Realignment of Fort Monmouth

Charles Wood Subpost Actions

Fort Monmouth, New Jersey

Supplemental Environmental Assessment

Final

May 1995

May 1995

Supplemental Environmental Assessment

DOCUMENT OVERVIEW

This Supplemental Environmental Assessment (EA) addresses the consideration of additional construction locations for two buildings and the renovation of four existing buildings at the Charles Wood subpost of Fort Monmouth. The realignment of personnel and missions associated with this action was assessed in the *Realignment of Fort Monmouth, Final Environmental Assessment* dated July 1994.

The EXECUTIVE SUMMARY briefly describes the actions, environmental impacts, and relevant federal legal requirements.

SECTION 1	PURPOSE, NEED AND SCOPE summarizes the background of this BRAC action and describes the environmental analysis process.
SECTION 2	PROPOSED ACTION describes the activities proposed by the Army.
SECTION 3	PREFERRED ACTION AND ALTERNATIVES examines alternatives for implementing the proposed action.
SECTION 4	AFFECTED ENVIRONMENT presents the environmental and socioeconomic setting of Fort Monmouth and its vicinity without the proposed action.
SECTION 5	ENVIRONMENTAL AND SOCIOECONOMIC CONSEQUENCES describes the potential environmental and socioeconomic effects of the proposed action.
SECTION 6	AGENCIES AND PERSONS CONTACTED provides a list of people and agencies who provided information to the preparers of this report.
SECTION 7	FINDINGS AND CONCLUSIONS provides the basis for the Finding of No Significant Impact (FNSI) or a Notice of Intent (NOI).
SECTION 8	LIST OF PREPARERS identifies the people who prepared the report and their disciplines.
SECTION 9	REFERENCES provides full bibliographical information for sources used to prepare the report.

ACRONYMS A list of acronyms (fold-out) is provided as the last page of the document.

APPENDIX A Agency Coordination Letters

NAE70321.EA.CW/D1/03.4/95.LPB

Realignment of Fort Monmouth

Charles Wood Subpost Actions

Fort Monmouth, New Jersey

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May 1995

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DEPARTMENT OF DEFENSE
OFFICE OF THE SECRETARY OF THE ARMY

FINDING OF NO SIGNIFICANT IMPACT (FNSI) AND SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT (EA) FOR CHARLES WOOD SUBPOST ACTIONS, FORT MONMOUTH, NEW JERSEY

AGENCY: DEPARTMENT OF THE ARMY, DoD

ACTION: Notice of Availability

SUMMARY: The proposed action is the consideration of additional construction locations for two new buildings and the renovation of four existing buildings required to implement the July 1993 Defense Base Closure and Realignment Commission's (BRAC 93) decision to realign all Department of Army personnel and missions out of the Evans subpost (which is closing) onto the Charles Wood subpost of Fort Monmouth.

The assessment of the proposed action supplements an EA that was prepared in July 1994. In the time since that EA was prepared, new information has been obtained that necessitated the renovation of additional space and allowed consideration of more operationally suitable construction locations. No changes in personnel movements were associated with these changes.

Alternatives considered in the EA included:

Alternative 1: Consists of the following projects:

- Construction of a 3,250 square foot calibration range laboratory near Building 2539 at the Charles Wood subpost.
- Construction of a 2,600 square foot high bay facility inside the fence near Building 2705 at the Charles Wood subpost.
- Renovation of 4 buildings (Buildings 2502, 2503, 2504 and 2506) at the Charles Wood subpost.

Alternative 2: Alternative construction and renovation sites were identified on the Charles Wood subpost. This Alternative consists of the following projects:

- Construction of the calibration range laboratory near Building 2705, outside the fence, at the Charles Wood subpost.
- Construction of a 2,600 square foot high bay facility outside the fence next to Building 2705 at the Charles Wood subpost.
- Renovation of one building, Building 2700.

The No-Action Alternative: This alternative is the continuation of existing conditions without the implementation of, or in absence of, the proposed actions. The proposed actions are required by the Base Closure and Realignment Statute and must be implemented. Therefore, the No-Action Alternative is being evaluated to provide a baseline for the other alternatives.

There were no significant differences in potential for environmental, biological and cultural resource impacts between the two alternatives. Alternative 2 was not selected for implementation because there are operational efficiencies associated with Alternative 1.

Implementation of the preferred alternative (Alternative 1) will not substantially alter baseline environmental conditions. Biological, physical and cultural resources will not be impacted by the preferred alternative because construction sites for new buildings are located in previously disturbed areas. Because no changes in workforce are involved, no impacts on infrastructure such as water, wastewater, solid waste and energy are expected. Similarly, the proposed action will not have a significant impact on the socioeconomic environment, including employment, population and income.

Sediment and erosion control measures and stormwater management will be implemented to limit soil and stormwater impacts. Noise controls will be implemented if needed to limit on-post impacts. Friable asbestos will be removed before or during building renovations to prevent impacts to human health. No other mitigation measures have been identified.

Based on the EA, which is incorporated into the FNSI, it has been determined that implementation of the proposed action would have no significant individual or cumulative impacts on the quality of the natural or human environment. Because there will be no significant environmental impacts resulting from implementation of the proposed action, an Environmental Impact Statement is not required and will not be prepared.

DATES: The Army plans to initiate this proposed action 15 days from the date of this notice.

ADDRESSEE: Copies of this EA may be obtained by contacting the U.S. Army Corps of Engineers, Mobile District, ATTN: CESAM-PD-E, Dr. Neil Robison, P.O. Box 2288, Mobile, Alabama 36628-0001, (205) 441-5103.

Date: 2 June 95

Ray E. McCoy
Major General, USA
Chief of Staff
U.S. Army Materiel Command

R.E.C. - FM
Reduction in force
of Civilian Personnel
(1992)

PHL/P:\NAE70321\EACW_029.51

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT
CHARLES WOOD SUBPOST ACTIONS
FORT MONMOUTH, NEW JERSEY

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Charles Wood Subpost Actions
Fort Monmouth, New Jersey

Supplemental Environmental Assessment
Final

May, 1995

This document has been proofread and, to the best of our knowledge,
contains no grammatical or punctuation errors.

Executive Summary

Introduction

The 1993 Defense Base Closure and Realignment Commission (BRAC 93) made recommendations on July 1, 1993 for certain realignment and closure actions for military installations. These realignment and closure actions were approved by the President of the United States on July 2, 1993. Subsequent review by the United States Congress did not alter any of the BRAC 93 recommendations, which must now be executed under the provisions of the Base Closure and Realignment Act of 1990, Public Law 101-510. Included among these approved BRAC 93 actions is the proposed action affecting Fort Monmouth, New Jersey.

An environmental assessment (EA) prepared in July 1994 evaluated actions at Fort Monmouth required to receive personnel and missions from other locations to implement the realignment. The proposed action that is the subject of this supplemental EA is the consideration of additional construction locations for two buildings and the renovation of four existing buildings within the Charles Wood subpost required to implement the realignment. Impacts associated with the construction of the two new buildings were evaluated in the July 1994 EA. However, the locations of the building have been changed, requiring the preparation of this supplemental EA. Renovation of the four existing buildings was not addressed in the July 1994 EA, although the functions and personnel to be housed in the four buildings were included within the function and personnel movements that were addressed in the July 1994 EA.

No realignment of personnel, beyond that addressed in the July 1994 EA, is included as part of the proposed action.

The following actions affecting Fort Monmouth are proposed:

- Construction of a calibration range laboratory at the Charles Wood subpost.
- Construction of a high bay facility at the Charles Wood subpost.
- Renovation of existing space at the Charles Wood subpost. Renovated space will be used for fabrication shops and associated administrative space.

Implementation

Construction and renovation will commence in third quarter 1995. Implementation will be completed by fourth quarter 1997.

Alternatives

The following alternatives were considered to implement the proposed action.

1. No Action Alternative

National Environmental Policy Act (NEPA) documents refer to the No-Action Alternative as the continuation of existing conditions in the affected environment without the implementation of, or in the absence of, the proposed action. Inclusion of the No-Action Alternative is prescribed by the Council on Environmental Quality (CEQ) regulations as the benchmark against which federal

actions are to be evaluated. The proposed actions are required by the base closure and realignment statute and must be implemented. Therefore, a No-Action Alternative is not feasible. This alternative, however, is considered to provide a baseline for evaluation of other alternatives.

2. Alternative 1

Alternative 1 is the preferred alternative. Under this alternative, the proposed action would be accommodated in a combination of newly constructed facilities and existing buildings on the Charles Wood subpost. Four existing warehouses (buildings 2502, 2503, 2504, and 2506) would be renovated to accommodate the proposed action.

Newly constructed facilities will be sited as follows under Alternative 1:

Project	Location	Square Feet
High bay facility	Parking lot next to Bldg. 2705 (inside the fence) on Charles Wood	2,600
Calibration range lab	Parking lot next to Bldg. 2539 on Charles Wood	3,250
Total Square Feet: 5,850		

3. Alternative 2

Under this alternative, the proposed action would also be accommodated in a combination of newly constructed facilities and existing buildings on the Charles Wood subpost of Fort Monmouth. Space in one existing building (the Myer Center, building 2700) would be renovated to accommodate the proposed action.

Newly constructed facilities would be sited at different locations, as described below:

Project	Location	Square Feet
High bay facility	Parking lot next to Bldg. 2705 (outside the fence) on Charles Wood	2,600
Calibration range lab	Parking lot next to Bldg. 2705 (outside the fence) on Charles Wood	3,250
Total Square Feet: 5,850		

Controversial and Unresolved Issues

As indicated in the July 1994 EA, the Charles Wood subpost appeared to provide suitable habitat for Swamp Pink (*Helonias bullata*), a federally-listed threatened plant species. However, a survey of wetlands at the Charles Wood subpost has since been conducted, and neither Swamp Pink nor suitable Swamp Pink habitat was found. This finding is being coordinated with the U.S. Fish and Wildlife Service.

Environmental and Socioeconomic Consequences

The impacts of both the preferred alternative and Alternative 2 would not be significant. Table ES-1 summarizes impacts to Fort Monmouth resources and commitments required to achieve these levels of impact.

Table ES-1
Summary of Environmental Impacts and Commitments

Resource	Alternative	Level of Impact[1]	Commitments[2]
LAND AND AIR SPACE USE	All	N.S.	
CLIMATE	All	N.S.	
AIR QUALITY	All	N.S.	
GEOLOGY, SOILS AND TOPOGRAPHY	All	N.S.	Implement sediment and erosion control during construction.
RAINFALL AND RUNOFF	All	N.S.	Implement sediment and erosion control during construction. Implement stormwater management.
WATER RESOURCES	All	N.S.	
INFRASTRUCTURE			
Building/Grounds Maintenance	All	N.S.	
Roads/Railways/Runways	All	N.S.	
Water Supply and Distribution	All	N.S.	
Wastewater Collection and Treatment	All	N.S.	
Solid Waste Disposal	All	N.S.	
Energy	All	N.S.	
Communications	All	N.S.	
TRAFFIC/TRANSPORTATION	All	N.S.	
TRAINING AREAS	All	N.S.	
NOISE			
During Construction	All	N.S.	Implement noise controls as needed to limit on-post impacts.
Following Construction	All	N.S.	

Table ES-1
Summary of Environmental Impacts and Commitments

Resource	Alternative	Level of Impact[1]	Commitments[2]
HAZARDOUS AND TOXIC MATERIALS			
Regulated Substances	All	N.S.	
Contaminated Sites	All	N.S.	
Asbestos	All	N.S.	Remove friable asbestos before or during building renovations
Radon	All	N.S.	
PCBs	All	N.S.	
Lead Paint	All	N.S.	
Pesticides	All	N.S.	
Medical and Biohazardous Wastes	All	N.S.	
Underground Storage Tanks	All	N.S.	
PLANT AND ANIMAL RESOURCES	All	N.S.	
WETLANDS	All	N.S.	
THREATENED AND ENDANGERED SPECIES	All	N.S.	
CULTURAL RESOURCES			
Architectural	All	N.S.	
Archeological	All	N.S.	

Table ES-1
Summary of Environmental Impacts and Commitments

Resource	Alternative	Level of Impact[1]	Commitments[2]
SOCIOECONOMIC ENVIRONMENT			
Population	All	N.S.	
Housing	All	N.S.	
Schools	All	N.S.	
Recreational and Community Facilities	All	N.S.	
Regional Economic Development	All	N.S.	
Public Health and Safety	All	N.S.	
Native American/Ethnic Concerns	All	N.S.	
Homeless Concerns	All	N.S.	
Environmental Justice	All	N.S.	
VISUAL RESOURCES	All	N.S.	
INTERAGENCY AGREEMENTS	All	N.S.	

[1] N.S. = Not Significant; P.S.= Potentially Significant
[2] Commitments describe mitigation that will be conducted.

Regulatory Requirements

Compliance with environmental regulations is required prior to the initiation of the proposed action at Fort Monmouth. The status of environmental compliance is summarized in Table ES-2.

Conclusions and Findings

The Charles Wood actions associated with the realignments at Fort Monmouth are not expected to result in significant environmental or socioeconomic impacts at Fort Monmouth or the surrounding region.

Table ES-2
Compliance with Federal Environmental Statutes and Executive Orders for the Proposed Action

Acts	Compliance[1]
Clean Air Act, as amended (Public Law 88-206)	In compliance
Clean Water Act of 1977 as amended (Public Law 95-217)	In compliance
Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Public Law 96-510), as amended by the Superfund Amendments and Reauthorization Act of 1986 (Public Law 99-499)	In compliance
Endangered Species Act of 1973, as amended (Public Law 93-205)	Ongoing
Fish and Wildlife Coordination Act, as amended, 16 U.S.C. 661, et seq.	In compliance
National Environmental Policy Act of 1969 (Public Law 91-190)	In compliance
National Historic Preservation Act of 1966, as amended (Public Law 89-665)	In compliance
Noise Control Act of 1972, as amended	In compliance
Resource Conservation and Recovery Act (Public Law 94-580)	In compliance
Safe Drinking Water Act, as amended (Public Law 93-523)	In compliance
Solid Waste Disposal Act of 1965, as amended	In compliance
Toxic Substances Control Act of 1976 (Public Law 94-469)	In compliance
Watershed Protection and Flood Prevention Act of 1954, 16 U.S.C. 1101, et seq.	In compliance
Wetlands Conservation Act (Public Law 101-233)	In compliance
Executive Orders	**Compliance**
Flood Plain Management (Executive Order 11988)	In compliance
Protection of Wetlands (Executive Order 11990)	In compliance
Federal Compliance with Pollution Standards (Executive Order 12088)	In compliance

[1] Ongoing–Some requirements of the regulations remain to be met by subsequent installation actions before implementing some of the actions associated with the realignment.

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1.0 Purpose, Need, and Scope

1.1 Purpose And Need

The 1993 Defense Base Realignment and Closure Commission (BRAC 93) made recommendations on July 1, 1993 for certain realignment and closure actions for military installations. These realignment and closure actions were approved by the President of the United States on July 2, 1993 and are being executed under the provisions of the Base Closure and Realignment Act of 1990 (the Act), Public Law 101-510. An environmental assessment (EA) published in July 1994 addressed the BRAC 93 actions associated with the realignment of Fort Monmouth, New Jersey[1] as mandated by the Act. This supplemental EA addresses new locations for construction associated with the BRAC actions. These new locations had previously been discarded due to concerns about potential impacts to environmental and biological resources. A wetland and biological survey has since been conducted, indicating that sensitive resources are not present at these locations. New building renovations are also addressed in this supplemental EA.

1.2 Scope

This supplemental EA documents and analyzes the environmental and socioeconomic effects associated with new locations for the construction of two buildings, and the renovation of four buildings at the Charles Wood subpost of Fort Monmouth. These actions are described more fully in Section 2.0, "Proposed Action".

1.3 Impact Analysis

This supplemental EA identifies and analyzes the relevant environmental and socioeconomic effects of the proposed action, as described in Section 2.0 ("Proposed Action"), on the existing resources within the Fort Monmouth area. An interdisciplinary team of engineers, biologists, archeologists, historians, and military experts has analyzed the proposed action against the baseline conditions described in Section 4.0, "Affected Environment." Section 5.0, "Environmental and Socioeconomic Consequences," presents the effects identified and the mitigation measures planned.

1.4 Public Involvement

The public and concerned organizations will be notified of the conclusions of this supplemental EA by publishing the Finding of No Significant Impact (FNSI) in the local newspaper and making the supplemental EA available for review prior to initiating the actions. The Fort Monmouth Public Affairs office will keep the public informed on the status and progress of the proposed action.

[1] Fort Monmouth is defined as Main Post, Charles Wood subpost, and Evans subpost

2.0 Proposed Action

2.1 Introduction

This supplemental EA has been prepared to assess new information concerning the previously-rejected site for the high bay facility inside the fence near Building 2705, to assess the consequences of a newly identified construction site for the calibration range laboratory near Building 2539, which was not addressed in the July 1994 EA, and to assess the consequences of newly identified renovation of four buildings within the Charles Wood subpost (Buildings 2502, 2503, 2504, and 2506), which were not addressed in the July 1994 EA. Impacts associated with the construction of the two new buildings were evaluated in the July 1994 Environmental Assessment. However, this supplemental EA evaluates impacts associated with the new locations. Although renovation of the four existing buildings was not addressed in the July 1994 EA, the functions and personnel to be housed in the four buildings were included within the function and personnel movements from the Evans to the Charles Wood subpost that were addressed in the July 1994 EA.

No realignment of personnel, beyond that addressed in the July 1994 EA, is included as part of the proposed action.

2.2 New Construction

The two construction projects are a high bay facility and a calibration range laboratory. The high bay facility will be a stand-alone structure with approximately 2,600 square feet of floor space at the Charles Wood subpost. The location identified as the Alternative 2 site in the July 1994 EA had been discarded based on potential impacts to wetlands and biological resources. That location is now the preferred location based on new information indicating that wetland and biological resource impacts will not occur. The former preferred location was approximately 150 feet north of the current preferred location.

The calibration range laboratory building will be a stand-alone structure with approximately 3,250 square feet of floor space. A new site for the calibration range laboratory has been identified near Building 2539, which was not previously identified or assessed in the July 1994 EA. Previous sites for the calibration range laboratory as assessed in the July 1994 EA were Alternative 1, near Building 2705, outside the fence, and Alternative 2, near buildings 2502 and 2503.

2.3 Renovation

Space is needed for fabrication shops and associated administrative areas. Under Alternative 1, warehouse buildings 2502, 2503, 2504, and 2506 will be renovated for this use. The renovations will involve upgrade of ventilation and air-conditioning systems, upgrade of lighting, power, fire alarm, and fire protection systems, reconfiguration of interior walls, and raising of roofs to accommodate shop users' height requirements.

The Alternative 2 location for the fabrication shops is in the Myer Center (Building 2700) approximately 1,600 feet to the north. This location was included under both alternatives in the July 1994 EA. The new locations are proposed due to concerns that space in the Myer Center may be limited.

2.4 Schedule

EA preparation is scheduled to conclude in May of 1995. The earliest initiation date for the proposed action would be July 1995. Construction and renovation are scheduled to be completed by June 1996, and movement of personnel into the space will be completed by September 1997.

3.0 Preferred Action and Alternatives

3.1 Alternatives to Construction and Renovation

Under this Defense Base Closure and Realignment Commission (BRAC) initiative, the Army is required to consolidate activities to the maximum extent possible while disposing of excess facilities and real property. This mandate does not allow the Army to seek off-post siting options for the consolidation of activities. Since existing on-post facilities are either occupied or are not configured to allow efficient use by the personnel moving to Main Post or the Charles Wood subpost, there are no feasible alternatives to the construction and renovation activities proposed as a part of this BRAC action.

3.2 Construction and Renovation

3.2.1 Alternative 1 (Preferred Action)

The preferred action is referred to in this document as Alternative 1 and consists of the following projects:

- Construction of a calibration range laboratory at the Charles Wood subpost in the parking lot next to Building 2539 (the CECOM safety office). The calibration range laboratory will have 3,250 square feet of space.
- Construction of a high bay facility (2,600 square feet) inside the fence next to Building 2705 at the Charles Wood subpost.
- Renovation of 4 warehouse buildings at the Charles Wood subpost: 2502, 2503, 2504, and 2506. Renovated space will be used for fabrication shops and associated administrative space. Total square footage of renovated space will be about 34,240.

