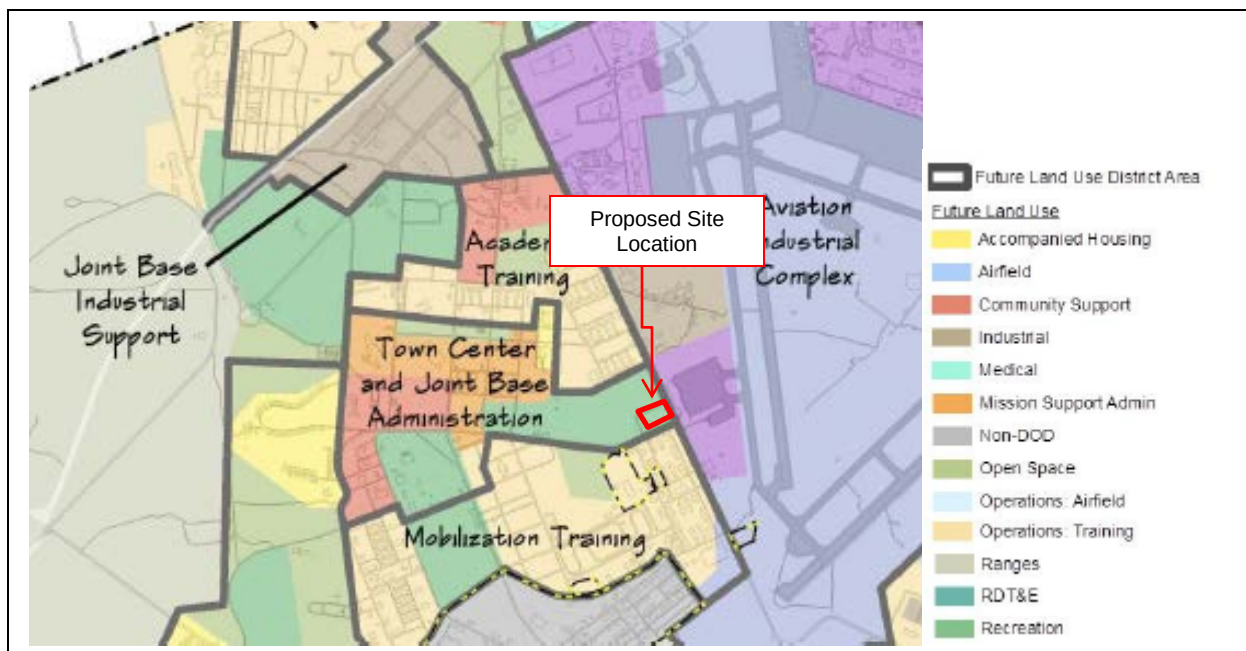
3.1.2 Scope of Affected Environment

This EA evaluates the individual and cumulative effects of the following alternatives with respect to land use, air quality, topography and soils, water resources, biological resources, cultural resources, hazardous materials and waste, socioeconomics and environmental justice, infrastructure, noise, transportation and traffic, and human health and safety.

3.2 Land Use

Fort Dix, McGuire Air Force Base (AFB), and the Naval Air Engineering Station Lakehurst were combined into JB MDL in March 2009, becoming the first tri-service Joint Base, as a result of the Base Realignment and Closure (BRAC) process. The Air Force 87th Air Base Wing took primary responsibility for base keeping functions across the entire Joint Base, including but not limited to, real estate management, facility maintenance and construction, environmental compliance, energy management, housing management, and base planning.

The first JB MDL Installation Development Plan (IDP) (e.g., base master plan) was completed and signed in December 2012. The IDP depicts the current land use at the proposed site as “Open Space” and future land use at the proposed site as “Recreation”. The IDP also identified planning districts and coordinated them with future land uses in a manner that maintains flexibility to adapt to evolving and changing mission requirements. The proposed project site is located within the future “Town Center and Joint Base Administration District” (see Figure 3-1 below). The district is envisioned as a mixed-use town center with community, commercial, and recreation services combined with JB MDL headquarters and administration. The district is intended to ‘provide a cornerstone of integrated mission, services, and recreational activities that is a walkable, convenient, and attractive destination for the Joint Base community (JB MDL, 2012).



Source: JB MDL, 2012

Figure 3-1. IDP Proposed Land Use and District of the Proposed Site Location

3.3 Air Quality

3.3.1 Ambient Air Quality

The principal framework for national, State, and local efforts to protect air quality in the U.S. is the Clean Air Act (CAA) (42 USC §§ 7401-7642). The CAA requires the USEPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. NAAQS are provided for six principal pollutants, called criteria pollutants (as listed under Section 108 of the CAA), including the following: carbon monoxide (CO), lead (Pb), nitrogen oxides (NO_x), ozone (O₃), particulate matter (PM), and sulfur dioxide (SO₂). Ambient air quality in an area can be characterized in terms of whether or not it complies with the primary and secondary NAAQS.

As delegated by the USEPA, the State of NJ is responsible for protecting the State's air quality. In turn, the NJDEP is responsible for interpreting and implementing those statutes pertaining to the control of air pollution. Pertinent regulations are found in NJAC Title 7, Chapter 27, Subchapter 13, Ambient Air Quality Standards. Ambient air quality standards for State and Federal NAAQS are shown in Table 3-1.

Table 3-1. New Jersey Air Quality Standards and Federal Air Quality Standards

Pollutant	Averaging Period	New Jersey State Standards		Federal Air Quality Standards (NAAQS)	
		Primary	Secondary	Primary	Secondary
Carbon Monoxide	1 hour	35ppm	35ppm	35ppm	--
	8 hour	9ppm	9ppm	9ppm	--
Ozone	1 hour	0.12ppm	0.08ppm	0.12ppm	0.08ppm
	8 hour	--	--	0.075ppm	0.075ppm
Nitrogen	1 year	0.05ppm	0.05ppm	0.053ppm	0.053ppm
Lead	3 months	1.5ug/m3	1.5ug/m3	1.5ug/m3	1.5ug/m3

Pollutant	Averaging Period	New Jersey State Standards		Federal Air Quality Standards (NAAQS)	
		Primary	Secondary	Primary	Secondary
	3 hour	--	0.50ppm	--	0.50ppm
Sulfur Dioxide	3 hour	--	0.50ppm	--	0.50ppm
	24 hour	0.14ppm	0.10ppm	0.14ppm	--
	1 year	0.03ppm	0.02ppm	0.03ppm	--
Particulate Matter (PM ₁₀)	24 hour	--	--	150ug/m ³	150ug/m ³
	1 year	--	--	--	--
Particulate Matter (PM _{2.5})	24 hour	--	--	35ug/m ³	35ug/m ³
	1 year	--	--	12ug/m ³	15ug/m ³

Source: USEPA, 2011 and NJDEP, 1991

Notes: ppm=parts per million, ug/m³ = micrograms per cubic meter

In areas where the applicable NAAQS are not being met, a non-attainment status is designated (USEPA, 2007). Currently, the entire State of NJ does not meet the NAAQS for ozone and is classified as moderate non-attainment for ozone. Atmospheric ozone occurs when NO_x, CO and Volatile Organic Compounds (VOCs) react in the atmosphere in the presence of sunlight (a photochemical reaction). NO_x and VOCs are called ozone precursors and are regulated as a means of controlling ozone production. Motor vehicle exhaust, industrial emissions, and chemical solvents are the major anthropogenic sources of these chemicals.

The October 29, 2007 NJ State Implementation Plan (SIP) established general conformity budgets for McGuire and Lakehurst for ozone precursors VOCs and NO_x. These proposed budgets were approved by the USEPA under 40 CFR 93.158. The 2011 general conformity budget for Lakehurst is 129 tons per year (tpy) of VOC and 793 tpy of NO_x. The 2011 budget for McGuire is 730 tpy of VOC and 1,534 tpy of NO_x (NJDEP, 2013). There is no specific SIP budget for the Dix area.

Air emissions on the Dix portion of JB MDL are primarily attributed to automobile and truck emissions, boilers, manufacturing operations, and painting. See Table 3-2 for a summary of the 2011 emissions data for criteria pollutants at Dix. The installation operates under a Title V Air Permit that covers most emission sources such as boilers, generators, underground storage tanks, and aboveground storage tanks.

Table 3-2. 2011 Annual Air Emissions Data at Dix

Air Pollutant Emissions (tons/year)						
Facility Name	Carbon Monoxide	Nitrogen Oxides	Lead	Sulfur Dioxide	PM ₁₀	PM _{2.5}
Dix	14.97	17.58	2.32	2.57	7.18	1.34

Source: JB MDL, 2012a

3.3.2 General Conformity Rule

The General Conformity Provision of the CAA (42 USC 7401 *et seq.*; 40 CFR 50-87) Section 176(c), including the USEPA's implementation mechanism, Determining Conformity of Federal Actions to State or Federal Implementation Plans (40 CFR Part 93), requires Federal agencies to prepare written Conformity Determinations for Federal actions in or affecting NAAQS non-attainment areas or maintenance areas. As Burlington County is currently in non-attainment status for ozone, annual PM_{2.5} and 24 hour PM_{2.5} the procedural requirements of the General Conformity Rule are in effect for the

Proposed Action (USEPA, 2012). A Conformity Rule Compliance analysis for the Proposed Action is provided in Appendix B.

3.4 Topography and Soils

3.4.1 Topography

Initially charged by Congress with the "classification of the public lands," the U.S. Geological Survey (USGS) began topographic and geologic mapping in 1879. A review of historic topographic maps dating back to 1906 show the proposed project site as consistently level from 1906 to present. Figure 3-2 is a 1948 Bordentown NJ Quadrangle, USGS 15 minute series topographic map of the proposed site location. As evidenced in the figure and discussed in Section 2.2.1.1, four of the historic 18 barracks still exist at the site in 1948.



Figure 3-2. 1948 Topographic Map of the Project Area

3.4.2 Soils

The Federal Farmland Protection Policy Act (Public Law 97 98; 7 USC 4201 et seq.) has been enacted in an effort to document the potential impacts to agricultural land through the NEPA process and to preserve land with the potential to consistently produce food and raw materials. The USDA encourages the preservation of soils classified as prime farmland, or soils used for agriculture unique to the State. Prime farmland soils are defined by the USDA as: "land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner if it is treated and managed according to acceptable farming methods (USDA, 2010)".

No land area on JB MDL is currently utilized for agricultural purposes. Table 3-3 below describes the predominant soils found on the proposed site location. Sassafras Sandy Loam is considered a "Prime Farmland" soil in NJ (USDA/NRCS, 2010).

Table 3-3. Soil Types Found at the Proposed Site Location

Percentage of Cover	Soil Type	Slope	Description
15	Sassafras Sandy Loam (SaA)	0-2 percent	Consists of well-drained, moderately coarse textured soils. The substratum is very sandy and contains large amounts of gravel in places. These soils are moderately permeable. The loamy sand has moderately low available water capacity and fertility and low organic content.
85	Sassafras Sandy Loam (SaB)	2-5 percent	This soil has a profile similar to the one described above and is typical of the series. Included with this soil in mapping are areas of sandy loam and small areas that have underlying clayey areas. Spot drainage may be needed as water is excessive above the clayey layers.

Source: USDA, 1971

For projects disturbing over an acre of soil, a site-specific Erosion and Sedimentation Control Plan must be submitted to the Burlington County Soil Conservation District Office for review and certification prior to initiation of construction.

3.5 Water Resources

3.5.1 Regulatory Framework

Water resources at JB MDL are regulated under the under the jurisdiction of the NJDEP, Bureau of Water Quality Standards and Assessment under NJAC 7:B, surface water and NJAC 7:9C, groundwater, as well as the USEPA, under the Federal Safe Drinking Water Act (SDWA) and the Clean Water Act (CWA). NJDEP has the primary responsibility for protecting NJ's surface and groundwater from pollution caused by improperly treated wastewater and its residuals, as well as destruction of watersheds from development.

Stormwater and wastewater discharges are regulated by the USEPA and the NJDEP, under Sections 401 and 402 of the CWA (permitting requirements) through the NPDES. See Section 3.10 Infrastructure for detailed information pertaining to stormwater and wastewater discharges.

Drinking water supplies are monitored and protected under the National Primary Drinking Water Regulations, 40 CFR § 141; National Secondary Drinking Water Regulations, 40 CFR § 143; and the Bureau of Safe Drinking Water under the NJDEP. Through the SDWA, USEPA sets standards for public water systems to provide safe drinking water to its consumers by limiting high levels of contaminants in drinking water. In order to comply with provisions outlined in the SDWA and the Primary Drinking Water Regulations, JB MDL conducts sampling of all drinking water supply systems and provides an annual Consumer Confidence Report for its public water systems.

3.5.2 Surface Water

The proposed project site is located within the Crosswicks Neshaminy watershed which ultimately drains into the Delaware River Basin. The majority of surface waters located within the Dix cantonment area have been engineered. There are no surface waters on the proposed project. The closest surface water to the proposed project site is Willow Pond which is located approximately 125 feet northwest of North Street. In early 1960's, a small unnamed tributary was dammed to create Willow Pond, that is now used for recreational purposes.

3.5.3 Groundwater

The Dix portion of JB MDL is located within the Outer Coastal Plain aquifer system. Several major hydrogeologic units have been identified in the area including shallow units (the Cohansey Sand and the Kirkwood Formation) and one deep regional unit (the Potomac Raritan Magothy System). Together the two shallow aquifers are estimated to contain as much as 17 trillion gallons of water (Pinelands Preservation Alliance, 2012). Because of the high water table and permeable soils, the underlying groundwater resources are particularly sensitive to contamination, making groundwater pollution prevention an important issue on the installation. Recharge to the underlying aquifer systems occurs primarily through the infiltration of precipitation. Burlington County receives an average annual precipitation of 46.82 inches.

The Dix portion of JB MDL obtains potable water from both surface and groundwater sources. The primary source of potable water on Dix is a surface water diversion on Greenwood Branch of the North Branch of Rancocas Creek. The New Lisbon Pumping Station pumps water from the Rancocas Creek to a water treatment plant on Dix where it is treated before being distributed. Dix also utilizes groundwater wells which tap into the Potomac Raritan Magothy aquifer. This water is filtered for the removal of iron

and manganese before distribution. All water sources are tested and treated to ensure that State quality standards are met.

The entire Dix cantonment area is located within a CEA that was implemented in February 1999 based on groundwater contamination resulting from several contaminated sites in the cantonment area. The CEA restriction depth is 100 feet and is in effect for an indeterminate number of years.

3.6 Biological Resources

3.6.1 Regulatory Framework

Protection and management of biological resources at JB MDL is mandated by a number of laws, regulations, and guidance documents. The primary statutes, regulations, EOs, and guidance that direct, and apply to, the management of biological resources at the installation include the following:

- Endangered Species Act (ESA) of 1973 (16 USC 1531 et seq.)
- Endangered Species Preservation Act of 1966 (16 USC 1531)
- Federal Noxious Weed Act of 1975 (7 USC 2801)
- Fresh Water Pollution Control Act, as amended by the Clean Water Act (33 USC 1251 et seq.)
- Fish and Wildlife Conservation Act of 1980 (16 USC 2901 et seq.)
- Fish and Wildlife Coordination Act of 1934 (16 USC 661 et seq.)
- Migratory Bird Conservation Act of 1966 (16 USC 715)
- Migratory Bird Treaty Act of 1918 (16 USC 703-711)
- Sikes Act of 1960 (16 USC 670 et seq.), and Sikes Act Improvement Act of 1997
- AFI 32-7064, Integrated Natural Resources Management
- EO 11991, Protection and Enhancement of Environmental Quality, 24 May 1977
- Pinelands Comprehensive Management Plan (N.J.S.A. 13:18A-1 et seq., N.J.A.C. 7:50 et seq.).

3.6.2 Integrated Natural Resource Management Plan

A Joint Base Integrated Natural Resource Management Plan (INRMP) is under development. Until the new INRMP is promulgated, natural resources for the study area are addressed by the previous INRMPs for Dix (Fort Dix, 2007). The INRMPs provide detailed descriptions of the natural resources present, identifies management issues, and establishes specific natural resources management activities. Where available, more recent natural resources data and reports were used to characterize the natural environment.

3.6.3 Vegetation

Vegetation on the proposed project site consists of maintained lawn surrounding recreational equipment including a paved basketball court. Approximately half a dozen oak trees (*Quercus sp.*) are located near the center of the site and a single row of pine trees (*Pinus sp.*) exists along Texas Avenue and 8th Street (see Figure 2-1).

3.6.4 Mammals

Due to the proximity of the site to developed areas, wildlife within the project area is limited to those species that have adjusted to human activity. Wildlife species within the project area are primarily those

associated with open spaces and forest edge habitats. Onsite vegetative habitat is generally poor in nature consisting solely of maintained lawn and the site is surrounded by development and highly fragmented patches of wooded areas. Therefore, it is unlikely that the site is able to support much diversity of wildlife. Grassland mammal species (e.g., eastern gray squirrels [*Sciurus carolinensis*] and rodents [*Rodentia*]) are expected to be most common. Other mammals that may reside in the area of the proposed project site are those typically found in suburban settings in NJ; including groundhogs (*Marmota monax*), eastern moles (*Scalopus aquaticus*), eastern cottontail rabbit (*Sylvilagus floridanus*), and possum (*Phalangeriformes*). White-tailed-deer (*Odocoileus virginianus*) are present throughout the majority of the Dix area and JB MDL and may graze in the project area in the evenings when human presence is lessened.

3.6.5 Avian Species

Most bird species require multiple habitats during their annual cycle. For many avian species forested areas provide roosting spots, and open spaces provide areas to catch rodents. The proposed project site may contain foraging habitat, as it is maintained lawn, for a variety of bird species that feed on seeds as well as raptors and scavengers that prey on small mammals however, the site is unlikely to be used for roosting as the site does not contain a large area covered chiefly by trees.

3.6.6 Reptiles, Amphibians, and Aquatic Species

Because of their unique life cycles, amphibians often require both aquatic and terrestrial habitats. Depending on the species, they may require damp areas (creeks, streams, swamps, mud puddles, ponds, etc.), moist soil, and/or places to burrow in order to keep their skin moist. Wetlands associated with, and immediately adjacent to, Willow Pond to the north of the proposed site may present areas suitable for species adapted to aquatic breeding. Amphibians generally breed and lay eggs in wetlands and other aquatic habitats and then move to terrestrial areas to over winter. Amphibians use a wide range of terrestrial habitats adjacent to wetlands and streams, typically consisting of leaf litter, coarse woody material, boulders, small mammal burrows and cracks in rocks. Although the proposed project site is near Willow Pond which may be ideal for breeding, none of the terrestrial habitat requirements exist on site therefore making it unlikely amphibians occupy the site.

Similar to amphibians, reptiles can live in terrestrial, aquatic, or riparian habitats. Reptiles also require suitable hibernation and aestivation habitats which may be present in the form of large woody material, brush piles, rock piles or outcroppings. Although the proposed project site is near Willow Pond which may be ideal for reptiles to live and forage, none of the hibernation and aestivation habitat requirements exist on site therefore making it unlikely reptiles utilize the site.

Overall, it is most likely that any herptiles present would include species adapted to more upland or wide-ranging habitat conditions (e.g., black rat snake [*Elaphe obsoleta*]) (USACE, 2006).

3.6.7 Special Status Species

The Federal Endangered Species Protection Act provides protection to threatened and endangered species listed at the National level. The NJ Landscape Project mapping (a mapping tool used by the State to map known occurrences of protected species and their likely habitats) addresses such species and none were identified in the general area of the site.

The NJ Endangered and Nongame Species Conservation Act of 1973 established a list of wildlife species designated by the State of NJ as threatened or endangered. The law prohibits taking, possessing, transporting, exporting, processing, selling, or shipping State-threatened or endangered species. "Take" is defined as harassing, hunting, capturing, or killing, or attempting to do so. According to the NJ Landscape Project, there are no threatened, endangered, or special concern species identified on the proposed project

site. There is however one NJ-threatened species noted as occurring south of the site where there are billeting facilities –northern pine snake (*Pituophis melanoleucus melanoleucus* – reptile). The nesting season for the northern pine snake is from June 20 through about July 10. They hibernate from mid-fall to mid-spring in natural cavities or dens excavated below the frost line.

The open water area associated with Willow Pond north of the proposed project site is noted as being habitat (e.g., a foraging area) for a “special concern” species – great blue heron (*Ardea herodias* – bird) (NJDEP, 2013a). The great blue heron requires shallow water or wetlands for feeding, and nearby forest with large crowned trees for nesting. Special concern species are not necessarily afforded legal protections; however, they are noted as warranting special attention because of inherent vulnerability to environmental deterioration or habitat modification that would result in them becoming threatened. Table 3-4 provides a summary of typical habitat for these species.

Table 3-4. New Jersey Special Status Species In the Vicinity of the Proposed Project Site

Common Name	Scientific Name	New Jersey Status	Typical Habitat
Birds			
Great blue heron	<i>Ardea herodias</i>	Special Concern	Typically occurs in freshwater and brackish marshes along lakes, rivers, bays, lagoons, ocean beaches, mangroves, fields, and meadows. Commonly nests high in trees in swamps and forested areas.
Reptiles			
Northern pine snake	<i>Pituophis melanoleucus melanoleucus</i>	Threatened	Dry pine-oak forest types growing on very infertile sandy soils. Both human-caused and natural disturbances are probably involved in creating the types of openings important for nesting and basking. Sandy infertile soil not only provides for persistent openings in disturbed sites, but may also be important because pine snakes are the only snakes known to dig hibernacula and summer dens.

Sources: NJDEP, 2013a; NJDEP, undated; and NatureServe, 2012

The Federal Migratory Bird Treaty Act provides for the protection of migratory birds and their nests and eggs. The migratory bird nesting season in NJ is March 15 through July 31. It is unlikely migratory birds utilize the site as there is a lack of trees and the site consists of maintained lawn as opposed to field grasses. However, should migratory birds utilize the site, land clearing for site preparation would have to be performed outside of the nesting season.

JB MDL sent informal consultation letters to the USFWS and the NJDEP Endangered and Nongame Species Program, NJ Division of Fish and Wildlife to verify that the project would have no effect on any Federal- or State-protected species or critical habitat within the vicinity of the proposed project. In a response dated January 30, 2013, the USFWS acknowledged concurrence with JB MDL’s determination that no Federally listed or proposed threatened or endangered flora or fauna are known to occur within the proposed project’s impact area and therefore the Proposed Action would not significantly affect any protected species or their critical habitat. In a response dated February 27, 2013 the NJDEP, Office of Permit Coordination and the Departments Division of Fish and Wildlife indicated valued habitat, threatened and endangered species (Upland sandpiper, Northern pine snake), and species of concern (Great blue heron) in the area of the proposed project. The Division of Fish and Wildlife recommends a general timing restriction on removal of trees to protect both nesting birds and Northern pine snake. They

suggest tree clearing should take place between November 1st and March 1st. If no nesting activity is found, the trees may be removed with no restrictions. They also recommend contractors use low pressure equipment to protect unknown pine snake hibernacula (see Appendix A).

3.7 Cultural Resources

The NHPA Sections 106 and 110 (16 USC 470 et seq.) and NEPA regulations require all construction receiving Federal funding to identify the potential prehistoric and historic cultural resources in an area. The regulations also state the need to determine what potential adverse impacts could occur if the Proposed Action was completed.

Cultural Resources are managed on JB MDL through the implementation of the draft ICRMP 2012-2017. It outlines specific procedures for consultation with the NJ Historic Preservation Office, the Advisory Council on Historic Preservation, the National Park Service, Federally recognized Native American tribes, and other potential partners in cultural resource management. The ICRMP is developed according to Department of Defense (DoDI 4710.02, 4715.3) and Air Force (AFI 32-7065) requirements in order to protect resources significant to American history and prehistory (JB MDL, 2011).

3.7.1 Area of Potential Effect

The area of potential effect (APE) for archaeology includes the proposed project site bounded by Texas Avenue, North Street, 8th Street and Trenton Avenue. Ground disturbance related to construction would include grading over the entire site, building foundation, footers, parking lot and utility connections to a maximum depth of 36 inches below the current surface. Ground disturbance may also include removal of any old building foundations or other subsurface obstructions as well as installation of a geothermal well field, extending to a depth of 500 feet below surface. The APE for historic architecture was considered to include the APE for archaeology plus the buildings immediately adjacent to the proposed project site across Texas Avenue and 8th Street.

3.7.2 National Register of Historic Places

Section 106 of the NHPA requires that Federal agencies identify whether any historic or cultural resources that are listed, or potentially eligible for listing, on the NRHP could potentially be affected by the Proposed Action. The NRHP is an index of America's historic places. It identifies districts, sites, buildings, structures, and objects that are significant in American history, architecture, engineering, and culture.

There are no historic resources within the project APE that are listed in the NRHP. There are also no known NRHP-eligible historic resources within the project APE. See Section 3.7.4 for the closest NRHP-eligible historic architecture.

3.7.3 Potential for Archeological Resources

There have been no historic or prehistoric archaeological sites identified within the project APE. As previously discussed, the proposed 5 acre site has been disturbed. The site was previously developed in 1956. It contained barracks which consisted of 18 buildings. According to historic aerial photographs, these buildings were demolished sometime after 1970. Willow Pond, the man-made feature created in the 1960's located north and northeast of the proposed site was dredged in the early 1980's. The excavated material was deposited on and around the proposed dining facility site. Thus, based on the degree of soil disturbance within the project APE, the potential for NRHP-eligible prehistoric archaeological sites is considered to be low. If present, they are expected to be significantly disturbed.

Based on historic map research and the presence of NRHP-eligible historic archaeological sites in proximity to the project APE, there is considered to be a moderate potential for mid-nineteenth century

historic archaeological resources, including house foundations and backyard features to be located within the project APE. However, as the area was disturbed by construction and demolition of barracks since the 1950s, and covered with dredge material in the 1980's, any resources present at a relatively shallow depth below surface are expected to have been significantly disturbed as to preclude their eligibility for listing in the NRHP.

3.7.4 Potential for Historic Architectural Resources

The project site does not contain any historic structures listed or eligible for listing on the NRHP. The nearest historic district (Scotts Plaza) is located approximately 0.6 miles northwest of, and is not visible from, the proposed site location. There are five buildings built in 1964 immediately adjacent to the project area south of 8th Street (Buildings 5601-5605). The buildings include two dormitories, a clothing store, a warehouse, and a headquarters building. The buildings are not considered to be of exceptional significance and are currently being evaluated for their NRHP significance under normal criteria, as they will be 50 years of age in 2014.

3.7.5 Native American Consultation

As stipulated in Section 101 of the NHPA, the DoD Instruction 4710.02, and EO's 13007, 13084 and 13175, JB MDL is required to consult with Federally-recognized Native American tribes affiliated with the installation, through what is known as a government-to-government (G2G) relationship. According to these guidelines, through the process of establishing the G2G relationship, tribes identify if they consider themselves to be affiliated with JB MDL, and if so, what their interests are and how they would like to consult with JB MDL. JB MDL invited three tribes to participate in a G2G relationship. Of the three, two tribes expressed interest and would like to be consulting parties: the Delaware Nation and the Delaware Tribe of Indians.

JB MDL is in the process of establishing G2G relationships with both tribes. Until a formal relationship is established, all projects involving substantial subsurface disturbance, require consultation under the Section 106 process with both tribes. The proposed dining facility site has not been surveyed for Native American, historic or prehistoric archeological sites. However, previous disturbance at the site makes it unlikely that intact archeological sites would be found. Nevertheless, G2G consultation with the tribes was conducted. Copies of the responses can be found in Appendix A.

3.8 Hazardous Materials and Waste

Hazardous materials are defined by 49 CFR 171.8 as "hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (49 CFR 172.101), and materials that meet the defining criteria for hazard classes and divisions" in 49 CFR Part 173. Transportation of hazardous materials is regulated by the U.S. Department of Transportation regulations within 49 CFR Parts 105–180.

Hazardous wastes are defined by RCRA at 42 USC 6903(5), as amended by the Hazardous and Solid Waste Amendments, as "a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed."

To prevent potential environmental hazard issues, JB MDL maintains a Pollution Prevention Plan. The objectives of this plan are to reduce or eliminate the impact any operation or activity might have on the environment, through the reduction or elimination of wastes, more efficient use of raw materials or energy, and reduced emissions of toxic materials.

3.8.1 Hazardous Materials and Petroleum Products and Wastes

Air Force Instruction (AFI) 32-7086, Hazardous Materials Management, establishes procedures and standards that govern management of hazardous materials throughout Air Force installations and outlines the requirements for a hazardous materials management program. The Dix portion of JB MDL has a Hazardous Waste Management Plan which is maintained under their Pollution Prevention Plan (JB MDL, 2008). The plans prescribe the roles and responsibilities of all members with respect to the waste stream inventory, waste analysis plan, hazardous waste management procedures, training, emergency response, and pollution prevention. The plan establishes procedures to comply with applicable Federal, State, and local standards.

There are no records indicating that hazardous materials, petroleum products or wastes were generated on, stored on, or disposed of at the proposed project site.

3.8.2 Underground and Aboveground Storage Tanks

AFI 32-7044, Storage Tank Compliance, implements AFD 32-70 and identifies compliance requirements for USTs, above-ground storage tanks (ASTs), and associated piping that store petroleum products and hazardous substances. USTs are subject to regulation under RCRA, 42 USC 6901, and 40 CFR 280.

As stated earlier, the site was previously developed in 1956. It contained barracks which consisted of 18 buildings. According to historic aerial photographs, these buildings were demolished sometime between 1970 and 1995. However, there are no records indicating that there were USTs or ASTs associated with the old barracks. There are also no records indicating that USTs or ASTs were ever used on, stored on, or disposed of at the proposed project site.

3.8.3 Lead, Asbestos, and Polychlorinated Biphenyls

There are no records indicating that lead, asbestos, or polychlorinated biphenyls (PCBs) were generated on, stored on, or disposed of at the proposed project site; however, the site once housed 18 barracks buildings. These buildings have since been removed. It is possible that during demolition the materials were not hauled away in entirety and small pieces remained on site. Given the age of the buildings it is probable that the demolition debris could have included the following:

- Building materials in older buildings (pre-1980) are assumed to contain asbestos. Asbestos exists in a variety of forms and can include siding, ceiling tiles, floor tiles, floor tile mastic, roofing materials, joint compound, wallboard, thermal system insulation, boiler gaskets, paint, and other materials. Demolition debris could have included any of the items listed above.
- The Federal government banned the use of most lead based paint (LBP) in 1978. Therefore, it is assumed that all structures constructed prior to 1978 could contain LBP. Paint chips that fall from the exterior of buildings can contaminate the soil if the paint contains lead. Demolition debris could have contained lead based paint.
- Chemicals classified as PCBs were widely manufactured and used in the US throughout the 1950s and 1960s. The production of PCBs was banned in the US in 1979. PCBs are a group of organic compounds used as dielectric and coolant fluids in equipment such as transformers, capacitors, fluorescent light ballasts, electric motors, and hydraulic systems. Demolition debris might have had PCB containing equipment, particularly fluorescent light ballasts.

3.8.4 Environmental Restoration Program

The Defense Environmental Restoration Program (DERP) was formally established by Congress in 1986 to provide for the cleanup of DoD property. The two restoration programs under the DERP are the Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP).

The Dix portion of JB MDL currently has 33 IRP sites and 3 MMRP sites. The closest DERP site to the proposed project is an IRP site managed under CERCLA for groundwater contamination. It is located approximately 500 feet east of the site. As discussed in Section 3.5.3, a CEA to a depth of 100 feet was designated site-wide for the Dix cantonment area in February 1999 based on contamination from several contaminated sites within the cantonment area.

3.9 Socioeconomics and Environmental Justice

The existing conditions for socioeconomics and environmental justice describe population, income, housing, and labor force characteristics in a comparative manner from the smallest geographic units in the immediate vicinity of the site (municipalities or counties depending on the parameter reported) to increasingly larger geographic areas (counties, States, and the U.S. depending on the parameter reported). The project site is located on the Dix portion of JB MDL in New Hanover Township, Burlington County, NJ.

3.9.1 JB MDL Economic Contribution

JB MDL spans more than 20 miles east to west with 42,037 contiguous acres. It is located within two of the largest counties in NJ, Ocean and Burlington, and bordered by 10 townships or boroughs.

JB MDL is one of the largest employers in NJ and accounts for 1.5 percent of total NJ gross domestic product (JB MDL, 2011a). JB MDL has approximately 40,000 assigned personnel that are a mix of about 31 percent military and 69 percent civilian. Service members and their family members living and working on and around JB MDL contribute to an overall economic impact of \$6.9 billion to the State of NJ (JB MDL, 2011b). JB MDL's annual payroll is \$3 billion, with base contract expenditures of approximately \$2.2 billion (JB MDL, 2011a).

3.9.2 Regional Economy

The largest percentage of employees by industry across all spatial levels is the educational, health, and social services industry. The second largest industry for Burlington County and NJ is the professional, scientific, and management, and administrative and waste management services industry, in which approximately 11 percent of employees are employed (US Census Bureau, 2011 and US Census Bureau, 2011a). The second largest industry for New Hanover Township is public administration (US Census Bureau, 2006-2010).

The percentage of persons employed in the armed forces is 13.2 percent in New Hanover Township, 1.1 percent in Burlington County, and 0.1 percent in NJ (US Census Bureau, 2006-2010, US Census Bureau, 2011 and US Census Bureau, 2011a). For complete information regarding employment by industry see Table 3-5 below.

Table 3-5. Overview of Employment by Industry

Employment Types	New Hanover Township	Burlington County	New Jersey
Population 16 Years and Over in the Labor Force	2,385	241,331	4,596,702
Percent of population 16 years and over in labor force employed	13.2	1.1	0.1

Employment Types	New Hanover Township	Burlington County	New Jersey
within the armed forces			
Employed Persons 16 years old and over in Civilian Labor Force (by industry)			
Agriculture, forestry, fishing and hunting, and mining	52	1,626	14,702
Construction	107	11,778	259,043
Manufacturing	84	18,951	396,329
Wholesale Trade	11	8,601	160,966
Retail Trade	96	24,538	469,625
Transportation and warehousing, and utilities	66	12,447	242,906
Information	7	6,074	134,690
Finance, insurance, real estate, and rental and leasing	57	18,737	385,143
Professional, scientific, management, administrative, and waste management services	134	25,732	517,257
Educational, health, and social services	379	51,423	942,587
Arts, entertainment, recreation, accommodation, and food services	129	13,222	325,783
Other services (except public administration)	63	9,518	186,453
Public administration	205	17,560	195,076

Source: US Census Bureau, 2006-2010, US Census Bureau, 2011 and US Census Bureau, 2011a.

3.9.3 Local Economy

New Hanover Township encompasses approximately 22 square miles, of which 90 percent is Federally-owned according to the 2007 Township Master Plan Land Use Element Update. New Hanover is bordered in Burlington County by North Hanover and Wrightstown Borough to the north, Springfield Township to the west, Pemberton Township to the south, and Plumsted Township, Ocean County, to the east. According to the Master Plan, of the 2.09 square miles of civil portion, 80 percent is agricultural, wooded or vacant. New Hanover Township is predominately rural in character, with a residential center located in the Village of Cookstown. The main commercial corridor runs along Wrightstown-Cookstown Road [County Route (CR) 616], offering commercial and retail services to the military personnel on the Joint Base and the civilian population.

The unemployment rate in New Hanover Township, NJ, is 8.6 percent which is slightly higher than the US 2012 average of 8.1 percent (NCSL, 2012). Job growth in New Hanover Township is 1.9 percent. Future job growth over the next ten years is predicted to be 35.3 percent. Recent and future job growths in New Hanover Township are both higher than the US percentages of 0.4 and 32.1, respectively (Best Places, 2010).

3.9.4 Housing

The home ownership rate in Burlington County from the 2010 census was 79.0 percent compared to the state-wide rate of 66.9 percent at that time. With the economic downturn and housing market decline that started in late 2008, it is estimated that the home ownership rate has declined in the last couple of years in Burlington County. According to the State Division of Banking and Insurance, the annual number of foreclosures in Burlington County increased steadily from 1,312 in 2005 to a high of 3,391 in 2009 (NJ Division of Banking, 2011). However, this annual figure represents only 1.9 percent of the total housing units in the County (US Census Bureau, 2012). The annual number of foreclosures in the State of NJ increased steadily from 20,253 in 2005 to a high of 66,717 in 2009 (NJ Division of Banking, 2011); this figure represents 1.8 percent of the total housing in the State of NJ (US Census Bureau, 2012).

According to the 2010 US Census there is a total of 613 housing units in New Hanover Township of which 551 are occupied and 219 are owner-occupied. The average household size of owner-occupied housing units is 3.02. There are 332 renter occupied housing units with an average household size of 3.13 (US Census Bureau, 2010).

3.9.5 Environmental Justice

3.9.5.1 Geographic Distribution of Low Income Populations

The Census Bureau's 2006-2010 American Community Survey showed that (in 2010 inflation-adjusted dollars) median household income in New Hanover Township was \$63,796 (with a margin of error of +/- \$9,062) which is less than both Burlington County and NJ. The per capita income for the Township was \$15,387 (+/- \$1,620) which again is less than Burlington County and NJ. About 0.7 percent of families and 0.7 percent of the population were below the poverty line which is significantly lower than Burlington County and NJ (see Table 3-6 below) (US Census Bureau 2006-2010).

Table 3-6. Income Statistics for the State, County and Local Township

Demographic and Social Indicators	Fort Dix CDP ¹	New Hanover Township	Burlington County	New Jersey
Total Population	7,716	7,385	449,567	8,834,773
Per Capita Income	\$12,338	\$15,387	\$34,802	\$34,858
Median Household Income	\$81,292	\$63,796	\$76,258	\$69,811
Total Number of Persons at or Below Poverty Level (ABPL)	316	52	23,827	830,468
Total Percent ABPL	4.1	0.7	5.3	9.4

Sources: US Census Bureau, 2012, US Census Bureau 2006-2010, US Census Bureau, 2010, and US Census Bureau 2010a

1: Census Designated Place (CDP)

3.9.5.2 Demographics

The 2010 census measured populations for the State of NJ, Burlington County, and New Hanover Township. As of the 2010 US Census, New Hanover Township's population was 7,385, reflecting a decline of 24.2 percent from the 9,744 counted in the 2000 Census, which had in turn increased by 2.1 percent from the 9,546 counted in the 1990 Census. The population of Burlington County increased 10 percent from 1990 to 2002 and increased 2 percent from 2002 to 2010. The estimated 2011 population in Burlington County is 449,567. The population of NJ increased 8.9 percent from 1990 to 2000, and 4.7 percent from 2000 to 2010. The US experienced large population growths of 13.2 percent from 1990 to 2000, and 9.7 percent from 2000 to 2010 (US Census Bureau 2012, US Census Bureau 2006-2010 and US Census Bureau, 2010).

Fort Dix CDP is located in portions of New Hanover Township, Pemberton Township and Springfield Township, which had a 2010 Census population of 7,716 (US Census Bureau, 2010a). The racial makeup of the Fort Dix CDP, New Hanover Township, Burlington County and NJ is shown in Table 3-7. The Fort Dix CDP and New Hanover Township both have a larger percentage of minorities when compared to the County and Statewide percentages.

Table 3-7. Population and Race

Demographic and Social Indicators	Fort Dix CDP	New Hanover Township	Burlington County	New Jersey
Total Population (2011 Estimate)	- ²	- ²	449,567	8,834,773
Total Population (2010)	7,716	7,385	448,734	8,791,898

Demographic and Social Indicators	Fort Dix CDP	New Hanover Township	Burlington County	New Jersey
Percent Change	-	-	0.2	0.5
Race¹ (values indicate percentage of population), 2010 U.S. Census Data				
Percent White	52.6	54.1	75.2	74.1
Percent Black or African American	34.5	33.6	17.3	14.6
Percent American Indian Alaska Native	0.7	0.6	0.3	0.6
Percent Asian	1.9	2.0	4.6	8.7
Percent Native Hawaiian and Other Pacific Islander	0.3	0.1	0.1	0.1
Percent Reporting 2 or More Races	4.0	3.4	2.5	1.9
Persons of Hispanic or Latino Origin ³	21.5	21.0	6.7	18.1

Sources: US Census Bureau, 2012, US Census Bureau, 2010, and US Census Bureau, 2010a

Notes:

1. The racial classifications used by the Census Bureau were issued by the Office of Management and Budget on October 30, 1997. The Office of Management and Budget requires five minimum category of race, including White, African American, American Indian and Alaska Native or Pacific Islander."
2. Information was not available.
3. Persons of Hispanic origin may be of any race.

3.10 Infrastructure

3.10.1 Potable Water Supply

The primary source of potable water on the Dix portion of JB MDL is a surface water diversion on Greenwood Branch on the North Branch of Rancocas Creek. The New Lisbon Pumping Station pumps water from the Rancocas Creek to a treatment plant on Dix where it is treated prior to distribution. After treatment, the water flows to a ground storage clear water reservoir and is then pumped to elevated tanks that provide storage and distribution. There are three elevated tanks with a combined capacity of 2 million gallons. The New Lisbon Pumping Station has a 4 million gallon per day (mgd) pumping capacity (Fort Dix, 2007) and the demand on the system is approximately 3.2 mgd in the summer months and 1.5 mgd in the winter months.

The Dix portion of JB MDL also has four potable groundwater wells which tap into the Potomac Raritan Magothy aquifer. The groundwater wells are secondary as the State of NJ mandates that primary sources be surface water. Each of the groundwater wells has a capacity of 1 mgd, but are limited by the Dix groundwater allocation permit issued by the State. The allocation permit allows for 155 million gallons per month (mgm) and the estimated monthly demand on Dix is 106 mgm (NJDEP, 2013b). Any of the four potable groundwater wells can be used for potable water at any given time as long as Dix does not exceed the water allocation permit limit. Dix currently utilizes one groundwater well for potable purposes and the remaining wells are used in emergency conditions for fire protection. The potable groundwater water is filtered for the removal of iron and manganese before distribution (Fort Dix, 2007). All water sources, surface and groundwater, are tested and treated to ensure that State quality standards are met.

The proposed project site is currently used for recreational purposes and does not currently utilize potable water resources. However, there are existing potable water lines surrounding each edge of the proposed site along 8th Street, Texas Avenue, North Street and Trenton Avenue.

3.10.2 Sanitary Sewer Service

The sewer system at JB MDL consists of a collection system, a number of lift stations, and a tertiary wastewater treatment plant. The wastewater treatment plant is located on the Dix portion of JB MDL and serves both Dix and McGuire. Domestic wastewater is discharged into the sanitary sewer system, which flows to the treatment plant through a system of gravity and forced mains. The design capacity of the wastewater treatment plant is 4.6 mgd. The total combined flow to the treatment plant averages 2.5 mgd and Dix contributes approximately 55 percent of that average daily flow (MAFB, 2005).

The proposed project site is currently used for recreational purposes and does not currently utilize sanitary sewer services. However, there are existing sanitary sewer lines surrounding the proposed site along 8th Street and Texas Avenue.

3.10.3 Electrical Service and Distribution

The electrical system on the Dix portion of JB MDL was privatized in 1996 and is now owned, operated, and maintained by General Public Utilities. The privatization agreement with General Public Utilities requires that electricity be provided on an uninterruptable basis. The electricity on Dix is supplied via a 34.5 kilovolt (kV) transmission loop that originates at a substation in Cookstown, approximately five miles east of the installation. Two circuits (26 kV each) and six substations (4.16 kV each) provide primary and back up capacity to Dix (Fort Dix, 2000).

The proposed project site is currently used for daytime recreational purposes and does not currently utilize electrical services. However, there are existing electrical service lines surrounding the proposed site along 8th Street and Texas Avenue.

3.10.4 Stormwater System

The Public Complex Permit Stormwater Pollution Prevention Plan for Dix identifies a number of locations where stormwater is discharged into watersheds within the installation. Stormwater on Dix is directed by natural drainage patterns or modified drainage facilities. Stormwater in developed areas of Dix are collected by extensive stormwater drainage networks that discharge to detention ponds, Hanover Lake, or streams (Assiscunk, Crosswicks, and Rancocas creeks) all located within the Dix portion of JB MDL. The majority of Dix drains into the Rancocas Creek Watershed and the Crosswicks Neshaminy Watershed both of which drain into the Delaware River Basin. A small portion of Dix drains into streams, such as Hurricane Brook which ultimately drain into the Atlantic Ocean (Fort Dix, 2000 and Fort Dix 2006).

The Dix area of JB MDL has an active Stormwater Pollution Prevention plan (SWPPP) that was developed in accordance with the NPDES, 40 CFR Part 122; NJ Stormwater Management Regulations, NJAC 7:11; NJ Pollutant Discharge Elimination System (NJPDES) Program; and several other Federal, State, and county water pollution control regulations. The purpose of the SWPPP is to compensate for the added stormwater runoff and the possible runoff of pollution caused by development and industrial activities.

The proposed project site is currently used for recreational purposes. The majority of the site is maintained lawn and stormwater is left to naturally percolate in these areas. Stormwater associated with North Street and Trenton Avenue is channeled to breaks in the existing curbing which allows the stormwater to travel over the maintained lawn adjacent Willow Pond where it can naturally percolate. There is also an existing stormwater drainage system along Texas Avenue.

3.10.4.1 Stormwater Regulatory Requirements

Construction activities on JB MDL that disturb one or more acres of land are subject to Federal and State soil conservation and stormwater pollution regulations. The 1972 amendments to the CWA prohibit the discharge of any pollutants to waters of the U.S. from a point source unless the discharge is authorized by a NPDES permit. In 2010, the USEPA issued a Final Rule for the CWA concerning technology based Effluent Limitations Guidelines and New Source Performance Standards for the Construction and Development point source category. All new construction sites are required to meet the non-numeric effluent limitations and to design, install, and maintain effective erosion and sedimentation controls, including the following:

- Control storm water volume and velocity to minimize erosion.
- Minimize the amount of soil exposed during construction activities.
- Minimize the disturbance of steep slopes.
- Minimize sediment discharges from the site.
- Provide and maintain natural buffers around surface waters.
- Minimize soil compaction and preserve topsoil where feasible.

Section 438 of the Energy Independence and Security Act (42 USC Section 17094) establishes into law new stormwater design requirements for Federal construction projects that disturb a footprint greater than 5,000 square feet of land. Additional guidance is provided in the USEPA's Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act.

In 1975, the State Legislature passed Chapter 251, P.L. 1975, the Soil Erosion and Sediment Control Act of NJ. This legislation gave local conservation districts the power to control soil erosion and sedimentation by requiring the submission of a Soil Erosion and Sediment Control Plan for almost all soil disturbances over 5,000 square feet. The construction contractor would submit a Soil Erosion and Sediment Control Plan to the Burlington County Soil Conservation District for their review and approval. Finally, the design of the proposed CIF would meet the stormwater requirements within Dix's existing Public Complex Permit Stormwater Pollution Prevention Plan.

3.10.5 Natural Gas

On JB MDL natural gas is supplied to Dix by Public Service Electric and Gas (PSE&G) company. Under the privatization agreement, PSE&G is required to provide Dix with the gas it needs on demand therefore the chance of a service interruption is precluded (Fort Dix, 2000).

The proposed project site is currently used for recreational purposes and does not currently utilize natural gas services. However, there are existing natural gas service lines surrounding the proposed site along 8th Street and Texas Avenue.

3.10.6 Solid Waste

Wastes can generally be divided into three broad categories, including hazardous, nonhazardous, and universal wastes (see Section 3.8 for Hazardous Materials and Waste). Nonhazardous wastes are typically thought of as residential or municipal waste. Universal wastes are certain hazardous wastes, e.g. batteries, which, when managed or recycled properly, are not included as hazardous waste.

Disposal of solid waste at JB MDL is conducted through a facility support contract with a licensed waste hauler. The solid waste from Dix is transported to the Burlington County Landfill in Mansfield, NJ. The

Burlington County Landfill was opened in 1989 and at the current rate of receiving wastes has a permitted capacity until 2016. The capacity of the Burlington County Landfill is 6,977,174 tons (Energy Justice, 2012). There is currently a plan for expansion so the landfill will have permitted capacity until 2027.

JB MDL is mandated by the Qualified Recycling Program to meet a 50 percent diversion goal for nonhazardous solid waste and a 60 percent diversion for construction and demolition debris, which is required by 2015 from the U.S. Defense Department sustainability performance plan. The Burlington County Occupational Training Center is the contractor for recycling programs on the Dix and McGuire portions of JB MDL. In 2011, they recycled more than 2,000 tons of material.

Solid waste and recyclables are collected from garbage cans on the proposed project site which is used by those frequenting the recreational area. This solid waste is removed under the installation's services contract described above and taken to the Burlington County Landfill by a disposal contractor. The disposal contractor also removes the recycled materials and transports them to the recycling center on Dix.

3.11 Noise

3.11.1 Regulatory Framework and Background

Noise regulations have been established at all levels of government, from local municipalities to Federal agencies. Although, there is great variation in the controls established by different municipalities, the Federal guidelines provide widely accepted standards, which are reasonably consistent among the various agencies. Congress passed the Noise Control Act in 1972, specifically authorizing USEPA to promulgate regulations establishing maximum permissible noise characteristics for products manufactured for interstate commerce. In addition, USEPA was directed to publish information about the kind and extent of effects of different qualities and quantities of noise, and to define acceptable levels under various conditions to protect public health and welfare. This information was then used by other Federal agencies in establishing criteria applicable to their programs.

Noise can have an adverse effect on humans and their activities, as well as on the natural environment. The impact of noise is highly dependent upon the characteristics of the noise (e.g., loudness, pitch, time of day, and duration) and the sensitivity (or perception) of the noise receptor. The standard unit of sound amplitude measurement is the decibel (dB); however, since the human ear is not equally sensitive to sound at all frequencies, the A-weighted scale (dBA) is typically used to measure noise as it relates human sensitivity. The USEPA has classified noise levels for several common sounds along with typical human responses or perceptions for these noises (Table 3-8).

Sound travel over distance is acted upon by many factors. Temperature, humidity, wind direction, barriers, and absorbent materials, such as soft ground and light snow, are all factors in how sound will be perceived at different distances. The most significant way that noise is attenuated is from the divergence of sound waves with distance (attenuation by divergence). In general, this mechanism results in a 6 dBA decrease in the sound level with every doubling of distance from a point source (i.e., rate of dBA decrease from the source is based on a logarithmic scale). For example, an 84 dBA average sound level at 50 feet – associated with clearing and grading during construction – would be attenuated to 78 dBA at 100 feet, 72 dBA at 200 feet, and to 66 dBA at 400 feet.

Table 3-8. Noise Levels for Common Sounds

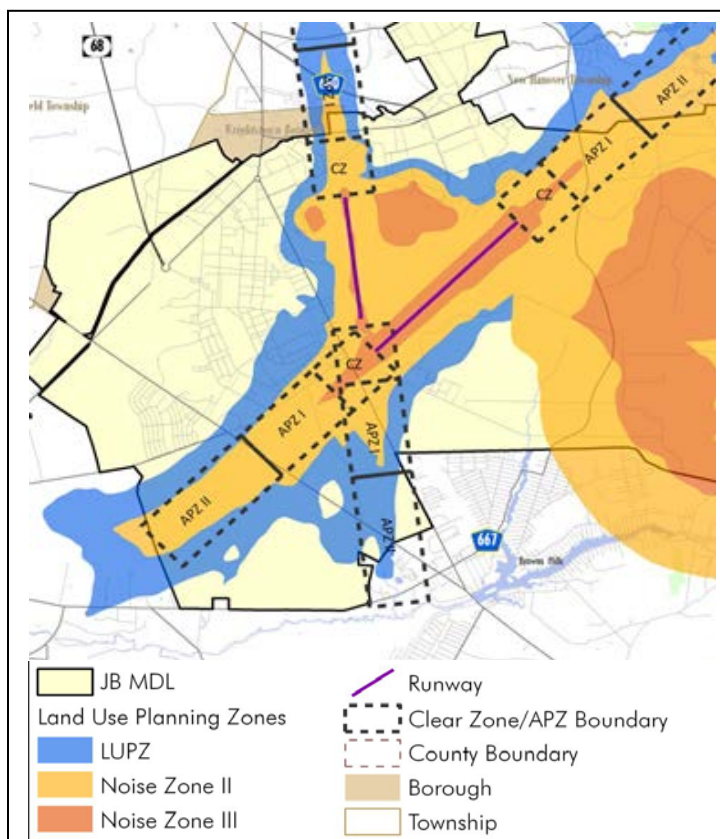
Sources ¹	Noise Level (dBA)	Response
Carrier deck, jet operation	140	Painfully loud
Live rock music	130	Limits amplified speech

Sources ¹	Noise Level (dBA)	Response
New York subway station	90	Hearing damage (8 hours)
Dishwasher	80	Annoying
Freeway traffic (50 ft)	70	Telephone use difficult
Air conditioning unit (20 ft)	60	Intrusive
Light auto traffic (100 ft)	50	Quiet
Breathing	10	Just audible
Silence	0	Threshold of hearing

¹ Noise levels decrease with distance from the source and are reduced by barriers, both man-made (e.g. sound walls) and natural (forested areas, hills, etc.).

3.11.2 Sensitive Receptors and Existing Noise Levels

Certain land uses, facilities, and the people associated with these noise levels are more sensitive to a given level of noise than other uses. Such “sensitive receptors” might include residential areas, schools, churches, hospitals, retirement homes, campgrounds, wilderness areas, hiking trails, and some species of threatened or endangered wildlife. The closest sensitive receptors are located at the trailer park campground located approximately 150 feet west of the site and an enlisted dormitory, Building 5602, located less than 250 feet south of the site (Figure 2-1). There are several other billeting dormitories directly north and south of the site along Texas Avenue which would be within walking distance of the proposed consolidated dining facility. Existing land uses abutting the project site include airfield, housing and open space (see also Section 3.2, Land Use). Regionally, the largest contributors to ambient noise levels in the proximity of the project site is air traffic associated with the McGuire airfield. Higher noise levels result from airfield operations at McGuire located immediately adjacent Dix. The noise contours for the runways located on McGuire were updated in the 2012 JB MDL Air Installation Compatibility Use Zone (AICUZ) Study. The noise contours are similar in both shape and extent of coverage when compared to the noise contours in the 2009 AICUZ Study. Noise levels ranging from 65 to 75 A-weighted Average Day/Night Sound Level (ADNL) encroach on Dix property including a portion of the cantonment area adjacent McGuire. According to the 2012 JB MDL AICUZ Study the proposed project site is located within a Land Use Planning Zone (LUPZ) (see Figure 3-3).



Source: JB MDL, 2012b

Figure 3-3. Proposed Project Site Land Use Planning Zones

To provide a planning tool that could be used to account for days of higher-than-average operations, the LUPZ contour is included in noise assessments. The LUPZ can offer a better prediction of noise impacts

when levels of operations are above average. The aviation ADNL for LUPZ's is 60 -65 dBA (JB MDL, 2012b).

Higher noise levels associated with range operations do not reach the Dix cantonment area. On-site noise levels from recreational activities at the proposed project site are occasional and mostly contained onsite, and therefore, result in minor and temporary increases in sound levels to nearby dormitories. No noise data is available for the project area specifically; however, it is assumed that surrounding noise levels are occasionally around 70 dBA resulting from instantaneous noise levels from aircraft and high traffic levels during the morning and early evening peak commute travel times and around 60 dBA during ambient conditions as the proposed site is located within the LUPZ (refer to Table 3-8 for common sound levels).

3.12 Transportation and Traffic

Commercial traffic (trucks) traveling to and from the Dix area of JB MDL use Checkpoint 9 off of Saylor's Pond Road. Checkpoint 9 is available 24 hours a day, but is actively manned between 5am and 4:30 pm. Trucks arriving outside those times are instructed to call security for entrance. Based on data from the 2011 Joint Base Regional Transportation Mobility Study (T&M, 2011), Checkpoint 9 received 3,813 trucks (inbound) on one day in November 2010. The peak hours were between 6am and 8am where an average of 460 trucks entered per hour. Between 8 am and 5pm, the gate received 180 trucks per hour. Between 7am and 5pm (the work hours under the Proposed Action), the gate received 2,089 vehicles (see Appendix C).

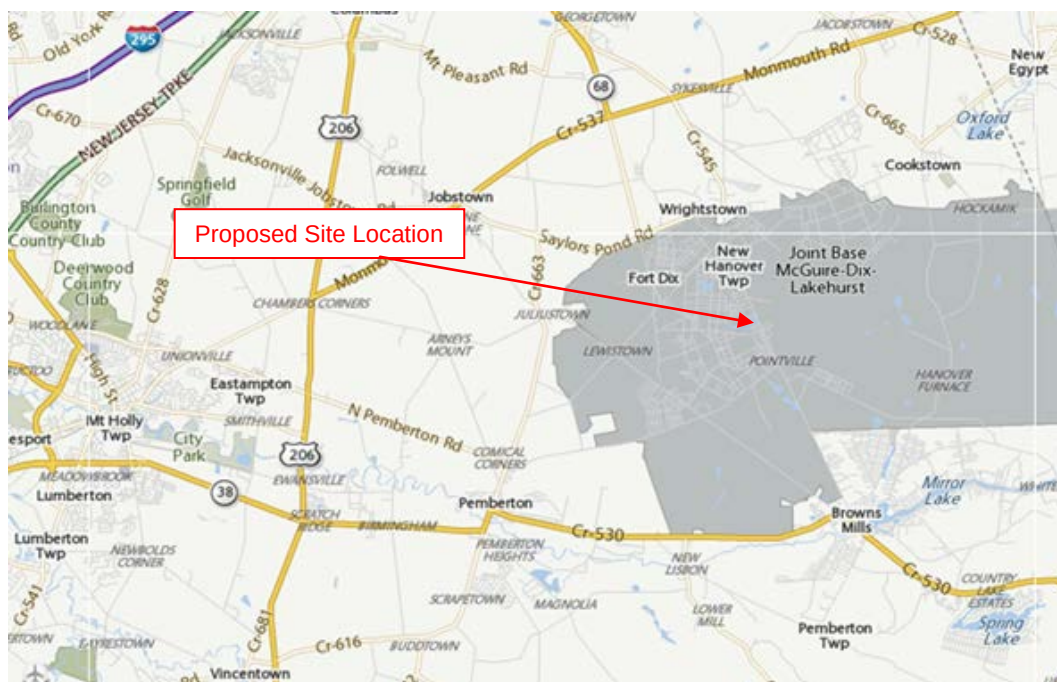


Figure 3-4. Road Network Surrounding Checkpoint 9

The primary routes from this checkpoint include: Saylor's Pond Road (Route 670), Route 68, CR 537, Route 206, CR 616, and CR 528. Several small towns are located within 5 miles of the gate along these routes, including Wrightstown, Pemberton, Cookstown, and New Egypt. Major highways in the area include the NJ Turnpike and I-295 to the west and Route 70 to the south (see Figure 3-4).

As previously stated, the proposed project site is located along Texas Avenue. Texas Avenue is the most important thoroughfare of the cantonment, used by both Dix and McGuire. It supports the highest traffic volume on Dix (Fort Dix, 2000). There is an existing crosswalk approximately 145 feet south of 8th Street along Texas Avenue. The existing cantonment road and street networks are generally adequate to serve transportation needs on Dix however, capacity may be exceeded during periods of infrequent mobilization (the population during peak mobilization is approximately 18,000 persons).