Alternative 1 locations are shown in Figure 3-1.

3.2.2 Alternative 2

Under Alternative 2, alternative construction site locations were identified on the Charles Wood subpost for the calibration range laboratory and the high bay facility (Figure 3-1). An alternative location for renovation, the Myer Center (Building 2700), is also included in Alternative 2.

Alternative 2 consists of the following projects:

- Construction of the calibration range laboratory near Building 2705, outside the fence, at the Charles Wood subpost.
- Construction of a 2,600 square foot high bay facility near Building 2705, outside the fence, at the Charles Wood subpost.
- Renovation of portions of one building, Building 2700.

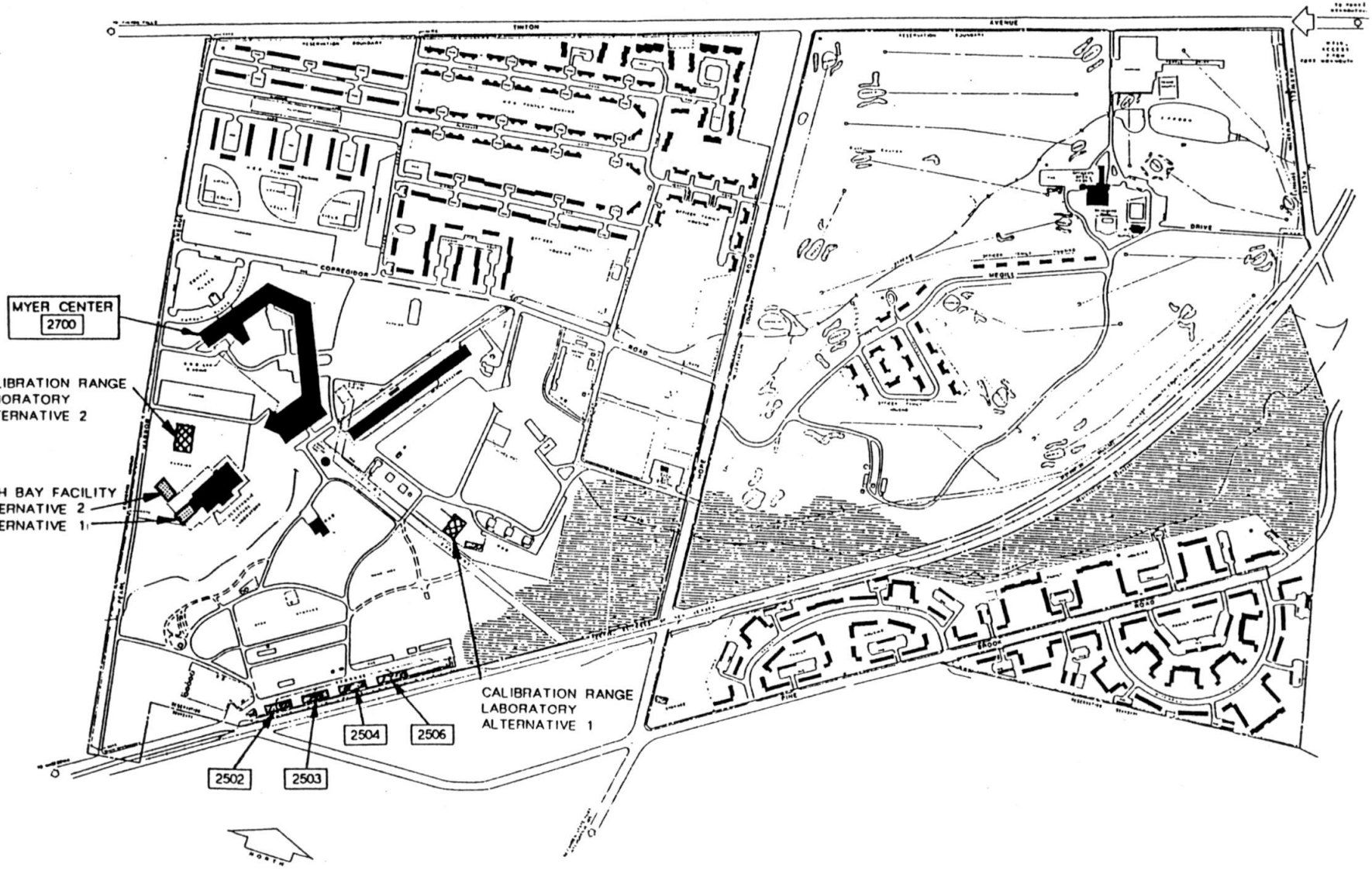


FIGURE 3-1
SITING ALTERNATIVES
CHARLES WOOD SUBPOST

The Alternative 2 locations for the calibration range laboratory, the high bay facility, and renovated space were evaluated in the July 1994 Environmental Assessment (EA). In that EA, these locations were described as being part of the Preferred Action. These locations will be evaluated again, as Alternative 2, in this supplemental EA to facilitate comparison of the two alternatives.

3.3 No-Action Alternative

The No-Action Alternative is the continuation of existing conditions at Fort Monmouth and the Charles Wood subpost without receiving the proposed realignment. Inclusion of the No-Action Alternative in the environmental analysis and documentation is prescribed by the Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA) to provide the benchmark (affected environment) against which the proposed federal action is evaluated. The proposed realignment is a requirement of the 1993 Base Realignment and Closure Act and must be implemented unless directed otherwise by the Congress. For this reason No Action, or not implementing the proposed action, is not a viable alternative.

4.0 Affected Environment

4.1 Introduction

This section describes the existing environmental conditions at Fort Monmouth and its surroundings, with emphasis on the location of the proposed action (i.e., Charles Wood subpost). When used in this section, the name Fort Monmouth refers to both the main post and the Charles Wood subpost. Information that only applies to the Charles Wood subpost is identified as such. This section provides baseline information from which to identify and evaluate potential impacts that would result from implementation of the proposed action.

Fort Monmouth is located in the central-eastern portion of New Jersey in Monmouth County, approximately 45 miles south of New York City and 70 miles northeast of Philadelphia (Figure 4-1). In addition to the Main Post, the installation includes two subposts, Charles Wood and Evans, the latter of which will be closed. The Charles Wood subpost (Figure 4-2) encompasses approximately 494 acres and is located approximately one mile west of the Main Post.

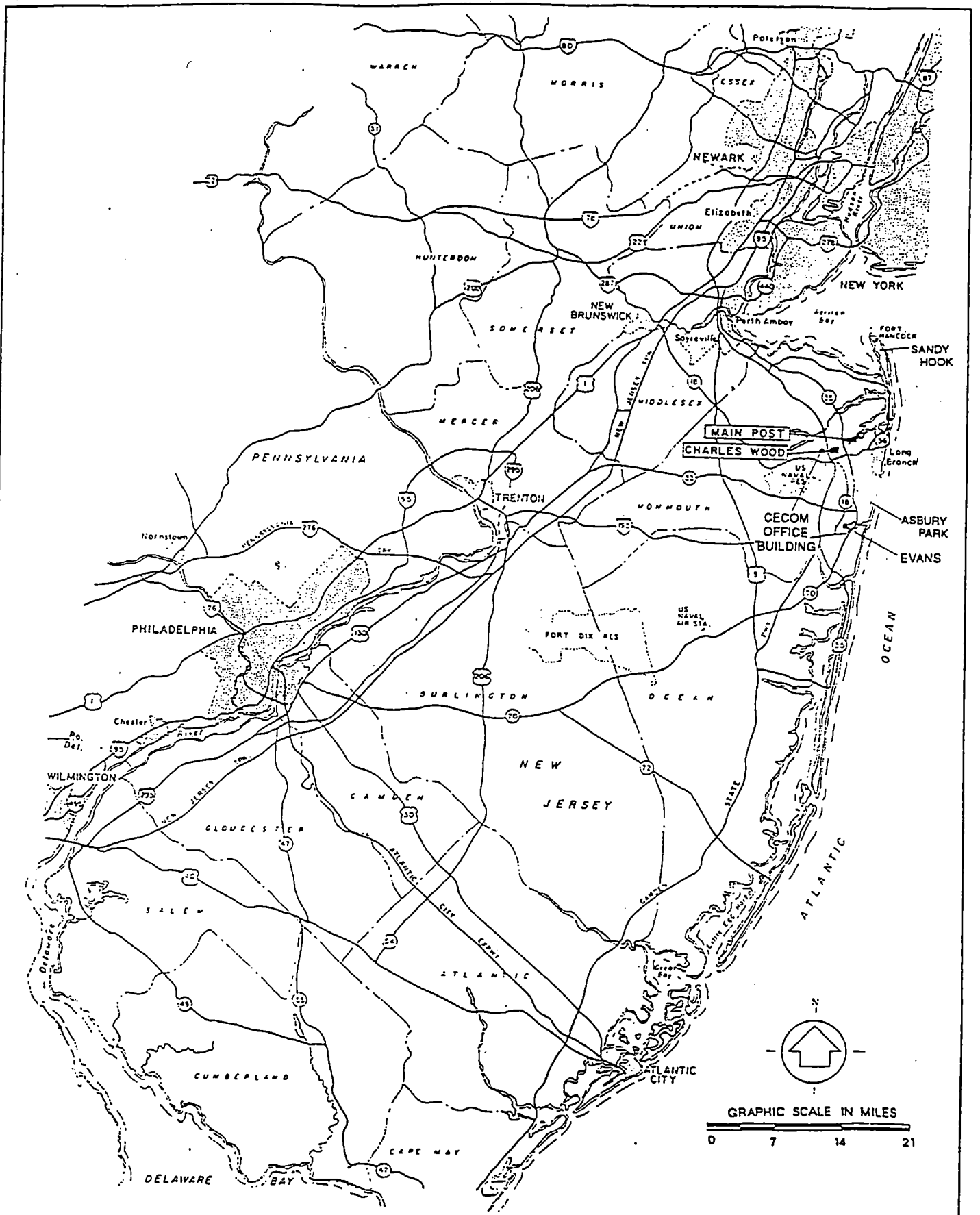
Fort Monmouth and Monmouth County are characterized by warm summers and moderate winters. The average annual precipitation for Monmouth County is 45.18 inches, with the heaviest rainfalls occurring during the summer months. Destructive storms are infrequent in Monmouth County; however, summer thunderstorms occasionally combine high winds with heavy rainfall. Heavy rains have occurred in connection with hurricanes which move northward along the mid-Atlantic coast. The mean annual temperature for Monmouth County is 53 degrees Fahrenheit. Temperatures frequently reach into the 90's from late May through early September. Winter temperatures rarely fall below zero degrees Fahrenheit (The Earth Technology Corporation, 1993).

4.2 Land and Air Space Use

The Charles Wood subpost predominately consists of a combination of research, development and testing facilities, family housing and recreation, with smaller areas of supply and storage facilities.

The areas surrounding the Charles Wood subpost are a similar mix of residential, commercial and light industrial uses. Because federal facilities are not subject to local planning and zoning regulations, the zoning restrictions established by the surrounding townships and boroughs do not apply to Fort Monmouth. Land uses in the surrounding municipalities are compatible with those along the inside perimeter of Fort Monmouth.

No air space restrictions exist over the Charles Wood subpost.



SOURCE:
STATE HIGHWAY MAP

FIGURE 4-1
LOCATION MAP
FORT MONMOUTH, NJ

CH2MHILL

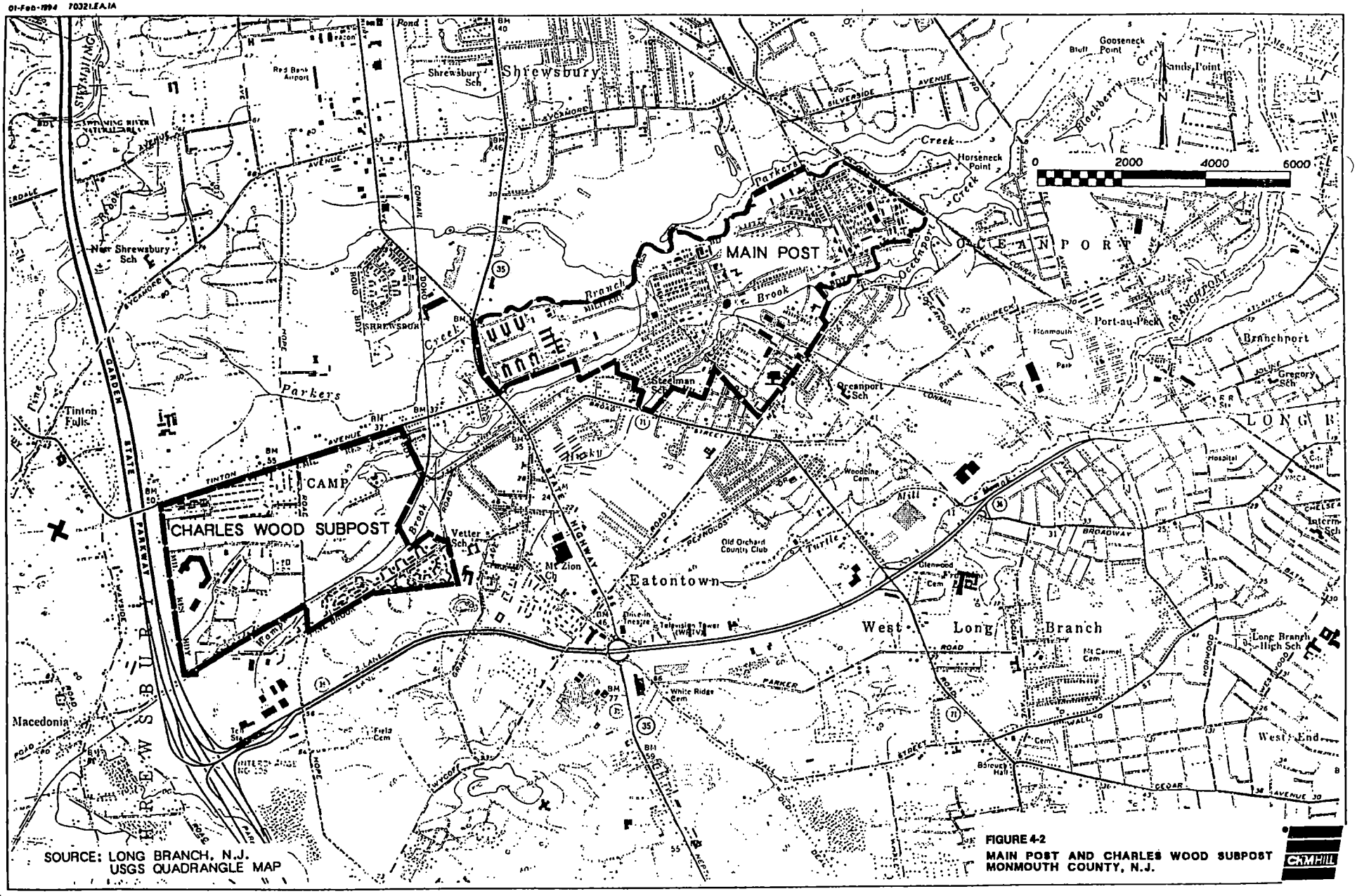


FIGURE 4-2
MAIN POST AND CHARLES WOOD SUBPOST
MONMOUTH COUNTY, N.J.

CH2MHILL

4.3 Air Quality

Monmouth County monitors carbon monoxide, particulates and ozone as part of its air quality monitoring program. Monmouth County is located within the New York-Northern New Jersey-Long Island Air Quality Control Region for ozone. Monmouth County is classified as an ozone non-attainment area which means that the county air quality does not meet federal and state air quality standards for ozone.

There are three sources of emissions at Fort Monmouth: fossil fuel burning, volatile organic material storage (primarily gasoline storage tanks) and vehicular emissions. Fort Monmouth has permits issued by the New Jersey Department of Environmental Protection (NJDEP) for the boiler plants. All of the volatile organic materials are stored in accordance with applicable federal, state and local laws and regulations to minimize emissions.

4.4 Geology

4.4.1 Topography

Elevations at the Charles Wood subpost range from approximately 27 feet above msl to 60 feet above msl. The lowest elevations at the Charles Wood subpost are found along Wampum Brook near the eastern property boundary (U.S. Army Toxic and Hazardous Materials Agency, 1980).

4.4.2 Stratigraphy/Aquifers

Monmouth County occurs within the Atlantic Coastal Plain physiographic province, which is underlain by unconsolidated sediments of the Mesozoic and Cenozoic Ages. The coastal plain sediments of Monmouth County consist primarily of marine and continental origin. The sediments are composed mainly of sands, silts and clays and greensands or glauconite sands with interspaced gravel beds. Strata of iron-cemented sandstone are present locally. A thin veneer of sand, clay and gravel deposits of more recent age overlie the older coastal plain sediments. This layer is less than one million years old (Quaternary Age) and was deposited by outwash or meltwater from the glacial ice that covered the land as far south as northern New Jersey (Harland Bartholomew & Associates, 1984).

4.4.3 Soils

The soils of Monmouth County are varied, ranging from fertile deep soils to droughty infertile soils with little humus or organic material present. The Soil Conservation Service (SCS) recognizes 32 soil series, with 85 types or subtypes in Monmouth County (United States Department of Agriculture, 1989).

Soils within the Charles Wood subpost are mapped primarily as Freehold, Freehold-Urban Land Complex, and Holmdel-Urban Land Complex. The wooded southern portion of the Charles Wood subpost is mapped as Shrewsbury soil. Freehold, Freehold-Urban Land Complex soils are gently sloping, well drained soils. Holmdel-Urban Land Complex soils are moderately or somewhat poorly drained soils located on uplands. Shrewsbury soils are poorly drained soils on upland flats (United States Department of Agriculture, 1989).

The Soil Survey of Monmouth County New Jersey (United States Department of Agriculture, 1989) provides information on the degree and types of soil limitations that may affect shallow excavations (such as basements and trenches for utility lines, small dwellings and small commercial buildings).

The Freehold soil type found at the Charles Wood subpost has slight limitations for dwellings and small commercial buildings and severe limitations for shallow excavations. The severe limitation for these soils is due to the tendency of the walls of excavations to cave in. The Holmdel soil type found at the Charles Wood subpost has severe limitations for excavations, dwellings, and small commercial buildings due to seasonal high water table and the tendency of the walls of excavations to cave in. The properties and characteristics of the Freehold-Urban Land Complex and Holmdel-Urban Land Complex and Udorthent-Urban Land Complex soil types found at the Charles Wood subpost are quite variable.

The Shrewsbury soil type found at the Charles Wood subpost has severe limitations for excavations, dwellings, and small commercial buildings. The severe limitations for these soils are due to wetness, seasonal high water table, cutbanks caving and frost action. A wetland delineation conducted in May 1994 determined the wetland areas mapped as part of the Shrewsbury soil type on the soil survey map actually to be Atsion and Manahawkin soil types with the Shrewsbury soil as an inclusion in these map units. Atsion is a poorly drained soil type and has severe limitations for dwellings and other types of development due to a seasonal high water table. Manahawkin muck is a nearly level, poorly drained soil and has severe limitations for dwellings and other types of development due to ponding, flooding, cutbanks caving, and low strength.

Soils within the Charles Wood subpost have been classified by the College of Agriculture and Environmental Science, Rutgers University, as sandy loam. The Charles Wood subpost is not classified as "lands suitable for cultivation" by the Monmouth County Soil Conservation District (Harland Bartholomew & Associates, 1984).

4.4.4 Erosion

Because the land areas are relatively level, there are no soil erosion problem areas within the Charles Wood subpost (Fort Monmouth, 1993c).

4.4.5 Minerals/Mining

There are no mineral resources on the Charles Wood subpost (CH2M HILL, 1994a).

4.4.6 Seismicity

There are no records of significant earthquake damage in New Jersey. The return period for earthquakes for eastern states is estimated from known return periods for smaller-magnitude events (return period is the average length of time between earthquakes of a given magnitude). The return period for eastern states is estimated to be approximately 300 years. The return period for western states is approximately 70 years. Eight earthquakes have been recorded with an epicenter within Monmouth County, Raritan Bay, or immediately offshore from Monmouth County between 1663 and 1990 (Dombrowski, 1992). Earthquakes recorded in Monmouth County have generally ranged between 1 and 3 on the Richter scale. A 3.1 magnitude earthquake, with the epicenter located in Keyport, Monmouth County, New Jersey, occurred on August 2, 1980. An earthquake with a magnitude of 3.1 will cause vibrations like that of a passing truck and would be largely unnoticed by the general population.

4.5 Hydrology

4.5.1 Rainfall

The average annual precipitation for Monmouth County is 45.18 inches, with the heaviest rainfalls occurring during the summer months. The heaviest 24-hour rainfall for the period of record was 7.18 inches and occurred in Freehold on August 28, 1971.

The average seasonal snowfall for Monmouth County is 25 inches. The greatest snow accumulation for the period of record is 26 inches. At least one inch of snow is present on the ground an average of 9 days of the year.

4.5.2 Runoff

Surface water runoff from the southern portion of the Charles Wood subpost is generally conveyed by the two creeks that form Wampum Brook. The unnamed creek that flows through the golf course conveys surface water runoff from the northern portion of the Charles Wood subpost. A storm drainage system, consisting of catch basins, clay pipes and open drainage ditches, conveys stormwater runoff to the three creeks that run through the Charles Wood subpost (Harland Bartholomew & Associates, 1984).

4.6 Water Resources

4.6.1 Surface Water

The southern portion of the Charles Wood subpost is drained by two unnamed streams that unite near the eastern boundary of the Charles Wood subpost (Figure 4-3). The southernmost of the two unnamed streams originates south of the Charles Wood subpost. The northernmost stream originates in a low wooded area near the old sewage treatment plant. The northernmost stream flows northeasterly near the Conrail Railroad right-of-way until it joins the southernmost unnamed stream near the eastern boundary of the Charles Wood subpost. The two streams form the mainstem of Wampum Brook, which flows through Eatonton and forms a small freshwater pond called Wampum Lake. Mill Brook, which flows through the Main Post, originates from Wampum Lake. Another stream, which flows northeast through the golf course, originates west of the Charles Wood subpost. This stream flows into Wampum Brook east of the Charles Wood eastern boundary (Harland Bartholomew & Associates, 1984).

The *Installation Assessment of Fort Monmouth, Report No. 171* (U.S. Army Toxic and Hazardous Materials Agency, 1980) describes poor water quality conditions for Wampum Brook. Local industrial operations upstream of the Charles Wood subpost discharges into Wampum Brook. Contaminants suspected of entering the Charles Wood subpost via Wampum Brook included metal plating wastes, antifreeze, photographic wastes, fuel oil and boiler blowdown.

The Charles Wood subpost is identified as an "area of undetermined, but possible, flood hazard" in the Borough of Eatonton, New Jersey, Flood Insurance Rate Map (Federal Emergency Management Agency, 1981). However, the 100-year base flood elevations for Wampum Creek at the eastern boundary of the Charles Wood subpost is 26 feet, while ground elevations at the subpost range from 27 to 60 feet above msl.

The Charles Wood subpost is not located within the coastal area of New Jersey (NJAC 13:19-1 et seq.).

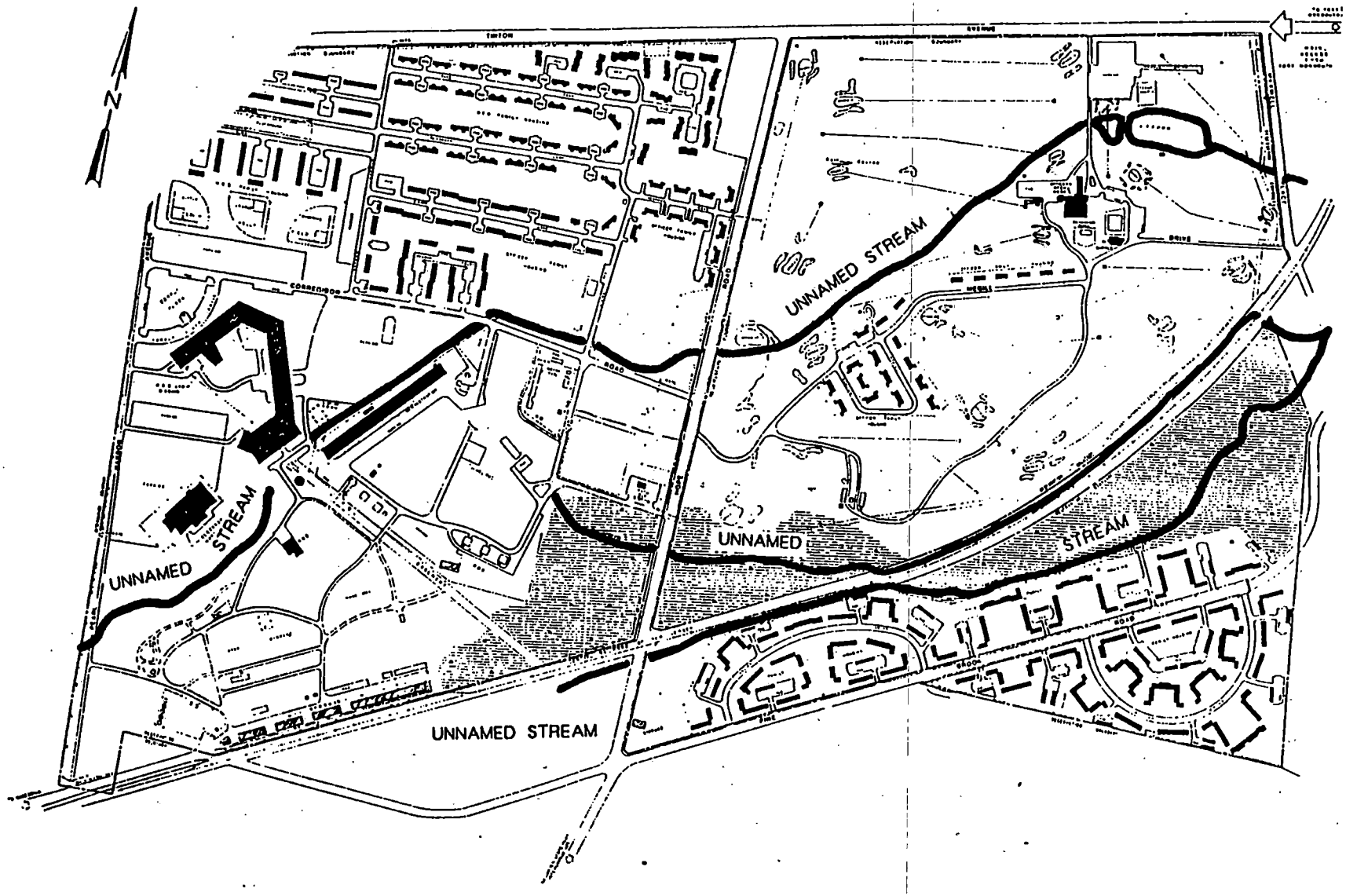


FIGURE 4-3
SURFACE WATER RESOURCES
CHARLES WOOD SUBPOST

CH2MHILL

4.6.2 Groundwater

The Charles Wood subpost is located within the Atlantic Coastal Plain. Eroded edges of the Coastal Plain are exposed at the surface in bands generally oriented northeast-southwest in Monmouth County. The Charles Wood subpost is situated in an area where the Tertiary Hornerstown sand and the Cretaceous Red Bank sand are exposed at the surface.

The Hornerstown sand is a body of relatively impermeable soil that is capable of slowly absorbing water. The Hornerstown sand acts as an upper boundary of the Red Bank aquifer, but may yield enough water within its own outcrop to supply individual house needs.

The Red Bank sand outcrops in the north of the Charles Wood subpost. The Red Bank contains two members, an upper sand member and a lower clayey sand member. The upper sand member functions as the aquifer, but because of erosion prior to deposition of the Hornerstown, it terminates down-dip within 6 to 10 kilometers (km) of its outcrop. The upper sand member is probably present at a shallow depth throughout the Charles Wood subpost. The Red Bank sand supplied many domestic wells with water at one time (US Army Toxic and Hazardous Materials Agency, 1980).

The water table is relatively shallow at the Charles Wood subpost. Water is encountered at 5 to 12 feet below ground surface (The Earth Technology Corporation, 1993).

4.6.3 Recharge Areas

Rainwater and melting snow slowly recharge the Hornerstown deposits below the Charles Wood subpost. Recharge from rainfall, melting snow, surface runoff, or bodies of water may occur in the upper member of the Red Bank aquifer (US Toxic and Hazardous Materials Agency, 1980).

4.7 Infrastructure

4.7.1 Buildings/Grounds Maintenance

The pest control program at Fort Monmouth targets a variety of vectors including insects, birds, rats and mice. The program employs a variety of insecticides, fungicides, repellents and baits. The product used is dependent upon the species targeted.

General grounds maintenance includes early spring treatment with weed killers and pre-emergent crabgrass controls. Lime and fertilizer are spread on an annual basis at a rate of one ton per acre for lime and 500 pounds per acre for fertilizer.

4.7.2 Roads

Roads are discussed in detail in Section 4.8.

4.7.3 Railways

Fort Monmouth is located within four miles of two New Jersey Transit (NJT) stations that provide train service to New York City. The nearest NJT rail station is located approximately one-half mile from the post.

4.7.4 Runways

Newark International Airport, located approximately 30 miles north of the Charles Wood subpost, provides scheduled and charter flights to destinations within and outside the US. There are also three small airports within Monmouth County. Two of the county airports, Colts Neck Airport and Prestion Airport, only provide service for private planes. Allair airport, formerly Monmouth County Airport, provides commercial, scheduled flights to Washington D.C., Philadelphia, Newark and Boston, as well as charter service. However, Newark International Airport is the airport most air travelers use to reach Fort Monmouth.

The Main Post and the Charles Wood subpost each have a heliport. Each of these heliports averages three flights per week.

4.7.5 Water Supply/Distribution

Potable water at the Charles Wood subpost is supplied by the New Jersey American Water Company with no quantity limitation. Water is supplied through three metering stations at the Main Post. These metering stations have a total delivery capability of 3.8 million gallons per day (mgd). Two additional stations can be activated if additional demand is anticipated and can supply an additional 3.9 mgd, which would more than double the total delivery capacity. Current demand at Fort Monmouth is approximately 2.9 mgd, which is well within the existing system capacity.

4.7.6 Wastewater Collection/Treatment

Wastewater treatment is provided by the Northeast Monmouth County Regional Sewerage Authority. The average combined flow from Main Post and Charles Wood subpost is .696 mgd. By contract, the flows cannot exceed 3.6 mgd. The current post population and flows are significantly below the contracted maximum.

4.7.7 Solid Waste Disposal/Landfills/Incineration

Solid waste generated at Fort Monmouth is collected by a private contractor and disposed of at the Monmouth Reclamation Center Landfill in Tinton Falls, New Jersey. The average monthly volume collected from Fort Monmouth is approximately 235 tons of uncompacted waste, excluding recycled materials. The existing landfill has sufficient capacity through 1996. An expansion of the landfill is scheduled to be operational by mid-1996, with adequate capacity through 2015 (CH2M HILL, 1994c).

Monmouth County has an extensive recycling program in which Fort Monmouth participates. Newspapers, corrugated cardboard, high-grade paper, glass, tin, steel, aluminum, concrete, asphalt, yard waste, asphalt shingles, batteries and white goods (major appliances, such as washing machines) are all recycled. Recyclable waste is picked up by a contractor and transported to the county recycling center at the landfill. In 1993, recyclables comprised roughly 135 tons per month, or 36 percent of the total solid waste collected at Fort Monmouth.

An average annual volume of 13,000 pounds of biomedical waste, primarily hospital waste, is collected, manifested and removed from Fort Monmouth by a contractor. The biomedical waste is subsequently incinerated at a permitted facility.

4.7.8 Energy

Electricity is supplied to Fort Monmouth by Jersey Central Power and Light Company (JCP&L) through two 34,500-volt, three-phase 60 hertz transmission lines. The power is transformed at two substations on the Main Post. The total capacity of the two substations is approximately 25,000 kVA .

Peak demand occurs in the summer and averages 9,400 kVA, well below the system capacity (Harland Bartholomew & Associates, 1987b).

Fort Monmouth uses three different heating fuels: fuel oil, natural gas and propane. Both fuel oil and propane are supplied by private contractors with no limit on supply. Natural gas is provided by New Jersey Natural Gas Company (NJNGC), and although no contractual limit has been established, additional supply is limited to that which can be delivered at current line pressures. NJNGC is currently upgrading the natural gas system on the post. The capacity of the new system is not known. However, the current population is well within the old system's capacity, and the new system will provide similar or greater capacity.

4.7.9 Communications

Fort Monmouth maintains its own telephone system. The system consists of Northern Telecomm Inc. (NTI) S1-100 and S1-1 switches. Bell Atlantic, formerly New Jersey Bell, provides DOD, WATSBO, and DID trunk lines. AT&T provides long-distance services through FTS 2000. AT&T also provides Defense Systems Network (DSN) trunk lines. The Main Post is supported by two main switches (S1-100 and S1-1). The Charles Wood subpost is supported by the S1-100 through a Remote Standalone Module.

Fort Monmouth's computers are interconnected by a campus-area network. Local area networks (LANs) are also provided within buildings for individual activities.

4.8 Traffic and Transportation

The existing transportation network around Fort Monmouth consists of a combination of state, county and local roadways. North-south rail service is provided along the west edge of the study area via New Jersey Transit, with stations located in Red Bank and Little Silver.

4.8.1 Roadways

Figure 4-4 depicts key existing external and internal roadways serving the Fort Monmouth area. Key north-south roadways serving the area include Hope Road, State Route 35 (SR 35) and Oceanport Avenue. Hope Road, located to the west, bisects the Charles Wood subpost. Tinton Avenue serves as the primary roadway between the Charles Wood subpost and Main Post. Direct access to Charles Wood is provided via the Tinton Avenue intersection with Pearl Harbor Drive and Lowther Drive.

4.8.2 Public Transportation

Transit and public transportation are provided by rail and bus service. North-south rail service is provided to the west of Fort Monmouth via two New Jersey Transit stations. One station is nearby in Red Bank; the other is about four miles to the north, in Little Silver. Bus service is provided directly to Fort Monmouth through the Asbury Park Transit Line, and New Jersey Transit routes M21 and M22. In addition, Fort Monmouth operates its own shuttle-bus service between the Charles Wood subpost and the Main Post, as well as within the Main Post.

4.8.3 Existing Traffic Conditions

Traffic conditions of urban arterial systems are generally controlled by the operation of their signalized intersections. Two principal measures are used to estimate peak hour traffic conditions and

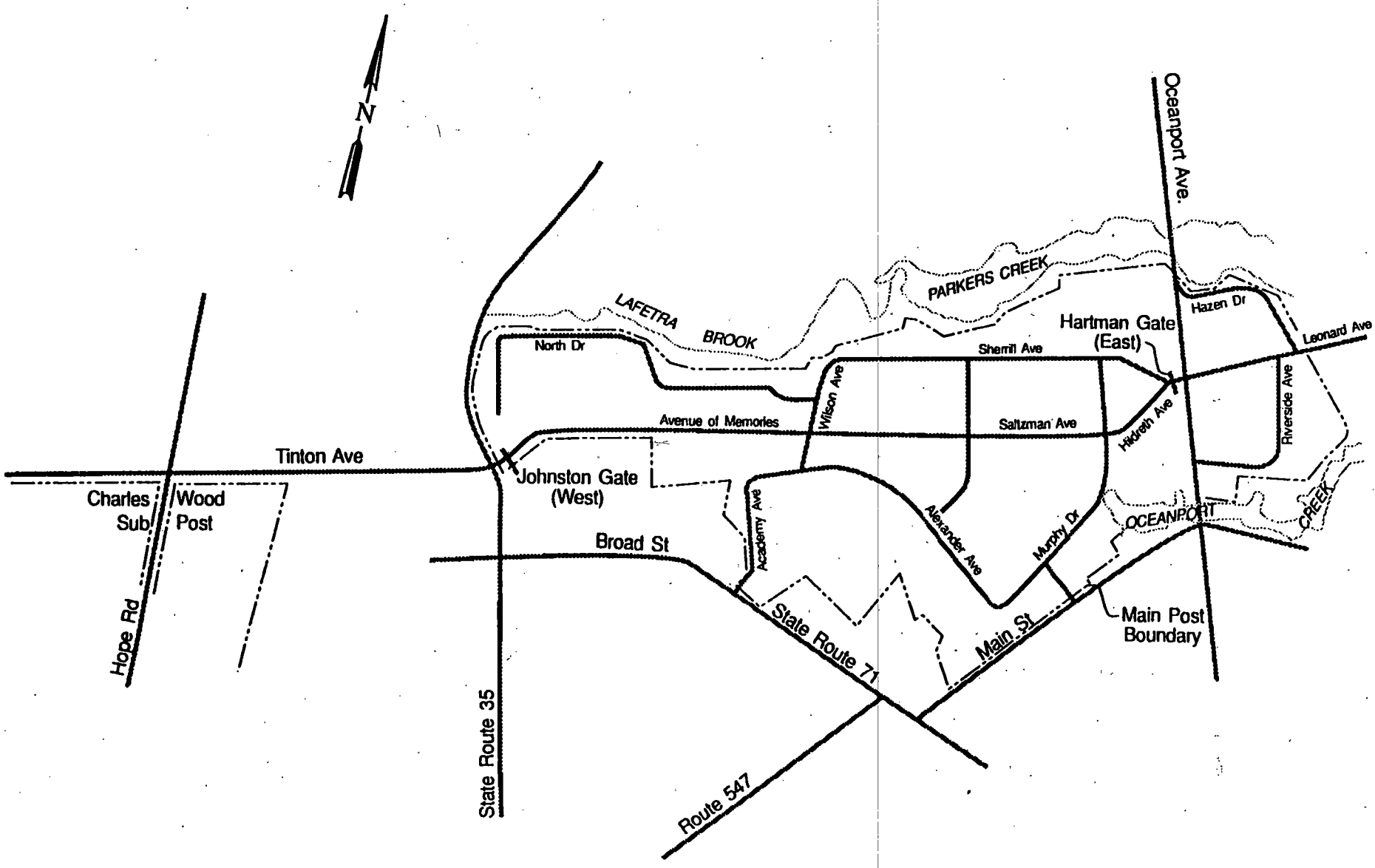


Figure 4-4

EXTERNAL AND INTERNAL ROADWAY NETWORK

FORT MONMOUTH MAIN POST

operations at signalized intersections. These are level of service (LOS) and volume to capacity ratio (v/c)[1].

LOS is defined and measured in terms of the average stopped delay per vehicle entering the signalized intersection (that is, how long it takes the average vehicle to travel through the intersection). LOS is considered a good measure of the "quality" of the traffic flow at an intersection. LOS ranges from A (less than 5 seconds of stopped delay per vehicle) to F (greater than 60 seconds of stopped delay per vehicle). LOS E is considered the lower limit of acceptable delay, and ranges from 40 to 60 seconds of stopped delay per vehicle.

The v/c ratio is another measure of the operation of a signalized intersection. The v/c ratio measures the magnitude of traffic at an intersection and compares it to the intersection's practical capacity. Intersections with v/c ratios greater than 1.0 represent potential problems; queue-building and a rapid degradation in LOS can occur with minor traffic increases.

Table 4-1 summarizes the current conditions at the intersection of Hope Road and Tinton Avenue. The intersection is currently approaching capacity. At Tinton Avenue and Hope Road, the relatively heavy through-movement on Tinton Avenue which has only one through lane results in a less-than-desirable LOS E and a v/c ratio greater than 1.0 in the PM peak hour.

Table 4-1
Existing Signalized Intersection Conditions

Intersection	Level of Service		Average Stopped Delay (sec)		v/c	
	AM	PM	AM	PM	AM	PM
Hope Road and Tinton Avenue	D	E	28.2	55.0	0.91	1.03

4.9 Training Areas

There are no designated training areas at Fort Monmouth.

4.10 Noise

Noise sources at Fort Monmouth consist of helipad operations, roadway traffic noise and general activities associated with office and residential developments. Unlike some military installations, Fort Monmouth does not have high amplitude impulsive noise resulting from armor, artillery and demolition activities or noise from small arms ranges.

Chapter 7 of the Army Regulation (AR) 200-1 implements all federal laws concerning environmental noise from Army activities through the Installation Compatible Use Zone (ICUZ) program. The ICUZ program defines three noise zones:

- Zone I–compatible (the majority of people adapt to these noise levels)
- Zone II–normally incompatible (most people can adapt to these noise levels)

[1] Procedures for LOS and v/c evaluation were in accordance with the 1985 Highway Capacity Manual (Transportation Research Board Special Report 209).