There is no available traffic data specifically for Texas Avenue; however, the NJ Department of Transportation does have data for Fort Dix Road and Pointville Road which intersects Texas Avenue approximately 0.6 miles south of the proposed project location. The average daily traffic on Fort Dix Road from April 4, 2011 and April 6, 2011 was 5,348 vehicles. Peak eastbound traffic (towards the Route 68 gate) occurs between 6am and 8am, with an average of 540 vehicles per hour and a peak of 598 vehicles per hour. Peak afternoon traffic (westbound) occurs between 3 pm and 5 pm, with an average of 489 vehicles per hour, with a peak of 707 vehicles per hour (NJDOT, 2011). The average daily traffic on Pointville Road from 25 May 2010 and 27 May 2010 was 90 vehicles. Peak eastbound traffic (towards Texas Avenue) occurs between 8am and 12 pm, with an average of 42 vehicles per hour and a peak of 44 vehicles per hour. Peak afternoon traffic (westbound) occurs between 12 pm and 4 pm, with an average of 5 vehicles per hour, with a peak of 7 vehicles per hour (NJDOT, 2010). See Appendix C for hourly traffic volumes for Pointville and Fort Dix Road discussed above.

3.13 Human Health and Safety

3.13.1 Police and Fire Protection

JBMDL is connected to the 911 Emergency System should an emergency requiring police protection occur. The JB MDL Police force provides primary response to emergencies. The JB MDL Fire and Emergency Services Division provide fire suppression, crash, rescue, emergency medical, hazardous substances, and structural fire protection for all personnel at JB MDL. There are four fire stations located throughout JB MDL, two of which are on Dix. The closest fire station to the proposed project site is located north off of Delaware Avenue, opposite Snyder Lane approximately 1.5 miles away.

3.13.2 Medical

The 87th Medical Group is an outpatient medical treatment facility operating on JB MDL. There are also several medical clinics located throughout JB MDL for military use. The ambulatory care clinic is located less than a mile northeast of the proposed project site on Neely Road. Additional medical facilities include Buttonwood Hospital in Pemberton, Virtua Memorial Hospital in Mount Holly, and the Community Medical Center in Toms River.

3.13.3 Construction and Demolition Safety

The health and safety of onsite military and civilian workers are safeguarded by numerous DoD and military-branch specific regulations designed to comply with standards issued by the Federal Occupational Safety and Health Administration (OSHA), USEPA, and State occupational safety and health agencies. These standards specify the amount and type of training required for industrial workers, the use of personal protective equipment, administrative controls, engineering controls, and maximum exposure limits for workplace stressors.

All contractors are required to conduct construction activities in a manner that does not pose any risk to workers or personnel and are responsible for following ground safety regulations, worker compensation programs, and industrial hygiene programs. Contractor responsibilities are to review potentially hazardous workplace operations; to monitor exposure to workplace chemical (e.g. asbestos, lead, hazardous materials), physical (e.g. noise, high exposure to heat or cold, working from heights, tripping

hazards), and biological (e.g. infectious waste, insect bites) agents; and to recommend and evaluate controls (e.g. ventilation, respirators) to ensure personnel are properly protected or unexposed.

Demolition work involves many of the same hazards that arise during other construction activities. However, demolition also involves additional hazards due to a variety of other factors. Some of these include: lead-based paint, sharp or protruding objects and asbestos-containing material, deviation from the structures design introduced during construction, approved or unapproved modifications that altered the original design, and unknown strengths or weaknesses of construction materials. The demolition contractor is responsible for planning the wreckage of the structure, the equipment to do the work, informing worker of hazards and safety requirements, and public safety.

In 2011, the rate of injury cases per 100 full-time workers in the NJ heavy and civil engineering construction sector was 3.7, which was down from 4.7 the previous year (BLS, 2012).

3.13.4 Ordnance, Explosives, and Munitions Safety

Unexploded ordnance (UXO) are any munitions, weapons delivery system, or ordnance items that contain explosives, propellants, and chemical agents. UXO consists of munitions that (1) are armed or otherwise prepared for action; (2) are launched, placed, fired, or released in a way that they cause hazards; or (3) remain unexploded either through malfunction or design. UXO presents an immediate safety danger (from explosion) and a long-term health threat (from toxic contamination). The proposed project site is not located within or adjacent to any UXO caution or UXO sweep areas.

Explosive safety quantity distance (QD) arcs are imaginary arcs surrounding facilities used for the storage, handling, and maintenance of munitions to provide a safety buffer in case of a detonation inside the bunker. Certain activities and personnel density limits are instituted within these arcs to protect people and facilities from explosion and fragmentation. On JB MDL, the Air Force Manual 91-201 establishes the size of the clearance zones based upon QD criteria or the category and weight of the explosives contained within the facility. The nearest QD arc to the proposed project site is located approximately 3,200 feet northeast on the McGuire airfield.

4. ENVIRONMENTAL CONSEQUENCES

4.1 General Overview

This section identifies potential direct and indirect effects of the alternatives for each resource area described in Section 3 and compares and contrasts the potential effects of those alternatives. The potential environmental, cultural, and socioeconomic effects of implementing each identified alternative, as well as any required mitigation associated with each alternative, are all presented.

4.2 Land Use

4.2.1 Effects of Alternative 1

The proposed project would convert approximately 5 acres of undeveloped land to a consolidated dining facility to support JB MDL functions. The existing land use is Open Space and the existing uses surrounding the site include, Open Space, Airfield and Housing. According to the IDP, the proposed land use for the site is Recreation and the land uses surrounding the proposed site include Recreation, Airfield and Operations-Training (see Figure 3-1) (JB MDL, 2012). The proposed Operations-Training land use category is defined as a mixed use non-airfield and non-research development test and evaluation training area. In the cantonment areas on JB MDL, the Operations-Training areas are intended to enhance existing or grow into walkable campuses with barracks, dining facilities, administrative support functions and other training buildings, as required (JB MDL, 2012). Thus, although the proposed land use is Recreation it is bounded to the north and south by the Operations-Training land use making the location ideal for consolidated dining services.

Minor impacts are expected as the proposed project would change 5 acres of undeveloped land to developed land. However the future land uses in the IDP to be implemented, would create an additional 139 acres of Recreation area (JB MDL, 2012). The additional acres would be a result of re-categorizing some open space, and the creation of new recreation areas due to the consolidation of administration from the McGuire gate area to the center of Dix. Thus the loss of 5 acres would be negligible as it represents less than 5 percent of the open space to be created.

Aside from minor adverse aesthetic impacts, construction and operation of the dining facility would not be expected to cause any physical alterations to adjacent properties.

4.2.2 Effects of Alternative 2 (No Action Alternative)

Under the No Action Alternative, the Proposed Action would not be undertaken. No construction activities or land development would occur at the site; therefore, there would be no impact to land use from the Proposed Action. The proposed site would not be developed as described in this EA and consequently, there would be no associated changes in the use of this land.

4.3 Air Quality

4.3.1 Effects of Alternative 1

Construction of the facility would produce short-term, low-level, intermittent, and transient emissions of CO, PM_{2.5}, and NO_x from vehicles and the operation of construction machinery, as well as PM_{2.5} and PM₁₀ associated with earth and material movements that would be associated with land clearing and other activities. Appreciable impacts on ambient air pollution concentrations from vehicle emissions are expected to be minor because traffic increase from construction and personal vehicles would be small and temporary and most of the construction equipment is expected to stay onsite until the construction phase

is over. Thus, construction activities would not be expected to produce a significant degradation of ambient air quality.

To estimate construction phase dust levels, emissions factors for fugitive dust emissions were obtained from the US EPA's document "AP42, Fifth Edition, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources". Since construction activities vary substantially day to day depending on the level of activity, the specific construction activities occurring at the time and the prevailing meteorological conditions the USEPA provides an emission factor for un-controlled total suspended particulate (TSP) matter of 1.2 tons/acre/month of activity to represent the overall construction activity on the site (USEPA, 2005). Table 4-1 provides an estimate of fugitive dust emissions from construction activities. These fugitive dust emissions are expected to be below any applicable regulatory criteria.

Table 4-1. Total Suspended Particulate Emission Estimates Resulting from Construction

TSP Emissions						
					Uncontrolled	Controlled
Activity	Area of Activity (Acre)	Duration of Activity (Months)	Uncontrolled Emission Factor (ton/acre/month)	Controlled Emission Factor ¹ (ton/acre/month)	Total Emissions (ton)	Total Emissions (ton)
Clearing	4	1	1.2	0.36	4.8	1.44
Excavation	3	2	1.2	0.36	7.2	2.16
Filling	3	2	1.2	0.36	7.2	2.16
Grading	4	1	1.2	0.36	4.8	1.44
Construction	4	8	1.2	0.36	33.6	10.08
Total					57.6	17.28

Source: USEPA, 2005

Notes: 1: Controlled emission factor depends on dust suppression measures to be used at the site. This value has assumed implementation of dust control measures discussed in Section 2.2.3

Heating and cooling needs for the proposed facility would be met through the installation of geothermal wells. The only new stationary source of air emissions would be two natural gas hot water heaters.

There would also be no increase in the existing troop level or vehicle operations. Approximately 65 employees would be traveling to the dining facility daily. There would also be parking spaces for 70 patrons. These employees and patrons do not represent new commuters. Therefore, no increases in mobile emissions are anticipated from government owned and privately owned vehicles. The purpose of the Proposed Action is to build a dining facility that is within walking distance of a large majority of patrons who would use the facility, thus, the project would reduce vehicle emissions.

Table 4-2 below summarizes the total projected air emissions resulting from the natural gas water heaters, construction equipment and vehicles associated with the Proposed Action. These emissions were estimated based on typical construction equipment and vehicle types. Actual specifications of the water heaters, construction equipment and vehicle miles have been estimated based on similar projects. The full discussion including calculations used to develop these estimates can be found in Appendix B.

Table 4-2. Summary of Proposed Action Emissions

Annual Emissions (tons per year)						
Activities	VOC	CO	NOx	PM ₁₀	SO ₂	PM _{2.5}
Operational Stationary Sources						
Natural Gas Water Heaters	0.003	--	0.06	--	--	--
Construction Mobile Sources						
Construction Equipment Diesel	0.32	0.99	1.01	0.29	0.28	0.20
Road Vehicle	0.24	2.26	0.24	0.01	0.003	--
Total	0.58	3.25	1.95	0.30	0.28	0.20

Based on the estimated emissions in Table 4-2, the Proposed Action would not significantly impact existing or future air quality. With the exception of General Conformity requirements (see Section 4.3.1.1 below) impacts to air quality are determined by the impact of stationary sources. As displayed in Table 4-2 above, significant impacts to air quality are not anticipated from the use of the proposed facilities natural gas heaters. The air emissions from construction equipment and construction workers personal vehicles would be considered a minor local and temporary impact.

4.3.1.1 General Conformity Rule

Proposals for Federal actions must evaluate potential changes in direct and indirect air emissions caused by the proposed actions and must determine whether the proposed actions conform to applicable State and Federal implementation plans. The maximum increase in air emissions that is exempt from a detailed air quality analysis is called the “*de minimis*” level. If emissions of a criteria pollutant do not exceed the *de minimis* level, then the Federal action is considered to have minimal air quality impacts and the Federal action is determined to conform for the pollutant under study and no further analysis is necessary. If the total direct and indirect emissions of a pollutant are above the *de minimis* level then a formal general conformity determination is required for that pollutant.

As stated in Section 3.3, Burlington County is currently in moderate non-attainment status for ozone. Burlington County is also in non-attainment for annual PM_{2.5} and 24 hour PM_{2.5}. The *de minimis* levels for each pollutant are defined in the Federal Conformity Rule and vary depending on the pollutant and the severity of nonattainment status. For a moderate ozone nonattainment area, the *de minimis* criterion is 100 tpy for the ozone precursor NOx and 50 tpy for the ozone precursor VOC. The *de minimis* level set for PM_{2.5} is 100 tpy.

Based on the emissions in Table 4-3, the Proposed Action emissions are not expected to result in exceedance of the *de minimis* levels for NOx, VOC, or PM_{2.5} set forth in the General Conformity Rule. Alternative 1 would emit 1.31 tons of NOx, 0.56 tons of VOCs, and 0.20 tons of PM_{2.5} during project construction, assumed to occur in two calendar years and 0.06 tons of NOx and 0.003 tons of VOCs during annual operations. Thus, the Proposed Action is exempt from the CAA conformity requirements and does not require a detailed analysis of air quality. See Appendix B for a general conformity record of non-applicability for the Proposed Action.

Table 4-3. Proposed Action General Conformity Analysis

Pollutant	Project Emissions (tons per year)	<i>de minimis</i> Level (tons per year)
NOx	1.31	100
VOC	0.56	50

Pollutant	Project Emissions (tons per year)	<i>de minimis</i> Level (tons per year)
PM _{2.5}	0.20	100

Source: USEPA, 2011a

4.3.2 Effects of Alternative 2 (No Action Alternative)

Under the No-Action Alternative, the Proposed Action would not be undertaken. Implementation of the No Action Alternative would not have an impact on existing air quality and current conditions would remain the same.

4.4 Topography and Soils

4.4.1 Effects of Alternative 1

The contractor would submit a site-specific Soil Erosion and Sedimentation Control Plan to the Burlington County Soil Conservation District for review and approval. This plan would need to receive certification from the District prior to initiating construction. Under the Proposed Action, alterations to the topography of the area would be minor. A limited amount of grading would be required for the dining facility foundation and bioretention areas, but given the project site's limited topographic variation, the change is planned to be minimal (see Section 4.10 for more detail regarding stormwater bioretention including a preliminary grading plan).

The soil type at the project site is considered by the Natural Resource Conservation Service as a prime farmland soil (USDA/NRCS, 2010); however, a portion of the site has been paved over for the existing basketball court, so on-site soils have already been removed from productive use. In addition, the project site would be located in the Dix cantonment area, an area used for billeting, administrative support and training, so future farming practices at the site are not anticipated.

Construction of the facility would require clearing and grading the existing lot to install the building foundation. This disturbance would temporarily create dust from wind erosion. Soil disturbance could result in increased erosion potential from loss of ground cover and exposure of bare soils to precipitation and runoff. The total disturbed area would be kept to the minimum necessary to complete the work (up to 5 acres) and would be confined to the site boundaries.

Minor short-term impacts to soils are expected as existing soils have already been disturbed throughout much of the proposed project site through previous land clearing activities. Furthermore, potential impacts would be controlled or avoided through the use of appropriate BMPs and soil stabilization/revegetation techniques during and after the construction phase. Appropriate BMPs would be required per the NPDES permit (discussed in detail in Section 4.5, Water Resources) and selected based on site specific conditions. With the adherence to the BMPs described in Section 2.2.3, there would be minimal impact to topography and soils during construction.

No impact to soils and topography are expected during operation of the facility once construction is completed and the site is revegetated within the bioretention areas and maintained lawn is once again established.

Potential Geothermal Effects on Soils

The proposed facility includes plans to install approximately 55 closed loop ground source heat exchanger geothermal wells for heating and cooling. The geothermal wells would be no more than 500 feet deep and would be 20 feet apart. As the installation of these wells would require drilling, knowledge of existing site

geology is important. A test boring is scheduled to be conducted in early 2013. For the installation of more than 10 closed-loop geothermal wells, a licensed well driller would need to file for authorization with the NJDEPs Bureau of Water Allocation and Well Permitting and would adhere to NJDEP regulations as required under this permit.

A rotary type drill with coring capability would be used with a direct circulation rotary drilling fluid (water or water with additives-mud). Water, drill cuttings, drilling mud and soil material removed from the drill core produced from the wells during construction and geothermal fluid produced during flow testing would be placed in an on-site holding area. The holding area would be sampled for hazardous contaminants. If test results indicate that the water and solids are hazardous, the material would be removed and relocated to an approved disposal site in accordance with applicable Federal, State, and USAF regulations under the supervision of JB MDL environmental staff. If test results indicate the solids are non-hazardous, the soil is to be incorporated into the site grading.

The excavation and reapplication of surface soils could cause the mixing of shallow soil horizons, resulting in a blending of soil characteristics and types. This blending would modify the physical characteristics of the soils, including structure and texture that could lead to reduced permeability and increased runoff from these areas. Soil compaction and blending could also impact the viability of future vegetation. Thus, long-term minor impacts to soils may result from incorporating drilled soil into the site grading.

4.4.2 Effects of Alternative 2 (No Action Alternative)

Under the No Action Alternative, the Proposed Action would not be undertaken. No construction, activities or land development would occur at the site; therefore, there would be no excavation of land or installation of geothermal wells. The land, in its current condition, would remain in place, and the geologic features and soils would remain undisturbed. Therefore, no impacts from increased soil erosion and associated sediment-laden runoff to adjacent waters would occur.

4.5 Water Resources

4.5.1 Effects of Alternative 1

Surface Water

There are no surface water features within the proposed project site boundary; therefore, no potential exists for direct impacts to surface waters during construction. Initial construction activities on the project site would consist of removal of the asphalt basketball court and leveling and grading existing maintained lawn areas which would result in the disturbance and exposure of soils and increased runoff. Runoff from the site can lead to increased erosion of exposed soils and subsequently result in indirect effects such as increased sediments and turbidity in adjacent waters. Thus, during storm events, Willow Pond may experience an increased sediment load due to the erosion of exposed soils during construction. In accordance with regulations a NPDES permit would need to be obtained prior to construction as the clearing and grading activities would disturb over an acre of land. The total land disturbance under the proposed action would be a maximum of 5 acres. The permit application requires the development of a SWPPP that identifies erosion prevention and sediment BMPs. Adherence to the SWPPP would minimize erosion and sediment impacts to water quality; therefore, impacts to surface water resources would be reduced to minor. There is potential for surface water contamination from hazardous spills that could occur during construction activities; however, BMP's for minimizing the potential for spills would be outlined in the construction stage SWPPP as a condition of the General Permit.

The proposed dining facility would increase the amount of impervious surface at the project site; that would increase stormwater runoff. However, the dining facility includes plans for pervious concrete and bioretention to minimize surface water run-off. These elements would aid in reducing possible stormwater impacts to water resources to minor (see Section 4.10.1.1, Stormwater).

Construction activities would require water from JB MDL sources for concrete work and washing machinery and tools. Water for construction would be obtained from existing potable water sources on Dix. This water use would be short-term and minor relative to the amount of water available on the Dix portion of JB MDL (see Section 3.11, Infrastructure).

The operation of the dining facility would require potable water withdrawals for use however these withdrawals would be offset by the closure of the three existing dining facilities. In addition, the Proposed Action has been designed to achieve LEED Silver certification which would promote minimizing water consumption, thus, beneficial impacts are expected to result from operation of the new facility as it would use less water than the existing three facilities. No adverse impacts are expected to occur to potable water resources in the area and they are expected to continue to be a viable source within the region.

Groundwater

As discussed in Section 2.2.1.2., the project would include the installation of 55 closed-loop ground source heat exchanger geothermal wells. There would be no direct interaction between groundwater and the water and anti-freeze mixture (likely inhibited propylene glycol) contained within the polyethylene piping; only heat transfer across the pipe. The inhibited propylene glycol solution is a clear, non-toxic fluid that the Food and Drug Administration (FDA) considers “generally recognized as safe”. The total volume of the geothermal loop system below grade is approximately 4,800 gallons. The glycol would be maintained at 20 percent volume thus the glycol volume would be 960 gallons. The system would be equipped with safety features such as an automated pressure sensitive valve, which would automatically shutdown the system if there is a pressure change indicating a leak. In addition, all the in-ground thermal exchange piping and hardware would be solidly grouted into the well hole further reducing the chance of leaks. Therefore, unless a failure of the piping system and associated safety features occurs, no impact to groundwater resources would occur as a result of the geothermal wells. While leaks are possible, they are typically small in volume. Furthermore, the material that would be utilized within the piping system is considered non-toxic by the FDA and USEPA.

4.5.2 Effects of Alternative 2 (No Action Alternative)

Under the No Action Alternative, the Proposed Action would not be undertaken. No construction activities or land development would occur at the site, and there would be no impact to surface waters or groundwater in the vicinity of the project area.

4.6 Biological Resources

4.6.1 Effects of Alternative 1

Impacts to biological resources generally occur because of habitat modification, land disturbance, disturbance to or taking of rare, threatened, or endangered species, or exposure to environmental contaminants. No impacts to State- or Federally-listed threatened or endangered species are anticipated to occur as the USFWS concurred with JB MDL’s conclusion that the site does not currently support any listed species (see Appendix A). The general timing restrictions suggested by the NJDEP Division of Fish and Wildlife pertain to Northern pine snake and migratory birds. As the site is currently utilized for recreation and is located within a highly developed area it is unlikely that pine snake hibernaculum are on-site. It is also unlikely that migratory birds utilize the few existing trees on site that are planned to be

removed. Thus, no significant impacts to valued habitat, threatened and endangered species, or species of concern are expected to result from implementation of the Proposed Action.

Development of the facility would involve disturbing up to 5 acres of land that has a history of disturbance in the general area of ongoing human disturbances containing sparse vegetation and marginal wildlife habitat. During initial land clearing activities, wildlife would be displaced from the site due to human activities (e.g., equipment movement) causing avoidance of the area. All onsite vegetation with the exception of the pine trees lining Texas Avenue and 8th Street would be removed during this effort. Impacts from the loss of terrestrial wildlife habitat would be minor as the project site consists of low-quality vegetative habitat, is already partially developed with a paved basketball court, and exists in an area generally characterized as built-up. Development of the site would result in a loss of habitat for any species currently utilizing onsite resources or those in the area that could; however, large amounts of similar habitat exists directly west of the site, thus, minor impacts would be expected.

In addition, during operations, human activities onsite may cause avoidance of the area by some wildlife species; however, this effect would be negligible considering other developments operating in the area (e.g., MAG 49 Building, billeting facilities etc.) that already cause some degree of avoidance. Impacts to aquatic species and habitat located northwest of the site are expected to be minor as erosion and sediment BMPs and appropriate stormwater management measures would be implemented during construction to minimize adverse impacts to water quality (see Section 4.10 for stormwater management). Therefore, impacts to wildlife would not be considered significant as a result of the Proposed Action.

4.6.2 Effects of Alternative 2 (No Action Alternative)

Under the No Action Alternative, the Proposed Action would not be undertaken. No construction or land development would occur at the site; thus, no impacts to wildlife or vegetation would occur. Additionally, the No Action Alternative would not result in any impacts to threatened or endangered species found in the vicinity of the area.

4.7 Cultural Resources

4.7.1 Effects of Alternative 1

There are no historic resources or eligible historic resources within the APE that are listed in the NRHP. The project area is also at a considerable distance from the NRHP-eligible Scott Plaza historic district (0.6 miles northwest) and SAGE complex (2 miles northeast). Therefore, the proposed project is considered to have no potential to directly or indirectly affect historic architectural resources.

There have been no historic or prehistoric archaeological sites identified within the project APE. Based on the degree of soil disturbance within the project APE, the potential for NRHP-eligible prehistoric archaeological sites is considered to be low. If present, they are expected to be significantly disturbed. Based on historic map research and the presence of NRHP-eligible historic archaeological sites in proximity to the project APE, there is moderate potential for mid-nineteenth century historic archaeological resources, including house foundations and backyard features to be located within the project APE. However, as the area was disturbed by construction and demolition of Army barracks since the 1950s, and was covered with dredge material from the adjacent Willow Pond in the 1980's, any resources present below surface are expected to have been significantly disturbed as to preclude their eligibility for listing in the NRHP. Therefore, the proposed project is considered to have no potential to adversely affect archaeological resources.

In a letter dated April 1, 2013 from the NJDEP, Historic Preservation Office (see Appendix A), the Office determined that the project would “have no effect on historic properties within the projects area of

potential effects. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation". In May 2013, the geotechnical engineer for the proposed project found that the excavation for the dining facility would have to go to a depth of 6 feet in some areas as opposed to the 4 feet originally presented to the SHPO before their April 1st concurrence. JB MDL made a subsequent phone call to the SHPO project reviewer notifying him of the design change. SHPO replied it would not be an issue and that the depth falls within the range originally discussed; thus, SHPO will continue to stand with their current assessment of "no effect on historic properties" (JB MDL, 2013).

In a letter dated February 14, 2013, the Delaware Tribe indicated that their review of the proposed project site indicated that there are no religious or culturally significant sites in the project area and therefore they defer comment to the SHPO (see Appendix A). As stated above, SHPO determined the proposed project would result in "no effect" to historic properties. In an e mail dated May 15, 2013, the Delaware Nation responded that they have "no comment" after review of the draft EA during the 30 day public comment period (see Appendix E) (JB MDL, 2013a). Thus, the proposed project is considered to have no potential to adversely affect cultural resources.

4.7.2 Effects of Alternative 2 (No Action Alternative)

Under the No Action Alternative, the Proposed Action would not be undertaken. Implementation of the No Action Alternative would not result in adverse impacts to cultural resources in the vicinity of the project area.

4.8 Hazardous Materials and Wastes

4.8.1 Effects of Alternative 1

Construction and demolition activities would require the use of certain hazardous materials such as paints, welding gases, solvents, preservatives, and sealants. It is anticipated that the quantity of hazardous materials used during construction activities would be minimal and their use would be of short duration. Contractors would be responsible for the management of hazardous materials and petroleum products, which would be handled in accordance with Federal, State, and USAF regulations. Hazardous waste generated during construction would be properly managed and stored on site in accordance with RCRA. Preventative measures and BMPs, such as providing fencing around the construction site, establishing contained storage areas, responding immediately to spills, and controlling the flow of construction equipment and personnel would help reduce the potential for a release to occur. Thus, impacts from hazardous wastes are expected to be minor.

There is a potential for workers to encounter contamination during construction of the geothermal wells as the entire Dix cantonment area is located within a CEA for groundwater which extends to a depth of 100 feet. Therefore, during drilling activities temporary storage of water, drill cuttings, and drilling mud produced from the wells during construction and geothermal fluid produced during flow testing would be placed in an on-site holding area. The holding area would be sampled for hazardous contaminants. If test results indicate that the water and solids are hazardous, they would be removed and relocated to an approved disposal site in accordance with applicable Federal, State, local, and USAF regulations under the supervision of JB MDL environmental staff. Thus, with the proper management practices implemented, potential impacts are expected to be minor.

As there are no records indicating that USTs or ASTs were ever used on, stored on, or disposed of at the proposed project site, the Proposed Action is expected to have no impact. In early 2013, a ground penetrating radar survey will be conducted on the site to identify any old building foundations or other subsurface obstructions that would need to be removed prior to construction of the facility. Should a UST

or AST be found, it would be removed including any associated contaminated soil by a licensed contractor in accordance with applicable regulations under the supervision of JB MDL remediation staff.

4.8.2 Effects of Alternative 2 (No Action Alternative)

Under the No Action Alternative, the Proposed Action would not be undertaken. No construction activities or land development would take place at the site; therefore, no impacts associated with hazardous materials and waste management would occur.

4.9 Socioeconomics and Environmental Justice

4.9.1 Effects of Alternative 1

Construction of the proposed project would require approximately 60 workers at any given time to be onsite and construction is anticipated to take two years. It is expected that these construction workers would be hired from the available labor pool in the project area, which is sufficiently large enough to absorb this demand without negatively impacting labor availability. As it is assumed the majority of the workforce would be drawn from local candidates, no increase in population or need for housing is anticipated.

Short-term, moderate, beneficial effects on the local economy would be expected under the Proposed Action due to expenditures from the implementation of the construction of the facility. Short-term, minor increases in local business volume and employment would be expected under the Proposed Action as well. The use of local construction workers would produce increases in local sales volumes, payroll taxes, and the purchases of goods and services resulting in short-term, indirect, minor, and beneficial increases in the local economy.

The Proposed Action would not increase or decrease the number of persons employed or stationed at JB MDL; therefore, no significant effects on demographics or social services and conditions would be expected. The Proposed Action would occur entirely on JB MDL. Possible adverse effects from construction activities could include increased traffic and noise levels and decreased air quality, but these effects would be short-term, intermittent, and minimal, and would likely effect on-installation residents more than off-installation populations. Therefore, disproportionate impacts on minority or low-income populations would not be expected.

4.9.2 Effects of Alternative 2 (No Action Alternative)

Under the No Action Alternative, the Proposed Action would not be undertaken. No construction activities or land development would take place at the site; therefore, no socioeconomic or environmental justice impacts would occur.

4.10 Infrastructure

4.10.1 Effects of Alternative 1

The Proposed Action would not result in significant effects on the installation's infrastructure. Long-term, beneficial effects would be realized from implementing improved infrastructure and the consolidation of functions. In addition, the Proposed Action has been designed to achieve LEED Silver certification. This would promote minimizing the use of electricity/energy and water consumption as well as the optimization of construction waste management and storm water management techniques.

During construction the demand on existing utilities services to support construction of the facility would be minimal. Impacts to existing public utility systems are expected to be negligible during the construction period, as direct use of utilities would be limited to electrical lines. It is expected that

temporary portable sanitary wastewater facilities would be provided and wastewater would be transported by commercial services for disposal. Potable water would be provided by temporary onsite water tanks. Electrical power would be provided by temporary connections to nearby power lines and use of portable generators to operate construction tools and machinery.

Operation of the facility would require connections to existing potable water, sewer, electrical, natural gas and communications lines. Connecting to these utilities would not require major upgrades to any existing JB MDL utility infrastructure. As discussed in Section 3.10, the utilities needed for the facility currently exist along Texas Avenue, 8th Street, North Street, and Trenton Avenue. The proposed facility would tie into these existing lines. Connection of new utility lines to existing lines would be coordinated with the appropriate JB MDL office to prevent potential disruption to users of the same services and, therefore, negligible impacts to existing utility lines are expected during construction. Accessing the utilities would also have a negligible impact as the supply lines currently abut the project site along the four roads listed above. As the utilities currently exist and would meet the facilities requirements; there are no needs for offsite utilities.