- Zone III—incompatible (most people would find it difficult to adapt to these noise levels)

These compatibility zones are used for land-use planning to prevent conflicts with noise-sensitive land uses, such as residential housing and hospitals.

Based on an evaluation of potential noise studies performed by the Department of the Army—US Army Environmental Hygiene Agency (AEHA) and documented in the *Environmental Noise Consultation No. 52-34-0662-91*, operations at the helipads are the only installation-generated noise source with the potential to cause annoyance to the nearest sensitive receivers. However, the AEHA further concluded that, based on day/night averaging, the small numbers of flight operations per month and the location of the helipads, noise Zones II and III as defined above do not extend beyond Fort Monmouth.

4.11 Hazardous and Toxic Materials

Numerous substances that can be considered hazardous are stored and used on Fort Monmouth. These substances are primarily petroleum products, solvents, degreasers and photodevelopers. All of these materials are stored and used in accordance with local, state and federal regulations. Employees using hazardous materials are trained in their proper use to minimize injury and the potential for contamination.

Fort Monmouth currently collects and recycles waste oils and lubricants generated on the post, and ships them off-site for recycling. In fiscal year 1994, the post replaced its halogenated degreasers with less toxic petroleum-based degreasers. This eliminated the need for special handling of the spent degreasers because the petroleum-based degreasers can be mixed and disposed of with the waste oils currently generated.

4.11.1 Regulated Substances

There are no explosives or radioactive materials stored or used at the Charles Wood subpost.

4.11.2 Contaminated Sites

The Fort Monmouth Directorate of Engineering and Housing (DEH) is currently conducting a Site Inspection of ten sites at the Charles Wood subpost. This study will identify the suspected contaminated sites as requiring either no action, further characterization, or remediation.

4.11.3 Other Toxic or Hazardous Materials

4.11.3.1 Asbestos

Fort Monmouth completed a post-wide asbestos survey in 1993. Approximately 2.9 million square feet of building space were surveyed for asbestos-containing material. Buildings found to contain friable asbestos have been scheduled for remediation. All of the material removed is being hauled off the site and disposed of in an approved facility. Buildings containing nonfriable asbestos will not be remediated; however, management plans have been implemented to prevent the asbestos from becoming friable and to protect human health and the environment.

4.11.3.2 Radon

Fort Monmouth completed a post-wide radon survey in 1989. The entire installation, including the Charles Wood subpost, was found to have radon levels well below the 4-picocurie action level.

4.11.3.3 PCBs

Fort Monmouth has completed an inventory and testing of all but four of the electrical transformers on the post. A total of 130 polychlorinated biphenyl-(PCB)-contaminated and PCB transformers[2] were identified. All but sixty-three of these units have been replaced with non-PCB transformers or have been removed and not replaced. None of the remaining transformers are classified as PCB transformers, with the exception of the four untested transformers, which must be considered as PCB transformers until tested and proven otherwise. None of the remaining transformers are leaking. Fort Monmouth has acquired retrofilling equipment which will allow the draining and refilling of the remaining transformers.

4.11.3.4 Lead Paint

Fort Monmouth has not completed a post-wide lead paint survey although, owing to their age, most of the WWII buildings on the post probably contain some lead paint. The U.S. Army Environmental Hygiene Agency has concluded, based on a sample of buildings, that there is sufficient evidence to classify demolition debris from Fort Monmouth as non-hazardous.

4.11.3.5 Pesticides

As part of the pest management program, Fort Monmouth personnel regularly use pesticides to prevent and eliminate insect, bird and rodent infestations. The most commonly used substances include chlorpyrigos, boric acid, pyrethrin, hydramethylonon, acephate and cypermethrin. The Directorate of Public Works (DPW) is responsible for maintaining a list of all substances used in pest control on a monthly basis, for ensuring the proper handling and usage of the substances and for ensuring that only substances approved by the USEPA and the NJDEP are used as part of Fort Monmouth's pest control program.

4.11.3.6 Medical and Bio-Hazardous Wastes

The hospital and dental facility produce approximately 13,000 pounds of medical waste annually. All of this waste is incinerated off the post at a licensed facility. All of the medical and dental waste is handled, transported off-site and incinerated in accordance with local, state and federal regulations.

4.11.3.7 USTs

Fort Monmouth has implemented a UST management program in accordance with Regulations Implementing the New Jersey Underground Storage of Hazardous Substances Act, N.J.S.A. 58P:10. There are approximately 340 single-walled steel or fiberglass underground storage tanks (USTs) on Fort Monmouth (Fort Monmouth, 1993f). Most of these tanks store Number 2 fuel oil and other petroleum products. It is anticipated that most of the tanks will eventually be removed as heating on the post is switched from fuel oil to natural gas.

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2 A "PCB transformer" is defined as a transformer having a PCB concentration greater than 500 ppm. A "PCB-contaminated transformer" is defined as a transformer having a PCB concentration of 50 to 500 ppm.

4.12 Biological Resources

4.12.1. Wildlife Communities

Most of Fort Monmouth consists of developed areas with open lawns and scattered ornamental trees and shrubs that provide little habitat for wildlife. Vegetative buffers along the creeks within Fort Monmouth provide food and cover for species that commonly occur in Monmouth County.

Commonly-occurring mammals in Monmouth County include raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), eastern chipmunk (*Tamias striatus*), eastern gray squirrel (*Sciurus carolinensis*), muskrat (*Ondatra zibethica*), eastern cottontail rabbit (*Sylvilagus floridanus*) and Norway rat (*Rattus norvegicus*) (Harland Bartholomew & Associates, 1984). These species are also expected to occur at Fort Monmouth.

Bird species that commonly occur in Monmouth County include the Canada goose (*Branta canadensis*), herring gull (*Larus argentatus*), mallard (*Anas platyrhynchos*), blue jay (*Cyanocitta cristata*), European starling (*Sturnus vulgaris*), American robin (*Turdus migratorius*), Carolina chickadee (*Parus carolinensis*), tufted titmouse (*Parus bicolor*), northern mockingbird (*Mimus polyglottos*), house sparrow (*Passer domesticus*), red-winged blackbird (*Agelaius phoeniceus*), northern cardinal (*Cardinalis cardinalis*), house finch (*Carpodacus mexicanus*) and song sparrow (*Melospiza melodia*) (US Army Corps of Engineers, 1993). These commonly-occurring species are also expected to occur at Fort Monmouth.

Locally common amphibians likely to occur at the Charles Wood subpost include the red back salamander (*Plethodon cinereus*), spring peeper (*Hyla crucifer*), wood frog (*Rana sylvatica*), bullfrog (*Rana catesbeiana*) and green frog (*Rana clamitans*). Commonly-occurring reptiles likely to be present include the common snapping turtle (*Chelydra serpentina*), northern brown snake (*Storeria dekayi*), northern water snake (*Nerodia sipedon*) and eastern garter snake (*Thamnophis sirtalis*) (US Army Corps of Engineers, 1993).

4.12.1.1 Special Interest Wildlife

There are no special interest wildlife species, such as species specifically managed as game animals, on the Charles Wood subpost.

4.12.1.2 Wildlife Management

There are no land areas on the Charles Wood subpost set aside for hunting activities. No special wildlife management activities for game species occur on the Charles Wood subpost. The most common game birds that migrate over or in the general vicinity of Fort Monmouth are the Canada goose (*Branta canadensis*), snow goose (*Chen caerulescens*), mallard (*Anas platyrhynchos*), canvasback (*Aythya valisneria*), blue-winged teal (*Anas discors*) and green-winged teal (*Anas crecca*) (Harland Bartholomew & Associates, 1984).

4.12.1.3 Threatened and Endangered Species

Appendix A presents letters from the U.S. Fish and Wildlife Service (USFWS) and NJDEP regarding the occurrence of threatened and endangered species within the vicinity of Fort Monmouth and Charles Wood subpost. Other than an occasional transient bald eagle (*Haliaeetus leucocephalus*) and peregine falcon (*Falco peregrinus*), no federally-listed or proposed threatened or endangered flora or fauna are known to occur within Charles Wood subpost. The USFWS and NJDEP indicated that Charles Wood subpost is located in the geograhic range of the federally-listed threatened plant, swamp

pink (*Helonias bullata*). Swamp pink typically occurs in forested wetlands and may occur within scrub/shrub wetlands.

A vegetation survey and wetland delineation conducted at the Charles Wood subpost found no rare and endangered species during the on-site survey, nor any evidence to suggest that such species might inhabit this site (NJDEP, 1995). In particular, federally endangered swamp pink was searched for but none were found in the study area. No swamp-like habitats favored by swamp pink were found to exist in the study area. This finding has been forwarded to the USFWS for that agency's review (see Appendix A).

The correspondence from USFWS and NJDEP (Appendix A) also provides lists of protected species that have been recorded in Monmouth County. Suitable habitat for these species is unlikely to occur within the Charles Wood subpost. For example, several of the bird species identified require grassy, weedy meadows or prairies, a habitat which does not occur at the Charles Wood subpost. Several of the plant species identified require dry, sandy soils, a soil type which is not identified as occurring at the Charles Wood subpost. Several other plant species identified in Appendix B occur in salt marshes or tidal flats, habitats not present at the Charles Wood subpost.

4.12.2 Vegetation

4.12.2.1 Forests, Shrubs, Grasses and Timber Activities

Natural areas within Fort Monmouth are vegetated with oak (*Quercus* spp.), pine (*Pinus* spp.), honey locust (*Gleditsia triacanthos*), black locust (*Robinia pseudoacacia*), huckleberries (*Gaylussacia* spp.) and ferns in the genus *Aythrium*. The forested area in the southwestern portion of the Charles Wood subpost has significant numbers of white birch (*Betula papyrifera*) and American holly (*Ilex opaca*). Many other species of trees and shrubs occur in lesser quantities in the Charles Wood subpost. Trees and shrubs are planted within the installation according to the *Fort Monmouth Installation Design Guide* (Black and Veatch, 1991).

Lawns, ballfields, parade grounds and roadside areas within Fort Monmouth are planted in grass mixtures that may include Kentucky bluegrass, Merion bluegrass, Chewings fescue and perennial ryegrass. The fairways and tees at the golf course on the Charles Wood subpost are planted in Kentucky bluegrass and Chewings fescue and the greens are planted in bent grass (Black and Veatch, 1991).

There are no timber harvesting activities at the Charles Wood subpost.

4.12.2.2 Preserves, Special Habitat and Significant Natural Areas

There are no preserves or special habitats for threatened or endangered species within the Charles Wood subpost. The *Analytical/Environmental Assessment Report on Plans of Future Development* (Harland Bartholomew & Associates, 1987a) describes the areas adjacent to streams within the Charles Wood subpost as environmentally sensitive. These areas are designated in the land-use plan as environmentally sensitive and are recommended to be left in a natural state. The natural areas within the Charles Wood subpost are generally small and surrounded by urban and suburban land uses.

4.12.2.3 Critical Habitat (Officially Designated)

There are no officially designated critical habitat areas within the Charles Wood subpost.

4.12.2.4 Aquatic Environment

There are three unnamed freshwater creeks within the Charles Wood subpost. Fish species that may occur within these creeks include sunfish (*Lepomis* spp.) and other small species as well as aquatic invertebrates.

4.12.2.5 Wetlands

A vegetation survey and wetland delineation (NJDEP 1995) identified two wooded wetlands in the area west of Hope Road at the Charles Wood subpost ("the study area"). Both wetlands contain a limited diversity of vegetation species in a moderately heavy shrub layer, light to moderate tree canopy, and moderate herbaceous layer. One wetland covers approximately sixteen acres at the eastern side of the study area to the north and east of Building 2506, extending beyond the study area across Hope Road and to the south. A separate wetland area covers approximately four acres at the western side of the study area to the east and south of Building 2705. The NJDEP has classified both of these wetlands as intermediate resource value wetlands. The standard transition area required adjacent to intermediate resource value wetlands is 50 feet (N.J.A.C. 7:7A - 7.3).

4.12.2.6 Vegetation Management

Vegetation management within the Charles Wood subpost is conducted in accordance with the *Draft Natural Resources Management Plan* (Fort Monmouth, 1993c). Routine maintenance activities include lawn mowing, application of herbicides and fertilizers, and installation of new plant materials. Approximately 60 percent of the lawn mowing work and 50 percent of the fertilizer application work on the Charles Wood subpost is performed by contractors, according to the *Draft Natural Resources Management Plan.*

Grassed areas are fertilized with 10-6-4 (10 percent nitrogen-6 percent phosphoric acid-4 percent potash) in April and September. Lime is applied to grassed areas every two to three years. Herbicides are used to control broadleaved weeds in grassed areas. Dichlorophenoxyacetic acid (2,4-D) is used in late April or early May to control broadleaved weeds. Dacthal or DCPA (dimethyl ester of tetrachloroterephthalic acid) is applied in late April to control crabgrass. Amitrole (3-amino-1,2,4-triazzole) is used to control poison ivy, poison oak and honeysuckle (Fort Monmouth, 1993c).

4.13 Cultural Resources

4.13.1 Prehistory

The prehistory of the Fort Monmouth region spans the time from approximately 10,000 B.C. until European contact (early 17th century), and is generally divided into Paleo-Indian, Archaic, and Woodland periods. Following the retreat of the glaciers the Paleo-Indians were the first human occupants of New Jersey (10,000 to 8,000 B.C.). Paleo-Indians were migratory hunters and gatherers who traveled in small bands, often following herds of large game animals.

During the Archaic Period (approximately 8,000 to 1,000 B.C.), the Fort Monmouth region was occupied by small groups of seasonally mobile Indians who were dependent upon hunting and gathering. An increased reliance on plant foods is indicated by the appearance and proliferation of ground stone tools. Hunting now focused on smaller animal species.

Woodland Period Indian populations (1,000 B.C. to early 17th century) are primarily distinguished from earlier groups by the introduction of pottery. Later in the Woodland Period, Indian groups lived in larger villages and subsisted largely on corn, beans, and squash, while continuing their traditional

hunting and gathering activities. At the time of European contact, the Delaware or Lenape Indians occupied this region. European settlers had largely driven the Delaware out of the coastal areas of New Jersey by the early 1700s.

4.13.2 History

English colonists established the first permanent European settlements in the Monmouth region in 1664. This area developed quickly. Agriculture was the predominant occupation of most settlers, but a number also engaged in timber harvesting, grist milling and small scale iron manufacturing. The first railroad development in the Monmouth region (the Raritan and Delaware Bay Railroad) occurred later than in most other areas of the state (1854). The tracks passed along the southern side of what is now the Charles Wood subpost. Although improved transportation systems were developed within this region during the late 19th and early 20th centuries, it remained largely an area characterized by small towns surrounded by agricultural land.

The majority of the land that would eventually become the Main Post was owned by the Monmouth Park Association between 1866 and 1891, and was used, in part, as a horse racetrack. After the track closed the land was again used for agricultural purposes, until it was purchased by the Army in 1917. Lands that now make up the Charles Wood subpost were used for agriculture until the 1920s, when they were purchased to form the Sun Eagles Country Club. The country club was in operation under a series of names until the Army purchased the property in 1941.

4.13.3 Military History

Fort Monmouth was established during World War I, in 1917, as an Army Signal Corps training center. It was first known as Signal Corps Camp, Little Silver, and later as Camp Alfred Vail. Late in 1917, the Army set up a radio laboratory at Camp Alfred Vail and the post increased in importance. In 1919, after World War I, the Army moved the Signal School from Fort Leavenworth to Camp Alfred Vail. In August 1925, Camp Alfred Vail was declared a permanent post and its name was changed to Fort Monmouth. During the interwar years and during World War II, Fort Monmouth was the principal training center for the Signal Corps. The Charles Wood subpost was acquired in 1941, as part of the wartime expansion of Fort Monmouth. Since the end of World War II Fort Monmouth has maintained its importance to the Army as a center for communications developments.

4.13.4 Summary of Historic Resource Investigations

No historic preservation plan or memoranda of agreement concerning historic resources have been prepared for Fort Monmouth or its subposts. In 1984 an archeological overview and an architectural inventory of historic buildings were completed for Fort Monmouth and its subposts. These two reports were produced as part of a nationwide effort by the Army Materiel Command to initiate an inventory of its historic properties. No Fort Monmouth properties have yet been placed on the National Register of Historic Places.

No archeological surveys have been conducted for Fort Monmouth or its subposts. A number of areas were, however, recommended for archeological survey by the 1984 overview. The 1984 architectural inventory recommended Buildings 2529-2534 at the Charles Wood subpost as being eligible for the National Register. Fort Monmouth is evaluating the National Register nomination form for submission to the State Historic Preservation Officer, and in the interim is treating these properties as being eligible for the National Register. None of these National Register eligible, permanent buildings are under consideration for renovation by this BRAC action.

Building 2502, 2503, 2504, and 2506, all World War II era permanent buildings, were evaluated for National Register eligibility as a part of this process. All of the buildings have been substantially

altered and none were recommended as being eligible for the National Register. The New Jersey State Historic Preservation Officer concurred with this evaluation in a letter dated April 27, 1995 (Appendix A).

4.14 Socioeconomic Environment

4.14.1 Population

Ocean County, Middlesex County and Union County adjoin Monmouth County, share commuting routes and socioeconomic characteristics with Monmouth County, and are influenced by Fort Monmouth. Most of the Fort Monmouth workforce living off-post resides within this area. At the 1990 census, the total combined population in the four counties (including all municipalities) was approximately 2.2 million persons, which represents approximately 28 percent of the total population of the state of New Jersey. The population density in the area averages more than 1,000 persons per square mile, which is typical of New Jersey, the most densely populated state in the nation (Monmouth County Planning Board, 1993).

The population in the four-county Fort Monmouth area is projected to increase by 20 percent by the year 2010, to approximately 2.6 million persons according to the New Jersey Department of Labor, Division of Labor Market & Demographic Research (Union County, 1991).

The workforce population at Fort Monmouth is approximately 8,800 persons and is composed of approximately 2,250 military personnel and 6,550 civilians. In addition, approximately 2,850 dependents live on the Main Post or Charles Wood subpost in family housing, bringing the total combined installation population to approximately 11,650 (Table 4-2). Included in this baseline population count are those persons employed at the Evans subpost, the Charles Wood subpost, the CECOM building and the Main Post. Approximately 35,000 retired military personnel live in the vicinity of Fort Monmouth. Population figures for the Charles Wood subpost are shown in Table 4-2.

4.14.2 Housing

There are a total of 1,142 family housing units located in Fort Monmouth, of which 1,020 units are located at Charles Wood subpost. Typically, more than half of these units are occupied by enlisted personnel. The average waiting period to obtain family housing is 1 to 2 months.

Housing for unaccompanied personnel is located on the Main Post only. There are two dining facilities located on the Main Post, with a combined serving capacity of approximately 1,000 persons.

In 1990, there were approximately 844,000 housing units in the four-county Fort Monmouth area, of which approximately 548,500 are owner-occupied and 205,200 are renter-occupied. The average vacancy rate was 11 percent, slightly higher than the average New Jersey vacancy rate of 9 percent.

Table 4-2
Baseline Population, Including Workforce, at the Charles Wood Subpost

	FY 1993 Total (1)
Officers (1)	28
Enlisted	17
SUBTOTAL: Military	45
Civilians	1,608
SUBTOTAL: Workforce (2)	1,653
Dependents (3)	1,141
TOTAL	2,794

(1) Officers include warrant officers.
(2) Source for workforce figures: Migration Diagram, Realign Fort Monmouth (dated February 1994).
(3) Source for dependents figures: CECOM (telecons: G. Fitzmaier, 1/18/94; V. Migliore telecon, 1/23/94)).

Approximately 2,852 dependents reside on-post, of whom 90% live on Charles Wood and 10% live on Main Post.

4.14.3 Schools

There are no schools for military dependents, other than childcare facilities, located on Fort Monmouth. Children of military personnel residing on the post attend schools in the surrounding area. Public schools are mostly administered by individual municipalities (townships, boroughs and cities). Vocational and technical schools are administered by the counties. Most schools have sufficient capacity to accommodate enrollments. In addition to the public schools, there are numerous private and parochial schools in the area (CH2M HILL, 1994e).

Fort Monmouth has two infant and child care centers with spaces for a total of about 240 children, a preschool serving about 50 children and a school-age "latchkey" center. In addition, there are a number of homes on the post that provide daycare. Management and training for home daycare providers is furnished by Fort Monmouth administrative personnel (CH2M HILL, 1994d).