The proposed LEED Silver construction design of the proposed dining facility would have long-term operational, beneficial effects because it would increase energy efficiency (reducing electricity demand), increase water use efficiency and reduce potable water usage.

4.10.1.1 Stormwater System

There are no surface water features within the proposed project site; therefore, no potential exists for direct impacts to surface waters during construction. As there would be over one acre of disturbance, and construction activities could cause erosion of sediments into adjacent surface water features (Willow Pond) located offsite, a NPDES General Permit would be obtained prior to construction to ensure compliance with the NJDEP, Division of Water Quality sediment and erosion controls. To minimize potential impacts to water resources a General Permit would require the preparation of a SWPPP. This plan includes BMPs for erosion control and pollution prevention requirements. Typical BMPs include stabilizing exposed soils with straw and implementing sediment control measures such as fiber rolls and silt fencing, sediment ponds and so forth to remove sediment that has mixed with water.

Preliminary site designs for the proposed facility includes plans for bioretention. A bioretention system consists of a soil bed planted with suitable native vegetation. Stormwater runoff entering the bioretention system is filtered through the soil planting bed before being conveyed downstream by an underdrain system. Vegetation in the soil planting bed provides uptake of pollutants and runoff and helps maintain the pores and associated infiltration rates of the soil in the bed. Figure 4-1 shows a typical cross section of a bioretention system with an underdrain which is the system planned for the proposed facility.

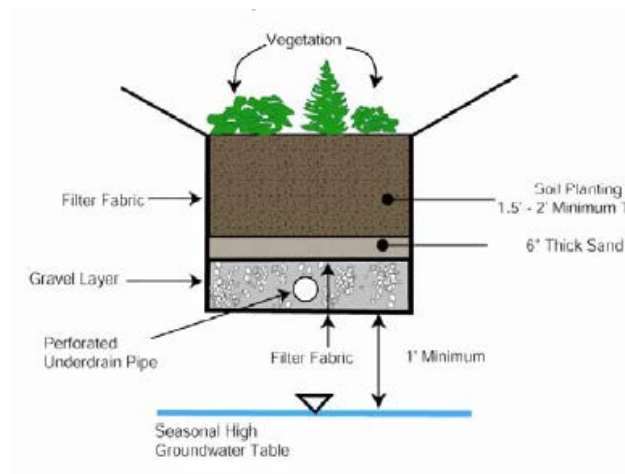


Figure 4-1. Bioretention System with Underdrain

Figure 4-2 below is a preliminary grading plan for the proposed facility. The layout includes 4 bioretention cells with underdrains located north of the proposed facility adjacent North Street. All bioretention systems must be able to safely convey system overflows to the downstream drainage system. Therefore, the proposed site would maintain the existing drainage path and the bioretention cells would eventually tie into the existing stormwater system along Texas Ave.

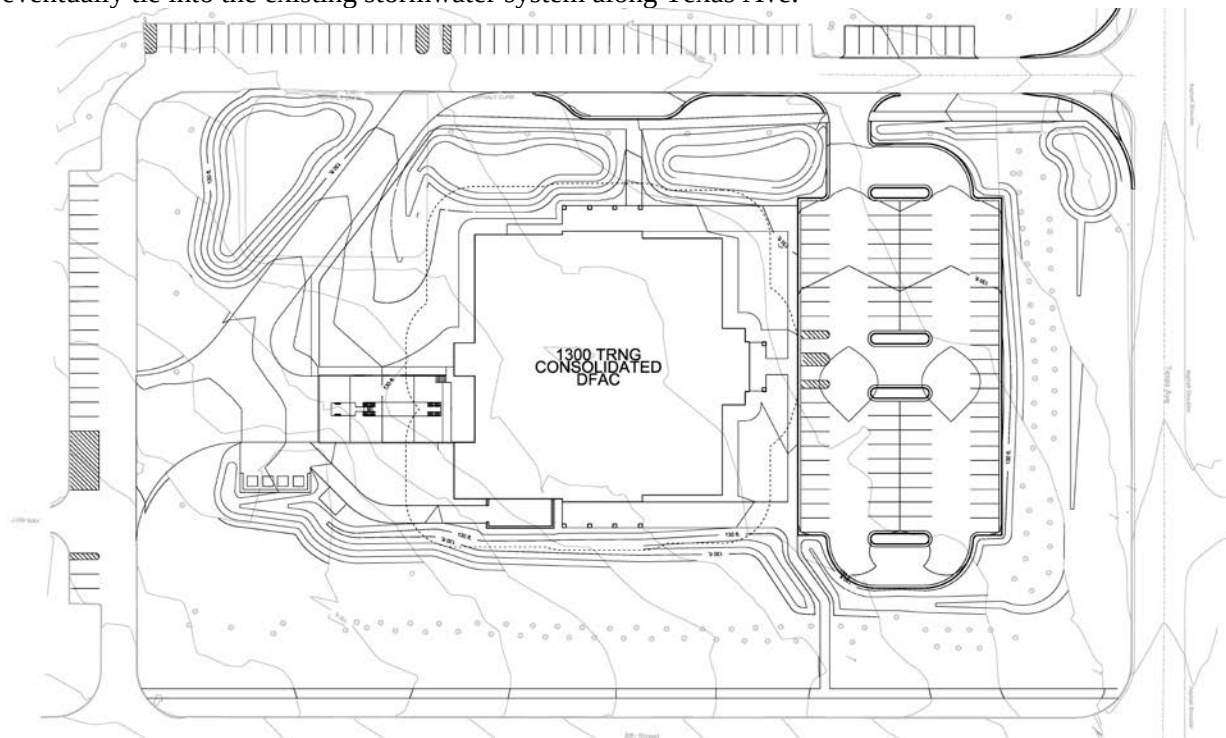


Figure 4-2. Proposed Dining Facility Preliminary Grading Plan

The proposed project also includes plans for permeable surfaces (pervious concrete and porous paver material) in the parking lot and walkways. In general pervious paving systems are used to reduce overall stormwater runoff rates. Pervious paving systems with runoff storage beds below them achieve stormwater runoff reductions through the delivery and storage of runoff and eventual infiltration into the

subgrade soils. Through this infiltration process, the pervious paving system also achieves stormwater quality treatment in the same manner as an infiltration basin.

Overall, the proposed facility would increase the amount of impervious surface at the project site; therefore, increases in stormwater runoff would occur. However, the facility plans for permeable surfaces (pervious concrete and porous paver material) and bioretention which would aid in reducing possible impacts to water resources by retaining as much water onsite and minimizing the amount of runoff to receiving waters. Thus, impacts to stormwater resources are expected to be minor.

4.10.1.2 Solid Waste

During construction, minor amounts of typical construction refuse and debris would be generated and would need to be disposed of properly. No buildings currently exist at the site. The concrete picnic tables and pavilion would need to be demolished. The site is currently covered with some asphalt associated with the basketball court, all of which would likely need to be removed and disposed of prior to construction. In addition, areas of soil would need to be excavated in order to install the building's foundation and utilities. Soil excavation in excess of what is needed for grading would result in the generation of nonhazardous waste and would be required to be managed and disposed of at an appropriate landfill that accepts construction waste. The Burlington County landfill currently accepts construction waste. The amount of municipal solid waste and construction waste generated during construction of the facility is anticipated to be minor and would not significantly affect the capacity of the Burlington County landfill.

During operations the long-term quantity of solid waste generated would be similar to existing levels as the number of personnel and types of activities would remain the same. During construction an appropriately sized grease trap would be installed near the access drive of the facility. The grease trap would be installed for the purpose of collecting grease and preventing it from continuing to travel in the waste piping system to ensure no grease will enter the sanitary sewer collection system. The location of the grease trap would ease pump out times so as to not affect dining operations.

4.10.2 Effects of Alternative 2 (No Action Alternative)

Under the No Action Alternative, the Proposed Action would not be undertaken. No construction activities or land development would occur at the site, therefore, no additional facilities would be constructed and baseline conditions in terms of stormwater, usage rates of existing utilities and generation of solid waste would remain the same. Therefore, no impacts to infrastructure would occur.

4.11 Noise

4.11.1 Effects of Alternative 1

Construction noise would be localized, intermittent, and temporary. Increases in noise levels during construction would mainly result from the use of heavy construction equipment (e.g., bulldozers, scrapers, dump trucks, and concrete mixers). Given the equipment needs of the construction phase, the typical noise levels onsite would be expected to remain within the range of 75 to 90 dBA. Construction noise levels onsite would primarily be limited to the immediate vicinity of the project site and would primarily affect construction workers. However, adherence to appropriate OSHA standards would protect the workforce from excessive noise.

Construction would occur during daytime hours (i.e., between 7 a.m. and 5 p.m). Based on the noise levels listed in Table 4-5 below, the highest instantaneous sound level during construction of the facility would be approximately 93 dBA at the source, which is a conservative estimate as it assumes all the equipment would be operating continuously and at the same time.

Table 4-5. Common Equipment Sources and Measured Noise Levels at 50 feet

Equipment	Typical Noise Level in dBA
Backhoe Excavator	85
Bulldozer	80
Grader	85
Dump Truck	91
Pump	76
Compressor	81

Source: Bolt et.al, 1971
dBA=A-weighted decibels

To predict the noise impact on potential sensitive noise receptors, the 93 dBA noise level was projected from the proposed construction site to the closest residential property by applying general noise attenuation principles. The decrease in sound level from any single noise source normally follows the “inverse square law”. That is, the sound level change is inversely proportional to the square distance from the sound source. At distances greater than 50 feet from a sound source, every doubling of a distance produces a 6-dBA reduction in sound. Therefore, based on the 93 dBA sound level, it is expected that noise levels from the construction site would be approximately 84 dBA at the existing trailer park campground (150 feet west of proposed site) and approximately 80 dBA or below at Building 5602 (250 feet from the proposed site), which is considered annoying (see Table 3-8). With windows closed, these levels are not expected to result in significant adverse noise impacts. Those utilizing the trailer park campground during the week would be negatively affected by the construction of the proposed project. Those utilizing the trailer park campground on the weekend would not be impacted by noise as construction would take place during the regular work week. Nearby employees and residents would notice construction-related noise, but the resulting sound levels would be confined to daytime hours and the buildings themselves would further attenuate noise levels by about 25 dB. These temporary and moderate construction related noise impacts would occur for approximately 24 months.

As additional dormitories are located at greater distances than Building 5602 (i.e., over 250 feet away) it is expected that any incremental noise increase from construction work would significantly attenuate with distance because of vegetation and building structures located between the project site and the other residences. Thus, incremental increases in sound levels would not be significantly discernible above and beyond existing noise conditions at the other residences.

Noise impacts from drilling the geothermal wells would be temporary and localized in nature as well. As stated above, the closest sensitive receptors to the proposed site is 250 feet south. Table 4-4 below shows the typical noise from various drilling activities at varying distances. Activities associated with installation of the geothermal wells could generate exterior noise between 69 to 72 dBA within 200 feet of the site. Noise levels around 70 dBA is considered to make telephone use difficult (Table 3-8). These levels are not expected to result in significant noise impacts. Nearby employees and residents to Building 5602 could notice construction-related noise, but the resulting sound levels would be confined to daytime hours. Therefore, a short term minor impact to sensitive receptors would be expected to result from geothermal drilling during construction.

Table 4-4. Typical Noise from Geothermal Drilling Activities

Activity	100ft ¹	200ft	400ft	800ft
Site preparation and construction	78	72	66	60
Well drilling	75	69	62	57

Activity	100ft ¹	200ft	400ft	800ft
Well clean out	75	69	62	57
Flow testing	78	72	66	60

Source: CEGC 1994.

1: Identified noise levels are given for various distances from a proposed noise generating source. These noise levels do not account for the topographical barriers throughout the project vicinity, which may absorb or deflect sound waves, thereby reducing noise levels.

4.11.2 Effects of Alternative 2 (No Action Alternative)

Under the No Action Alternative, the Proposed Action would not be undertaken. No construction activities or land development would occur at the site; therefore, there would be no increase or adverse noise impacts in the vicinity of the project area.

4.12 Transportation and Traffic

4.12.1 Effects of Alternative 1

The same roads currently used to access the proposed site would also be used by construction vehicles to the project site (i.e., Texas Road). Project-generated traffic volumes during construction would be produced by construction workers commuting to and from the project site, as well as by material suppliers and heavy construction service vehicles. The total peak work force during construction would be about 60 workers, and these workers would most likely be phased in (e.g., initially with structural engineers, excavators and concrete workers). Commuter traffic from the construction workers are expected to be minor in comparison to existing traffic volumes as workers would be phased in and it is assumed that some workers would commute together reducing the total number of vehicles traveling to the project site. Because the project site is a relatively open area, it is anticipated that adequate space would be available to stage equipment and vehicles; thus, impacts to the circulation of and access to the project area would be negligible.

Generally, construction impacts to existing transportation resources would be temporary and localized (i.e., limited to proximity of project site). Construction vehicles and workers would add to existing local traffic and would potentially cause minor congestion and higher traffic noise and vehicle emission levels along Texas Road.

No new employees would be required for the operation of the facility. Personnel at the existing dining facilities would be transferred over to work at the proposed consolidated dining facility. These employees and dining facility patrons do not represent new commuters. Therefore, no increases in traffic are anticipated from government owned and privately owned vehicles during operation of the facility. The purpose of the Proposed Action is to build a dining facility that is within walking distance of a large majority of patrons who would use the facility. Thus, operation of the facility would have a minor beneficial impact by reducing car travel and traffic in the Dix cantonment area.

4.12.2 Effects of Alternative 2 (No Action Alternative)

Under the No Action Alternative, the Proposed Action would not be undertaken. No construction activities or land development would occur at the site. Therefore, baseline conditions of traffic levels would remain unchanged resulting in no impacts to transportation and traffic.

4.13 Human Health and Safety

4.13.1 Effects of Alternative 1

The potential for accidents and injuries to personnel during both construction and operation of the proposed facility would be comparable to that of a small industrial facility and would not exceed the capacity of available JB MDL healthcare services. The JB MDL police and fire department is well staffed and would be available to assist in a fire emergency if needed. As stated in Section 3.13, the closest fire station is located approximately 1.5 miles from the proposed site location. Therefore, no adverse impacts to medical, fire or police levels of service are expected to result from the Proposed Action.

Potential occupational health and safety risks during construction of the proposed facility are expected to be typical of risks for any other commercial construction site of comparable size. Health and safety concerns include: the movement of heavy objects, including construction equipment; slips, trips, and falls; the risk of fire or explosion from general construction activities (e.g., welding); and spills and exposures related to the storage and handling of chemicals and disposal of hazardous waste. The construction contractor would develop, implement, and maintain a Worker Protection Plan. This plan would implement OSHA (29 CFR 1910, and 29 CF 1926) and would define policies, procedures, and practices implemented during the construction process to ensure protection of the workforce, environment, and the public. During construction, safety measures such as providing fencing around the construction site, establishing contained storage areas, and controlling the movement of construction equipment and personnel would reduce the potential for an accident to occur. Hazardous materials that may be used during construction include paints, welding gases and solvents. BMPs would be employed to reduce any impact associated with the use of these materials (see Sections 2.2.3 and 4.8.1). Thus, it is expected that only minor adverse health and safety impacts would occur during construction.

Based on data compiled by the U.S. Bureau of Labor Statistics, in 2011 within the nonresidential building construction industry, the injury rate for construction workers was 3.6 percent and the fatality rate was 0.1 percent (USBLS, 2011; USBLS, 2011a). Although a specific construction plan has not yet been developed, for purposes of analysis, it is assumed that the number of construction personnel would peak at 60. Therefore, construction-related injuries would be expected to peak at two per year and fatalities would be well below one (0.06). Considering that the aforementioned safety planning would occur, no greater than the industry average for injuries and fatalities would be expected.

The proposed project site is not located within or adjacent to any UXO caution, UXO sweep areas, or QD Arc areas; therefore, no UXO-related impacts are expected to result from implementation of the Proposed Action.

4.13.2 Effects of Alternative 2 (No Action Alternative)

Under the No Action Alternative, the Proposed Action would not be undertaken. No construction activities or land development would occur at the site; therefore, there would be no change to existing safety conditions, safety rules or regulations and, thus no impact would be anticipated.

4.14 Cumulative Impacts

The CEQ regulations implementing NEPA require the consideration of cumulative impacts as part of the review process (40 CFR 1508.7):

“Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant actions, taking place over a period of time.”

This section analyzes potential cumulative impacts to selected resource areas described in Section 3. The effects associated with the facility are analyzed in combination for their incremental contribution to cumulative effects when added to impacts from other planned and reasonably foreseeable actions. For an affected resource area, each reasonably foreseeable future action, including the Proposed Action, adds an increment to the total (cumulative) impact. For this analysis, the past and present effects are accounted for in the existing baseline of the affected environment section (Section 3) of this EA.

For future actions to be relevant to the cumulative effects analysis, the actions must affect resources (be the cause of some type of effect whether beneficial or adverse) within the region of influence for the analysis. The region of influence for this project is generally limited to the property boundaries of the project site, Dix cantonment area, Burlington County, or the Crosswicks Neshaminy Watershed, depending on the environmental resource.

4.14.1 Installation Development Plan

The IDP is the first master plan since the standup of the Joint Base in 2009 and aims to further the BRAC goals of reducing costs while furthering mission effectiveness. JB MDL proposes to implement the IDP and changes to future planning characteristics, including revised zoning boundaries and designations. The IDP will serve as a guide for land use changes, programming capital improvements, and establishing general policies to improve the built and social environment of the installation community. Planned projects in the IDP are derived from the Automated Civil Engineering System and are discussed within the capital improvements program (CIP) portion of the IDP. The CIP projects include construction, demolition, infrastructure, and renovation activities. A review of the IDP was conducted to identify any potential projects that could add and interact with the Proposed Action leading to cumulative impacts.

JB MDL has many projects planned for the near future. JB MDL spans over 42,000 acres; therefore projects that are planned to occur within the next two years near the Proposed Action in the Dix cantonment area were chosen for cumulative impacts analysis. These projects are described in Table 4-5. Many projects throughout JB MDL that are planned to take place on portions of Lakehurst and McGuire were considered too far in distance to result in cumulative impacts and, in most cases, take place within a different County and Watershed than the Proposed Action.

Table 4-5. Potential Future Development Projects on the Dix Portion of JB MDL

Name of Project	Type of Project	Project Year	Description
Central Issue Facility	Construction	2014	Construct a new, sustainable, energy efficient, 51,280 s.f. Central Issue Facility required to support multi-service uniform requirements. Central Issue Facility operations are currently conducted in an outdated, inefficient, and inadequate facility. The new facility would consist of shipping/receiving offices, warehouse space, orientation area, fitting rooms, administrative area, conference and break rooms, male and female latrines, and mechanical room. Design also includes necessary physical security and antiterrorism measures, accessibility for the disabled, vehicle unloading areas, and parking areas.

Name of Project	Type of Project	Project Year	Description
Outdoor Recreation Issue and Storage Facility Building 6045	Demolition	2015	This project would demolish Building 6045 to include removal of concrete foundation and slab, hauling, disposal, excavation and backfill, and termination of utility services. The asphalt parking lot would be demolished. Site restoration would include general area cleanup, grading, placement of topsoil, and seeding.
Walson Hospital Complex	Demolition	2013	This project includes the complete demolition of the building and associated infrastructure and restoration of the site as maintained grassland.
Outdoor Recreation Equipment Rental and Storage Facility	Construction	2015	A 12,500 square foot outdoor recreation equipment and storage facility is to be constructed to provide functional floorspace for the secure storage and efficient issue of outdoor equipment, supplies, and merchandise. Site improvements would include parking with lighting and maintenance free landscaping. The proposed site for the facility is the current outdoor recreation issue and storage facility (Building 6045) described in line one above.
Repair Stormwater Systems	Infrastructure	2013	The repair of deteriorated/ineffective stormwater management infrastructure including replacing piping and catchbasins, cleaning lines to remove blockages, and also repaving New Jersey Avenue.

4.14.2 Cumulative Impacts Associated with Alternative 1 (Proposed Alternative)

All demolition, construction and infrastructure activities generally would be expected to result in some minor impacts of increased noise, increased air emissions, potential for erosion and transport of sediment into surface water bodies, generation of small amounts of hazardous materials and wastes, and generation of construction and demolition waste. All demolition and construction activities generally would be expected to result in short-term job creation and materials procurement.

The planned projects including the Proposed Action are likely to cause periods of traffic congestion or detours within the Dix cantonment area. Truck trips associated with the construction and demolition of the Proposed Action and other projects listed in Table 4-5 would also likely contribute to occasional traffic congestion and delays within the cantonment area. However, these trucks would travel to and from Commercial Gate #9 on the north side of the base, and would not be likely to contribute to traffic delays in the areas of road improvement (New Jersey Avenue) described in Table 4-5.

Approximately 5 acres of soils would be disturbed by development of the Proposed Action and the majority of this land area would be changed from maintained lawn to impervious surfaces. Construction of the Outdoor Recreation Equipment Rental and Storage Facility would have negligible impact on soils as the existing facility is to be demolished and then replaced with a new and improved facility. Construction of the Central Issue Facility would increase impervious cover by 1.9 acres. The Walson demolition project would convert 8.5 acres of land from impervious cover to maintained lawn reducing stormwater runoff. The stormwater system improvement projects would not increase impervious cover in the cantonment area. Overall long-term cumulative impacts to land use are expected to be beneficial as JB MDL reduces redundancies in support functions and facilities thereby reducing impervious cover and increasing operational efficiency.

Considered cumulatively, planned installation development projects have the potential for short-term, minor, adverse effects and long-term, minor, adverse effects on vegetation and wildlife. The majority of all planned installation development projects would occur in the improved areas of the cantonment area, which would primarily affect non-forested upland and urban upland communities that are modified, landscaped, and mowed regularly. The permanent removal of modified and landscaped areas would result in long-term, negligible, adverse, cumulative effects on vegetation. Demolition of facilities would partially offset potentially long-term, adverse, cumulative effects from construction of facilities by providing previously developed areas that require less vegetation removal.

4.14.3 Cumulative Impacts Associated with Alternative 2 (No Action Alternative)

Under the No Action Alternative, the Proposed Action would not be undertaken. Therefore, no cumulative environmental, socioeconomic, or cultural resource impacts would be anticipated.

4.15 Irreversible and Irretrievable Commitment of Resources

An irreversible commitment of resources is defined as the loss of future options. The term applies primarily to the effects of use of nonrenewable resources such as minerals or cultural resources, or to those factors such as soil productivity that are renewable only over long periods. It could also apply to the loss of an experience as an indirect effect of a “permanent” change in the nature or characters of the lands. An irretrievable commitment of resources is defined as the loss of production, harvest, or use of natural resources. The amount of production foregone is irretrievable, but the action is not irreversible. If the use changes, it is possible to resume production.

The Proposed Action would not have irreversible impacts in terms of land use because future options for using the 5-acre site would remain possible. A future decommissioning process could restore the site for alternative uses, ranging from open space to other installation development. The location of the proposed dining facility would be consistent with the surrounding installation uses and would not affect surrounding land uses. Construction materials, except to the extent they can be reused or recycled should the dining facility be decommissioned in the future, would be irreversibly committed.

The primary irretrievable impacts of the Proposed Action would involve the use of energy, labor, and materials during construction and operation of the facility. However, the use of these resources would be negligible in terms of the overall availability of these resources in the region.

4.16 The Relationship Between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

The CEQ regulations require consideration of “the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity” (40 CFR 1502.16). Short-term uses of the human environment are considered those occurring during the construction and initial implementation of the project. Long-term effects are those caused after the action has been completed and is in full and complete operation.

Construction and operation of the facility would require short-term uses of land and other resources. These pertain to the activities that have been described throughout Chapters 3 and include such effects as: aesthetic impacts from the conversion of vegetated, undeveloped land to a facility; impacts on air quality from fugitive dust emissions during construction; erosion and sedimentation impacts, which generally would be mitigated through the use of control measures; loss of vegetation and wildlife habitat caused by land-clearing activities; impacts on the capacity of utility services; impacts to water resources from the

use of groundwater for potable needs; and traffic impacts attributable to the transport of personnel and materials to/from the site.

The commitment of resources (land, energy, labor, and materials) to construct the dining facility in the short-term would result in several long-term positive environmental benefits. The project would demonstrate innovation in green building technology, energy efficiency and renewable energy. The long-term productivity associated with the Proposed Action includes the ability of JB MDL to reduce its infrastructure costs that would in turn reduce Federal deficits or allow more funding to be directed to the primary mission.

4.17 Unavoidable Adverse Impacts

There would be no significant adverse impacts from the construction and operation of the proposed dining facility. The project's impacts to the environment would be negligible given the energy efficient and sustainable design of the facility. During construction, there would be a minor unavoidable, although temporary, increase in construction related noise at the site as well as minor soil erosion, which may occur due to natural elements (i.e., wind and rain). Construction activities would conform to all applicable soil erosion control regulations, which would minimize these impacts. During operation of the dining facility, there may be unavoidable but incrementally small increases in local traffic levels during meal times, however these impacts would also be minor, intermittent, and short in duration.

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5. COMPARISON OF ALTERNATIVES AND CONCLUSIONS

Based on the analysis presented in this EA, Alternative 1 is the Preferred Alternative. The evaluation performed within the EA concludes that, with the adherence to sustainable operations and best management practices listed in Section 2.2.3, no significant adverse impacts would occur as a result of implementation of the Preferred Alternative (Alternative 1). This analysis determines that an Environmental Impact Statement (EIS) is not necessary for the implementation of Alternative 1 and that a FONSI is appropriate. Table 5-1 below is a summary of impacts expected to result from the Proposed Action and the No Action Alternative.

Table 5-1. Summary of Impacts

Resource Area	Alternative 1 – Proposed Action – Construct Consolidated Dining Facility	Alternative 2 – No Action Alternative
Land Use	Minor impacts are expected as the Proposed Action would not be consistent with existing and planned land use and would convert 5 acres of open space to developed space.	No Impact
Air Quality	Fugitive dust emissions are expected to be below any applicable regulatory criteria and the Proposed Action is not anticipated to significantly impact existing or future air quality. The only contributors of air emissions would be from construction equipment and construction workers personal vehicles. The contractor would employ dust control strategies to minimize effects. These air emissions would be considered a minor local and temporary impact. The Proposed Action emissions are not expected to result in exceedance of the <i>de minimis</i> levels for PM _{2.5} , NO _x or VOCs set forth in the General Conformity Rule.	No Impact
Topography and Soils	Site work would have a minor, short-term effect on soil erosion. With the adherence to BMPs minimal impact to topography and soils are expected during construction. Long-term minor impacts to soils may result from incorporating drilled soil into the site grading.	No Impact
Water Resources	Water use during construction would be short-term and minor relative to the amount of water available on the Dix portion of JB MDL. Beneficial impacts are expected to result from operation of the new LEED Silver facility as it would use less water than the existing dining facilities. Unless a failure of the piping system and associated safety features occurs, no impact to groundwater resources would occur as a result of the geothermal wells.	No Impact
Biological Resources	No Federally-listed or state-listed threatened or endangered species would be affected. On January 30, 2013 the USFWS acknowledged concurrence with JB MDL's determination that no Federally listed or proposed threatened or endangered flora or fauna are known to occur within the proposed project's impact area and therefore the Proposed Action would not significantly affect any protected species or their critical habitat.	No Impact

Resource Area	Alternative 1 – Proposed Action – Construct Consolidated Dining Facility	Alternative 2 – No Action Alternative
Cultural Resources	The site has low potential for archeological or historical sites based on past disturbance. SHPO concurred with a No Adverse Effect determination on April 1, 2013. In a letter dated February 14, 2013 the Delaware Tribe indicated that they deferred comment to the SHPO (see Appendix A). In an e mail dated May 15, 2013, The Delaware Nation responded that they have “no comment” after review of the draft EA during the 30 day public comment period (see Appendix E) (JB MDL, 2013a).	No Impact
Hazardous Materials and Waste	It is anticipated that the quantity of hazardous materials used during construction activities would be minimal and their use would be of short duration. As the site is located within a CEA for groundwater, potential impacts resulting from geothermal drilling are expected to be minor with management practices implemented.	No Impact
Socioeconomics and Environmental Justice	Approximately 60 temporary construction jobs would be created for the construction project. There would be a positive short-term impact on the regional economy.	No Impact
Infrastructure	The proposed facility would increase the amount of impervious surface at the project site increasing stormwater runoff; however, the facility plans for permeable surfaces and bioretention which would aid in reducing possible impacts to water resources by retaining as much water onsite and minimizing the amount of runoff to receiving waters. Thus, impacts to stormwater resources are expected to be minor. The Proposed Action would not result in significant effects on the installation’s infrastructure. Long-term, beneficial effects would be realized from implementing improved infrastructure and the consolidation of functions.	No Impact
Noise	Moderate, short-term adverse noise impacts due to construction-related activities and associated equipment are expected to impact Building 5602 and the trailer park campground.	No Impact
Transportation and Traffic	Generally, construction impacts to existing transportation resources would be temporary and localized. Operation of the facility would have a beneficial impact by reducing car travel and traffic in the Dix cantonment area	No Impact
Human Health and Safety	With proper planning and safety protocols, the construction of the Proposed Action would not have significant adverse impacts on human health and safety. No greater than the industry average for injuries and fatalities would be expected.	No Impact

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7. LIST OF CONTRIBUTORS

JB MDL Contributors

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Mr. Ken Smith, JB MDL Civil Engineer Squadron, Asset Management

Mr. Thomas Trumbetas, JB MDL MILCON Project Engineer

Mr. John Joyce, JB MDL Civil Engineer Squadron, Asset Management

US Army Corps of Engineers Contributors

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Mr. Brian Phelps, Civil Engineer, Louisville District

Ms. Melissa Hill, COS Technical Manager, Louisville District

Mr. John Twombly, P.E., Geotechnical Engineer, Louisville District

EHS Technologies Preparers

Ms. Stacey Schueler has 12 years of experience in site remediation, emergency response, natural resource studies, New Jersey Department of Environmental Protection and U.S. Army Corps of Engineers wetland permitting, and NEPA documentation for the Department of Defense and the Department of Energy.