Nearby colleges include Monmouth College, a four-year college with graduate programs located in West Long Branch and Brookdale Community College, which offers a two-year program.

4.14.4 Recreational and Community Facilities

Fort Monmouth offers a number of recreational facilities, such as a community center, library, bowling alley, several youth centers and Boy or Girl Scout buildings, several physical fitness centers, approximately 10 ballfields, several picnic areas with one picnic shelter, an arts and crafts center and an automotive shop. Other community facilities include a commissary and post exchange. Recreational, medical, commissary and other community facilities on the post are used by retired military personnel living in the region as well as by active-duty personnel.

Ample recreational opportunities are available in the Fort Monmouth area. Approximately 9 percent of the land area of Monmouth County (over 26,000 acres) is devoted to public open space under federal, state, county or municipal stewardship. Parks such as Allaire State Park, Turkey Swamp Park,

the Manasquan River Wildlife Area, Monmouth Battlefield Park and Gateway National Recreation Area at Sandy Hook offer sports facilities, historic sites, picnicking, camping, fishing, hunting, boating and hiking. In addition, area residents have access to New Jersey's many seashore resorts and to cultural attractions in New York City.

4.14.5 Regional Economic Development

Fort Monmouth is one of the largest employers in the four-county area. Other large employers include AT&T Bell Labs (with 4,000 employees in Monmouth County and 4,500 in Union County), Ciba-Geigy Corporation (3,500 employees), several of the area hospital centers (over 2,000 employees at each) and county governments.

Fort Monmouth's estimated annual nonsalary expenditures were approximately $112,159,600 in fiscal year (FY) 1993. This figure reflects expenditures for utilities, services, supplies, construction and operations but does not include expenditures for technical procurements. In addition, Fort Monmouth's estimated expenditures for non-appropriated fund (NAF) construction procurements were approximately $2,258,450 in FY 1993.

Fort Monmouth employed approximately 8,800 persons in 1993, consisting of about 6,550 civilians (including 600 non-NAF personnel) and 2,250 military personnel. Civilian salaries totalled approximately $366 million and military salaries totalled approximately $58 million.

4.14.6 Public Health and Safety

Police protection at Fort Monmouth is provided by approximately 20 military police officers, 30 Department of Defense police and 45 security guards. An additional 10 police officers and 15 security guards could potentially be added under currently authorized personnel levels at Fort Monmouth. Township and borough police departments, county sheriffs and the New Jersey state police provide police protection to the areas surrounding Fort Monmouth. At present, there are no formal agreements for assistance with local or state police jurisdictions and there is no regular contact between military and civilian police in the area. Two fire stations, located on the Main Post and Charles Wood subpost, provide fire protection at Fort Monmouth. The Fort Monmouth stations maintain one ladder truck with a 100-foot ladder, two 1,000-gallon pumper trucks, two 200-gallon squad trucks, one rescue truck, and three cars used by fire chiefs and inspectors. Fort Monmouth has a first-response agreement for emergency response to fires with the nearby townships of Oceanport and Eatontown. The post also has mutual aid agreements with the Earle Naval Weapons Station, located southwest of Fort Monmouth, and with 20 townships in the surrounding area. Emergency and urgent medical care for military personnel and dependents are provided on-post by Patterson Army Hospital and by an outpatient clinic. Patterson Army Hospital contains 35 hospital beds and 5 emergency beds. Additional beds are available but are not in active use. A dental clinic with 14 chairs is also located at Fort Monmouth. Several hospitals and many medical centers are located near Fort Monmouth, providing emergency facilities as well as urgent care, inpatient care, psychiatric services, rehabilitative services and outpatient surgical facilities. The hospitals closest to Fort Monmouth, located in Monmouth County, are: Monmouth Medical Center (526 beds) in Long Branch, Riverview Medical Center (494 beds) in Red Bank, Jersey Shore Medical Center (501 beds) in Neptune, Bayshore Community Hospital (225 beds) in Holmdel and the CentraState Medical Center (248 beds) in Freehold (CH2M HILL, 1994f).

4.14.7 Native American/Ethnic Concerns

Less than 1 percent of the population in the four-county Fort Monmouth area was identified as being Native American in the 1990 census. Approximately 7 percent of the population was identified as being of Hispanic origin.

4.14.8 Homeless Concerns

As in most other urban and suburban areas, there are homeless individuals and families in the Fort Monmouth area who are in need of temporary shelter. In Monmouth County, there are 3 transitional shelters (Linkages, Spring House and Manna House) that can accommodate 53 families with children, plus another shelter (Epiphany) for recovering mothers with children. One of these shelters is operated by Easter Seals under contract to the County and the others are operated by private concerns and reimbursed by the county. There is also a county shelter with about 30 beds for single adults, located on Fort Monmouth. Additional shelter capacity is often needed. When necessary, the county places families for up to 5 months in shared apartments (which are administered by Easter Seals and are located across the county) or, as the least-preferred option, in motels.

4.15 Visual/Aesthetic Resources

Much of the Charles Wood subpost west of Hope Road is not visible to the surrounding community due to the presence of perimeter vegetation and, along the northern boundary of the site, military housing. East of Hope Road, the golf course presents viewers with an open, naturalistic landscape.

The *Fort Monmouth Installation Design Guide* defines visual zones, provides design themes for each zone and provides design criteria for new projects. Personnel responsible for the design of new facilities are responsible for incorporating the proper design criteria into each project. Implementation of the design criteria allows new facilities to be in harmony with established design themes and maintains the overall visual image of Fort Monmouth.

According to the *Fort Monmouth Installation Design Guide*, five visual zones have been identified for Fort Monmouth: administrative/mission support, community support facilities, housing, industrial facilities and open spaces. These zones have been defined on the basis of land use and type of activity. Architectural styles in these zones include colonial, traditional, modified traditional and high-technology.

4.16 Interagency Agreements

Written mutual aid agreements exist between Fort Monmouth and a number of surrounding communities. As is shown in Table 4-3 these agreements are concerned primarily with public safety issues.

Table 4-3 Installation Agreements				
Agreeing Agencies	**Purposes of Agreement**	**Effective Date of Agreement**	**Ending Date of Agreement**	**Location of Official Agreement Copy**
Fort Monmouth and Mid Monmouth Mutual Aid Association	Mutual Aid for Fire Protection and Emergencies	June 86	Open	Fort Monmouth Garrison Headquarters
Fort Monmouth Patterson Army Community Hospital (PACH) and Monmouth-Ocean County Mobile Intensive Care Unit (MONOC)	PACH allows MONOC to utilize government facilities to position an EMS vehicle and personnel	July 86	Open	Fort Monmouth Garrison Headquarters

5.0 Environmental and Socioeconomic Consequences

5.1 Introduction

This section identifies and evaluates the expected environmental and socioeconomic consequences of implementing the proposed action. The consequences are discussed in terms of their effect on baseline conditions described in Section 4.0. The No Action Alternative would result in no change to the conditions described in Section 4 and is not considered further. The consequences of Alternative 1 and Alternative 2 are often similar. Potential impacts associated with the two alternatives are described separately when impacts would differ under the two alternatives.

The impacts analysis in the July 1994 Environmental Assessment (EA) resulted in a Finding of No Significant Impact. Alternative 2 was included in that assessment, and was also found to have no significant impacts. Although the impacts of Alternative 2 were addressed in the July 1994 EA, they are included in this section to facilitate comparison of Alternative 1 and 2.

When used in this section, the name Fort Monmouth refers to both the main post and the Charles Wood subpost. Information that only applies to the Charles Wood subpost is identified as such.

5.2 Land and Air Space Use

Because there are no existing or proposed air space restrictions at Fort Monmouth, no impacts to use of air space will occur under either alternative. Fort Monmouth is not subject to zoning restrictions, so zoning approvals will not be required under either alternative. The Fort Monmouth Land Use Plan provides general guidance for the location of new facilities. Consistency with the plan and compatibility with off-site land uses are described below.

Under both alternatives, locations for the calibration range laboratory and high bay facility on the Charles Wood subpost are currently designated as a research, development and test zone (Fort Monmouth Directorate of Engineering and Housing, 1992b). Locating the two facilities in this area would be consistent with the existing land use. Therefore, no land use impacts would occur under either alternative. The locations are not adjacent to any off-site land uses, so no impacts to off-site uses would occur under either alternative. Renovations to existing buildings will not affect on-site or off-site land uses under either alternative.

5.3 Air Quality

The Clean Air Act provides that federal agencies may not engage in actions that do not conform to the State Implementation Plan (SIP). Conformity to the SIP means that federal actions must not cause or contribute to any new violation of air quality standards; increase the frequency or severity of any existing violation; or delay the timely attainment of any air quality standard or interim milestone. However, certain actions are exempt from this requirement on the basis of *de minimis* increase in emissions. Both alternatives qualify for the *de minimis* exception because there will be no change in population or types of activities associated with the proposed action.

Under both alternatives, dust will be generated during during building renovations. Workers involved in these activities will wear respiratory protection in compliance with Occupational Safety and Health Administration (OSHA) requirements. Fugitive dust will be controlled during renovation using techniques such as enclosing affected areas. During construction, fugitive dust will be controlled using techniques such as watering and mulching. Fort Monmouth will comply with all applicable local, state, and federal requirements for fugitive dust control.

5.4 Geology

5.4.1 Topography

The topography of the Charles Wood subpost will not be affected by either alternative.

5.4.2 Stratigraphy/Aquifers

Neither alternative will affect stratigraphy and aquifers within the Charles Wood subpost.

5.4.3 Soils

Renovation of existing facilities will not affect soils within the Charles Wood subpost under either alternative.

New facilities to be constructed in the Charles Wood subpost under Alternative 1 are a calibration range laboratory in the parking lot next to building 2539 and a high bay facility near Building 2705. The calibration range laboratory will be located on an area mapped as Holmdel-Urban Land Complex soils and the high bay facility will be located on Freehold-Urban Land Complex soils. The location of these facilities will not degrade soil types located within critical or sensitive natural habitats. Although the properties of these soils are variable with respect to suitability for excavations, dwellings, and small commercial buildings, similar land uses are found within areas mapped with these soil types on the Charles Wood subpost. Therefore, soil conditions are not expected to pose a constraint to planned development.

Under Alternative 2, the calibration range laboratory and the high bay facility will be located within areas mapped as Freehold-Urban Land Complex. The location of the facilities within Freehold-Urban Land Complex soils will not degrade soil types located within known critical or sensitive natural habitats. The properties of these soils are also variable with respect to suitability for excavations, dwellings, and small commercial buildings, although similar land uses are found within areas mapped with these soil types on the Charles Wood subpost. Therefore, soil conditions are not expected to pose a constraint to planned development.

Under both alternatives, soils will be temporarily disturbed during grading activities that may be required for construction of new buildings and parking areas. Soils will also be temporarily disturbed during excavation of trenches for utility lines. Trenches will be backfilled and compacted following installation of utilities.

Sediment and erosion control measures will be used to stabilize exposed soils under either alternative. The area to be disturbed under either alternative is relatively small and is currently paved, so impacts to soil resources are expected to be insignificant.

5.4.4 Erosion

Interior renovation of existing facilities will not create erosion conditions within the Charles Wood subpost under either alternative. Sediment and erosion control measures will be used to stabilize exposed soils during exterior renovations that involve earthwork and during construction activities under both Alternatives 1 and 2. The area to be disturbed for any of the locations is relatively small and erosion associated with new construction is expected to be temporary and insignificant. Sediment and erosion control measures will be used under either alternative to prevent offsite impacts resulting from erosion.

5.4.5 Minerals/Mining

There are no mineral resources on the Charles Wood subpost. Therefore, mineral resources will not be affected under either alternative.

5.4.6 Seismicity

Renovation of existing facilities and construction of new facilities are not anticipated to affect or be affected by seismic activity under either alternative. All renovation and construction will adhere to applicable building codes.

5.5 Hydrology

5.5.1 Rainfall

Rainfall or snowfall within the Charles Wood subpost will not be affected by either alternative.

5.5.2 Runoff

Renovation of existing facilities will not affect runoff within the Charles Wood subpost under either alternative. Construction activities under either alternative will not significantly affect surface water runoff. Soils will be temporarily exposed during grading and construction of the new facilities. If necessary, stormwater runoff from areas of exposed soils will be diverted or contained to prevent water quality degradation.

Under both alternatives, locations for the calibration range laboratory and the high bay facility are within existing paved parking areas. Therefore, the new structures will not increase runoff. Stormwater runoff will drain from the existing paved parking areas into a wetland area located to the southeast of the proposed facilities.

5.6 Water Resources

5.6.1 Surface Water

Neither alternative would require new surface water discharges for renovation of existing buildings or construction of new facilities. Neither alternative involves work in or adjacent to surface water, and all sites are located in areas that drain via surface runoff to creeks. Therefore, there would be no advantage to either alternative based on potential surface water impacts. With a properly designed and maintained stormwater management system, the impact to surface water resources is expected to be insignificant.

Sediment and erosion control measures will be used to minimize surface water runoff impacts during construction under both alternatives. If necessary, the runoff will be contained or diverted to prevent water quality degradation. Construction-related impacts to surface water resources are expected to be temporary and insignificant for construction at the Alternative 1 and 2 locations.

New construction under either alternative will not affect areas within the 100-year flood boundary, as ground elevations at the Charles Wood subpost at all potential construction sites (both alternatives) is above the 100-year flood plain located at the eastern boundary of the subpost.

5.6.2 Groundwater

Groundwater resources will not be affected by changes associated with either alternative because the proposed activities will not require discharge to or withdrawal from groundwater resources.

5.6.3 Recharge Areas

Renovation of existing facilities under either alternative will not affect recharge areas within the Charles Wood subpost. New construction under either alternative would be located in existing paved areas; therefore, recharge areas within the Charles Wood subpost will not be affected.

5.7 Infrastructure

5.7.1 Buildings/Grounds Maintenance

Under either alternative, buildings and landscaped grounds will be maintained either by Fort Monmouth personnel or by a third party under contract. The maintenance requirements are not expected to be significant for changes under either alternative and as a result, no impacts are expected under either alternative.

5.7.2 Roads

Roads are discussed in Section 5.8.

5.7.3 Railways

Because no changes in population are associated with either alternative, no impacts on local commuter rail service are expected.

5.7.4 Runways

Because no changes in population are associated with either alternative, and because the proposed action does not affect the missions at Fort Monmouth, no impact on the local air transportation system is expected.

5.7.5 Water Supply/Distribution

New facilities will be tied in to the existing water supply/distribution system at the Charles Wood subpost under either alternative. Because there is no change in population or mission associated with either alternative, no impact on water supply and distribution is expected.

5.7.6 Wastewater Collection/Treatment

Under both alternatives, new facilities will be tied in to the existing wastewater collection/treatment system at the Charles Wood subpost. Because there is no change in population or mission associated with either alternative, no impact on wastewater collection and treatment is expected.

5.7.7 Solid Waste Disposal

Under both alternatives, it is expected that the new facilities at Fort Monmouth will participate in the installation's recycling efforts. A contractor will haul solid waste from the new facilities to the

municipal landfill. Because there is no change in population or mission associated with either alternative, there will be no impact to solid waste disposal facilities.

5.7.8 Energy

Because the proposed action does not involve a change in population or mission, no changes in energy use will occur under either alternative.

5.7.9 Communications

The Department of the Army's Information Systems Command has evaluated the changes necessary to accommodate the proposed action and has found that there will not be significant problems associated with the action.

No major switching upgrades will be required to accommodate facilities at the Charles Wood subpost under either alternative.

Some infrastructure work will be needed to provide equivalent or improved computer service to the activities realigning to Fort Monmouth due to the availability of a campus-area network. Local area networks (LANs) will need to be relocated to new locations on the Charles Wood subpost. Some networks will require conversion to 10-base-T networks.

5.8 Traffic and Transportation

Because the proposed action does not involve a change in population or traffic patterns, no impacts to transportation systems or traffic levels will occur under either alternative.

5.9 Training Areas

Because there are no training areas on Fort Monmouth, no adverse impacts will occur under either alternative.

5.10 Noise

Noise generated from project construction activities was estimated on the basis of noise level information described in *Noise from Construction Equipment and Operation, Building Equipment, and Home Appliances*, (US Environmental Protection Agency, 1971). Table 5-3 shows the typical noise levels at various construction sites. Project construction activities under either alternative are expected to fall under the Domestic Housing and Office Building categories. Depending on the amount and type of equipment being operated and the distance from the construction area to a sensitive receiver, actual noise levels may be substantially lower than those listed in Table 5-3. The levels listed in Table 5-3 should be regarded as worst case, because they are based on the assumption that all pertinent equipment is in operation and within 50 feet of the receiver.

Table 5-1
Typical Ranges of Noise Levels at Constructions Sites in Suburban Residential Areas

Construction Stage	Domestic Housing	Office Building, Hotel, Hospital, School, Public Works	Industrial Parking Garage, Religious, Amusement and Recreations, Store, Service Station	Public Works and Highways, Sewers, and Trenches
Ground clearing	83	84	84	84
Excavation	88	89	89	88
Foundations	81	78	77	88
Erection	81	87	84	79
Finishing	88	89	89	84

Note: All units are in Leq dBA.
Source: U.S. Environmental Protection Agency. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. 1971.

Based on the information in Table 5-3 sensitive receivers located at 200 feet from construction activities would be subjected to noise levels in the range of 65-77 dBA. At 500 feet noise levels would range from 58-69 dBA, and at 1,000 feet, 52-63 dBA.

Construction sites under both alternatives are more than 1,000 feet from off-site and on-post sensitive receivers.

No specific noise mitigation is required because noise impacts will not be significant. Construction noise levels will be of short duration and the levels in Table 5-3 can be expected only when the equipment is within 50 feet of the receiver. However, one or more of the following standard construction noise mitigative procedures can be implemented if noise complaints are received during construction:

- Require all engine-powered equipment to have mufflers installed according to the manufacturer's specifications.
- Locate stationary construction equipment as far from nearby noise-sensitive properties as possible.
- Shut off idling equipment.
- Reschedule construction operations to avoid periods of noise annoyance identified in the complaint.
- Notify nearby sensitive receivers whenever extremely noisy work will be occurring.
- Install temporary or portable acoustic barriers around stationary construction noise sources.

After the construction activities cease, noise levels are expected to return to the level of existing conditions.

5.11 Hazardous and Toxic Materials

Under either alternative, the proposed action will not result in the addition of any hazardous or toxic materials to the post that are not currently in use. It is expected that a number of solvents, photodevelopers, printing cartridges and cleaners will be required. Temporary on-post storage capacity is adequate for any additional hazardous waste that may be generated. All of these substances will be handled, stored, used and disposed of in accordance with the manufacturer's instructions and all local, state and federal laws and regulations.

5.11.1 Regulated Substances

The fully-contained, small quantities of radioactive material used by the calibration range laboratory under either alternative will not pose a threat to human health or the environment. These materials are not used outside the laboratory and the quantities are very small, used only to calibrate testing equipment. Use of these materials will be in accordance with applicable Nuclear Regulatory Commission requirements and approvals. Other regulated substances required to support the missions of the realigning activities will be stored, handled, used, and disposed of in accordance with applicable local, state, and federal requirements. All of the construction and renovation sites associated with both alternatives are outside the safety arc for the explosive magazine on Fort Monmouth.

5.11.2 Contaminated Sites

None of the alternative sites are on or near any of the ten suspected contaminated sites; that are being evaluated at the Charles Wood subpost.

5.11.3 Other Toxic or Hazardous Materials

5.11.3.1 Asbestos

Buildings planned for renovation under both alternatives are scheduled for asbestos removal as part of the renovation process. The Myer Center (Alternative 2) will require more asbestos removal that the four warehouses designated for renovation under Alternative 1. However, asbestos removal and disposal under either alternative will be in accordance with applicable state and local regulations. As a result, no impacts are expected under either alternative.

5.11.3.2 Radon

Because test results indicate that Fort Monmouth does not have a radon contamination problem, no impacts are expected under either alternative.

5.11.3.3 PCBs

Under either alternative, PCB-contaminated transformers will not be affected by construction of the high bay facility and the calibration range laboratory.

None of the buildings scheduled for renovation as part of either alternative contain PCB-contaminated transformers.

5.11.3.4 Lead Paint

There are no data that indicate the presence or amount of lead-based paint in the building to be renovated under Alternatives 1 and 2. However, under either alternative, Lead paint is not expected to be present in sufficient quantity to result in the classification of renovation debris as hazardous.