Ms. Dorothy Peterson, P.E. has 21 years of environmental experience, including Federal installation restoration management, NEPA studies, pollution prevention, Department of Defense master planning, ISO 14001 implementation, and geographic information systems.

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8. INTERGOVERNMENTAL COORDINATION MAILING LIST

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Mr. Eric Davis, Supervisor
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Pleasantville, NJ 08232

Ms. Grace Musumeci, Chief
Environmental Review Section
USEPA Region 2
290 Broadway
New York, NY 10007-1866

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State Historic Preservation Officer
Historic Preservation Office
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Endangered and Nongame Species Program
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Engineering Complex
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Mount Laurel, NJ 08054

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9. PUBLIC DRAFT DISTRIBUTION LIST

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APPENDIX A

Consultation

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Summary of Project Planning Correspondence Received

Date Received	Commenter	Description/Summary
January 30, 2013	USFWS, NJ Field Office	Letter indicating USFWS acknowledged concurrence with JB MDL's determination that no Federally listed or proposed threatened or endangered flora or fauna are known to occur within the proposed project's impact area and therefore the Proposed Action would not significantly affect any protected species or their critical habitat.
February 4, 2013	NJ Pinelands Commission	Letter stating the proposed development requires completion of an application with the commission.
February 19, 2013	NJ State Historic Preservation Office	Letter indicating the Historic Preservation Office is requesting further documentation that supports the existence of disturbances within the APE that would affect the integrity of the proposed project site.
February 26, 2013	Delaware Tribe	Letter indicating the Tribe does not believe there are religious or culturally significant sites in the proposed project area and they defer comment to the State Historic Preservation Office.
March 1, 2013	NJDEP, Office of Permit Coordination and Environmental Review	Letter indicating the Department's Division of Fish and Wildlife recommends a general timing restriction on removal of trees to protect nesting birds and Northern pine snake. Contractors should use low pressure equipment to protect pine snake hibernacula and silt fencing should be erected between Willow Pond and the proposed project site.
March 19, 2013	Delaware Nation	Letter indicating the Delaware Nation would like to be a consulting party.
March 26, 2013	USEPA	Letter encouraging the Air Force to evaluate cumulative impacts as well as incorporate sustainability and green design into the development plans
April 9, 2013	NJ State Historic Preservation Office	Letter concurring with the findings that the proposed project will have no effect on historic properties and no further Section 106 consultation is required unless additional resources are discovered during project implementation.

Summary of Project Planning Correspondence Sent

Date Sent	Recipient	Description/Summary
March 19, 2013	NJ State Historic Preservation Office	Letter indicating due to the presence of deposited fill on the proposed project site, JB MDL considers the proposed project to have no adverse effect on potential archaeological resources.

Intergovernmental Coordination Letters were sent to all listed in Chapter 8. The following January 18, 2013 letter to the USEPA is provided as a representative example:



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR MOBILITY COMMAND
JOINT BASE MCGUIRE-DIX-LAKEHURST**

January 18, 2013

Mr. Robert Previte, Chief of Environmental Compliance
87th Civil Engineering Squadron
Route 547, Building 5
Joint Base McGuire-Dix-Lakehurst, NJ 08733

Ms. Grace Musumeci, Chief
Environmental Review Section
USEPA, Region 2
290 Broadway
New York, NY 10007-1866

Subject: Interagency and Intergovernmental Coordination for the Environmental Assessment (EA)
for the Consolidated Dining Facility at Joint Base McGuire-Dix-Lakehurst (JB MDL), NJ

Dear Ms. Musumeci,

The U.S. Army at JB MDL is considering a Proposed Action of constructing and operating a consolidated dining facility on the Dix portion of JB MDL. The facility would be used by military personnel and located at the northwest corner of the intersection of 8th Street and Texas Avenue, bounded by North Street and Trenton Avenue (see attachment 2). A description of the proposed project, conceptual view of the proposed facility and graphics depicting its location are provided as attachments.

The Army will be conducting an EA addressing the potential environmental, socioeconomic, and cultural impacts of this proposal. The EA will evaluate the individual and cumulative effects of the Proposed Action with respect to land use, air quality, soils, water resources, biological resources, cultural resources, materials/waste, energy, socioeconomic and environmental justice, infrastructure, noise, transportation and traffic, and human health and safety. The EA will also evaluate the No Action Alternative, where the proposed consolidated dining facility would not be constructed and the Army would continue to administer dining services in the three existing inadequate facilities.

The Army is currently identifying environmental resources, issues, and constraints associated with the proposed project area, in order to effectively assess potential environmental impacts associated with the proposal. As part of our coordination and consultation responsibilities, the Army is requesting baseline information regarding any concern that you may have as related to the potential environmental issues, or other issues of concern, at, or in the vicinity of, the potential project location. Please mail responses to Mr. Robert Previte, Chief of Environmental Compliance, Route 547 Building 5, Joint Base McGuire-Dix-Lakehurst NJ, 08733. If you have any questions please contact me at 732-624-7800. If preferable, you may fax your response to 732-323-5223.

ROBERT R. PREVITE, GS-13
JB MDL Chief of Environmental Compliance

Attachments:

- (1) Project Description
- (2) Location Maps and Conceptual View of the Proposed Project

Attachment 1: Project Description

JB MDL and the Army Reserve propose to construct a 31,000 square foot centralized, modern and efficient dining facility for military personnel at the northwest corner of the intersection of 8th Street and Texas Avenue, bounded by North Street and Trenton Avenue (see attachment 2). This location is preferred as it is adjacent to several enlisted dormitories and is centrally located in the Cantonment area of Dix. The consolidated dining facility would include: dining; food service; kitchen areas; offices; restrooms; storage areas; mechanical, electrical, and communications rooms; and fire alarm and suppression systems. Parking spots would be provided for 65 employees along Trenton Avenue and North Street and 70 parking spots would be provided for patrons in the privately owned vehicle (POV) parking area by the main entrance. It is anticipated that most patrons would walk to the dining facility as it would be centrally located. Construction of the dining facility would take approximately 2 years beginning in Spring 2014 and it is estimated that up to 60 construction workers would be present at the site at any given time. Construction activities would include site clearing and preparation; build-out of support areas and the dining facility; installation of equipment; and final systems check. All necessary utilities (e.g., electricity, natural gas, communications, sanitary sewer and potable water) needed for operation of the dining facility are in close proximity to the site (i.e. along Texas Avenue and 8th Street).

The Proposed Action is needed to provide a permanent dining facility conveniently located close to training and billeting facilities. A consolidated dining facility would centralize dining functions being performed in three separate inadequate locations and would operate at higher efficiency. The existing facilities were retrofitted into barracks constructed in 1954 and lack adequate fire suppression systems, are not handicap accessible, have failing utility systems, and lack adequate sanitary facilities. The three existing facilities in Buildings 5509, 5610, and 5640 would be repurposed for a combination of classroom and administration upon completion of the Proposed Action.

The site of the Proposed Action was previously developed in 1956. It contained barracks which consisted of 18 buildings. According to historic aerial photographs, these buildings were demolished sometime between 1970 and 1995. In 1995 the site was repurposed with a playground, pavilion, concrete picnic tables, and a basketball court. To date, all of these items are still present onsite. The remainder of the site is currently maintained lawn with rows of pine trees lining 8th Street and Texas Avenue. In early 2013, a ground penetrating radar survey will be conducted on the site that will identify any old building foundations or other subsurface obstructions that would need to be removed prior to construction of the dining facility.

Attachment 2: Location Maps and Conceptual View of the Proposed Project**Location of JB MDL****Location of the Proposed Consolidated Dining Facility**



Conceptual View of the Proposed Consolidated Dining Facility

JAN-30-2013 WED 02:02 PM U.S. FISH & WILDLIFE

FAX NO. 6096460352

P. 01/01

**United States Department of the Interior****FISH AND WILDLIFE SERVICE**

New Jersey Field Office
927 North Main Street, Building D
Pleasantville, New Jersey 08232
Tel: 609-646-9310 Fax: 609-646-0352
<http://www.fws.gov/northeast/njfieldoffice>



IN REPLY REFER TO:
13-CPA-0073

John G. Joyce, Natural Resources Manager
Route 547, Building 5
Joint Base McGuire-Dix-Lakehurst, New Jersey 08733
Fax Number: (732) 323-5223

30 JAN 2013

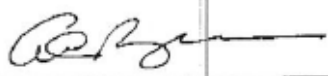
Reference: Interagency and Intergovernmental Coordination for the Consolidated Dining Facility at Joint Base McGuire-Dix-Lakehurst, New Jersey

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) ensuring the protection of federally listed endangered and threatened species. 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.

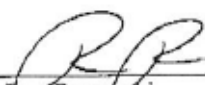
No federally listed or proposed threatened or endangered flora or fauna under Service jurisdiction are known to occur within the proposed project's impact area. Therefore, no further consultation pursuant the ESA is required. If additional information on federally listed species becomes available, or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

Please refer to this office's web site at <http://www.fws.gov/northeast/njfieldoffice/Endangered/> 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.

Reviewing Biologist:


Carlo Papolizio

Authorizing Supervisor:


Ron Popowski

no effect.doc 01/07/08



Chris Christie
Governor

Kim Guadagno
Lt. Governor

State of New Jersey
THE PINELANDS COMMISSION

PO Box 359
New Lisbon, NJ 08054
(609) 894 7300
www.nj.gov/pinelands

General Information: Info@njpines.state.nj.us
Application Specific Information: AppInfo@njpines.state.nj.us



Mark S. Lohbauer
Chairman

Nancy Wittenberg
Executive Director

January 30, 2013

Dennis Blazak
87th Civil Engineering Squadron
Highway 547/Building 5
Lakehurst, NJ 08733

Re: Application # 1991-0820.091
Joint Base McGuire-Dix-Lakehurst

Dear Mr. Blazak:

Thank you for your January 23, 2013 letter asking that we identify any concerns that the Commission staff may have related to the proposed construction of a consolidated dining facility at Joint Base McGuire-Dix-Lakehurst (JB MDL). This information is requested to aid JB MDL with the preparation of an Environmental Assessment for the proposed development.

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 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 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, including a required application fee.

For your convenience, application submissions consisting of letter or legal sized documents and electronically notarized application forms may now be submitted via email to AppInfo@njpines.state.nj.us. Large reports, plans, checks, and items that have a manually applied seal (i.e., plans, manually notarized items, etc.) must still be submitted as hard copies.



If you have any questions, please contact the Regulatory Programs staff.

Sincerely,

A handwritten signature in black ink, appearing to read "Ernest M. Deman". The signature is fluid and cursive, with a long horizontal stroke at the end.

Ernest M. Deman
Supervising Environmental Specialist



HPO Project #13-0512-1
HPO-B2013-101
Page 1 of 2

State of New Jersey

MAIL CODE 501-04B

DEPARTMENT OF ENVIRONMENTAL PROTECTION

NATURAL & HISTORIC RESOURCES

HISTORIC PRESERVATION OFFICE

P.O. Box 420

Trenton, NJ 08625-0420

TEL. (609) 984-0176 FAX (609) 984-0578

CHRIS CHRISTIE
Governor

BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

February 19, 2013

Mr. John Joyce
Natural/Cultural Resources Manager
87th Civil Engineering Squadron
Headquarters Air Mobility Command
Department of the Air Force
Route 547, Building 5
Joint Base McGuire-Dix-Lakehurst, New Jersey 08733

**Re: Burlington County, New Hanover Township
Dining Facility at Joint Base McGuire-Dix-Lakehurst
Interagency and Intergovernmental Coordination for Environmental Assessment
Department of the Air Force**

Dear Mr. Joyce,

Thank you for providing the Historic Preservation Office (HPO) the opportunity to review and comment on the potential for the above-referenced project to affect historic and archaeological resources. According to your letter, the United States Army is proposing to construct a dining facility in the Dix portion of Joint Base McGuire-Dix-Lakehurst. Based on the information provided, the potential for archaeological sites present within the project's area of potential effects (APE) is believed to be diminished, due to the construction of Army barracks in the 1950s and their subsequent demolition. The HPO does not believe this assessment is supported by the information provided.

While historic disturbance is likely associated with the physical footprints of the barracks buildings within the APE, research conducted at the HPO indicates that the central portion of the APE was open space after the construction of the Army barracks and has remained so since their demolition. As a result, the HPO requests further documentation that supports the existence of disturbances within the APE that would affect the integrity of the project site. If this is not possible, archaeological testing may be necessary to assess the potential for the APE to contain historic properties.

Please note, based on the information provided to the HPO, it appears that the proposed undertaking will require consultation under Section 106 of the National Historic Preservation Act. According to the information submitted, the current consultation is being conducted with

HPO Project #13-0512-1

HPO-B2013-101

Page 2 of 2

regard to the development of an Environmental Assessment pursuant to the National Environmental Policy Act (NEPA). As a result, consultation pursuant to Section 106 of the National Historic Preservation Act has not been initiated. If the Department of the Air Force intends to coordinate Section 106 consultation with NEPA, pursuant to 36 CFR §800.8, please advise. If not, the HPO looks forward to further consultation with the Department of the Air Force pursuant to Section 106 of the National Historic Preservation Act, and it's implementing regulations, 36 CFR §800.

Additional Comments

Thank you for providing the opportunity to review and comment on the potential for the above-referenced project to affect historic properties. Please do not hesitate to contact Jesse West-Rosenthal of my staff at (609) 984-6019 with any questions regarding archaeology. Please reference the HPO project number 13-0512, in any future calls, emails, or written correspondence to help expedite your review and response.

Sincerely,



Daniel D. Saunders
Deputy State Historic
Preservation Officer



Delaware Tribe Historic Preservation Office

1200 Commercial St
Roosevelt Hall, RM 212
Emporia State University
Emporia, KS 66801
(620) 341-6699

bobermeyer@delawaretribe.org

February 14, 2013

Mr. John Joyce, Natural/Cultural Resources Manager
Route 547 Building 5
Joint Base McGuire-Dix-Lakehurst NJ, 08733

Re: Interagency and Intergovernmental Coordination for the Environmental Assessment
(EA) for the Consolidated Dining Facility at Joint Base McGuire-Dix-Lakehurst (JB
MDL) NJ

Dear John Joyce:

Thank you for informing the Delaware Tribe on the proposed construction associated with the above referenced project. Our review indicates that there are no religious or culturally significant sites in the project area. As such, we defer comment to your office as well as to the State Historic Preservation Office and/or the State Archaeologist.

We wish to continue as a consulting party on this project and look forward to receiving a copy of the cultural resources survey report if one is performed. We also ask that if any human remains are accidentally unearthened during the course of the survey and/or the construction project that you cease development immediately and inform the Delaware Tribe of Indians of the inadvertent discovery.

If you have any questions, please feel free to contact this office by phone at (620) 341-6699 or by e-mail at bobermeyer@delawaretribe.org

Sincerely,

A handwritten signature in cursive script, reading "Brice Obermeyer".

Brice Obermeyer
Delaware Tribe Historic Preservation Office
1200 Commercial St
Roosevelt Hall, RM 212
Emporia State University
Emporia, KS 66801



State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF PERMIT COORDINATION AND ENVIRONMENTAL REVIEW
P.O. Box 420 Mail Code 401-07J Trenton, New Jersey 08625-0420
Phone Number (609) 292-3600
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CHRIS CHRISTIE
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BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

February 27, 2013

Mr. Robert R. Previte
Chief of Environmental Compliance
Route 547 Building 5
Joint Base McGuire-Dix-Lakehurst, NJ 08733

RE: Consolidated Dining Facility
Joint Base McGuire-Dix-Lakehurst (JB MDL), New Jersey
Scoping Comments for the Environmental Assessment (EA)

Dear Mr. Previte:

The New Jersey Department of Environmental Protection's (Department) Office of Permit Coordination and Environmental Review (PCER) distributed your letter regarding the preparation of an Environmental Assessment (EA) for the proposed Consolidated Dining Facility at Joint Base McGuire-Dix-Lakehurst (JB MDL) for review and comment. We offer the following comments for your consideration.

Cultural Resources

The Department's Historic Preservation Office's (HPO) is consulting with the Department of the Air Force under Section 106 of the National Historic Preservation Act. Attached, for your information, is a copy of the consultation comments of the HPO to the Department of the Air Force for this project.

Natural Resources

The Department's Division of Fish & Wildlife (DFW) offers the following comments.

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Species Occurrence Area (v8) and Landscape mapping (v3.1) indicates valued habitat and threatened / endangered (T/E) (Upland Sandpiper, Northern Pine Snake) and "Species of Concern" (Great Blue Heron) in the area.

A general timing restriction on mechanical trimming or removal of trees from 3/15 – 7/31 is recommended to protect nesting birds covered under the Migratory Bird Treaty Act. If no nesting activity is found, trees may be removed.

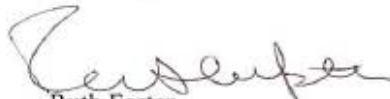
To avoid potential adverse impacts to Northern Pine Snakes, tree clearing should take place between November 1 and March 1.

To avoid potential adverse impacts to Northern pine snakes, all contractors and/or sub-contractors should use low pressure equipment to avoid crushing unknown hibernaculum.

To prevent any impact to open waters, silt fencing should be erected between the Willow Pond and proposed construction site.

Thank you for giving the New Jersey Department of Environmental Protection the opportunity to comment on the preparation of the EA. Please send six copies of the completed EA directly to our office, so that we can coordinate a comprehensive Departmental review.

Sincerely,



Ruth Foster
Office of Permit Coordination
and Environmental Review

Attachment

C: Ken Koschek, NJDEP – PCER
Kate Marcopul, NJDEP – HPO
Kelly Davis, NJDEP - DFW



HPO Project #13-0512-1
HPO-B2013-101
Page 1 of 2

State of New Jersey

MAIL CODE 501-04B

DEPARTMENT OF ENVIRONMENTAL PROTECTION

NATURAL & HISTORIC RESOURCES

HISTORIC PRESERVATION OFFICE

P.O. Box 420

Trenton, NJ 08625-0420

TEL. (609) 984-0176 FAX (609) 984-0578

CHRIS CHRISTIE
Governor

BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

February 19, 2013

Mr. John Joyce
Natural/Cultural Resources Manager
87th Civil Engineering Squadron
Headquarters Air Mobility Command
Department of the Air Force
Route 547, Building 5
Joint Base McGuire-Dix-Lakehurst, New Jersey 08733

**Re: Burlington County, New Hanover Township
Dining Facility at Joint Base McGuire-Dix-Lakehurst
Interagency and Intergovernmental Coordination for Environmental Assessment
Department of the Air Force**

Dear Mr. Joyce,

Thank you for providing the Historic Preservation Office (HPO) the opportunity to review and comment on the potential for the above-referenced project to affect historic and archaeological resources. According to your letter, the United States Army is proposing to construct a dining facility in the Dix portion of Joint Base McGuire-Dix-Lakehurst. Based on the information provided, the potential for archaeological sites present within the project's area of potential effects (APE) is believed to be diminished, due to the construction of Army barracks in the 1950s and their subsequent demolition. The HPO does not believe this assessment is supported by the information provided.

While historic disturbance is likely associated with the physical footprints of the barracks buildings within the APE, research conducted at the HPO indicates that the central portion of the APE was open space after the construction of the Army barracks and has remained so since their demolition. As a result, the HPO requests further documentation that supports the existence of disturbances within the APE that would affect the integrity of the project site. If this is not possible, archaeological testing may be necessary to assess the potential for the APE to contain historic properties.

Please note, based on the information provided to the HPO, it appears that the proposed undertaking will require consultation under Section 106 of the National Historic Preservation Act. According to the information submitted, the current consultation is being conducted with

HPO Project #13-0512-1

HPO-B2013-101

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regard to the development of an Environmental Assessment pursuant to the National Environmental Policy Act (NEPA). As a result, consultation pursuant to Section 106 of the National Historic Preservation Act has not been initiated. If the Department of the Air Force intends to coordinate Section 106 consultation with NEPA, pursuant to 36 CFR §800.8, please advise. If not, the HPO looks forward to further consultation with the Department of the Air Force pursuant to Section 106 of the National Historic Preservation Act, and its implementing regulations, 36 CFR §800.

Additional Comments

Thank you for providing the opportunity to review and comment on the potential for the above-referenced project to affect historic properties. Please do not hesitate to contact Jesse West-Rosenthal of my staff at (609) 984-6019 with any questions regarding archaeology. Please reference the HPO project number 13-0512, in any future calls, emails, or written correspondence to help expedite your review and response.

Sincerely,



Daniel D. Saunders
Deputy State Historic
Preservation Officer



The Delaware Nation
Cultural Preservation Office
P.O. Box 825 - 31064 State Highway 281- Anadarko, OK 73005
Phone: 405/247-2448 – Fax: 405/247-8905

NAGPRA ext. 1180
Section 106 ext. 1181
Museum ext. 1181
Library ext. 1196
Clerk ext. 1182

March 19, 2013

RE: Interagency and Intergovernmental Coordination for the Environmental Assessment (EA) for the Consolidated Dining Facility at Joint Base McGuire-Dix-Lakehurst (JB MDL) NJ

Dear Mr. Christopher A. Archer,

Thank you for consulting with the Delaware Nation. We appreciate your willingness to conduct proper consultation with our nation. We received your letter regarding the above referenced site on March 19, 2013. Upon examination it lies within our area of interest and we wish to be a consulting party. Please send further project plans along with cultural resource surveys to our offices.

Should you have any questions regarding this email or future consultation feel free to contact our offices at 405-247-2448 or by email tfrancis@delawarenation.com.

Sincerely,

Tamara Francis Fourkiller
Cultural Preservation Director

CC: Nikki Ahtone (Assistant Director)
nahtone@delawarenation.com.



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR MOBILITY COMMAND
JOINT BASE MCGUIRE-DIX-LAKEHURST**

March, 19, 2013

Mr. John Joyce, Natural Resources Manager
87th Civil Engineering Squadron
Route 547, Building 5
Joint Base McGuire-Dix-Lakehurst, NJ 08733

Mr. Jesse West-Rosenthal
NJDEP, Historic Preservation Office
PO Box 420
Trenton, NJ 08625-0420

Subject: HPO Project #13-0512-1, Section 106 Consultation for the Consolidated Dining Facility at Joint Base McGuire-Dix-Lakehurst (JB MDL), NJ

Dear Mr. West-Rosenthal,

In response to your letter dated February 19, 2013 and subsequent phone conversation on March 6, 2013, the Army on JB MDL is providing further documentation under Section 106 that supports the existence of disturbance within the central portion of the APE. More specifically, disturbance within the courtyard area that the 1950's Army Barracks surrounded (see attachment 1). This courtyard area is where the proposed consolidated dining facility building would be located.

As discussed in our phone conversation, Willow Pond, the man-made feature created in the 1960's located north and northeast of the proposed site was dredged in the early 1980's. The excavated material was deposited on and around the proposed dining facility site.

Craig Test Boring Company under the supervision of the U.S. Army Corps of Engineers, Louisville District performed soil borings February 26th through March 1st, 2013. The borings were performed within the central portion of the APE where the physical footprints of the old barracks were not. This is the area currently in question by the HPO. Attachment 2 provides a map marking the locations of where the soil borings were performed. Attachment 2 also contains the soil boring logs for the central portion of the APE that show the first 4 feet of the borings taken in most instances contained gray and black fill and clay. This is the type of soil characteristic of dredge material.

Based on preliminary design, it is anticipated the proposed facility would have a shallow foundation and the parking lots would be designed for privately owned vehicles and delivery trucks (i.e. no military equipment). Building footers would likely be 36 inches below grade and the parking/driving lanes would be approximately 12 to 18 inches below grade. Therefore, the proposed facility would be disturbing the areas of the site currently dominated by deposited dredge material.

Thus, due to the presence of deposited fill, JB MDL considers the proposed project to have no adverse effect on potential archaeological resources. As the foundation design is still in the preliminary phase, JB MDL would submit final foundation plans to the HPO for review and comment to ensure that construction activities would not excavate soils in excess of 4 feet below ground surface in the former courtyard area. In the meantime, we respectfully request your office provide conditional concurrence with our No Adverse Effect finding for archeological resources.

As with all our projects, should archeological sites be inadvertently discovered during the construction phase of the project or in the course of normal operations, JB MDL would cease operations, contact the state historic preservation office, and ensure compliance with all applicable, statutory, regulatory, and policy requirements.

Thank you for your consideration on this proposal. Your concurrence with the above determination is requested. Please mail responses to Mr. John Joyce, Natural Resources Manager, Route 547 Building 5, Joint Base McGuire-Dix-Lakehurst NJ, 08733. If you have any questions please contact me at 732-323-2911. If preferable, you may fax your response to 732-323-5223.

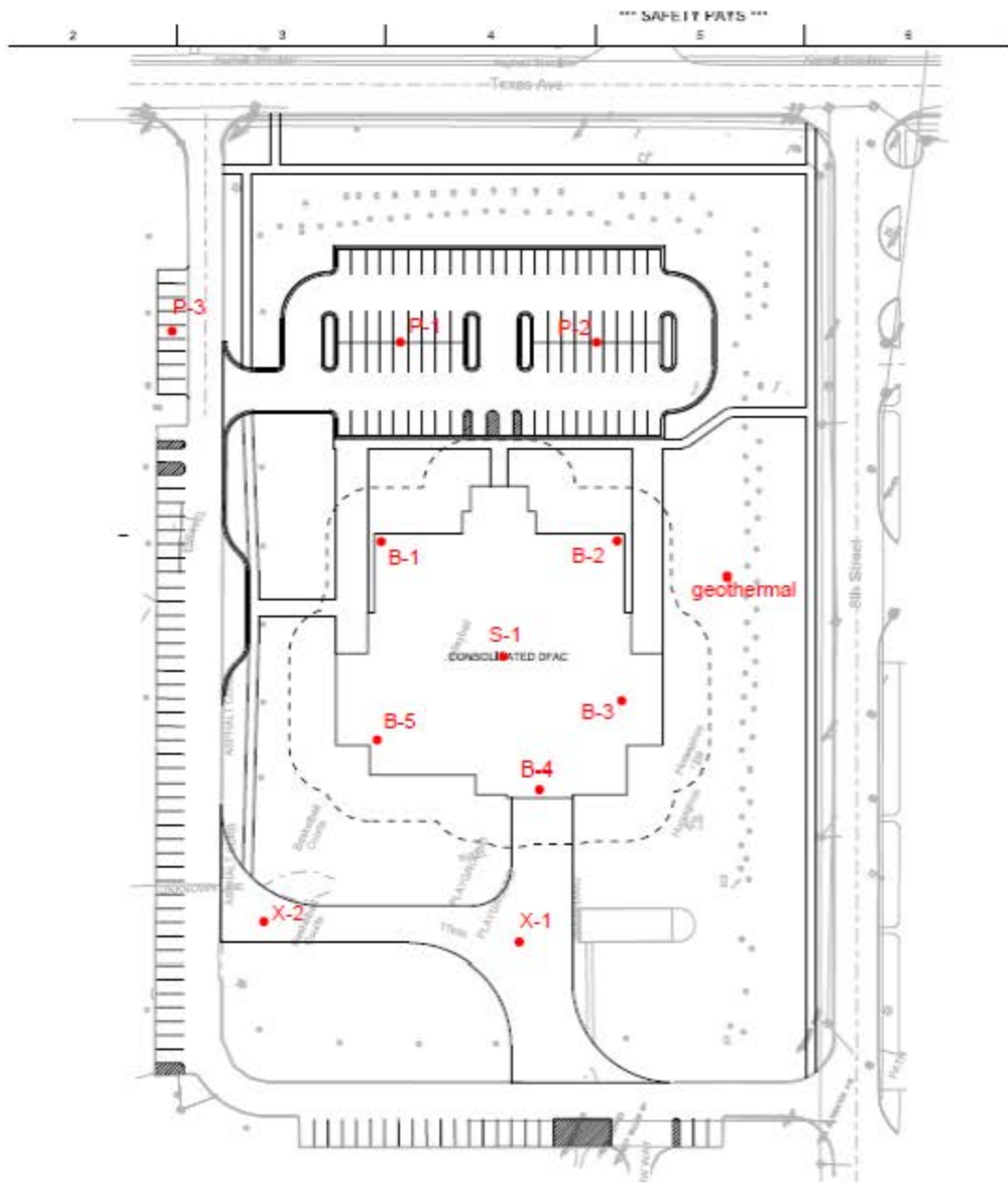
JOHN G. JOYCE, GS-12
JB MDL Natural Resources Manager

Attachments:

- (1) Location of 1950's Army Barracks on the Proposed Site
- (2) Soil Boring Location Maps and Associated Boring Logs

Attachment 1: Location of 1950's Army Barracks on the Proposed Site



Attachment 2: Soil Boring Location Maps and Associated Boring Logs

BORING NO. B-1		SHEET 1 OF 3	
1. PROJECT Joint Base McGuire Dix Lakehurst DFAC		10. DATUM FOR ELEVATION SHOWN ITEM (TBM OR MSL)	
2. LOCATION LAT: deg S			
3. DRILLING AGENCY Craig Test Boring		11. DRILL METHOD RM	
4. NAME OF DRILLER Tony Samulson		12. ELEVATION TOP OF HOLE	
5. DRILL TYPE CME 850 Truck		13. TOTAL NUMBER CORE BOXES N/A	
6. THICKNESS OF OVERBURDEN N/A		14. DEPTH GROUND WATER N/A	
7. DEPTH DRILLED INTO ROCK N/A		15. DATE HOLE STARTED 2/29/13 COMPLETED 2/29/13	
8. TOTAL DEPTH OF BORING 30.5'		10. INSPECTOR	
9. DIRECTION OF BORING VERTICAL ☒ INCLINED ☐			

ELEVATION	CLASSIFICATION OF MATERIALS	LOGGING	USCS CLASS	SAMPLE #	SAMPLE TYPE	BLOW 2.5-INCH	MOISTURE %	PIENETROMETER	RECOVERY	RQD %	REMARKS	DEPTH SCALE
Topsoil	RLI sand and gravel with silt, brown to gray and black, loose to medium dense, moist		1	1	1	4	6.0	15				0
			2	2	2	5	4.0	14				1
			3	3	3	5	4.0	14				2
			4	4	4	5	4.0	14				3
			5	5	5	5	4.0	14				4
			6	6	6	5	4.0	14				5
			7	7	7	5	4.0	14				6
			8	8	8	5	4.0	14				7
			9	9	9	5	4.0	14				8
			10	10	10	5	4.0	14				9
			11	11	11	5	4.0	14				10
			12	12	12	5	4.0	14				11
			13	13	13	5	4.0	14				12
			14	14	14	5	4.0	14				13
			15	15	15	5	4.0	14				14
			16	16	16	5	4.0	14				15
			17	17	17	5	4.0	14				16
			18	18	18	5	4.0	14				17
			19	19	19	5	4.0	14				18
			20	20	20	5	4.0	14				19
			21	21	21	5	4.0	14				20
			22	22	22	5	4.0	14				21
			23	23	23	5	4.0	14				22
			24	24	24	5	4.0	14				23
			25	25	25	5	4.0	14				24
			26	26	26	5	4.0	14				25
			27	27	27	5	4.0	14				26
			28	28	28	5	4.0	14				27
			29	29	29	5	4.0	14				28
			30	30	30	5	4.0	14				29
			31	31	31	5	4.0	14				30
			32	32	32	5	4.0	14				31
			33	33	33	5	4.0	14				32
			34	34	34	5	4.0	14				33
			35	35	35	5	4.0	14				34
			36	36	36	5	4.0	14				35
			37	37	37	5	4.0	14				36
			38	38	38	5	4.0	14				37
			39	39	39	5	4.0	14				38
			40	40	40	5	4.0	14				39
			41	41	41	5	4.0	14				40
			42	42	42	5	4.0	14				41
			43	43	43	5	4.0	14				42
			44	44	44	5	4.0	14				43
			45	45	45	5	4.0	14				44
			46	46	46	5	4.0	14				45
			47	47	47	5	4.0	14				46
			48	48	48	5	4.0	14				47
			49	49	49	5	4.0	14				48
			50	50	50	5	4.0	14				49
			51	51	51	5	4.0	14				50
			52	52	52	5	4.0	14				51
			53	53	53	5	4.0	14				52
			54	54	54	5	4.0	14				53
			55	55	55	5	4.0	14				54
			56	56	56	5	4.0	14				55
			57	57	57	5	4.0	14				56
			58	58	58	5	4.0	14				57
			59	59	59	5	4.0	14				58
			60	60	60	5	4.0	14				59
			61	61	61	5	4.0	14				60
			62	62	62	5	4.0	14				61
			63	63	63	5	4.0	14				62
			64	64	64	5	4.0	14				63
			65	65	65	5	4.0	14				64
			66	66	66	5	4.0	14				65
			67	67	67	5	4.0	14				66
			68	68	68	5	4.0	14				67
			69	69	69	5	4.0	14				68
			70	70	70	5	4.0	14				69
			71	71	71	5	4.0	14				70
			72	72	72	5	4.0	14				71
			73	73	73	5	4.0	14				72
			74	74	74	5	4.0	14				73
			75	75	75	5	4.0	14				74
			76	76	76	5	4.0	14				75
			77	77	77	5	4.0	14				76
			78	78	78	5	4.0	14				77
			79	79	79	5	4.0	14				78
			80	80	80	5	4.0	14				79
			81	81	81	5	4.0	14				80
			82	82	82	5	4.0	14				81
			83	83	83	5	4.0	14				82
			84	84	84	5	4.0	14				83
			85	85	85	5	4.0	14				84
			86	86	86	5	4.0	14				85
			87	87	87	5	4.0	14				86
			88	88	88	5	4.0	14				87
			89	89	89	5	4.0	14				88
			90	90	90	5	4.0	14				89
			91	91	91	5	4.0	14				90
			92	92	92	5	4.0	14				91
			93	93	93	5	4.0	14				92
			94	94	94	5	4.0	14				93
			95	95	95	5	4.0	14				94
			96	96	96	5	4.0	14				95
			97	97	97	5	4.0	14				96
			98	98	98	5	4.0	14				97
			99	99	99	5	4.0	14				98
			100	100	100	5	4.0	14				99
			101	101	101	5	4.0	14				100
			102	102	102	5	4.0	14				101
			103	103	103	5	4.0	14				102
			104	104	104	5	4.0	14				103
			105	105	105	5	4.0	14				104
			106	106	106	5	4.0	14				105
			107	107	107	5	4.0	14				106
			108	108	108	5	4.0	14				107
			109	109	109	5	4.0	14				108
			110	110	110	5	4.0	14				109
			111	111	111	5	4.0	14				110
			112	112	112	5	4.0	14				111
			113	113	113	5	4.0	14				112
			114	114	114	5	4.0	14				113
			115	115	115	5	4.0	14				114
			116	116	116	5	4.0	14				115
			117	117	117	5	4.0	14				116
			118	118	118	5	4.0	14				117
			119	119	119	5	4.0	14				118
			120	120	120	5	4.0	14				119
			121	121	121	5	4.0	14				120
			122	122	122	5	4.0	14				121
			123	123	123	5	4.0	14				122
			124	124	124	5	4.0	14				123
			12									

BORING LOG (cont sheet)		ELEVATION TOP OF HOLE		Hole No. B-1								
1. PROJECT Joint Base McGuire Dix Lakehurst DFAC		SHEET 2 OF 3 SHEETS										
ELEVATION	CLASSIFICATION OF MATERIALS	LOGGING	USCS CLASS	SAMPLE #	SAMPLE TYPE	BLOWS / FT. INCH	MOISTURE %	DEWIST ROMETER	RECOVERY	RQD %	REMARKS	DEPT IN SCALE
	SAND: coarse grained, brown to gray to tan, medium dense, damp to wet (poorly sorted)		(S)		X	6						20
												21
												22
												23
												24
				8	X	6	44		1.5			25
												26
												27
												28
												29
				9	X	6	3.7		1.0		drilling weathered with 1 bag of bentonite mud and 1/2 bag (now plug)	30
	End of boring at this.											31
												32
												33
												34
												35
												36
												37
												38
												39
												40
												41
												42
												43
												44
												45
												46

LRL FORM 1202 PREVIOUS EDITIONS ARE OBSOLETE. **PROJECT:** Joint Base McGuire Dix Lakehurst DFAC NO. B-1
 JUNE 2000 SYMBOLS: ▼ WATER LEVELS AT COMPLETION ► PARTIAL LOSS OF DRILL FLUID

KEY TO SYMBOLS

Symbol Description

Strata symbols



Topsoil



Fill (made ground)



USCS Lean Clay



Sand, Poorly Graded

Sampler symbols



SPT - Standard Penetration Test

Notes:

1. Water was encountered at feet.
2. These logs are subject to the limitations, conclusions, and recommendations in this report.
3. Results of tests conducted on samples recovered are reported on the logs.

LRL FORM 1202
JUNE 2000

PREVIOUS EDITIONS ARE OBSOLETE.
SYMBOLS:  WATER LEVELS AT COMPLETION  PARTIAL LOSS OF DRILL FLUID

PROJECT:

Joint Base McGuire-Dix-Lakehurst

DRAWING NO.

B-4

BORING NO. B-2		SHEET 1 OF 3	
1. PROJECT Joint Base McGuire Dix Lakehurst DFAC		10. DATUM FOR ELEVATION SHOWN ITEM (TRM OR MSL)	
2. LOCATION LAT: deg S			
3. DRILLING AGENCY Craig Test Boring		11. DRILL METHOD RM	
4. NAME OF DRILLER Tony Samulson		12. ELEVATION TOP OF HOLE	
5. DRILL TYPE CME 650 Track		13. TOTAL NUMBER CORE BOXES N/A	
6. THICKNESS OF OVERBURDEN N/A		14. DEPTH GROUND WATER N/A	
7. DEPTH DRILLED INTO ROCK N/A		15. DATE HOLE STARTED 2/27/13 COMPLETED 2/27/13	
8. TOTAL DEPTH OF BORING 30.5'		16. INSPECTOR	
9. DIRECTION OF BORING VERTICAL ☒ INCLINED ☐			

ELEVATION	CLASSIFICATION OF MATERIALS	LEGEND	USGS CLASS	SAMPLE #	SAMPLE TYPE	BLWGS / 16 INCH	MOISTURE %	PERCENT PROMETRY	RECOVERY	ROD %	REMARKS	DEPTH SCALE
	Topsoil		CL	1	MOH	1	6.8	1.3				0
	sandy loam CLAY; gray to brown; with silt, sand, soft to medium stiff		CL	2	3	4	47	1.5				1
												2
												3
	SAND, coarse grained; brown to gray to tan; medium dense to dense; damp to wet		SP									4
	with cobbles (4 ft-20.5)			3	7	10	4.6	1.5				5
												6
				4	8	14	5.1	1.5				7
												8
				5	6	8	5	1.5				9
												10
												11
												12
												13
				6	3	11	4.2	1.5				14
												15
												16
												17
												18
				7	10	14	7.6	1.2				19

LRL FORM 1202 PREVIOUS EDITIONS ARE OBSOLETE. PROJECT: Joint Base McGuire Dix Lakehurst DFAC NO. B-2
JUNE 2000 SYMBOLS: WATER LEVELS AT COMPLETION PARTIAL LOGS OF DRILL FLUID

BORINGS LOG (cont sheet)		ELEVATION TOP OF HOLE		Hole No. B-2								
1. PROJECT Joint Base McGuire Dix Lakehurst DFAC		SHEET OF 1		2 SHEETS								
ELEVATION	CLASSIFICATION OF MATERIALS	LEGEND	VECS CLASS	SAMPLE #	SAMPLE TYPE	BLOWS 15-INCH	MOSS TUBE %	PENETROMETER	RECOVERY	ROD %	REMARKS	DEPTH SCALE
	SAND, coarse grained, brown to gray to tan, medium dense to dense, damp to wet (continued)		10	1	X	1						0
												1
												2
												3
												4
												5
				6	X	7						6
						10	1.1		1.5			7
						11						8
												9
												10
												11
												12
												13
												14
												15
												16
												17
												18
												19
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												21
												22
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												24
												25
												26
												27
												28
												29
												30
												31
	End of boring at field.										Bottom of hole at 31.5 feet.	32
												33
												34
												35
												36
												37
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												100

LRL FORM 1202 PREVIOUS EDITIONS ARE OBSOLETE. **PROJECT:** Joint Base McGuire Dix Lakehurst **DFAE NO.** B-2
JUNE 2000 **SYMBOLS:** WATER LEVELS AT COMPLETION PARTIAL LOSS OF DRILL FLUID

BORING NO. B-3		SHEET 1 OF 3	
1. PROJECT Joint Base McGuire-Dix-Lakehurst DFAC		10. DATUM FOR ELEVATION SHOWN ITEM (TBM OR MSL)	
2. LOCATION LAT: 39° 5'		11. DRILL METHOD RM	
3. DRILLING AGENCY Craig Test Boring		12. ELEVATION TOP OF HOLE	
4. NAME OF DRILLER Tony Samelson		13. TOTAL NUMBER CORE BOXES N/A	
5. DRILL TYPE CME 650 Track		14. DEPTH GROUND WATER N/A	
6. THICKNESS OF OVERBURDEN N/A		15. DATE HOLE STARTED 2/27/13 COMPLETED 2/27/13	
7. DEPTH DRILLED INTO ROCK N/A		16. INSPECTOR	
8. TOTAL DEPTH OF BORING 30.5'			
9. DIRECTION OF BORING VERTICAL ☒ INCLINED ☐			

ELEVATION	CLASSIFICATION OF MATERIAL	LEGEND	SAMPLE NO.	SAMPLE TYPE	BLOWS 16 INCH	MOISTURE %	PLASTICITY INDEX	RECOVERY	TOOL NO.	REMARKS	DEPTH SCALE
	Topsoil		1	XXXX	6.6	1.5					0
	silty lean CLAY, gray to brown, with nodules, soft, moist		2	UU	7.4	1.3					1
	SAND, coarse grained, brown to gray to tan, loose to medium dense, silty to wet		3	BB	6.3	1.5				wet silt	2
4			BB	4.8	1.5			3			
5			BB	5.1	1.5			4			
6			BB	5.8	1.5			5			
7			BB	5.8	1.5			6			
8			BB	5.8	1.5			7			
9			BB	5.8	1.5			8			

LRL FORM 1202 PREVIOUS EDITIONS ARE OBSOLETE. PROJECT: Joint Base McGuire-Dix-Lakehurst DFAC NO. B-3
 JUNE 2000 SYMBOLS: WATER LEVELS AT COMPLETION PARTIAL LOSS OF DRILL FLUID

BORING LOG (cont sheet)		ELEVATION TOP OF HOLE		Hole No. B-3										
1. PROJECT Joint Base McGuire Dix Lakehurst DFAC		SHEET 3 OF 3		2. SHEETS										
ELEVATION	CLASSIFICATION OF MATERIALS	LEGEND	USCS CLASS	SAMPLE #	SAMPLE TYPE	BLOWS 15-INCH	MOISTURE %	PENETROMETER	RECOVERY	ROD %	REMARKS	DEPTH SCALE		
	SNL, coarse grained, brown to gray to tan, loose to medium dense, damp to wet (continued)		SM	1	X	10						20		
													21	
														22
														23
				2	X	6 7 10	12.7		15			24		
												25		
												26		
												27		
												28		
				3	X	7 13 17	5.1		15			29		
												30		
	End of boring at foot.											31		
												32		
												33		
												34		
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LRL FORM 1202 PREVIOUS EDITIONS ARE OBSOLETE. PROJECT: Joint Base McGuire Dix Lakehurst DFAC NO. B-3
 JUNE 2000 SYMBOLS WATER LEVELS AT COMPLETION PARTIAL LOSS OF DRILL FLUID

BORING NO. B-4		SHEET 1 OF 3	
1. PROJECT Joint Base McGuire-Dix-Lakehurst DFAC		10. DATUM FOR ELEVATION SHOWN ITEM (TBM OR MSL)	
2. LOCATION LAT: deg S		11. DRILL METHOD RM	
3. DRILLING AGENCY Craig Test Boring		12. ELEVATION TOP OF HOLE	
4. NAME OF DRILLER Tony Samulson		13. TOTAL NUMBER CORE BOXES NA	
5. DRILL TYPE CME 850 Truck		14. DEPTH GROUND WATER NA	
6. THICKNESS OF OVERBURDEN NA		15. DATE HOLE STARTED 2/27/13 COMPLETED 2/27/13	
7. DEPTH DRILLED INTO ROCK NA		15. INSPECTOR	
8. TOTAL DEPTH OF BORING 30.5'			
9. DIRECTION OF BORING VERTICAL ☒ INCLINED ☐			

ELEVATION	CLASSIFICATION OF MATERIALS	LEGEND	UNCS CLASS	SAMPLE #	SAMPLE TYPE	RECOVERIES	RECOVERY	REMARKS	DEPTH SCALE
0	Topsoil		1	1	1	1.4	1.5		0
1	Fill sand and gravel with silt, brown to gray and black, very loose to medium dense, moist		2	2	2	1.1	1.5		1
2			3	3	3	1.1	1.5		2
3	sandy loam CLAY, gray to brown, stiff, soft		4	4	4	1.1	1.5		3
4			5	5	5	1.1	1.5		4
5	SAND, coarse grained, brown to gray to tan, loose to medium dense, damp to wet		6	6	6	1.1	1.5		5
6			7	7	7	1.1	1.5		6
7			8	8	8	1.1	1.5		7
8			9	9	9	1.1	1.5		8
9			10	10	10	1.1	1.5		9
10			11	11	11	1.1	1.5		10
11			12	12	12	1.1	1.5		11
12			13	13	13	1.1	1.5		12
13			14	14	14	1.1	1.5		13
14			15	15	15	1.1	1.5	well at 14.0'	14
15			16	16	16	1.1	1.5		15
16			17	17	17	1.1	1.5		16
17			18	18	18	1.1	1.5		17
18			19	19	19	1.1	1.5		18
19			20	20	20	1.1	1.5		19
20			21	21	21	1.1	1.5		20
21			22	22	22	1.1	1.5		21
22			23	23	23	1.1	1.5		22
23			24	24	24	1.1	1.5		23
24			25	25	25	1.1	1.5		24
25			26	26	26	1.1	1.5		25
26			27	27	27	1.1	1.5		26
27			28	28	28	1.1	1.5		27
28			29	29	29	1.1	1.5		28
29			30	30	30	1.1	1.5		29
30			31	31	31	1.1	1.5		30
31			32	32	32	1.1	1.5		31
32			33	33	33	1.1	1.5		32
33			34	34	34	1.1	1.5		33
34			35	35	35	1.1	1.5		34
35			36	36	36	1.1	1.5		35
36			37	37	37	1.1	1.5		36
37			38	38	38	1.1	1.5		37
38			39	39	39	1.1	1.5		38
39			40	40	40	1.1	1.5		39
40			41	41	41	1.1	1.5		40
41			42	42	42	1.1	1.5		41
42			43	43	43	1.1	1.5		42
43			44	44	44	1.1	1.5		43
44			45	45	45	1.1	1.5		44
45			46	46	46	1.1	1.5		45
46			47	47	47	1.1	1.5		46
47			48	48	48	1.1	1.5		47
48			49	49	49	1.1	1.5		48
49			50	50	50	1.1	1.5		49
50			51	51	51	1.1	1.5		50
51			52	52	52	1.1	1.5		51
52			53	53	53	1.1	1.5		52
53			54	54	54	1.1	1.5		53
54			55	55	55	1.1	1.5		54
55			56	56	56	1.1	1.5		55
56			57	57	57	1.1	1.5		56
57			58	58	58	1.1	1.5		57
58			59	59	59	1.1	1.5		58
59			60	60	60	1.1	1.5		59
60			61	61	61	1.1	1.5		60
61			62	62	62	1.1	1.5		61
62			63	63	63	1.1	1.5		62
63			64	64	64	1.1	1.5		63
64			65	65	65	1.1	1.5		64
65			66	66	66	1.1	1.5		65
66			67	67	67	1.1	1.5		66
67			68	68	68	1.1	1.5		67
68			69	69	69	1.1	1.5		68
69			70	70	70	1.1	1.5		69
70			71	71	71	1.1	1.5		70
71			72	72	72	1.1	1.5		71
72			73	73	73	1.1	1.5		72
73			74	74	74	1.1	1.5		73
74			75	75	75	1.1	1.5		74
75			76	76	76	1.1	1.5		75
76			77	77	77	1.1	1.5		76
77			78	78	78	1.1	1.5		77
78			79	79	79	1.1	1.5		78
79			80	80	80	1.1	1.5		79
80			81	81	81	1.1	1.5		80
81			82	82	82	1.1	1.5		81
82			83	83	83	1.1	1.5		82
83			84	84	84	1.1	1.5		83
84			85	85	85	1.1	1.5		84
85			86	86	86	1.1	1.5		85
86			87	87	87	1.1	1.5		86
87			88	88	88	1.1	1.5		87
88			89	89	89	1.1	1.5		88
89			90	90	90	1.1	1.5		89
90			91	91	91	1.1	1.5		90
91			92	92	92	1.1	1.5		91
92			93	93	93	1.1	1.5		92
93			94	94	94	1.1	1.5		93
94			95	95	95	1.1	1.5		94
95			96	96	96	1.1	1.5		95
96			97	97	97	1.1	1.5		96
97			98	98	98	1.1	1.5		97
98			99	99	99	1.1	1.5		98
99			100	100	100	1.1	1.5		99
100			101	101	101	1.1	1.5		100
101			102	102	102	1.1	1.5		101
102			103	103	103	1.1	1.5		102
103			104	104	104	1.1	1.5		103
104			105	105	105	1.1	1.5		104
105			106	106	106	1.1	1.5		105
106			107	107	107	1.1	1.5		106
107			108	108	108	1.1	1.5		107
108			109	109	109	1.1	1.5		108
109			110	110	110	1.1	1.5		109
110			111	111	111	1.1	1.5		110
111			112	112	112	1.1	1.5		111
112			113	113	113	1.1	1.5		112
113			114	114	114	1.1	1.5		113
114			115	115	115	1.1	1.5		114
115			116	116	116	1.1	1.5		115
116			117	117	117	1.1	1.5		116
117			118	118	118	1.1	1.5		117
118			119	119	119	1.1	1.5		118
119			120	120	120	1.1	1.5		119
120			121	121	121	1.1	1.5		120
121			122	122	122	1.1	1.5		121
122			123	123	123	1.1	1.5		122
123			124	124	124	1.1	1.5		123
124			125	125	125	1.1	1.5		124
125			126	126	126	1.1	1.5		125
126			127	127	127	1.1	1.5		126
127			128	128	128	1.1	1.5		127
128			129	129	129	1.1	1.5		128
129			130	130	130	1.1	1.5		129
130			131	131	131	1.1	1.5		130
131			132	132	132	1.1	1.5		131
132			133	133	133	1.1	1.5		132
133			134	134	134	1.1	1.5		133
134			135	135	135	1.1	1.5		134
135			136	136	136	1.1	1.5		135
136			137	137	137	1.1	1.5		136
137			138	138	138	1.1	1.5		137
138			139	139	139	1.1	1.5		138
139			140	140	140	1.1	1.5		139
140			141	141	141	1.1	1.5		140
141			142	142	142	1.1	1.5		141
142			143	143	143	1.1	1.5		142

BORING LOG (cont sheet)		ELEVATION TOP OF HOLE		Hole No. B-4					
1. PROJECT Joint Base McGuire Dix Lakehurst DFAC		SHEET OF 3		2 SHEETS					
ELEVATION	CLASSIFICATION OF MATERIALS	LEGEND	USCS CLASS	SAMPLE #	MOISTURE %	RECOVERY	ROD %	REMARKS	DEPTH SCALE
	SAND, coarse grained, brown to gray to tan, loose to medium dense, damp to wet (continued)		SP	1	4.3	1.5			0
				2	4.3	1.5			1
				3	4.3	1.5			2
				4	4.3	1.5			3
				5	4.3	1.5			4
				6	4.3	1.5			5
				7	4.3	1.5			6
				8	4.3	1.5			7
				9	4.3	1.5			8
				10	4.3	1.5			9
				11	4.3	1.5			10
				12	4.3	1.5			11
				13	4.3	1.5			12
				14	4.3	1.5			13
				15	4.3	1.5			14
				16	4.3	1.5			15
				17	4.3	1.5			16
				18	4.3	1.5			17
				19	4.3	1.5			18
				20	4.3	1.5			19
				21	4.3	1.5			20
				22	4.3	1.5			21
				23	4.3	1.5			22
				24	4.3	1.5			23
				25	4.3	1.5			24
				26	4.3	1.5			25
				27	4.3	1.5			26
				28	4.3	1.5			27
				29	4.3	1.5			28
				30	4.3	1.5			29
				31	4.3	1.5			30
				32	4.3	1.5			31
				33	4.3	1.5			32
				34	4.3	1.5			33
				35	4.3	1.5			34
				36	4.3	1.5			35
				37	4.3	1.5			36
				38	4.3	1.5			37
				39	4.3	1.5			38
				40	4.3	1.5			39
				41	4.3	1.5			40
				42	4.3	1.5			41
				43	4.3	1.5			42
				44	4.3	1.5			43
				45	4.3	1.5			44
				46	4.3	1.5			45
				47	4.3	1.5			46
				48	4.3	1.5			47
				49	4.3	1.5			48
				50	4.3	1.5			49
				51	4.3	1.5			50
				52	4.3	1.5			51
				53	4.3	1.5			52
				54	4.3	1.5			53
				55	4.3	1.5			54
				56	4.3	1.5			55
				57	4.3	1.5			56
				58	4.3	1.5			57
				59	4.3	1.5			58
				60	4.3	1.5			59
				61	4.3	1.5			60
				62	4.3	1.5			61
				63	4.3	1.5			62
				64	4.3	1.5			63
				65	4.3	1.5			64
				66	4.3	1.5			65
				67	4.3	1.5			66
				68	4.3	1.5			67
				69	4.3	1.5			68
				70	4.3	1.5			69
				71	4.3	1.5			70
				72	4.3	1.5			71
				73	4.3	1.5			72
				74	4.3	1.5			73
				75	4.3	1.5			74
				76	4.3	1.5			75
				77	4.3	1.5			76
				78	4.3	1.5			77
				79	4.3	1.5			78
				80	4.3	1.5			79
				81	4.3	1.5			80
				82	4.3	1.5			81
				83	4.3	1.5			82
				84	4.3	1.5			83
				85	4.3	1.5			84
				86	4.3	1.5			85
				87	4.3	1.5			86
				88	4.3	1.5			87
				89	4.3	1.5			88
				90	4.3	1.5			89
				91	4.3	1.5			90
				92	4.3	1.5			91
				93	4.3	1.5			92
				94	4.3	1.5			93
				95	4.3	1.5			94
				96	4.3	1.5			95
				97	4.3	1.5			96
				98	4.3	1.5			97
				99	4.3	1.5			98
				100	4.3	1.5			99
				101	4.3	1.5			100
				102	4.3	1.5			101
				103	4.3	1.5			102
				104	4.3	1.5			103
				105	4.3	1.5			104
				106	4.3	1.5			105
				107	4.3	1.5			106
				108	4.3	1.5			107
				109	4.3	1.5			108
				110	4.3	1.5			109
				111	4.3	1.5			110
				112	4.3	1.5			111
				113	4.3	1.5			112
				114	4.3	1.5			113
				115	4.3	1.5			114
				116	4.3	1.5			115
				117	4.3	1.5			116
				118	4.3	1.5			117
				119	4.3	1.5			118
				120	4.3	1.5			119
				121	4.3	1.5			120
				122	4.3	1.5			121
				123	4.3	1.5			122
				124	4.3	1.5			123
				125	4.3	1.5			124
				126	4.3	1.5			125
				127	4.3	1.5			126
				128	4.3	1.5			127
				129	4.3	1.5			128
				130	4.3	1.5			129
				131	4.3	1.5			130
				132	4.3	1.5			131
				133	4.3	1.5			132
				134	4.3	1.5			133
				135	4.3	1.5			134
				136	4.3	1.5			135
				137	4.3	1.5			136
				138	4.3	1.5			137
				139	4.3	1.5			138
				140	4.3	1.5			139
				141	4.3	1.5			140
				142	4.3	1.5			141
				143	4.3	1.5			142
				144	4.3	1.5			143
				145	4.3	1.5			144
				146	4.3	1.5			145
				147	4.3	1.5			146
				148	4.3	1.5			147
				149	4.3	1.5			148
				150	4.3	1.5			149
				151	4.3	1.5			150
				152	4.3	1.5			151
				153	4.3	1.5			152
				154	4.3	1.5			153
				155	4.3	1.5			154
				156	4.3	1.5			155
				157	4.3	1.5			156
				158	4.3	1.5			157
				159	4.3	1.5			158
				160	4.3	1.5			159
				161	4.3	1.5			160
				162	4.3	1.5			161
				163	4.3	1.5			162
				164	4.3	1.5			163
				165	4.3	1.5			164
				166	4.3	1.5			165
				167	4.3	1.5			166
				168	4.3	1.5			167</

BORING NO. B-5		SHEET 1 OF 3																																																																																																																																																			
1. PROJECT Joint Base McGuire Dix Lakehurst DFAC		10. DATUM FOR ELEVATION SHOWN ITEM (TBM OR MSL)																																																																																																																																																			
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4. NAME OF DRILLER Tony Samalace		13. TOTAL NUMBER CORE BOXES N/A																																																																																																																																																			
5. DRILL TYPE CME 650 Truck		14. DEPTH GROUND WATER N/A																																																																																																																																																			
6. THICKNESS OF OVERBURDEN N/A		15. DATE HOLE STARTED 2/27/13 COMPLETED 2/27/13																																																																																																																																																			
7. DEPTH DRILLED INTO ROCK N/A																																																																																																																																																					
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9. DIRECTION OF BORING VERTICAL ☒ INCLINED ☐		16. INSPECTOR																																																																																																																																																			
ELEVATION	CLASSIFICATION OF MATERIALS	LEGEND	<table border="1"> <thead> <tr> <th>LINK CLASS</th> <th>SAMPLE #</th> <th>SAMPLE TYPE</th> <th>BLOWS 16 INCH</th> <th>MOISTURE %</th> <th>PISTON ROMETER</th> <th>RECOVERY</th> <th>POD %</th> <th>REMARKS</th> <th>DEPTH SCALE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1</td> <td>1</td> <td>6.3</td> <td>1.0</td> <td></td> <td></td> <td></td> <td rowspan="14">well at 14.0'</td> <td>0</td> </tr> <tr> <td>2</td> <td>2</td> <td>2</td> <td>1.8</td> <td>1.5</td> <td></td> <td></td> <td></td> <td>1</td> </tr> <tr> <td>3</td> <td>3</td> <td>3</td> <td>6.4</td> <td>1.5</td> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>4</td> <td>4</td> <td>4</td> <td>1.9</td> <td>1.0</td> <td></td> <td></td> <td></td> <td>3</td> </tr> <tr> <td>5</td> <td>5</td> <td>5</td> <td>4.3</td> <td>1.5</td> <td></td> <td></td> <td></td> <td>4</td> </tr> <tr> <td>6</td> <td>6</td> <td>6</td> <td>6.5</td> <td>1.5</td> <td></td> <td></td> <td></td> <td>5</td> </tr> <tr> <td>7</td> <td>7</td> <td>7</td> <td>15.1</td> <td>1.5</td> <td></td> <td></td> <td></td> <td>6</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>7</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>8</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>9</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>10</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>11</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>12</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>13</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>14</td> </tr> </tbody> </table>	LINK CLASS	SAMPLE #	SAMPLE TYPE	BLOWS 16 INCH	MOISTURE %	PISTON ROMETER	RECOVERY	POD %	REMARKS	DEPTH SCALE	1	1	1	6.3	1.0				well at 14.0'	0	2	2	2	1.8	1.5				1	3	3	3	6.4	1.5				2	4	4	4	1.9	1.0				3	5	5	5	4.3	1.5				4	6	6	6	6.5	1.5				5	7	7	7	15.1	1.5				6									7									8									9									10									11									12									13									14
LINK CLASS	SAMPLE #	SAMPLE TYPE	BLOWS 16 INCH	MOISTURE %	PISTON ROMETER	RECOVERY	POD %	REMARKS	DEPTH SCALE																																																																																																																																												
1	1	1	6.3	1.0				well at 14.0'	0																																																																																																																																												
2	2	2	1.8	1.5					1																																																																																																																																												
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6	6	6	6.5	1.5					5																																																																																																																																												
7	7	7	15.1	1.5					6																																																																																																																																												
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LRL FORM 1202 PREVIOUS EDITIONS ARE OBSOLETE. **PROJECT:** Joint Base McGuire Dix Lakehurst DFAC NO. B-5
 JUNE 2000 SYMBOLS: WATER LEVELS AT COMPLETION PARTIAL LOSS OF DRILL FLUID

BORING LOG (cont sheet)		ELEVATION TOP OF HOLE		Hole No. B-5								
1. PROJECT Joint Base McGuire Dix Lakehurst DFAC		SHEET 2		OF 3 SHEETS								
ELEVATION	CLASSIFICATION OF MATERIALS	LESSONS	LESSONS CLASS	SAMPLE #	SAMPLE TYPE	BLOWS 10 INCH	MOISTURE %	PENETROMETER	RECOVERY	ROD %	REMARKS	DEPTH SCALE
	SMO, some grained, brown to gray to tan, loose to medium dense, damp to wet (continued)		SP									20
												21
												22
												23
												24
				6		4	10	30	15			25
												26
												27
												28
												29
				6		10	11	44	15		Boring backfilled with 1 bag of lantham grout and 1/2 bag hole stop	30
	End of boring at foot.											31
												32
												33
												34
												35
												36
												37
												38
												39
												40
												41
												42
												43
												44
												45
												46

Bottom of hole at 30.5 feet.