Renovation debris will be disposed of in accordance with applicable state and local regulations for such waste. Therefore, no impacts are expected.

5.11.3.5 Pesticides

Under either alternative, Fort Monmouth will include the new buildings and landscaped grounds in the post's pest management program. This may require that additional quantities of some substances be stored for use on the facility. The additional quantities required, however, are not expected to be significant and as a result, no impacts are expected.

5.11.3.6 Medical and Bio-Hazardous Wastes

Because there are no population changes associated with either alternative, there will be no change in the amount of medical, dental, or other bio-hazardous waste generated at the hospital and dental facilities.

5.11.3.7 USTs

Neither the Alternative 1 nor the Alternative 2 site locations for the calibration range laboratory and the high bay facility contain any underground storage tanks (USTs). As a result, no impacts are expected.

All of the buildings to be renovated as part of either alternative currently have USTs. Under Alternative 1, buildings 2502, 2503 and 2506 each have one UST for No. 2 fuel oil and building 2504 has two. Building 2700 (Alternative 2) has one UST for No. 2 fuel oil, three for No. 6 fuel oil, and one for diesel. All tanks are currently in use, and none are scheduled to be removed as part of the renovation process. Renovations and associated improvements will be conducted in a manner that avoids impacts to USTs.

5.11.3.8 Petroleum Oils and Lubricants

Neither alternative involves additional activities beyond those described in the July 1994 EA. Therefore, no impacts are expected.

5.12 Biological Resources

5.12.1. Wildlife Communities

Construction of the calibration range laboratory and high bay facility under either alternative will not significantly affect wildlife resources because the sites are located on areas that are currently paved. Any wildlife species that pass through these areas would be accustomed to human activity and will not be adversely affected by construction activities.

Renovation of existing buildings under either alternative will not affect wildlife within the Charles Wood subpost.

5.12.1.1 Special Interest Wildlife

There are no special interest wildlife species at Fort Monmouth. Therefore, no impacts are expected under either alternative.

5.12.1.2 Wildlife Management

There are no wildlife management programs and no land areas at Fort Monmouth set aside for hunting activities. Therefore, no impacts are expected under either alternative.

5.12.1.3 Threatened and Endangered Species

No federal or state threatened or endangered species are known to occur on the Charles Wood subpost. Therefore, no impacts are expected under either alternative.

5.12.2 Vegetation

5.12.2.1 Forests, Shrubs, Grasses, Timber Activities

Construction of the calibration range laboratory and the high bay facility under both alternatives will not significantly affect natural vegetation because construction of new facilities will be in existing parking lots. Renovations are not expected to significantly affect exterior vegetation. Upon completion of construction and renovations, trees and shrubs will be established according to the guidelines in the *Fort Monmouth Installation Design Guide.*

5.12.2.2 Preserves, Special Habitat and Significant Natural Areas

There are no preserves or special habitats for threatened or endangered species on the Charles Wood subpost. Therefore, no impacts are expected under either alternative.

5.12.2.3 Critical Habitat (Officially Designated)

There are no officially designated critical habitat areas within the Charles Wood subpost. Therefore, no impacts are expected under either alternative.

5.12.2.4 Aquatic Environment

Construction of new facilities will temporarily expose soils during grading and construction. Sediment and erosion control measures will be used to stabilize exposed soils during construction activities. These measures will prevent significant impacts to the aquatic environment in the Charles Wood subpost under either alternative.

Renovation of existing facilities will not affect the aquatic environment within the Charles Wood subpost under either alternative.

5.12.2.5 Wetlands

Renovation of existing facilities will not affect wetlands within the Charles Wood subpost under either alternative.

Under both alternatives, new construction will not be located in wetlands, and will be located outside the 50-foot wide transition area required by the state of New Jersey for an intermediate resource value wetland (NJAC 7:7A-7.3). Therefore, no impacts to wetland habitat are expected under either alternative.

Sediment and erosion control measures will be used to stabilize exposed soils during construction activities so that the wetlands and wetland transition areas will not be affected during construction under either alternative.

5.12.2.6 Vegetation Management

Vegetation management practices will not be affected under either alternative. Vegetation management within the Charles Wood subpost will continue to be conducted in accordance with the Natural Resources Management Plan (Fort Monmouth, 1993c).

5.13 Cultural Resources (Section 106 Compliance)

The Alternative 1 and Alternative 2 construction sites for the calibration range laboratory and the high bay facility are to be located within areas previously disturbed by grading and construction activities. Neither site has the potential to possess intact significant archeological remains.

Warehouse buildings 2502, 2503, 2504, and 2506 (identified for renovation under Alternative 1) and the Myer Center (identified for renovation under Alternative 2) are not eligible for the National Register of Historic Places. The New Jersey State Historic Preservation Officer concurred by letters dated March 25, 1994 and April 27, 1995 (Appendix A) that renovation of these buildings would have no adverse effect on significant historic properties.

5.14 Socioeconomic Environment

Socioeconomic impacts associated with the Fort Monmouth realignment were described in the July 1994 EA. That analysis resulted in the conclusion that no significant socioeconomic impacts would occur. Only construction sites have changed for this action; no changes have occurred in the number of people affected or the types or level of socioeconomic effects since they were last analyzed in the July 1994 EA. Because no additional population changes are associated with either alternative, no additional socioeconomic impacts are expected.

5.14.1 Population

No additional population changes are associated with either alternative, and therefore no impacts will occur.

5.14.2 Housing

5.14.2.1 On-Post Housing

Because there are no population changes associated with either alternative, no impacts to housing will occur.

5.14.3 Schools

Because there are no population changes associated with either alternative, no impacts to schools will occur.

5.14.4 Recreational and Community Facilities

Because there are no population changes associated with either alternative, no change in demand for recreational or community facilities is expected.

5.14.5 Regional Economic Development

Because there are no population, workforce, or mission changes associated with either alternative, no impact on the fiscal structure of the Fort Monmouth region will occur.

5.14.6 Public Health and Safety

Because there are no population or mission changes associated with either alternative, no impact on police, fire, or health services is expected.

5.14.7 Native American/Ethnic Concerns

There are no known concerns or anticipated effects on Native American or ethnic groups resulting from either alternative.

5.14.8 Homeless Concerns

There are no known effects or concerns related to homeless shelter needs resulting from either alternative.

5.14.9 Environmental Justice

The population and workforce changes associated with the alternatives were analyzed in the 1994 EA and were found not to have a significant effect on the local community. This supplemental EA deals strictly with the assessment of proposed new sites for previously analyzed construction projects and does not change in any way the numbers or locations of people involved in this realignment action. Changing proposed construction sites on the Charles Wood subpost will not have disproportionate or adverse effects on minority and low-income communities under either alternative.

5.15 Visual/Aesthetic Resources

The Alternative 1 and 2 sites for the high bay facility and the calibration range laboratory are located within a visual zone defined as administration/mission support. Construction at these sites would be compatible with the existing land uses and types of activities.

Interior renovations at the Charles Wood subpost would have no visual impact to the surrounding community under either alternative. New facilities, and exterior improvements for renovated facilities, will be designed in accordance with the *Fort Monmouth Installation Design Guide*, which will ensure that adverse visual impacts do not occur under either alternative.

5.16 Interagency Agreements

Impacts to existing mutual aid agreements are not expected to result from either alternative.

6.0 Agencies and Persons Contacted

Benton, Bruce. New Jersey Department of Environmental Protection, Bureau of Air Quality Evaluation.

Clancy, Mary Lou. Monmouth County Office of Superintendent of Schools

Conzanka, Larry. Monmouth County Solid Waste Planning Board.

Desai, DinKerrai. Fort Monmouth, Directorate of Engineering and Housing.

Devine, Patricia. Fort Monmouth, Base Realignment and Closure Office, U.S. Army Communications — Electronics Command.

Fallon, Joseph. Fort Monmouth Directorate of Engineering and Housing.

Fitzmaier, George. Fort Monmouth, Directorate of Engineering and Housing.

Kendra, Thomas. Fort Monmouth, Directorate for Corporate Information

Migliore, Vincent. Fort Monmouth, Base Realignment and Closure Office, U.S. Army Communications — Electronics Command.

Miller, Nancy. Monmouth County Division of Social Services

New Jersey Department of Environmental Protection, Division of Parks and Forestry.

Sundaram, Piryia. New Jersey Department of Environmental Protection, Land Use Regulation.

U.S. Department of the Interior, Fish and Wildlife Service.

7.0 Findings and Conclusions

Modifications to two alternatives to implement the proposed Defense Base Closure and Realignment Commission (BRAC) action have been reviewed in this supplemental environmental assessment (EA) in accordance with the National Environmental Policy Act (NEPA) as implemented by the regulations of the Council on Environmental Quality and Army Regulation (AR) 200-2. Baseline environmental and socioeconomic conditions at the Charles Wood subpost of Fort Monmouth have been described and the environmental consequences of implementing the proposed modified actions have been evaluated. The evaluation of the preferred alternative (Alternative 1) and Alternative 2 leads to the conclusion that the physical and socioeconomic environments at Fort Monmouth and its surroundings would not be significantly affected under either alternative.

Implementation of the proposed action would not substantially alter baseline environmental conditions. The proposed action does not involve any changes in population, mission, or commuting destination beyond that initially assessed in the July 1994 EA. Because there would be no change in on-post population or mission, impacts on air quality, transportation, water supply, wastewater systems, solid waste infrastructure, energy, communications, and socioeconomic resources such as housing, schools, and health and safety services are not expected.

Some short-term effects might result during construction of new facilities and renovation of existing buildings. However, the impacts would not be significant and would be minimized as described in Section 5.0. Sediment and erosion controls will be used to prevent water quality impacts, and stormwater management will be implemented to control runoff from new facilities. Noise mitigation measures will be implemented as needed during construction.

The U.S. Fish and Wildlife Service (USFWS) indicated that forested wetlands on the Charles Wood subpost could provide suitable habitat for swamp pink (*Helonias bullata*), an endangered plant species. However, a biological survey for swamp pink was conducted, and no threatened or endangered species, including swamp pink, were found. This finding has been submitted for review by the USFWS. Under both alternatives, new facilities would be constructed at least 50 feet from the wetlands edge, as required by New Jersey regulations.

Based on previous disturbance, impacts to archeologic resources are not expected at locations considered for construction under either alternative. Warehouse buildings 2502, 2503, 2504 and 2506 (identified for renovation under Alternative 1) and the Myer Center (identified for renovation under Alternative 2) are not a eligible for the National Register of Historic Places and renovation of these buildings would have no adverse effect on significant historic properties.

None of the effects resulting from implementation of the preferred alternative, Alternative 1, would be of significant consequence to the environment. Therefore, an Environmental Impact Statement is not required, and a Finding of No Significant Impact will be published in accordance with AR 200-2.

8.0 List of Preparers

Allen, Anita (B.S., Biology)
Six years experience preparing environmental impact statements and environmental assessments, and conducting environmental studies including wetlands delineations, rare, threatened, and endangered species surveys, and habitat assessments.

Britt, Eden S. (B.S., Zoology)
Seven years experience in conducting field studies and assessing environmental impacts.

Chaudhery, Kapil (M.R.P, Regional Planning, B.A., Architecture)
Eight years of experience in assessing impacts and developing resource management and community development plans.

Diamond, Rachel S., (M.R.P., Regional Planning, B.A., Environmental Science)
Fourteen years of experience in assessing environmental impacts, developing resource protection and growth management plans, and assessing environmental compliance and permitting needs.

Farris, Virginia (B.A., Psychology)
Twelve years experience in data management and analysis; seven years of experience in analyzing socioeconomic data to support land use planning and environmental impact assessments at military facilities; two years experience with the US Army's Economic Impact Forecast System (EIFS) model.

Stafford, Richard W., P.E. (B.S., Civil Engineering)
Eight years experience in transportation and traffic engineering. Registered Professional Engineer.

Whitaker, Roger (B.S., Mechanical Engineering)
Four years experience in environmental noise control for transportation and industrial environmental assessments.

Senior Review Provided By:

Matichich, Michael (M.R.P., Urban and Regional Planning; B.A., Politics and Government)
Sixteen years experience in conducting economic and financial impacts analyses for environmental assessments and impact statements for major public works projects; nine years experience in conducting facility utilization and economic studies for military programs and facilities.

Neuman, Timothy, R., P.E. (M.S., Civil Engineering; B.S., Civil Engineering)
Eighteen years experience in transportation and traffic engineering. Registered Professional Engineer.

Nikituk, Paul (B.S., Biology)
Twenty years experience preparing environmental impact statements and environmental assessments for military facilities, other federal facilities, and private sector facilities.

9.0 References

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CH2M HILL. Telephone call from Virginia Farris to George Fitzmaier, Fort Monmouth. January 18, 1994d.

CH2M HILL. Telephone call from Virginia Farris to Superintendent of Schools, Monmouth County. January 21, 1994e.

CH2M HILL. Telephone call from Virginia Farris to Nancy Miller, Monmouth County Division of Social Services. January 21, 1994f.

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Appendix A

Agency Coordination Letters

DEPARTMENT OF THE ARMY
HEADQUARTERS, US ARMY COMMUNICATIONS-ELECTRONICS COMMAND
AND FORT MONMOUTH
FORT MONMOUTH, NEW JERSEY 07703-5000

REPLY TO ATTENTION OF

April 23, 1995

Office of the Director for Program Analysis and Evaluation
Base Realignment and Closure Division

Mr. Clifford G. Day
U. S. Dept of the Interior
Fish and Wildlife Service
927 N. Main St. (Bldg D1)
Pleasantville, New Jersey 08232

Dear Sir:

Reference, your letter from Fish and Wildlife Service to Eden Britt (CH2MHILL), dtd Jan 20, 1994.

In accordance with section 7(a) (2) of The Endangered Species Act and your Jan 20, 1994 letter to Eden Britt of CH2MHILL, a copy of the Wetlands Delineation Survey for the July 1994 Fort Monmouth Environmental Assessment is enclosed. This survey addressed the potential impact of our proposed actions on any threatened or endangered species.

In the findings and conclusions of the survey, no threatened or endangered species were found nor was evidence found to suggest such species might inhabit this site. This being the case, there is no environmental impact with regards to section 7 of the Endangered Species Act.

Please review the enclosed survey and send your concurrence to Mr. Vince Migliore at HQS, CECOM, ATTN: AMSEL-PE-BR, Fort Monmouth, New Jersey 07703-5027. Please direct any questions to Vince Migliore at 908-532-3341.

Sincerely,

LAWRENCE A. SMITH
Acting Director, Program Analysis
and Evaluation

Encl

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection
Environmental Regulation
Land Use Regulation Program
CN 401
Trenton, NJ 08625-0401
Fax # (609) 292-8115

Robert C. Shinn, Jr.
Commissioner

JAN 20 1995

George Semmens
DeBellis & Semmens
358 Saw Mill Road
Millwood, NY 10546

RE: Freshwater Wetland Letter of Interpretation - Parcel Portion
The Department of the Army
File No. 1336-94-0006.1 FWLI
Block 101, Lot 1
Tinton Falls, Monmouth County
Wampum Brook, Shrewsbury Watershed, Atlantic Basin

Dear Mr. Semmens:

This letter is in response to your request of August 9, 1994 for a Letter of Interpretation to verify the jurisdictional boundary of the freshwater wetlands and waters on a portion of the above referenced property.

Based upon the information submitted, and upon a site inspection conducted by Program staff on October 13, 1994, the Land Use Regulation Program has determined that freshwater wetlands and waters are present on the referenced property, and the wetlands and waters boundary lines as shown on the plan of six sheets entitled "Master Plan Existing Conditions Map, Wetlands Delineation - Charles Wood Area", being sheets F, G, H, K, L & M, within the area labeled as "Parcel Limit", dated Dec. 1994, unrevised, and prepared by DeBellis & Semmens, are accurate as shown. In accordance with agreements between the State of New Jersey Department of Environmental Protection, the U.S. Environmental Protection Agency, and the U.S. Army Corps of Engineers, the Land Use Regulation Program is the lead agency for establishing the extent of regulated wetlands and waters. The above referenced plan accurately identifies the extent of these regulated wetlands and waters on the property. The USEPA and/or the USACOE retain the right to reevaluate and modify the jurisdictional determination at any time should the information prove to be incomplete or inaccurate.

Any activities regulated under the Freshwater Wetlands Protection Act proposed within the wetlands, or the deposition of any fill material into any water area, will require a permit from this office unless exempted under the Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq., and implementing rules, N.J.A.C. 7:7A. A copy of this plan, together with the information upon which this boundary determination is based, has been made a part of this Program's public records.

You are entitled to rely upon this boundary determination for a period of five years from the date of this letter pursuant to the Freshwater Wetlands Protection Act Rules, N.J.A.C. 7:7A.

This determination does not affect your responsibility to obtain any local, State, or Federal permits which may be required.

The freshwater wetlands and waters boundary line, as determined in this letter, must be shown on any future site development plans submitted to NJDEP. The line should be labelled with the following note:

"Freshwater Wetlands/Waters Boundary Line as verified by NJDEP on 10/13/94, file #1336-94-0006.1".

In addition, the Program has determined that the regulated features related to the subject property have the following resource values. The feature mapped between points **W-Hd-2 and W-162 is a waters area and does not have a buffer** or transition area required adjacent to it. The balance of site related wetlands mapped are **intermediate** resource value, and the standard transition area or buffer required adjacent to these wetlands is **50 feet.** This classification may affect the requirements for a Individual Wetlands Permit (see N.J.A.C. 7:7A-3), the types of Statewide General Permits available for the wetlands portion of this property (see N.J.A.C. 7:7A-9) and the modification available through a transition area waiver (see N.J.A.C. 7:7A-7). Please refer to the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et seq.) and implementing rules for additional information.

It should be noted that this determination of wetlands classification is based on the best information presently available to the Department. The classification is subject to change if this information is found no longer to be accurate, or as additional information is made available to the Department, including, but not limited to, information supplied by the applicant.

If you have any questions regarding this letter, please contact Mr. Tim Cochran of my staff at (609) 984-0184. Be sure to indicate the Program's file number in any communication.

Sincerely,

Kurt R. Kalb
Section Chief, Monmouth Region
Bureau of Coastal Regulation

cc: Monmouth County Planning Board
Tinton Falls Municipal Planning Board
Tinton Falls Construction Official

B6/36406LIV

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
927 North Main Street (Bldg. D1)
Pleasantville, New Jersey 08232

Tel: 609-646-9310
FAX: 609-646-0352

IN REPLY REFER TO:

ES-93/304

January 20, 1994

Ms. Eden S. Britt
CH2M Hill
P.O. Box 40
Philadelphia, Pennsylvania 19105-0040

Dear Ms. Britt:

This responds to your December 21, 1993 request to the U.S. Fish and Wildlife Service (Service) regarding the presence of endangered or threatened species in the vicinity of Fort Monmouth and Camp Charles Wood near the municipalities of Oceanport, Eatonton, and Shrewsbury, Monmouth County, New Jersey. You have been contracted by the U.S. Army Corps of Engineers to prepare an environmental assessment for base realignment and closure activities at the subject sites.

Authority

This response is provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) to ensure the protection of endangered and threatened species and does not address all Service concerns for fish and wildlife resources. These comments do not preclude separate review and comments by the Service as afforded by the Fish and Wildlife Coordination Act (48 Stat. 401, 16 U.S.C. 661 et seq.) if any permits are required from the U.S. Army Corps of Engineers pursuant to the Clean Water Act of 1977 (33 U.S.C. 1344 et seq.), nor do they preclude comments on any forthcoming environmental documents pursuant to the National Environmental Policy Act of 1969 as amended (83 Stat. 852; 42 U.S.C. 4321 et seq.).

Listed Species

Enclosed are current summaries of the federally-listed and candidate species in New Jersey for your information. Fort Monmouth and Camp Charles Wood are located within the geographic range of the federally-listed threatened plant, swamp pink (*Helonias bullata*). An occurrence of swamp pink has been documented within four miles of Fort Monmouth and within two miles of Camp Charles Wood. Swamp pink typically occurs in forested wetlands, although occurrence in scrub / shrub wetlands is known. Threats to swamp pink include direct loss of its wetland habitat due to filling or draining and indirect degradation of its habitat due to sedimentation, erosion, disruption of groundwater hydrology, and adverse impacts to water quality.