LRL FORM 1202 PREVIOUS EDITIONS ARE OBSOLETE. **PROJECT:** Joint Base McGuire Dix Lakehurst **DRILL NO.** B-5
 JUNE 2000 **SYMBOLS:** WATER LEVELS AT COMPLETION PARTIAL LOSS OF DRILL FLUID

BORING NO. S-1		SHEET 1 OF 9	
1. PROJECT Joint Base McGuire Dix Lakehurst DFAC		10. DATUM FOR ELEVATION SHOWN ITEM (TBM OR MSL)	
2. LOCATION LAT: deg 8		11. DRILL METHOD RM	
3. DRILLING AGENCY Craig Test Boring		12. ELEVATION TOP OF HOLE	
4. NAME OF DRILLER Tony Samulson		13. TOTAL NUMBER CORE BOXES NA	
5. DRILL TYPE CME 850 Track		14. DEPTH GROUND WATER NA	
6. THICKNESS OF OVERBURDEN NA		15. DATE HOLE STARTED 2/27/13 COMPLETED 2/28/13	
7. DEPTH DRILLED INTO ROCK NA			
8. TOTAL DEPTH OF BORING 100.8			
9. DIRECTION OF BORING VERTICAL ☒ INCLINED ☐		16. INSPECTOR	

ELEVATION	CLASSIFICATION OF MATERIALS	LEGEND	SAMPLE N	SAMPLE TYPE	BLOWS 15 INCH	MOISTURE %	PENETROMETER	RECOVERY	ROD %	REMARKS	DEPTH SCALE
	Topsoil		1		1	6.2		1.5			0
	FILL, sand and gravel with silt, brown to gray and black, very loose to medium dense, moist		2		1	9.4		1.0			1
	sandy lean CLAY, gray, stiff, moist										2
	SAND, coarse grained, brown to gray to tan, loose to medium dense, damp to wet		3		5	7.2		1.5			3
			4		8	5		1.5			4
			5		1	3.6		1.5			5
			6		4			1.2			6
			7		1						7
											8
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											99
											100

LRL FORM 1202 PREVIOUS EDITIONS ARE OBSOLETE. **PROJECT:** Joint Base McGuire Dix Lakehurst DFAC NO. S-1
 JUNE 2000 SYMBOLS: WATER LEVELS AT COMPLETION PARTIAL LOSS OF DRILL FLUID

BORING LOG (cont sheet)		ELEVATION TOP OF HOLE		Hole No. S-1							
1. PROJECT Joint Base McGuire Dix Lakehurst DFAC		SHEET OF 6		2 SHEETS							
ELEVATION	CLASSIFICATION OF MATERIALS	LEGEND	UNCS CLASS	SAMPLE TYPE	BLOWS / FT-NOCH	MOISTURE %	PENETROMETER	RECOVERY	ROD %	REMARKS	DEPTH-FOOT
	SAND, coarse grained, brown to gray to tan, loose to medium dense, damp to wet (continued)				9						19
											21
											22
											23
											24
					6 11 14			1.5			25
											26
											27
											28
											29
					6 13 13			1.5			30
											31
											32
											33
											34
					3 7 13			1.5			35
											36
											37
											38
											39
					5 8 12			1.5			40
											41
											42
											43
											44
					6 6 11			1.5			45
											46

LRL FORM 1202 PREVIOUS EDITIONS ARE OBSOLETE. **PROJECT:** Joint Base McGuire Dix Lakehurst DFAC NO. S-1
 JUNE 2000 **SYMBOLS:** WATER LEVELS AT COMPLETION PARTIAL LOSS OF DRILL FLUID

BORING LOG (cont sheet)		ELEVATION TOP OF HOLE		Hole No. 3-1	
1. PROJECT Joint Base McGuire-Dix Lakehurst DFAC		SHEET 2 OF 2		SHEETS	
ELEVATION	CLASSIFICATION OF MATERIALS	LOG NO.	LOG TYPE	LOG NO.	LOG TYPE
	SAND, coarse-grained, brown to gray to tan, loose to medium dense, deep to wet (saturated)	10			
	very SAND, fine-grained, gray to brown, medium dense, deep to wet	11			
		12			
		13			
		14			
		15			
		16			
		17			
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LRL FORM 1202 PREVIOUS EDITIONS ARE OBSOLETE. PROJECT: Joint Base McGuire-Dix Lakehurst DFAC NO. 3-1
 JUNE 2006 SYMBOLS: WATER LEVELS AT COMPLETION PARTIAL LOSS OF DRILL FLUID

BORING LOG (cont sheet)		ELEVATION TOP OF HOLE		Hole No. S-1							
1. PROJECT Joint Base McGuire Dix Lakehurst DFAC		SHEET OF 8		4 SHEETS							
ELEVATION	CLASSIFICATION OF MATERIALS	LOGS CLASS	SAMPLE #	SAMPLE TYPE	BLOWS / 4 INCH	MOISTURE %	PLASTICITY INDEX	RECOVERY	POD %	REMARKS	DEP IN (SCALE)
	stiff sand, fine grained, grey to black, medium dense, sample wet (disturbed)	SM									73
			10	X	1-1-1			1.2			74
											75
											76
											77
											78
			11	X	1-1-1			0		No recovery basket in collection broken	79
											80
											81
											82
											83
											84
			20	X	1-1-1			1.2			85
											86
											87
											88
											89
			21	X	1-1-1			1.2			90
											91
											92
											93
											94
			22	X	1-1-1			1.2			95
											96
											97
											98

with shells, grey (85.5-100.0)

LRL FORM 1202 PREVIOUS EDITIONS ARE OBSOLETE. PROJECT: Joint Base McGuire Dix Lakehurst DRUG NO. S-1
JUNE 2006 SYMBOLS: WATER LEVELS AT COMPLETION PARTIAL LOSS OF DRILL FLUID

BORING LOG (cont sheet)		ELEVATION TOP OF HOLE		Hole No. S-1								
1. PROJECT Joint Base McGuire-Dix-Lakehurst DFAC		SHEET OF 6		5 SHEETS								
ELEVATION	CLASSIFICATION OF MATERIALS	LEGEND	USCS CLASS	SAMPLE #	SAMPLE TYPE	BLOWS 15-INCH	MOISTURE %	PENETROMETER	RECOVERY	ROD #	REMARKS	DEPTH SCALE
	stiff SAND, fine grained, gray to black, medium dense, damp to wet (continuous)		SM	11		7 12 15			10		Boring conducted with 4 bags of saccharin gum and 12 bags of hole plug	95 100
	End of boring at feet										Bottom of hole at 100.5 feet.	101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125

LRL FORM 1202 PREVIOUS EDITIONS ARE OBSOLETE. PROJECT: Joint Base McGuire-Dix-Lakehurst DFAC NO. 8-1
 JUNE 2006 SYMBOLS: WATER LEVELS AT COMPLETION PARTIAL LOSS OF DRILL FLUID

KEY TO SYMBOLS

Symbol Description

Strata symbols



Topsoil



Fill (made ground)



USCS Lean Clay



Sand, Poorly Graded



Silty Sand

Sampler symbols



SPT - Standard Penetration Test

Notes:

1. Water was encountered at feet.
2. These logs are subject to the limitations, conclusions, and recommendations in this report.
3. Results of tests conducted on samples recovered are reported on the logs.

LRL FORM 1202
JUNE 2000

PREVIOUS EDITIONS ARE OBSOLETE.
SYMBOLS: WATER LEVELS AT COMPLETION PARTIAL LOSS OF DRILL FLUID

PROJECT: Joint Base McGuire-Dix-Lakehurst
DRAWING NO. S-1



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

MAR 26 2013

Mr. Robert Previte
Chief of Environmental Compliance
87th Civil Engineering Squadron
Route 547, Building 5
Joint Base McGuire-Dix-Lakehurst, New Jersey 08733

Dear Mr. Previte:

This letter is in response to your request for interagency and intergovernmental coordination for the Environmental Assessment (EA) for both the Central Issue Facility and the Consolidated Dining Facility at Joint Base McGuire-Dix-Lakehurst (JB MDL), New Jersey. The dining facility will provide a permanent dining facility that is conveniently located close to training and billeting facilities. The central issue facility will provide a modern warehouse facility specifically designed for central issue operations required to support multi-service uniform requirements.

We encourage the Department of the Air Force to consider the cumulative effects of these two projects, as well as the various past, present and future projects being carried out at JB MDL when developing the EAs. Specifically, we hope that you will evaluate whether the resources, ecosystems and human communities of concern have already been affected by past or present activities and if there are any potential cumulative impacts from the various projects that are planned.

Additionally, we encourage the incorporation of sustainability and green design into your development plans. EPA offers a variety of green design programs that can facilitate this process. Please see the enclosed document, "U.S. EPA Region 2, Green Recommendations" for a list of some of the programs we offer. We hope that you will integrate these programs wherever possible.

Thank you for the opportunity to comment. Should you have any questions concerning this letter or if you would like to learn more about any of our green recommendations or pollution prevention programs, please feel free to contact Stephanie Lamster of my staff at 212-637-3465.

Sincerely,

A handwritten signature in dark ink, appearing to read "Grace Musumeci", is written over the typed name.

Grace Musumeci, Chief
Environmental Review Section

Attachment

Internet Address (URL) • <http://www.epa.gov>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 50% Postconsumer content)

EPA Region 2 Green Recommendations

To the maximum extent possible, project managers are encouraged to utilize local and recycled materials; to recycle materials generated onsite; and to utilize technologies and fuels that minimize greenhouse gas emissions.

Further, to the extent feasible, renewable energy (including, but not limited to solar, wind, geothermal, biogas, and biomass) and energy-efficient technologies should be incorporated into the design, construction, and operation of all types of projects.

To that end, the following information and internet hyperlinks are provided for your consideration and use:

- **Multi-media green building and land design practices**

Utilize green building practices which have multi-media benefits, including energy efficiency, water conservation (see WaterSense below), and healthy indoor air quality. Apply building rating systems and no-cost online tools and guides, such as ENERGY STAR, Portfolio Manager, Target Finder, Indoor Air Quality Package, and WaterSense for building construction. The ENERGY STAR website (see below) includes, among other things, information on new single-family homes, multi-family homes, commercial and other buildings, and schools. The website also provides an ENERGY STAR "Training Center" free of charge.

U.S. Green Building Council (USGBC) LEED Programs and Guides:

<http://www.usgbc.org/programs>

ENERGY STAR home page: <http://www.energystar.gov>

ENERGY STAR Target Finder (no-cost online tool to set energy performance targets):

<http://www.energystar.gov/targetfinder>

Indoor Air Quality: <http://www.epa.gov/iaq>

- **Water conservation and efficiency in building construction**

Promote water conservation and efficiency through the use of water efficient products and practices. For new building construction and restoration projects, we recommend considering the use of products with the WaterSense label where appropriate. Devices receiving the EPA WaterSense label must be at least 20% more water efficient than (and must meet or exceed the performance standards of) non-labeled devices of the same type. Additionally, when possible, consider the use of WaterSense Certified Professional Irrigation Partners and WaterSense Builder Partners. These professionals use WaterSense labeled devices where appropriate, are trained in the latest water conservation practices, and use the latest water efficiency tools and technologies, including irrigation equipment and xeriscaping for landscaping and best management practices for construction in the WaterSense New Home Specifications. Visit the WaterSense website for tips on water efficiency, a WaterSense labeled product search tool, a list of WaterSense Partners, access to the Water Budget Tool at: <http://www.epa.gov/watersense/>

In addition to using WaterSense labeled products and certified professionals, there are many water conservation strategies and best management practices that can be used in new construction and/or restoration. Here are some useful links to water conservation information:



- Green Building Encyclopedia:
http://www.whyygreenbuildings.com/water_conservation.php
- Whole Building Design Guide:
http://www.wbdg.org/resources/water_conservation.php
- Alliance for Water Efficiency:
<http://www.allianceforwaterefficiency.org/>
- Water Use It Wisely – 100 Ways to Conserve:
<http://www.wateruseitwisely.com/100-ways-to- conserve/index.php>
- Determining Energy Usage
http://water.epa.gov/infrastructure/sustain/energy_use.cfm
- **Green Building in Federal Agency Projects**
The *Federal Green Construction Guide for Specifiers* includes helpful information for procuring green building products and construction/renovation services within the Federal government:
<http://www.wbdg.org/design/greenspec.php>
- **Use Environmentally Preferable Purchasing**
Promote markets for environmentally preferable products by referencing EPA's multi-attribute Environmentally Preferable Purchasing guidance. Products and services include: Building and Construction, Carpets, Cleaning, Electronics, Fleets, Food Services, Landscaping, Meetings and Conferences, Office Supplies, and Paper.
<http://www.epa.gov/epp>
- **Purchase 'green' electronics, and measure their benefits**
Require the purchase of desktop computers, monitors, and laptops that are registered as Silver or Gold products with EPEAT, the Electronics Product Environmental Assessment Tool at www.epeat.net. Products registered with EPEAT use less energy, are easier to recycle, and can be more easily upgraded than non-registered products. Energy savings, CO₂ emission reductions, and other environmental benefits achieved by the purchase, use and recycling of EPEAT-registered products can be quantified using the Electronics Environmental Benefits Calculator:
<http://eerc.ra.utk.edu/ccpct/eebc/eebc.html>

http://www.energystar.gov/index.cfm?c=products.pr_find_es_products
- **Consider Low Impact Development to help manage storm water**
Low Impact Development (LID) is an approach to land development (or re-development) that works with nature to manage storm water as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treat storm water as a resource rather than a waste product.

Implement site planning, design, construction, and maintenance strategies to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the building site with regard to the temperature, rate, volume, and duration of flow.

Additional information: <http://www.epa.gov/nps/lid>
<http://water.epa.gov/infrastructure/greeninfrastructure/>



- **Evaluate sustainable storm water management at brownfield sites**

Consider designs for storm water management on compacted, contaminated soils in dense urban areas:

Additional information: <http://www.epa.gov/brownfields/tools/swdp0408.pdf>

- **Alternative and Renewable Energy**

The Department of Energy's "Green Power Network" (GPN) provides information and markets that can be used to supply alternative generated electricity. The following link identifies several suppliers of renewable energy:

Additional information:

http://apps3.eere.energy.gov/greenpower/buying/buying_power.shtml?

- **Clean Diesel**

For new equipment utilize contract specifications requiring advanced pollution controls and clean fuels: <http://www.northeastdiesel.org/pdf/NEDC-Construction-Contract-Spec.pdf> and <http://www.epa.gov/cleandiesel/technologies/index.htm>

Implement diesel controls, cleaner fuel, and cleaner construction practices for on-road and off-road equipment used for transportation, soil movement, or other construction activities, including:

1. Strategies and technologies that reduce unnecessary idling, including auxiliary power units, the use of electric equipment, and strict enforcement of idling limits;
2. Use of ultra low sulfur diesel fuel in non-road applications; and
3. Use of clean diesel through add-on control technologies like diesel particulate filters and diesel oxidation catalysts, repowers, or newer, cleaner equipment.

Additional information: *A How To Guide for Diesel Engine Retrofits in the Construction Industry.*

<http://www.mass.gov/dep/air/diesel/conretro.pdf>

- **Utilizing recycled materials in construction projects**

Many industrial and construction byproducts are available for use in road, building or infrastructure construction. Use of these materials can save money and reduce environmental impacts. The Recycled Materials Resource Center has developed user guidelines for many recycled materials and compiled existing national specifications.

Additional information: <http://rmrc.wisc.edu>

<http://www.fhwa.dot.gov/pavement/recycling/rectools.cfm>

<http://www.epa.gov/osw/conserve/imr/index.htm>

- **Encourage cost-efficient, environmentally friendly landscaping**

EPA's GreenScapes program provides cost-efficient and environmentally friendly solutions for landscaping. Designed to help preserve natural resources and prevent waste and pollution, GreenScapes encourages companies, government agencies, other entities, and homeowners to make more holistic decisions regarding waste generation and disposal and the associated impacts on land, water, air, and energy use.

Additional information: <http://www.epa.gov/wastes/conserve/tools/greenscapes/index.htm>



- **Incorporate on-site energy generation and energy efficient equipment upgrades into projects at drinking water and wastewater treatment facilities**

Consider using captured biogases in combined heat and power systems, and renewable energy (wind, solar, etc.) to generate energy for use on-site. Evaluate the potential energy savings associated with upgrading to more energy efficient equipment (pumps, motors, lighting, etc.).

Additional information: <http://water.epa.gov/infrastructure/sustain/goinggreen.cfm>
<http://www.epa.gov/region9/waterinfrastructure/howto.html>

- **Incorporate green practices into remediation of contaminated sites**

Encourage or incentivize the use of green remediation practices, including designing treatment systems with optimum energy efficiency; use of passive energy technologies such as bio-remediation and phyto-remediation; use of renewable energy to meet power demands of energy-intensive treatment systems or auxiliary equipment; use of cleaner fuels, machinery, and vehicles; use of native plant species; and minimizing waste and water use.

Additional information: <http://clu.in.org/greenremediation/index.cfm>

- **Encourage development in brownfield sites**

Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. These sites are often "infrastructure-ready," eliminating the need to build new roads and utility lines which are necessary in undeveloped land.

Additional information: <http://www.epa.gov/brownfields/>

- **Encourage use of Smart Growth and transit-oriented development principles**

Smart Growth and transit oriented development (TOD) principles help preserve natural lands and critical environmental areas, and protect water and air quality by encouraging developments that are mixed-use, walkable and located near public transit. Encourage use of bicycling with bike commuter parking, storage, and changing facilities. Facilitate increased carpooling or alternative vehicles with preferable parking spaces and/or electric vehicle plug in spots.

Additional information: <http://www.epa.gov/smartgrowth>

- **Integrated Design Process**

The Integrated Design Process calls for the active and continuing engagement of all stakeholders throughout the building design, development, construction, and post-construction phases including the owners, architects, engineers, building department officials, and others. This process creates a higher-performing building at lower cost, allows various building systems to work together to eliminate redundant and unnecessary capacity, and minimizes change order costs.

Additional information: http://www.wbdg.org/design/engage_process.php





HPO Project #13-0512-2
HPO-D2013-004
Page 1 of 2

State of New Jersey

MAIL CODE 501-04B

DEPARTMENT OF ENVIRONMENTAL PROTECTION

NATURAL & HISTORIC RESOURCES

HISTORIC PRESERVATION OFFICE

P.O. Box 420

Trenton, NJ 08625-0420

TEL. (609) 984-0176 FAX (609) 984-0578

CHRIS CHRISTIE
Governor

BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

April 1, 2013

Mr. John Joyce
Natural/Cultural Resources Manager
87th Civil Engineering Squadron
Headquarters Air Mobility Command
Department of the Air Force
Route 547, Building 5
Joint Base McGuire-Dix-Lakehurst, New Jersey 08733

Dear Mr. Joyce:

As Deputy State Historic Preservation Officer for New Jersey, in accordance with 36 CFR Part 800: Protection of Historic Properties, as published in the *Federal Register* on December 12, 2000 (65 FR 77725-77739) and amended on July 6, 2004 (69 FR 40544-40555), I am providing continuing Consultation Comments for the following proposed undertaking:

**Burlington County, New Hanover Township
Soil Boring Results
Dining Facility at Joint Base McGuire-Dix-Lakehurst
Department of the Air Force**

800.4 Identification of Historic Properties

Thank you for providing the Historic Preservation Office (HPO) the opportunity to review and comment on the potential for the above-referenced project to affect historic and archaeological resources. The documentation submitted is in response to the HPO's February 19, 2013 letter requesting additional information that supports the existence of disturbances within the project's area of potential effects (APE) that would affect the integrity of the project site.

Included in the current submission is documentation regarding soil borings that were conducted within the APE showing the existence of extensive dredge spoil deposits across the APE. As a result, the design of the proposed undertaking will not impact intact soil deposits within the project APE. Therefore, I concur with your finding that the project will have **no effect on historic properties** within the project's area of potential effects. Consequently, pursuant to 36

HPO Project #13-0512-2
HPO-D2013-004
Page 2 of 2

CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation, pursuant to 36 CFR 800.13.

Additional Comments

Thank you for providing the opportunity to review and comment on the potential for the above-referenced project to affect historic properties. Please do not hesitate to contact Jesse West-Rosenthal of my staff at (609) 984-6019 with any questions regarding archaeology. Please reference the HPO project number 13-0512, in any future calls, emails, or written correspondence to help expedite your review and response.

Sincerely,

A handwritten signature in blue ink, appearing to read 'D. Saunders', with a stylized flourish at the end.

Daniel D. Saunders
Deputy State Historic
Preservation Officer

APPENDIX B

Conformity Rule Compliance Record of Non-Applicability

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Conformity Rule Compliance

Record of Non-Applicability

Project/Action Name: **Construction and Operation of a Consolidated Dining Facility at Joint Base McGuire-Dix-Lakehurst**

Action Duration: **Construction activities are expected to last 24 months**

Conformity under Clean Air Act, Section 176, has been evaluated for the above-described project per 40 CFR Part 93. The requirements of this rule are not applicable to this action because:

Total direct and indirect emissions increases from the Proposed Action have been estimated at:

One Time Construction Emissions

0.56 tons VOCs;

1.25 tons of NO_x; and

tons of PM_{2.5}.

Annual Operational Emissions

0.02 tons VOCs;

0.70 tons of NO_x; and

tons of PM_{2.5}.

The emissions increase from the Proposed Action are below the *de minimis* threshold established at 40 CFR 93§ 153 of 50 tons per year (tpy) VOCs, 100 tpy NO_x, and 100 tpy PM_{2.5}.

The supporting documentation and emissions estimates are attached.

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Record of Non-Applicability (RONA) Supporting Documentation

Consolidated Dining Facility at JB MDL

1. Overview of Considered Project Alternatives

The referenced EA considers two alternatives:

- Alternative 1 – The Proposed Action. To construct an approximately 31,000 square foot, consolidated, centralized, and modern dining facility on the Dix portion of JB MDL to replace three separate, inadequate and inefficient facilities contained in Buildings 5509, 5610, and 5640.
- Alternative 2 – No Action Alternative. As required under NEPA and 32 CFR 989, the No Action Alternative is retained for comparative analysis. Under this alternative, JB MDL would not conduct the project as described under Alternative 1.

2. Purpose of the Record of Non-Applicability

In compliance with the Determining Conformity of Federal Actions to State or Federal Implementation Plans (40 CFR Part 93) and the National Environmental Policy Act (NEPA; 42 USC 4321 et seq.), a Record of Non-Applicability be prepared in cases where the proposed increases in emissions are clearly *de minimis*.

The action would be located in Burlington County, NJ, which is currently in non-attainment status for 8 hour ozone, annual PM_{2.5} and 24 hour PM_{2.5} according to the National Ambient Air Quality Standards (NAAQS) and USEPA's green book.

de minimis is defined as "so small or minimal in difference that it does not matter or the law does not take it into consideration".

Atmospheric ozone occurs when nitrogen oxides (NO_x), carbon monoxide (CO) and volatile organic compounds (VOCs) react in the atmosphere in the presence of sunlight, a photochemical reaction. NO_x and VOCs are called ozone precursors. Motor vehicle exhaust, industrial emissions, and chemical solvents are the major anthropogenic sources of these chemicals. Although these precursors often originate in urban areas, winds can carry NO_x hundreds of kilometers, causing ozone formation to occur in less populated regions as well.

Therefore, VOCs and NO_x emissions are regulated as a means of controlling ozone production. The *de minimis* levels for each pollutant are defined in the Federal Conformity Rule and vary depending on the pollutant and the severity of nonattainment status. For a moderate ozone nonattainment area, the *de minimis* criterion is 100 tpy for the ozone precursor NO_x and 50 tpy for the ozone precursor VOC. The *de minimis* level set for PM_{2.5} is 100 tpy.

Lakehurst has a State Implementation Plan (SIP) emission budget of 129 tpy of VOC and 793 tpy of NO_x. McGuire has a SIP budget of 730 tpy of VOC and 1,534 tpy of NO_x. Dix does not have a SIP budget.

3. Methodology

This applicability analysis evaluates all stationary and mobile sources of VOCs and NO_x emitted from construction activities, commuter vehicles and project operation. Emission factors were obtained from USEPA sources where possible. See Section 7 for a list of references.

4. Construction Emissions Calculations

The following Tables are all related to Alternative 1 of the Proposed Action as Alternative 2 is the No Action Alternative; a “no-build” scenario whereby the project site would remain in its current condition. Tables 1 and 2 provide the assumptions and results for diesel air emissions from the Proposed Action. Tables 3 and 4 provide the assumptions and results for road vehicle air emissions from the Proposed Action.

**Table 1: Estimated Emissions Based on Engine Rating and Operating Time
(All Diesel Fired Equipment)**

		Vehicle Equipment Type					
		Backhoe	Concrete Truck	Skid Steel Loader	Paver/Roller	Delivery Trucks	Excavator
Equipment Data	Equipment Category	Const.	Const.	Const.	Const.	Const.	Const.
	Number of Units	2	1	1	1	2	2
	Engine Rating Per Unit (hp)	95	250	46	100	250	94
	Operating Time Per Unit (hr/yr)	320	120	160	120	320	320
	Total Operating Time (hr/yr) ¹	640	120	160	120	640	640
Emission Parameters	Load Factor ²	55	57	55	53	57	75
	Emission Factor Group	Group 3	Group 3	Group 3	Group 4	Group 3	Group 3
Emission Factors (g/hp-hr) ³	VOC	2.20	0.90	3.90	0.40	0.90	2.20
	CO	8.10	2.30	11.6	1.30	2.30	8.10
	NO _x	8.50	7.10	7.10	6.80	7.10	8.50
	PM ₁₀	1.50	0.80	1.60	0.50	0.80	1.50
	SO ₂	1.40	1.26	1.38	1.05	1.26	1.40
	Factor for PM ₁₀ to PM _{2.5} ⁴	0.92	0.92	0.92	0.92	0.92	0.92
Annual Actual Emissions (lb/yr)	VOC	162	40	40	4	180	220
	CO	580	80	100	20	400	800
	NO _x	620	260	60	100	140	840
	PM ₁₀	120	40	20	6	160	140
	SO ₂	100	40	20	14	240	140
	Factor for PM ₁₀ to PM _{2.5}	60	40	8	12	180	100

Note: Calculation of annual actual criteria pollutants emissions (lb/yr) = Total Operating Time (hr/yr) x Engine Rating Per Unit (hp) x % Load Factor x Emission Factor (g/hp-hr). Conversion factor 1 pound = 453.592; 1 ton = 2,000 pounds; 1 pound = 0.0005 tons.