The Service's National Wetlands Inventory (NWI) map (Long Branch, New Jersey quadrangle) indicates that a few small intermittent areas of palustrine forested wetlands occur within each of the study areas. Many areas of New Jersey, including Fort Monmouth and Camp Charles Wood, have not been thoroughly surveyed for endangered and threatened species. Therefore, occurrences of swamp pink could be located in forested wetlands within the study areas. If any such wetlands would be directly or indirectly affected by project activities, the Service requests that a qualified botanist conduct a vegetative survey of these affected areas to determine the absence or presence of swamp pink. The results of the survey, including the survey method used and the qualifications of the surveyor, must be forwarded to this office for review. If swamp pink is present, any activities within the study areas that directly or indirectly affect its habitat may affect this species.

In accordance with Section 7(a)(2) of the Endangered Species Act, an assessment of potential direct, indirect, and cumulative impacts is required for all federal actions that may affect listed species. Therefore, further consultation pursuant to Section 7 will be necessary if swamp pink is found to occur within the study area and any ground disturbance or impacts to hydrology are anticipated as a result of project activities.

Other than swamp pink and an occasional transient bald eagle (*Haliaeetus leucocephalus*) or peregrine falcon (*Falco peregrinus*), no other federally-listed or proposed threatened or endangered flora or fauna are known to occur within the vicinity of Fort Monmouth and Camp Charles Wood.

Candidate Species

Candidate species are species under consideration by the Service for possible inclusion on the List of Endangered and Threatened Wildlife and Plants. Although candidate species receive no substantive or procedural protection under the Endangered Species Act, the Service encourages federal agencies and other planners to consider candidate species in the project planning process. The New Jersey Natural Heritage Program (NHP) provides the most up-to-date information on candidate species in New Jersey, as well as maintaining information on State-listed species. The NHP may be contacted at the following address:

Mr. Thomas Breden
Natural Heritage Program
Division of Parks and Forestry
CN 404
Trenton, New Jersey 08625
(609/984-0097)

Should the NHP data search or field surveys reveal the presence of any candidate species on the site, the Service must be contacted to ensure that these species are not adversely affected by project activities.

Further information on New Jersey's State-listed wildlife species may be obtained from the following office:

Mr. Larry Niles
Endangered and Nongame Species Program
Division of Fish, Game and Wildlife
CN 400
Trenton, New Jersey 08625
(609/292-9400)

Wetlands

As noted previously, according to the Service's NWI map (Long Branch, New Jersey quadrangle), palustrine forested wetlands occur within the study areas. Wetlands provide habitat for a variety of migratory and resident species of fish and wildlife. Direct threats to wetlands include draining and filling for development. The integrity of wetlands are also vulnerable to indirect threats such as increased sedimentation, decreased water quality, and loss of adjacent buffer habitats to development. Thus, the Service discourages activities in and affecting the Nation's wetlands that would unnecessarily damage, degrade, or destroy the habitat values of these areas. Project activities in wetlands may require federal and State permits from the U.S. Army Corps of Engineers pursuant to the Clean Water Act, and the New Jersey Department of Environmental Protection and Energy pursuant to the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et seq.). Thus, if work is proposed in wetlands, the following offices must be contacted to determine federal and State permit requirements, respectively:

Regulatory Branch
U.S. Army Corps of Engineers
New York District
26 Federal Plaza
New York, New York 10278-0090
(212/264-0184)

Land Use Regulation Program
Department of Environmental Protection and Energy
CN 401
Trenton, New Jersey 08625-0401
(609/984-0853)

Information contained in this letter and additional information obtained from the aforementioned sources represents the public interest for fish and wildlife resources and should warrant full consideration in the project planning process. The Service requests that no part of this letter be taken out of context and if reproduced, the letter should appear in its entirety.

Please contact Annette Scherer of my staff if you have any questions or require further assistance regarding threatened or endangered species.

Sincerely,

for Clifford G. Day
Supervisor

Enclosures

Revised 8/93

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN NEW JERSEY

An ENDANGERED SPECIES is any species that is in danger of extinction throughout all or a significant portion of its range.

A THREATENED SPECIES is any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

FISHES

Sturgeon, shortnose*	Acipenser brevirostrum	E

REPTILES

Turtle, Atl. Ridley*	Lepidochelys kempii	E
Turtle, green*	Chelonia mydas	T
Turtle, hawksbill*	Eretmochelys imbricata	E
Turtle, leatherback*	Dermochelys coriacea	E
Turtle, loggerhead*	Caretta caretta	T

BIRDS

Eagle, bald	Haliaeetus leucocephalus	E
Falcon, Am. peregrine	Falco peregrinus anatum	E
Falcon, Arctic peregrine	Falco peregrinus tundrius	T
Plover, piping	Charadrius melodus	T
Tern, roseate	Sterna dougallii dougallii	E

MAMMALS

Bat, Indiana	Myotis sodalis	E
Cougar, eastern	Felis concolor couguar	E+
Whale, blue*	Balaenoptera musculus	E
Whale, finback*	Balaenoptera physalus	E
Whale, humpback*	Megaptera novaeangliae	E
Whale, right*	Balaena glacialis	E
Whale, sei*	Balaenoptera borealis	E
Whale, sperm*	Physeter catodon	E

INVERTEBRATES

Dwarf wedge mussel	Alasmidonta heterodon	E+
Beetle, northeastern beach tiger	Cicindela dorsalis dorsalis	T+
Butterfly, Mitchell satyr	Neonympha m. mitchellii	E+
American burying beetle	Nicrophorus americanus	E+

PLANTS

Pogonia, small whorled	Isotria medeoloides	E
Swamp pink	Helonias bullata	T
Orchid, eastern prairie fringed	Platanthera leucophaea	T+
Knieskern's beaked-rush	Rhynchospora knieskernii	T
American chaffseed	Schwalbea americana	E
Joint-vetch, sensitive	Aeschynomene virginica	T
Pigweed, sea-beach	Amaranthus pumilus	T+

STATUS:

E: endangered species
T: threatened species
+: presumed extirpated
PE: proposed endangered
PT: proposed threatened

* Except for sea turtle nesting habitat, principal responsibility for these species is vested with the National Marine Fisheries Service.

Note: for a complete listing of Endangered and Threatened Wildlife and Plants refer to 50 CFR 17.11 and 17.12, July 15, 1991)

Revised 12/93

CANDIDATE SPECIES IN NEW JERSEY

CANDIDATE SPECIES in categories 1 and 2 are species that appear to warrant consideration for addition to the List of Endangered and Threatened Wildlife and Plants. Although these species receive no substantive or procedural protection under the Endangered Species Act, the Service encourages federal agencies and other planners to give consideration to these species in the environmental planning process.

Species		Category
VERTEBRATES		
Turtle, bog	Clemmys muhlenbergii	2
Terrapin, northern diamondback	Malaclemys terrapin terrapin	2
Snake, northern pine	Pituophis melanoleucus melanoleucus	2
Duck, harlequin	Histrionicus histrionicus	2
Rail, Black	Laterallus jamaicensis	2
Shrike, migrant loggerhead	Lanius ludovicianus migrans	2
Sparrow, Henslow's	Ammodramus henslowii	2
Warbler, cerulean	Dendroica cerulea	2
Bat, eastern small-footed	Myotis subulatus leibii	2
Rabbit, New England cottontail	Sylvilagus transitionalis	2
Shrew, long-tailed	Sorex dispar	3C
Shrew, Tuckahoe masked	Sorex cinereus nigriculus	2
Woodrat, eastern	Neotoma floridana magister	2
INVERTEBRATES		
Beetle, cobblestone tiger	Cicindela marginipennis	2
Butterfly, regal fritillary	Speyeria idalia	2*
Butterfly, tawny crescent	Phyciodes batesi	2*
Dragonfly, banded bog skimmer	Williamsonia lintneri	?
Dragonfly, extra-striped snaketail	Ophiogomphus anomalus	2*
Moth, Albarufan dagger	Acronicta albarufa	2
Moth, Buchholz's dart	Agrotis buchholzi	2
Moth, Daecke's pyralid	Crambus daeckeellus	2
Moth, Hebard's noctuid	Erythroecia hebardi	2
Moth, Lemmer's pinnion	Lithophane lemmeri	3C
Moth, precious underwing	Catocala pretiosa	2
Moth, Carter's noctuid	Spartiniphaga carterae	2
Moth, annointed sallow noctuid	Pyreferra ceromatica	2*
Moth, buck	Hemileuca sp.	2
Skipper, Eastern beardgrass	Atrytone arogos arogos	2
Skipper, grizzled	Pyrgus wyandot	2*
Skipper, rare	Problema bulenta	2
Mussel, brook floater	Alasmidonta varicosa	2
Mussel, green floater	Lasmigona subviridis	2
Mussel, yellow lamp	Lampsilis cariosa	2

PLANTS

Lakecress	Armoracia lacustris	3C
Bur-marigold	Bidens bidentoides var. bidentoides	2
Sedge, variable	Carex polymorpha	2
Sedge, Schweinitz's	Carex schweinitzii	2
Spring beauty	Claytonia virginica var. hammondiae	2
Tick-trefoil, ground-spreading	Desmodium humifusum	2
Boneset, pine barrens	Eupatorium resinosum	2
Spurge, Darlington's	Euphorbia purpurea	2
Everlasting, clammy	Gnaphalium macounii	3B
St. Johnswort, Barton's	Hypericum adpressum	2
Butternut	Juglans cinerea	2
Rush, New Jersey	Juncus caesariensis	2
Blazingstar	Liatris borealis	2
Spicebush	Lindera subcoriacea	2
Lobelia, Boykin's	Lobelia boykinii	2
Micranthemum, Nuttall's	Micranthemum micranthemoides	2*
Bog asphodel	Narthecium americanum	1
Panic grass, Hirst's	Panicum hirstii	2
Pondweed, algae-like	Potamogeton confervoides	2
Plum, Alleghany	Prunus alleghaniensis	2
Meadowbeauty, awned	Rhexia aristosa	2
Bulrush, Long's	Scirpus longii	2
Morning-glory, Pickering's	Stylisma pickeringii	2
Sea blite	Suaeda rolandii	2
Verbena	Verbena riparia	2*?

STATUS:

1: Taxa for which the Service currently has substantial information to support the appropriateness of proposing to list the species as threatened or endangered. Development and publication of proposed rules on these species is anticipated.

2: Taxa for which information now in possession of the Service indicates that proposing to list the species as threatened or endangered is possibly appropriate, but for which conclusive data are not available to support proposed rules at this time.

3B: Names that, on the basis of current taxonomic understanding, do not represent distinct taxa meeting the Act's definition of "species." Such supposed taxa could be reevaluated in the future on the basis of new information.

3C: Taxa that have proven to be more abundant than previously believed and/or those that are not subject to any identifiable threat. If further research or changes in habitat indicate a significant decline in any of these taxa, they may be reevaluated for possible inclusion in categories 1 or 2.

PE: Proposed Endangered species

PT: Proposed Threatened species

* indicates those species whose continued existence is in doubt.

? indicates those species for which occurrence in New Jersey is questionable.

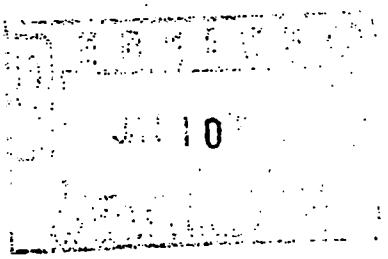
Note: for complete listings of taxa under review, refer to Federal Register Vol. 56, No. 225, Nov. 21, 1991 (Animal) and Vol. 58, No. 188, September 30, 1993 (Plants).

State of New Jersey
Department of Environmental Protection and Energy
Division of Parks and Foresty
Office of Natural Lands Management
CN 404
Trenton, NJ 08625-0404
Tel. # 609-984-1339
Fax. # 609-984-1427

Jeanne M. Fox
Acting Commissioner

Thomas F. Hampton
Administrator

January 5, 1994



Eden S. Britt
CH2M HILL
1216 Arch Street
Philadelphia, PA 19107

Re: Fort Monmouth and Camp Charles Wood

Dear Eden Britt:

Thank you for your data request regarding rare species information for the above referenced project sites in Monmouth County.

The Natural Heritage Data Base does not have any records for rare plants, animals or natural communities on either site. Attached is a list of rare species and natural communities which have been documented from Monmouth County. If suitable habitat is present at the project sites, these species would have potential to be present. If you have questions concerning the wildlife records or wildlife species mentioned in this response, we recommend you contact the Division of Fish, Game and Wildlife; Endangered and Nongame Species Program.

PLEASE SEE THE ATTACHED 'CAUTIONS AND RESTRICTIONS ON NHP DATA'.

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

Sincerely,

Rick Dutko
Senior Nongame Zoologist
Natural Heritage Program

cc: Larry Niles
Thomas Hampton
NHP File No. 93-4007338

NATURAL LANDS MANAGEMENT

CAUTIONS AND RESTRICTIONS ON NATURAL HERITAGE DATA

The quantity and quality of data collected by the Natural Heritage Program is dependent on the research and observations of many individuals and organizations. Not all of this information is the result of comprehensive or site-specific field surveys. Some natural areas in New Jersey have never been thoroughly surveyed. As a result, new locations for plant and animal species are continuously added to the data base. Since data acquisition is a dynamic, ongoing process, the Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of New Jersey. Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. The attached data is provided as one source of information to assist others in the preservation of natural diversity.

This office cannot provide a letter of interpretation or a statement addressing the classification of wetlands as defined by the Freshwater Wetlands Act. Requests for such determination should be sent to the DEPE Land Use Regulation Program, CN 401, Trenton, NJ 08625-0401.

This cautions and restrictions notice must be included whenever information provided by the Natural Heritage Database is published.

MONMOUTH COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

	NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
** Vertebrates							
	ACCIPITER COOPERII	COOPER'S HAWK		E		G4	S2
	AMMODRAMUS SAVANNARUM	GRASSHOPPER SPARROW		T/T		G4	S2
	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER		E		G5	S1
	CHARADRIUS MELODUS	PIPING PLOVER	LELT	E		G3	S1
	CLEMMYS INSCULPTA	WOOD TURTLE		T		G4	S3
	CLEMMYS MUHLENBERGII	BOG TURTLE	C2	E		G3	S2
	CROTALUS HORRIDUS	TIMBER RATTLESNAKE		E		G5	S2
	DOLICHONYX ORYZIVORUS	BOBOLINK		T/T		G5	S2
	HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	LELT	E		G3	S1
	HYLA ANDERSONII	PINE BARRENS TREEFROG	3C	E		G4	S3
	MELANERPES ERYTHROCEPHALUS	RED-HEADED WOODPECKER		T/T		G5	S3
	PANDION HALIAETUS	OSPREY		T/T		G5	S3
	PASSERCULUS SANDWICHENSIS	SAVANNAH SPARROW		T/T		G5	S2
	PITUOPHIS MELANOLEUCUS	PINE SNAKE		T		G5	S3
	PODILYMBUS PODICEPS	PIED-BILLED GREBE		E/S		G5	S1
	POOECETES GRAMINEUS	VESPER SPARROW		E		G5	S2
	RYNCHOPS NIGER	BLACK SKIMMER		E		G5	S2
	STERNA ANTILLARUM	LEAST TERN		E		G4	S2
	STRIX VARIA	BARRED OWL		T/T		G5	S3
** Ecosystems							
	COASTAL DUNE WOODLAND	COASTAL DUNE WOODLAND				G2G3	S1
	FLOODPLAIN FOREST	FLOODPLAIN FOREST				G4	S3?
	MARITIME FOREST	MARITIME FOREST				G3?	S1
** Invertebrates							
	CHYTONIX SENSILIS	A NOCTUID MOTH				G4	S1S3

MONMOUTH COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
CICINDELA DORSALIS DORSALIS	NORTHEASTERN BEACH TIGER BEETLE	LT	E		G4T2	SH
ENALLAGMA RECURVATUM	PINE BARRENS BLUET	3C			G3	S3
LIBELLULA AURIPENNIS	GOLDEN-WINGED SKIMMER				G5	S1?
*** Other types						
MIGRATORY SHOREBIRD CONCENTRATION SITE	MIGRATORY SHOREBIRD CONCENTRATION SITE				G?	S?
*** Vascular plants						
ARTEMISIA CAMPESTRIS SSP CAUDATA	WILD WORMWOOD				G5T4	S2
ASTER INFIRMUS	CORNEL-LEAVED ASTER				G5	S2
ASTER RADULA	LOW ROUGH ASTER		E		G5	S1
CACALIA ATRIPLICIFOLIA	PALE INDIAN PLANTAIN		E		G4G5	S1
CALAMAGROSTIS PICKERINGII	PICKERING'S REEDGRASS		E		G3	S1
CALAMOVILFA BREVIPILIS	PINE BARREN REEDGRASS	3C		LP	G3	S3
CAREX BARRATTII	BARRATT'S SEDGE	3C		LP	G4	S4
CAREX CUMULATA	CLUSTERED SEDGE		E		G3G4	SH
CAREX POLYMORPHA	VARIABLE SEDGE	C2	E		G2	S1
CERATOPHYLLUM ECHINATUM	SPINY COONTAIL		E		G5Q	SH
CRATAEGUS CALPODENDRON	PEAR HAWTHORN		E		G5	S1
CRATAEGUS SUCCULENTA	FLESHY HAWTHORN		E		G5	S1
CYPERUS LANCASTRIENSIS	LANCASTER FLATSEDGE		E		G5	S2
CYPERUS POLYSTACHYOS	COAST FLATSEDGE		E		G5	S1
DESMODIUM HUMIFUSUM	TRAILING TICK-TREFOIL	C2	E		G1G2Q	SH
DIODIA VIRGINIANA	LARGER BUTTONWEED		E		G5	S1
DIRCA PALUSTRIS	LEATHERWOOD				G4	S2

MONMOUTH COUNTY
RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN
THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
ERIOCAULON PARKERI	PARKER'S PIPEWORT	3C			G3	S2
FRAXINUS PROFUNDA	PUMPKIN ASH		E		G4G5	S1
GENTIANA AUTUMNALIS	PINE BARREN GENTIAN	3C		LP	G3	S3
HELONIAS BULLATA	SWAMP-PINK	LT	E	LP	G3	S3
JUNCUS CAESARIENSIS	NEW JERSEY RUSH	C2	E	LP	G2	S2
LIMOSELLA SUBULATA	MUDWEED		E		G?	S1
LINUM INTERCURSUM	SANDPLAIN FLAX		E		G4G5	S1
LISTERA AUSTRALIS	SOUTHERN TWAYBLADE			LP	G4	S2
LUZULA ACUMINATA	HAIRY WOODRUSH		E		G5	S1
LYGODIUM PALMATUM	CLIMBING FERN			LP	G4	S2
MYRIOPHYLLUM TENELLUM	SLENDER WATER-MILFOIL		E		G5	S1
ONOSMODIUM VIRGINIANUM	VIRGINIA FALSE-GROMWELL		E		G4	S1
PHORADENDRON SEROTINUM	MISTLETOE			LP	G5	S2
PLANTAGO PUSILLA	SLENDER PLANTAIN		E		G5	SH
PLATANTHERA PERAMOENA	PURPLE FRINGELESS ORCHID	3C	E		G5	SH
POLYGONUM GLAUCUM	SEA-BEACH KNOTWEED		E		G3	S1
PYCNANTHEMUM TORREI	TORREY'S MOUNTAIN MINT		E		G2	S1
PYROLA CHLORANTHA	GREENISH-FLOWERED WINTERGREEN				G5	S1S2
RANUNCULUS CYMBALARIA	SEA-SIDE CROWFOOT		E		G5	SH
RHYNCHOSPORA GLOBULARIS	GRASS-LIKE BEAKED RUSH		E		G5?	S1
RHYNCHOSPORA KNIESKERNII	KNIESKERN'S BEAKED RUSH	LT	E	LP	G1	S1
RHYNCHOSPORA PALLIDA	PALE BEAK RUSH				G3?	S3
RUMEX HASTATULUS	HEART-WINGED SORRELL				G5	SX.1
SAGITTARIA AUSTRALIS	SOUTHERN ARROW HEAD		E		G5	S1
SALIX LUCIDA	SHINING WILLOW				G5	S2
SCIRPUS MARITIMUS	SALT MARSH BULRUSH		E		G5	SH
SCLERIA MINOR	SLENDER NUT RUSH			LP	G4G5	S4
TRIGLOCHIN MARITIMUM	SEA-SIDE ARROW-GRASS		E		G5	S1

4

23 AUG 1993

MONMOUTH COUNTY

RARE SPECIES AND NATURAL COMMUNITIES PRESENTLY RECORDED IN

THE NEW JERSEY NATURAL HERITAGE DATABASE

NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS	REGIONAL STATUS	GRANK	SRANK
UVULARIA PUBERULA VAR NITIDA	PINE BARREN BELLWORT		E		G5T2?	S2
VERBENA SIMPLEX	NARROW-LEAVED VERVAIN		E		G5	SH

74 Records Processed

EXPLANATIONS OF CODES USED IN NATURAL HERITAGE REPORTS

FEDERAL STATUS CODES

The following U.S. Fish and Wildlife Service categories and their definitions of endangered and threatened plants and animals have been modified from the U.S. Fish and Wildlife Service (F.R. Vol. 50 No. 188; Vol. 55, No. 35; F.R. 50 CFR 17.11 and 17.12). Federal Status codes reported for species follow the most recent listing.