1: Operating times based on similar construction projects; hours per year (hr/yr)

2: Load factor is the fraction of available power at which the engine normally operates. Source: USEPA, 1999

3: Source: USEPA, 1998

4: Factor to estimate PM_{2.5} emissions from PM₁₀ emissions. Source: USEPA, 2002

Table 2: Total Emissions for Criteria Pollutants from All Diesel Fired Equipment

	VOC	CO	NOx	PM ₁₀	SO ₂	PM _{2.5}
Total Emissions From All Diesel Fired Vehicle/Equipment (lb/yr)	646	1,980	2,020	574	554	400
Total Emissions From All Diesel Fired Vehicle/Equipment (tpy)	0.32	0.99	1.01	0.29	0.28	0.20

Table 3: Estimated Road Vehicle Emissions Based on Miles Traveled

		Vehicle Type	
		Construction Workers Commuting	Light Duty Gasoline Trucks
Emission Factor (g/mi) ¹	VOC	0.80	0.80
	CO	7.51	7.51
	NOx	0.82	0.82
	PM ₁₀	0.04	0.04
	SO ₂	0.01	0.01
Annual Actual Emissions (tons)	VOC	0.24	0.003
	CO	2.24	0.02
	NOx	0.24	0.003
	PM ₁₀	0.01	< 0.001
	SO ₂	0.003	< 0.001
Parameters	Number of Vehicles ²	60	10
	Total Number of Vehicle Trips ³	300	20
	Daily Distance Traveled (miles) ³	30	30
	Total Distance Traveled (miles)	270,000	3,000

Note: Calculation of annual actual criteria pollutants emissions (tons) = Total Distance Traveled (miles) x Emission Factor (g/mi). Conversion factor 1 pound = 453.592; 1 ton = 2,000 pounds.

1: Source: CARB, 2010

2: Number of vehicles based on the anticipated number of construction workers

3: Number of vehicle trips based on similar construction projects

4: Distance traveled by commuting construction workers based on similar construction projects

Table 4: Total Emissions for Criteria Pollutants from Road Vehicles

	VOC	CO	NOx	PM ₁₀	SO ₂
Total Emissions From Estimated Gasoline Road Vehicles (lb/yr)	486	4,520	486	20	6
Total Emissions From Estimated Gasoline Road Vehicles (tpy)	0.24	2.26	0.24	0.01	0.003

Conversion factor: 1 pound = 0.0005 tons

5. Operational Emissions Calculations

There will be no increase in the existing troop level or vehicle operations as a result of the Proposed Action. Approximately 65 employees would be traveling to the dining facility daily however these employees and anticipated patrons do not represent new commuters. Therefore, no increases in mobile emissions are anticipated from government owned and privately owned vehicles during operation of the proposed facility. Subsequently, the only anticipated sources of NO_x, VOC, and PM_{2.5} emissions from the operation of the dining facility would include two natural gas fired domestic hot water heaters.

Natural Gas Water Heaters

The estimated natural gas fuel consumption for space heat is based on the size of building. Natural gas consumption factors for heating commercial buildings were obtained from the U.S. Department of Energy Commercial Buildings Energy Consumption and Expenditures 1992 (USDOE, 1995). The annual natural gas consumption factor for a building 25,001-50,000 sf would be 48.2 standard cubic feet (scf)/sf-year. The proposed consolidated dining facility will however utilize geothermal wells which are estimated to result in a 70 percent natural gas usage savings annually (Stockton, 2013). Thus, the annual natural gas consumption factor would be an estimated 14.46 scf/sf-year.

The facility would include two natural gas fired domestic hot water heaters. For this analysis, two 250-gallon hot water heaters would be required. Assuming a 250 gallon water heater with an average burner firing rate of 69,000 btu/hour, this heater would consume 66 scf of natural gas an hour. Assuming 8,760 hours/year, this would consume 0.58 million standard cubic feet (MMscf)/year. Emission factors for natural gas were obtained from AP-42, Section 1.4, Natural Gas Combustion. Natural gas emissions from a large boiler are: 5.5 lbs of VOCs/1,000,000 scf of natural gas and 100 lbs of NO_x/1,000,000 scf of natural gas (USEPA, 2003).

Using these factors, NO_x emitted from a hot water heater would be:

$$0.58 \text{ MMscf} \times 100 \text{ lbs NO}_x/\text{MMscf} = 58 \text{ lbs NO}_x/\text{year}.$$

VOCs emitted from the hot water heater would be:

$$0.58 \text{ MMscf} \times 5.5 \text{ lbs VOCs/MMscf} = 3.19 \text{ lbs VOCs/year}.$$

Multiplying these values by the two water heaters required results in:

$$\text{NO}_x = 116 \text{ lbs/yr}$$

$$\text{VOC} = 6.38 \text{ lbs /yr}$$

Table 5: Total Emissions for Criteria Pollutants from Natural Gas Water Heaters

	NO _x	VOC
Total Emissions From Estimated Water Heaters (lb/yr)	116	6.38
Total Emissions From Estimated Water Heaters (tpy)	0.06	0.003

Conversion factor: 1 pound = 0.0005 tons

6. Emissions Summary

Table 6 below is a list of the total estimated annual emissions to result from the Proposed Action. It is important to note that once constructed and operational the only annual emissions anticipated are those associated with the natural gas water heaters.

Table 6: Total Estimated Emissions for the Proposed Action

Annual Emissions (tons per year)						
Activities	VOC	CO	NOx	PM ₁₀	SO ₂	PM _{2.5}
Operational Stationary Sources						
Natural Gas Water Heaters	0.003	-	0.06	-	-	-
Construction Mobile Sources						
Construction Equipment Diesel	0.32	0.99	1.01	0.29	0.28	0.20
Road Vehicles	0.24	2.26	0.24	0.01	0.003	--
Total	0.56	3.25	1.31	0.30	0.28	0.20

7. Results and Conclusions

Burlington County is currently in moderate non-attainment status for ozone. Burlington County is also in non-attainment for annual PM_{2.5} and 24 hour PM_{2.5}. The *de minimis* levels for each pollutant are defined in the Federal Conformity Rule and vary depending on the pollutant and the severity of nonattainment status. For a moderate ozone nonattainment area, the *de minimis* criterion is 100 tpy for the ozone precursor NOx and 50 tpy for the ozone precursor VOC. The *de minimis* level set for PM_{2.5} is 100 tpy.

Since the General Conformity Rule requires analysis only for emissions of criteria pollutants and their precursors for which an area is designated a “non-attainment” or maintenance area, emissions were calculated for the precursors of ozone, VOCs and NOx and PM_{2.5}, as part of this RONA documentation. This analysis revealed Alternative 1 would emit 1.31 tons of NOx, 0.56 tons of VOCs, and 0.20 tons of PM_{2.5} during project construction, assumed to occur in two calendar years and 0.06 tons of NOx and 0.003 tons of VOCs during annual operations. The emission increases from the Proposed Action are below the *de minimis* threshold established at 40 CFR 93§ 153 of 50 tpy VOCs, 100 tpy NOx, and 100 tpy PM_{2.5}. Thus, the Proposed Action is exempt from the CAA conformity requirements and does not require a detailed analysis of air quality. Therefore, this RONA satisfies the General Conformity Rule. As such, this RONA documents JB MDL’s decision not to prepare a written conformity determination for the Proposed Action.

8. References

CARB, 2010. California Air Resources Board. On Road Mobile Emission Factors, EMFAC 2002, Scenario Year 2004, (Model Years A11965 to 2004).

Stockton, 2013. Energy Studies at the Richard Stockton College of New Jersey. Geothermal Perspective. Accessed May 22, 2013at
http://intraweb.stockton.edu/eyos/energy_studies/content/docs/Geothermal%20Perspective%20edit%20for%20web%20site%2012%20july%2010.pdf.

United States Department of Energy (USDOE), 1995. “Commercial Buildings Energy Consumption and Expenditures 1992”. DOE/EIA-0318(92). April 1995.

United States Environmental Protection Agency (USEPA), 2003. AP-42, Volume 1, Section 1.4, Natural Gas Combustion. Accessed February 13, 2013 at <http://www.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf>

USEPA, 2002. United States Environmental Protection Agency, NONROAD, 2002a model data files. Accessed January 30, 2013 at <http://www.epa.gov/oms/nonrdmdl.htm>.

USEPA, 1999. United States Environmental Protection Agency, Office of Mobile Sources, Exhaust Emission Factors for Nonroad Engine Modeling – Spark Ignition. Report No. NR-010b. Last revised March 1999.

USEPA, 1998. United States Environmental Protection Agency, Office of Mobile Sources, Exhaust Emission Factors for Nonroad Engine Modeline – Compression – Ignition. Report No. NR-009A. Last updated June 1998.

USEPA, 1996. AP-42 Fifth Edition, Volume 1, Chapter 3: Stationary Internal Combustion Engines, Section 3.4 Large Stationary Diesel and all Stationary Dual Fuel Engines. October 1996. Accessed February 8, 2013 at <http://www.epa.gov/ttn/chief/ap42/ch03/index.html>.

APPENDIX C

Traffic Count Data

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Table C-1. Summarized Gate Traffic Counts, Checkpoint 9

Time	Checkpoint 9 IN	Checkpoint 9 OUT
12:00 AM	17	22
1:00 AM	10	12
2:00 AM	11	8
3:00 AM	11	4
4:00 AM	23	8
5:00 AM	121	42
6:00 AM	449	91
7:00 AM	471	159
8:00 AM	247	173
9:00 AM	192	130
10:00 AM	194	144
11:00 AM	158	147
12:00 Noon	223	211
1:00 PM	168	223
2:00 PM	155	265
3:00 PM	145	386
4:00 PM	136	480
5:00 PM	47	438
6:00 PM	11	256
7:00 PM	65	133
8:00 PM	149	13
9:00 PM	115	0
10:00 PM	103	0
11:00 PM	67	0
Total	3288	3345

Note: Weekday traffic count, November 2010.

Source: T & M, 2011

New Jersey Department of Transportation

Daily Volume from 05/25/2010 through 05/27/2010

Site Names: 7-4-502, Pointville Rd-0.46, 03251019__, NEW HANOVER TWP.
 County: BURLINGTON
 Funct. Class: Urban Minor Arterial
 Location: BET HARTFORD ST AND NEW JERSEY AVE

Seasonal Factor Type: 2 Urban Other Roadways
 Daily Factor Type: 2 Urban Other Roadways
 Axle Factor Type: 16
 Growth Factor Type: 2 Urban Other Roadways

	05/23/2010			05/24/2010			05/25/2010			05/26/2010			05/27/2010			05/28/2010			05/29/2010		
	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E
00:00										1	1	0	0	0	0						
01:00										0	0	0	0	0	0						
02:00										0	0	0	0	0	0						
03:00										0	0	0	0	0	0						
04:00										0	0	0	0	0	0						
05:00										1	0	1	1	0	1						
06:00										0	0	0	8	3	3						
07:00										3	2	1	7	2	3						
08:00										7	3	4	34	13	19						
09:00										5	2	3	31	7	24						
10:00										0	0	0	38	8	30						
11:00										1	0	1	65	21	44						
12:00										7	4	3	5	3	2						
13:00										4	1	3	7	6	1						
14:00										6	4	2	2	2	0						
15:00										4	3	1	0	0	0						
16:00										8	7	1	7	6	1						
17:00										3	1	2	6	4	2						
18:00										2	1	1	2	1	1						
19:00										3	1	2	0	0	0						
20:00										1	0	1	1	1	0						
21:00										0	0	0	0	0	0						
22:00										0	0	0	0	0	0						
23:00										0	0	0	0	0	0						
Volume										38	22	16	48	31	17	184	56	128			
AM Peak Vol										7	3	4	65	21	44						
AM Peak Fct										0.44	0.38	0.33	0.77	0.66	0.69						
AM Peak Hr										7:43	7:43	7:43	11:00	11:00	11:00						
PM Peak Vol										10	8	3	12	9	3						
PM Peak Fct										0.83	0.67	0.38	0.43	0.38	0.75						
PM Peak Hr										15:45	15:45	12:00	12:15	12:15	12:15						
Seasonal Fct										0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980			
Daily Fct										0.956	0.956	0.956	0.934	0.934	0.934	0.920	0.920	0.920			
Axle Fct										0.493	0.493	0.493	0.493	0.493	0.493	0.493	0.493	0.493			
Pulse Fct										2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000			

Created 06/23/2010 9:15:10AM

ROAD AADT 121

W AADT 49

E AADT 72

DV03: Page 1 of 1

New Jersey Department of Transportation

Daily Volume from 04/04/2011 through 04/06/2011

Site Names: 7-4-503, , CO 616 Ford Dix Road-21.66, 03000616 __, New Hanover 1
 County: BURLINGTON
 Funct. Class: Urban Minor Arterial
 Location: Bet CO 669 Julmestown Road and Fort Dix Road

Seasonal Factor Type: 2 Urban Other Roadways
 Daily Factor Type: 2 Urban Other Roadways
 Axle Factor Type: 16
 Growth Factor Type:

	Sun 04/03/2011			Mon 04/04/2011			Tue 04/05/2011			Wed 04/06/2011			Thu 04/07/2011			Fri 04/08/2011			Sat 04/09/2011		
	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E	ROAD	W	E
00:00							58	44	14	99	47	52									
01:00							25	17	8	31	13	18									
02:00							29	15	14	33	16	17									
03:00							33	4	29	32	6	26									
04:00							65	10	55	64	12	52									
05:00							231	25	206	238	25	213									
06:00							525	40	485	580	64	516									
07:00							675	114	561	714	116	598									
08:00							478	126	352	517	126	391									
09:00							371	143	228	359	110	241									
10:00							335	131	204	302	111	191									
11:00							348	163	185	358	155	203									
12:00				348	154	195	414	196	218												
13:00				335	131	204	388	190	190												
14:00				457	216	241	500	231	269												
15:00				648	352	296	618	370	248												
16:00				940	653	387	895	707	188												
17:00				642	412	230	724	438	286												
18:00				445	274	171	490	240	250												
19:00				279	172	107	274	148	125												
20:00				186	108	78	237	114	123												
21:00				131	73	58	148	74	74												
22:00				113	68	45	130	58	72												
23:00				98	46	32	103	44	59												
Volume				4,623	2,659	1,964	8,094	3,643	4,451	3,327	809	2,518									
AM Peak Vol							694	163	613	734	155	633									
AM Peak Fct							0.95	0.87	0.94	0.89	0.88	0.90									
AM Peak Hr							6:45	11:00	6:30	6:45	11:00	6:30									
PM Peak Vol				942	653	302	913	707	295												
PM Peak Fct				0.84	0.77	0.79	0.92	0.87	0.82												
PM Peak Hr				16:15	16:00	14:30	16:30	16:30	17:15												
Seasonal Fct				0.986	0.986	0.986	0.986	0.986	0.986	0.986	0.986	0.986									
Daily Fct				0.995	0.995	0.995	0.995	0.995	0.995	0.954	0.954	0.954									
Axle Fct				0.488	0.488	0.488	0.488	0.488	0.488	0.488	0.488	0.488									
Pulse Fct				2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000									

Collected by: NIDOT

Created: 03/19/2012 11:38:02AM

ROAD AADT 7,472

W AADT 3,324

E AADT 4,148

DV03: Page 1 of 1

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APPENDIX D

Newspaper Public Notice Affidavit of Publication

State of New Jersey }
County of Burlington } ss.

Ad Content Proof

Notice of Availability
Draft Environmental Assessment (EA) and
Draft Finding of No Significant Impact (FONSI) for
a Consolidated Dining Facility at Joint Base
McGuire-Dix-Lakehurst, New Jersey

JB MDL announces the availability of and invites public comments on the Draft EA and Draft FONSI for the proposed consolidated dining facility. The Proposed Action is to provide a permanent consolidated dining facility conveniently located close to training and billeting facilities in the Dix cantonment area within the boundaries of JB MDL. A consolidated dining facility would centralize dining functions being performed in three separate inadequate locations and would operate at higher efficiency. The EA analyzes related construction and operational aspects of the Proposed Action and No Action Alternative. The Draft EA was prepared in accordance with the National Environmental Policy Act. Copies are available for review at the Pemberton Branch of the Burlington County Library System, 16 Broadway, Browns Mills, NJ 08015. Written comments should be submitted by May 13, 2013 to Mr. Robert Previte, 87 CES/CEA, JB MDL, Hwy 547, Bldg 5, Lakehurst, NJ 08733.

Adv. Fee: \$77.28
BGT: April 12, 2013
Att. Chg. \$20.00

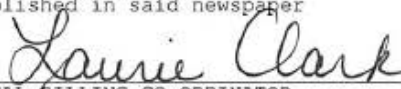
JOINT BASE MCGUIRE DIX LAKEHURST
BUILDING 5, CES/CEAN, EHS TECHNOLO
LAKEHURST, NJ 08733

7323234449
0006441190-01

Laurie Clark being duly sworn or affirmed according to law, deposes and says that she is the Legal Billing Coordinator of the BURLINGTON TIMES, INC. Publisher of the "Burlington County Times" and that a copy of a notice published in such paper on

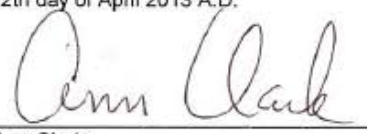
April 12, 2013

appears hereto, exactly as published in said newspaper


LEGAL BILLING CO-ORDINATOR

Sworn and subscribed to before me this 12th day of April 2013 A.D.

Affirmed and subscribed to me before me this 12th day of April 2013 A.D.


Ann Clark
My Commission expires on
May 04, 2015

APPENDIX E

Public Comments and Responses of the Draft EA

Summary of Draft EA Correspondence Received

Date Received	Commenter	Description/Summary
April 24, 2013	SHPO	Letter indicating SHPO concurrence with JB MDL's determination that there are no historic properties affected within the project's area of potential effect. No Change to Final EA.
May 9, 2013	NJDEP, Office of Permit Coordination and Environmental Review	Letter indicating SHPO and the Division of Fish and Wildlife concur with the finding of no effect. Letter also contained comments on Air Quality, Results and Conclusions, and General Comments. All comments were addressed and appropriate changes made in the Final EA as suggested.
May 15, 2013	Delaware Nation	E-mail indicating the Delaware Nation has no comment on the Draft EA. No change to Final EA.



HPO Project #13-0512-3
HPO-D2013-166
Page 1 of 1

State of New Jersey

MAIL CODE 501-04B

DEPARTMENT OF ENVIRONMENTAL PROTECTION

NATURAL & HISTORIC RESOURCES

HISTORIC PRESERVATION OFFICE

P.O. Box 420

Trenton, NJ 08625-0420

TEL. (609) 984-0176 FAX (609) 984-0578

CHRIS CHRISTIE
Governor

BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

April 24, 2013

Mr. John Joyce
Natural/Cultural Resources Manager
87th Civil Engineering Squadron
Headquarters Air Mobility Command
Department of the Air Force
Route 547, Building 5
Joint Base McGuire-Dix-Lakehurst, New Jersey 08733

Re: **Burlington County, New Hanover Township
Proposed Dining Facility at Joint Base McGuire-Dix-Lakehurst
Environmental Assessment
Department of the Air Force**

Dear Mr. Joyce,

Thank you for providing the Historic Preservation Office (HPO) the opportunity to review and comment on the potential for the above-referenced project to affect historic and archaeological resources. The HPO has previously had the opportunity to review and comment on cultural resources investigations for this project. It has previously been determined that this project would have no effect on historic properties. A copy of the previous consultation letter is attached for your review.

Additional Comments

Thank you for providing this opportunity to comment on this proposed project. If additional consultation with the HPO is needed for this undertaking, please reference the HPO project number 13-0512 in any future calls, emails, or written correspondence to help expedite your review and response. If you have any questions, please feel free to contact Jesse West-Rosenthal (609-984-6019) of my staff with questions regarding archaeology.

Sincerely,

Daniel D. Saunders
Deputy State Historic
Preservation Officer

[Enclosure]



HPO Project #13-0512-2
HPO-D2013-004
Page 1 of 2

State of New Jersey

MAIL CODE 501-04B

DEPARTMENT OF ENVIRONMENTAL PROTECTION

NATURAL & HISTORIC RESOURCES

HISTORIC PRESERVATION OFFICE

P.O. Box 420

Trenton, NJ 08625-0420

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CHRIS CHRISTIE
Governor

BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

April 1, 2013

Mr. John Joyce
Natural/Cultural Resources Manager
87th Civil Engineering Squadron
Headquarters Air Mobility Command
Department of the Air Force
Route 547, Building 5
Joint Base McGuire-Dix-Lakehurst, New Jersey 08733

Dear Mr. Joyce:

As Deputy State Historic Preservation Officer for New Jersey, in accordance with 36 CFR Part 800: Protection of Historic Properties, as published in the *Federal Register* on December 12, 2000 (65 FR 77725-77739) and amended on July 6, 2004 (69 FR 40544-40555), I am providing continuing Consultation Comments for the following proposed undertaking:

**Burlington County, New Hanover Township
Soil Boring Results
Dining Facility at Joint Base McGuire-Dix-Lakehurst
Department of the Air Force**

800.4 Identification of Historic Properties

Thank you for providing the Historic Preservation Office (HPO) the opportunity to review and comment on the potential for the above-referenced project to affect historic and archaeological resources. The documentation submitted is in response to the HPO's February 19, 2013 letter requesting additional information that supports the existence of disturbances within the project's area of potential effects (APE) that would affect the integrity of the project site.

Included in the current submission is documentation regarding soil borings that were conducted within the APE showing the existence of extensive dredge spoil deposits across the APE. As a result, the design of the proposed undertaking will not impact intact soil deposits within the project APE. Therefore, I concur with your finding that the project will have **no effect on historic properties** within the project's area of potential effects. Consequently, pursuant to 36

HPO Project #13-0512-2

HPO-D2013-004

Page 2 of 2

CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation, pursuant to 36 CFR 800.13.

Additional Comments

Thank you for providing the opportunity to review and comment on the potential for the above-referenced project to affect historic properties. Please do not hesitate to contact Jesse West-Rosenthal of my staff at (609) 984-6019 with any questions regarding archaeology. Please reference the HPO project number 13-0512, in any future calls, emails, or written correspondence to help expedite your review and response.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Saunders', with a long horizontal flourish extending to the right.

Daniel D. Saunders
Deputy State Historic
Preservation Officer



State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF PERMIT COORDINATION AND ENVIRONMENTAL REVIEW
P.O. Box 420 Mail Code 401-07J Trenton, New Jersey 08625-0420
Phone Number (609) 292-3600
FAX NUMBER (609) 292-1921

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

May 9, 2013

Mr. Robert R. Previte
87 CES/CEA
Joint Base McGuire-Dix-Lakehurst
Route 547 Building 5
Lakehurst, NJ 08733

RE: Consolidated Dining Facility
Joint Base McGuire-Dix-Lakehurst (JB MDL), New Jersey
Comments on the Environmental Assessment (EA)

Dear Mr. Previte:

The New Jersey Department of Environmental Protection's (Department) Office of Permit Coordination and Environmental Review (PCER) distributed the Environmental Assessment (EA) for the proposed Consolidated Dining Facility at Joint Base McGuire-Dix-Lakehurst (JB MDL) for review and comment. We offer the following comments for your consideration.

Cultural Resources

The Department's Historic Preservation Office's (HPO) has previously had the opportunity to review and comment on cultural resources investigations for this project. It has previously been determined that this project would have no effect on historic properties. A copy of the consultation letter is attached for your review.

Natural Resources

The Department's Division of Fish & Wildlife (DFW) offers the following comment.

Given the statements contained on p. 3-8, lines 16 – 20:

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“The Federal Migratory Bird Treaty Act provides for the protection of migratory birds and their nests and eggs. The migratory bird nesting season is March 15 through July 31. It is unlikely migratory birds utilize the site as there is a lack of trees and the site consists of maintained lawn as opposed to field grasses. However, should migratory birds utilize the site, land clearing for site preparation would have to be performed outside of the nesting season.”

From this, the DFW assumes the trees will be checked; and therefore the DFW would concur with the Finding of No Significant Impact (FONSI) for this project.

Air Quality

The Department’s Bureau of Air Quality Planning offers the following comments.

Comment #1

Section 3.3.1 Ambient Air Quality of the EA states, “These proposed budgets were approved by the USEPA under 40 CFR 52.1582(m)(5). The 2011 budget for McGuire is 703 tpy for VOC and 1,534 tpy of NOx (NJDEP, 2007).”

The 2007 budgets for McGuire and Lakehurst were approved under 40 CFR 93.158 of the Federal General Conformity regulation. The VOC budget for McGuire is **730 tpy**.

Comment #2

Section 3.3.2 General Conformity Rule states, “...Section 176 (c), including the USEPA’s implementation mechanism, the General Conformity Rule (40 CFR 51, Subpart W)...”

In the April 5, 2010, Revisions to the General Conformity Regulations; Final Rule, the United States Environmental Protection Agency (USEPA) removed and reserved many sections of Part 51, Subpart W. Please reference 40 CFR Part 93 Determining Conformity of Federal Actions To State or Federal Implementation Plans.

Comment #3

Appendix B, Conformity Rule Compliance, Record of Non-Applicability states, “Conformity under Clean Air Act, Section 176, has been evaluated for the above-described project per 40 CFR Part 51.”

Comment #2 also applies to this portion of the EA.

Comment #4

The EA states, “The emissions increase from the Proposed Action are below the de minimis threshold established at 40 CFR 51.853(b) of 50 tons per year (tpy) VOCs and 100 tpy NOx, and the Proposed Action is not considered “regionally significant” under 40 CFR 51.853(i).”

Comment #2 also applies to this portion of the EA. In addition, in the April 5, 2010, Revisions to the General Conformity Regulations; Final Rule, the USEPA removed the requirement for the regionally significant test.

Comment #5

Record of Non-Applicability - 2. Purpose of the Record of Non-Applicability

The EA states, "In compliance with the General Conformity Rule (40 CFR Part 51, Subpart W) and the National Environmental Policy Act (NEPA; 42 USC 4321 et seq.),..."

Comment #2 also applies to this portion of the EA.

Comment #6

The EA states, "Lakehurst has a State Implementation Plan (SIP) emission budget of 129 tpy of VOC and 793 tpy of NOx. McGuire has a SIP budget of 703 tpy of VOC and 1,534 tpy of NOx. Fort Dix does not have a SIP budget."

Comment #1 also applies to this portion of the EA.

Comment #7

Results and Conclusions

The EA states, "There is currently no de minimis level set for PM2.5."

The USEPA's Final Rule on July 17, 2006, PM2.5 De Minimis Emission Levels for General Conformity Applicability, set de minimis levels for General Conformity. The de minimis level for direct PM2.5 is 100 tpy; SO2 (precursor) is 100 tpy and NOx (precursor) is 100 tpy.

General Comment

Diesel exhaust contributes the highest cancer risk of all air toxics in New Jersey. Therefore, the New Jersey Department of Environmental Protection recommends that construction projects involving non-road diesel construction equipment operating in a small geographic area over an extended period of time should implement the following measures to minimize the impact of diesel exhaust.

1. All on-road vehicles and non-road construction equipment operating at, or visiting, the construction site shall comply with the three minute idling limit, pursuant to N.J.A.C. 7:27-14 and N.J.A.C. 7:27-15.
2. All diesel non-road construction equipment operating at the construction site shall use ultra-low sulfur diesel fuel (<15 ppm sulfur) in accordance with the federal Nonroad Diesel Rule, 40 CFR Parts 9, 69, 80, 86, 89, 94, 1039, 1051, 1065, 1068.

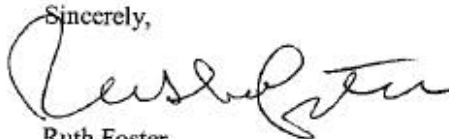
3. It is recommended that all non-road diesel construction equipment greater than 100 horsepower used on the project for more than ten days shall have engines that meet the USEPA Tier 4 non-road emission standards, or the best available emission control technology that is technologically feasible for that application and is verified by the USEPA or the CARB as a diesel emission control strategy for reducing particulate matter emissions, except that:

- a. If there is no technologically feasible emission control technology verified by USEPA or CARB for specific diesel non-road construction equipment, the contractor may use the best available emission control technology verified by the Mine Safety and Health Administration or the Switzerland BUWAL program (VERT Filter List) to reduce particulate matter emissions.
- b. If there is no technologically feasible and appropriate emission control technology or installation of a control technology would create a safety hazard, such as impaired visibility for the operator.

4. It is recommended that all on-road diesel vehicles used to haul materials or traveling to and from the construction site shall use designated truck routes that are designed to minimize impacts on residential areas and sensitive receptors such as hospitals, schools, daycare facilities, senior citizen housing, and convalescent facilities.

Thank you for giving the New Jersey Department of Environmental Protection the opportunity to comment on the EA.

Sincerely,



Ruth Foster
Office of Permit Coordination
and Environmental Review

Attachment

C: Ken Koschek, NJDEP – PCER
Jesse West-Rosenthal, NJDEP – HPO
Kelly Davis, NJDEP – DFW
Angela Skowronek, NJDEP - BAQP

-----Original Message-----

From: Corey Smith [<mailto:CSmith@delawarenation.com>]

Sent: Wednesday, May 15, 2013 3:53 PM

To: JOYCE, JOHN G GS-12 USAF AMC 87 CES/CEAN

Subject: Public Comment Period for the Draft Environmental Assessment for a Consolidated Dining Facility at Joint Base McGuire-Dix-Lakehurst (JB MDL), NJ

Description: Description: Description: Description: Large Embossed Turtle with TM.jpgDelaware Nation

Corey Smith

Archive Assistant

To:

cc:

Date:

Re: Public Comment Period for the Draft Environmental Assessment for a Consolidated Dining Facility at Joint Base McGuire-Dix-Lakehurst (JB MDL), NJ

Mr. Joyce,

This e-mail is in regards to the Public Comment Period for the Draft Environmental Assessment for a Consolidated Dining Facility at Joint Base McGuire-Dix-Lakehurst (JB MDL), NJ. There will be "No Comment" on part of the Delaware Nation.

Have a great day.

Thank You,

Corey Smith

Archive Assistant

Delaware Nation Cultural Preservation

P.O. Box 825

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