LE Taxa formally listed as endangered.

LT Taxa formally listed as threatened.

PE Taxa already proposed to be formally listed as endangered.

PT Taxa already proposed to be formally listed as threatened.

C1 Taxa for which the Service currently has on file substantial information on biological vulnerability and threat(s) to support the appropriateness of proposing to list them as endangered or threatened species.

C1* Taxa which may be possibly extinct (although persuasive documentation of extinction has not been made--compare to 3A status).

C2 Taxa for which information now in possession of the Service indicates that proposing to list them as endangered or threatened species is possibly appropriate, but for which substantial data on biological vulnerability and threat(s) are not currently known or on file to support the immediate preparation of rules.

C3 Taxa that are no longer being considered for listing as threatened or endangered species. Such taxa are further coded to indicate three subcategories, depending on the reason(s) for removal from consideration.

3A Taxa for which the Service has persuasive evidence of extinction.

3B Names that, on the basis of current taxonomic understanding, do not represent taxa meeting the Act's definition of "species".

3C Taxa that have proven to be more abundant or widespread than was previously believed

and/or those that are not subject to any identifiable threat.

S/A Similarity of appearance species.

STATE STATUS CODES

Two animal lists provide state status codes after the Endangered and Nongame Species Conservation Act of 1973 (NSSA 23:2A-13 et. seq.): the list of endangered species (N.J.A.C. 7:25-4.13) and the list defining status of indigenous, nongame wildlife species of New Jersey (N.J.A.C. 7:25-4.17(a)). The status of animal species is determined by the Nongame and Endangered Species Program (ENSP). The state status codes and definitions provided reflect the most recent lists that were revised in the New Jersey Register, Monday, June 3, 1991.

D Declining species-a species which has exhibited a continued decline in population numbers over the years.

E Endangered species-an endangered species is one whose prospects for survival within the state are in immediate danger due to one or many factors - a loss of habitat, over exploitation, predation, competition, disease. An endangered species requires immediate assistance or extinction will probably follow.

EX Extirpated species-a species that formerly occurred in New Jersey, but is not now known to exist within the state.

I Introduced species-a species not native to New Jersey that could not have established itself here without the assistance of man.

INC Increasing species-a species whose population has exhibited a significant increase, beyond the normal range of its life cycle, over a long term period.

T Threatened species-a species that may become endangered if conditions surrounding the species begin to or continue to deteriorate.

P Peripheral species-a species whose occurrence in New Jersey is at the extreme edge of its present natural range.

S Stable species-a species whose population is not undergoing any long-term increase/decrease within its natural cycle.

U Undetermined species-a species about which there is not enough information available to determine the status.

Status for animals separated by a slash(/) indicate a duel status. First status refers to the state breeding population, and the second status refers to the migratory or winter population.

Plant taxa listed as endangered are from New Jersey's official Endangered Plant Species List N.J.S.A. 131B-15.151 et seq.

E Native New Jersey plant species whose survival in the State or nation is in jeopardy.

REGIONAL STATUS CODES FOR PLANTS

LP Indicates taxa listed by the Pinelands Commission as endangered or threatened within their legal jurisdiction. Not all species currently tracked by the Pinelands Commission are tracked by the Natural Heritage Program. A complete list of endangered and threatened Pineland species is included in the New Jersey Pinelands Comprehensive Management Plan.

EXPLANATION OF GLOBAL AND STATE ELEMENT RANKS

The Nature Conservancy has developed a ranking system for use in identifying elements (rare species and natural communities) of natural diversity most endangered with extinction. Each element is ranked according to its global, national, and state (or subnational in other countries) rarity. These ranks are used to prioritize conservation work so that the most endangered elements receive attention first. Definitions for element ranks are after The Nature Conservancy (1982: Chapter 4, 4.1-1 through 4.4.1.3-3).

GLOBAL ELEMENT RANKS

G1 Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.

G2 Imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.

G3 Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single western state, a physiographic region in the East) or because of other factors making it vulnerable to extinction throughout it's range; with the number of occurrences in the range of 21 to 100.

G4 Apparently secure globally; although it may be quite rare in parts of its range, especially at the periphery.

G5 Demonstrably secure globally; although it may be quite rare in parts of its range, especially at the periphery.

GH Of historical occurrence throughout its range i.e., formerly part of the established biota, with the expectation that it may be rediscovered.

GU Possibly in peril range-wide but status uncertain; more information needed.

GX Believed to be extinct throughout range (e.g., passenger pigeon) with virtually no likelihood that it will be rediscovered.

G? Species has not yet been ranked.

STATE ELEMENT RANKS

S1 Critically imperiled in New Jersey because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres). Elements so ranked are often restricted to very specialized conditions or habitats and/or restricted to an extremely small geographical

area of the state. Also included are elements which were formerly more abundant, but because of habitat destruction or some other critical factor of its biology, they have beer demonstrably reduced in abundance. In essence, these are elements for which, even with intensive searching, sizable additional occurrences are unlikely to be discovered.

S2 Imperiled in New Jersey because of rarity (6 to 20 occurrences). Historically many of these elements may have been more frequent but are now known from very few extant occurrences, primarily because of habitat destruction. Diligent searching may yield additional occurrences.

S3 Rare in state with 21 to 100 occurrences (plant species in this category have only 21 to 50 occurrences). Includes elements which are widely distributed in the state but with small populations/acreage or elements with restricted distribution, but locally abundant. Not yet imperiled in state but may soon be if current trends continue. Searching often yields additional occurrences.

S4 Apparently secure in state, with many occurrences.

S5 Demonstrably secure in state and essentially ineradicable under present conditions.

SA Accidental in state, including species (usually birds or butterflies) recorded once or twice or only at very great intervals, hundreds or even thousands of miles outside their usual range; a few of these species may even have bred on the one or two occasions they were recorded; examples include european strays or western birds on the East Coast and visa-versa.

SE Elements that are clearly exotic in New Jersey including those taxa not native to North America (introduced taxa) or taxa deliberately or accidentally introduced into the State from other parts of North America (adventive taxa). Taxa ranked SE are not a conservation priority (viable introduced occurrences of G1 or G2 elements may be exceptions).

SH Elements of historical occurrence in New Jersey. Despite some searching of historical occurrences and/or potential habitat, no extant occurrences are known. Since not all of the historical occurrences have been field surveyed, and unsearched potential habitat remains, historically ranked taxa are considered possibly extant, and remain a conservation priority for continued field work.

SN Regularly occurring, usually migratory and typically nonbreeding species for which no significant or effective habitat conservation measures can be taken in the state; this category includes migratory birds, bats, sea turtles, and cetaceans which do not breed in the state but pass through twice a year or may remain in the winter (or, in a few cases the summer); included also are certain lepidoptera which regularly migrate to a state where they reproduce, but then completely die out every year with no return migration. Species in this category are so widely and unreliably distributed during migration or in winter that no small set of sites could be set aside with the hope of significantly furthering their conservation. Other nonbreeding, high globally-ranked species (such as the bald eagle, whooping crane or some seal species) which regularly spend some portion of the year at definite localities (and therefore have a valid conservation need in the state) are not ranked SN but rather S1, S2, etc.

SR Elements reported from New Jersey, but without persuasive documentation which would provide a basis for either accepting or rejecting the report. In some instances documentation may exist, but as of yet, its source or location has not been determined.

SRF Elements erroneously reported from New Jersey, but this error persists in the literature.

SU Elements believed to be in peril but the degree of rarity uncertain. Also included are rare taxa of uncertain taxonomical standing. More information is needed to resolve rank.

SX Elements that have been determined or are presumed to be extirpated from New Jersey. All historical occurrences have been searched and a reasonable search of potential habitat has been completed. Extirpated taxa are not a current conservation priority.

SXC Elements presumed extirpated from New Jersey, but native populations collected from the wild exist in cultivation.

T Element ranks containing a "T" indicate that the infraspecific taxon is being ranked differently than the full species. For example *Stachys palustris* var. *homotricha* is ranked "G5T? SH" meaning the full species is globally secure but the global rarity of the var. *homotricha* has not been determined; in New Jersey the variety is ranked historic.

Q Elements containing a "Q" in the global portion of its rank indicates that the taxon is of questionable, or uncertain taxonomical standing, e.g., some authors regard it as a full species, while others treat it at the subspecific level.

.1 Elements documented from a single location.

Note: To express uncertainty, the most likely rank is assigned and a question mark added (e.g., G2?) A range is indicated by combining two ranks (e.g., G1G2, S1S3).

IDENTIFICATION CODES

These codes refer to whether the identification of the species or community has been checked by a reliable individual and is indicative of significant habitat.

Y	Identification has been verified and is indicative of significant habitat.
BLANK	Identification has not been verified but there is no reason to believe it is not indicative of significant habitat.
?	Either it has not been determined if the record is indicative of significant habitat or the identification of the species or community may be confusing or disputed.

Revised September 1991

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102-0300

REPLY TO
ATTENTION OF

February 24, 1994

Planning Division

SUBJECT: Section 106 Compliance Procedures for Fort Monmouth, N.J.; Request for Consultation with the State Historic Preservation Officer

Mr. Terry Karschner, Acting Administrator
Historic Preservation Office
New Jersey Department of Environmental Protection and Energy
CN 404
Trenton, NJ 08625-0404

Dear Mr. Karschner :

The Department of the Army has begun Section 106 compliance procedures for several undertakings at Fort Monmouth, N.J. The proposed projects are part of the Base Closure and Realignment Plan for 1993 (BRAC 93). These projects include renovations of and additions to buildings less than fifty years of age and new construction adjacent to the proposed Fort Monmouth Historic District. Enclosed is an effects assessment report for the projects which assesses effects to the historic district.

The Fort Monmouth Historic District is eligible for the National Register under Criterion A. It possesses significance on the local level in the areas of architecture, communications, community planning, engineering, invention, military, and science. Constructed from 1927 to 1937, the district has buildings of the Georgian Revival style. These buildings embody the distinctive characteristics of a type, period, style, and method of construction and therefore qualify under Criterion C. A draft National Register nomination for this district is on file at your office.

Please review the enclosed document and provide comments concerning the Army's assessment of no adverse effect. If you need additional information or have any questions, please contact Mr. Kip Wright at (817) 334-2625. We appreciate your assistance in this matter.

Sincerely,

William Fickel, Jr.
Chief, Planning Division

Enclosures

ASSESSMENT OF NO ADVERSE EFFECT TO HISTORIC PROPERTIES AT FORT MONMOUTH ARMY POST

Introduction

This assessment has been produced for use in compliance with Section 106 of the National Historic Preservation Act and subsequent amendments. Documentation has been developed in accordance with Advisory Council on Historic Preservation regulations entitled "Protection of Historic Properties" (36 CFR Part 800). As such, this is an assessment of effects to historic properties identified within the area of potential effects of the proposed undertaking at Fort Monmouth, New Jersey (Figure 1).

Project Description

The proposed undertaking is part of the Fort Monmouth realignment plan, which is part of the Base Closure and Realignment plan for 1993 (BRAC 93). The proposed undertaking involves consolidation of activities on Fort Monmouth Main Post to the maximum extent possible (Figure 2). This requires:

(1) Movement of the Intelligence and Electronic Warfare Directorate (IEWD) from Vint Hill Farms Station as a result of BRAC 93 initiatives. The IEWD personnel at Fort Monmouth in the Evans Area will be consolidated with the Vint Hill Farms Station IEWD personnel into a new IEWD complex at Fort Monmouth. The preferred alternative for this project is the demolition of temporary World War II buildings in the 600 Area on Main Post and the construction of a new IEWD complex at this site (Figure 3).

(2) Renovation of 1200 Area buildings which were constructed in 1953.

(3) Renovation of the Hexagon Building (Building 2700), which was built in 1955, for personnel from Vint Hill Farms Station and the Evans Area.

(4) Construction of a calibration range laboratory on the Charles Wood Subpost (Figure 4).

(5) Construction of a high-bay addition to the Electronic Warfare Laboratory (Building 2705), which was built in 1971.

Methodology for the Identification of Historic Properties

Historic Properties Report: Fort Monmouth, New Jersey and Subinstallations Charles Wood Area and Evans Area (1984), which was completed by Building Technology Incorporated of Silver Spring, Maryland, was consulted to aid in the identification of historic properties. Lists of current and pending National Register properties were checked and base maps of the Army post were consulted. An inventory of buildings was used to identify buildings fifty years of age or older.

An Archeological Overview and Management Plan for Fort Monmouth (Main Post), Camp Charles Wood and the Evans Area (1984), which was contracted by the National Park Service to Envirosphere Company of New York City, was consulted to locate archeological sites in the project's area of potential effect. A review of maps to identify high-site probability areas within the project's area of potential effect was also conducted.

As a result of these efforts, the Fort Monmouth Historic District was the only historic property identified by the Department of the Army as eligible for the National Register within the project's area of potential effect (Figure 5). The Fort Monmouth Historic District is eligible for the National Register under Criterion A. It possesses significance on the local level in the areas of architecture, communications, community planning, engineering, invention, military, and science. Constructed from 1927 to 1937, the district has buildings of the Georgian Revival style. These buildings embody the distinctive characteristics of a type, period, style, and method of construction and therefore qualify under Criterion C.

World War II temporary buildings on Main Post were also found within the project's area of potential effect. Section 106 requirements for the temporary buildings have been met through a programmatic agreement between the Department of Defense, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers.

No known archeological resources were located within the project's area of potential effect. Locations for the proposed IEWD complex on Main Post, the Calibration Range Laboratory, and the high-bay addition to Building 2705 were so disturbed by previous construction projects that they have no potential to possess intact, significant archeological remains.

Assessment of Effects

In compliance with 36 CFR 800.5(a), the Criteria of Effect [36 CFR 800.9(a)] have been applied to the Fort Monmouth Historic District.

Application of Criteria of Effect

An undertaking has an effect on a historic property when the undertaking may alter the National Register qualifying characteristics of a property or the National Register qualifying features of the property's location, setting, or use. Construction adjacent to the proposed Fort Monmouth Historic District would therefore have an effect on the resource. Because an effect is anticipated, the Criteria of Adverse Effect have been applied, in compliance with 36 CFR 800.5(c), in order to determine if the effect would be adverse.

Application of Criteria of Adverse Effect

According to 36 CFR 800.9(b), ". . . an undertaking is considered to have an adverse effect when the effect on a historic property may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association . . ." Possible adverse effects include:

1. Physical destruction, damage, or alteration, of all or part of the property.

2. Isolation of the property or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register.

3. Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting.

4. Neglect of a property resulting in its deterioration or destruction.

5. Transfer, lease, or sale of the property.

This undertaking would not require the physical destruction, damage, or alteration, of all or part of the historic property. All construction would occur outside the proposed National Register boundary of the historic district. The undertaking would require alteration of the character of the property's setting. This would constitute an effect. The setting, however, outside the proposed National Register boundary does not contribute to the property's National Register eligibility.

The area where the construction for the IEWD complex would occur is located on Main Post across the street from Building 283, a contributing building in the historic district. The proposed project area consists of a large parking lot and World War II temporary buildings. Neither the parking lot nor the buildings contribute to the National Register eligibility of the historic district. Although the undertaking would result in visual effects, these visual effects would not be adverse.

This undertaking would not result in the introduction of visual, audible, or atmospheric elements that are out of character with the historic properties or alter their settings. Fort Monmouth is a large multi-use Army post, and the proposed project would result in the construction of facilities that are compatible with the post's existing character and use.

The proposed project would not result in the neglect of the historic properties resulting in their deterioration or destruction, nor would it result in the transfer, lease, or sale of the properties. In conclusion, implementation of the proposed project would have **no adverse effect** on the Fort Monmouth Historic District.

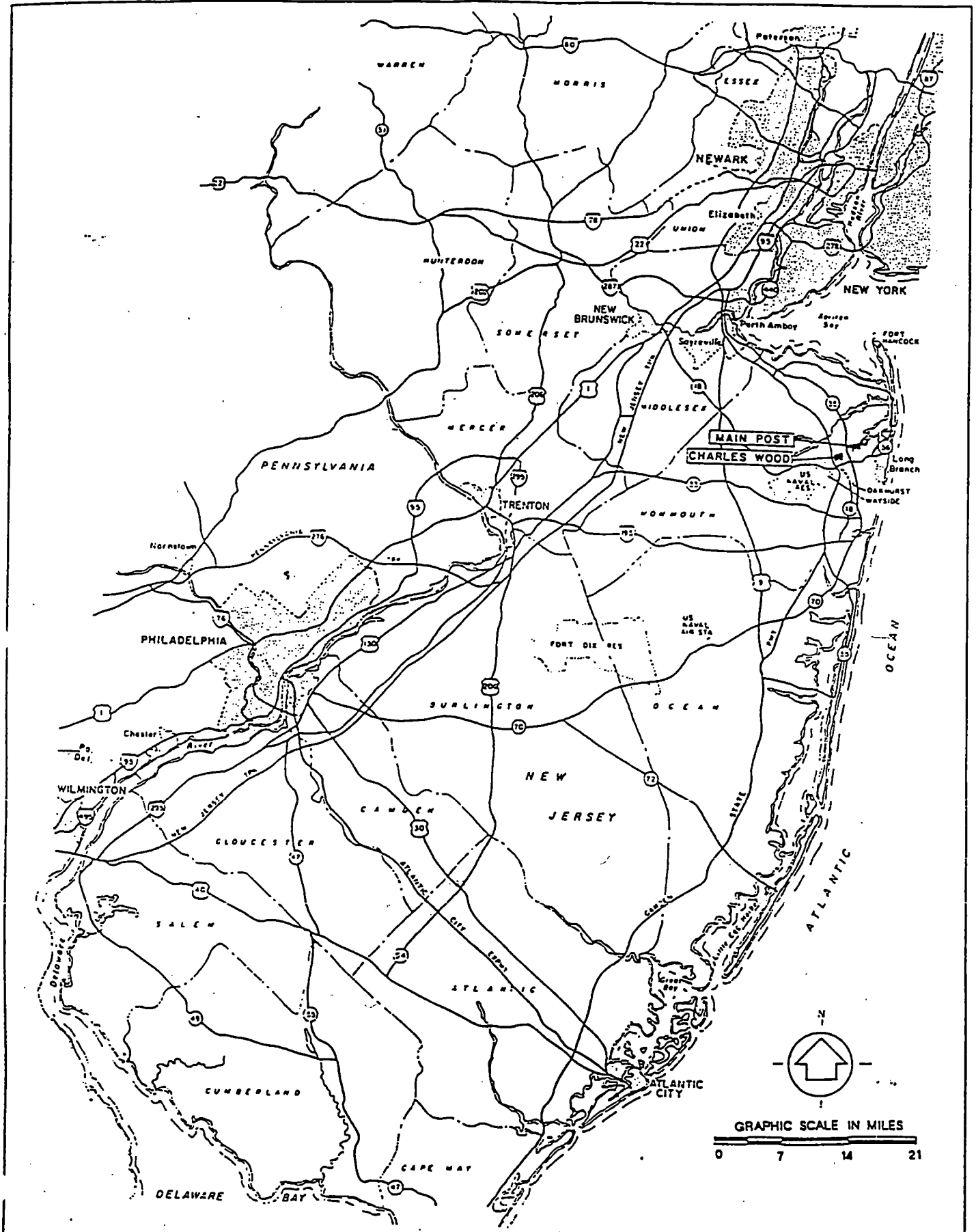
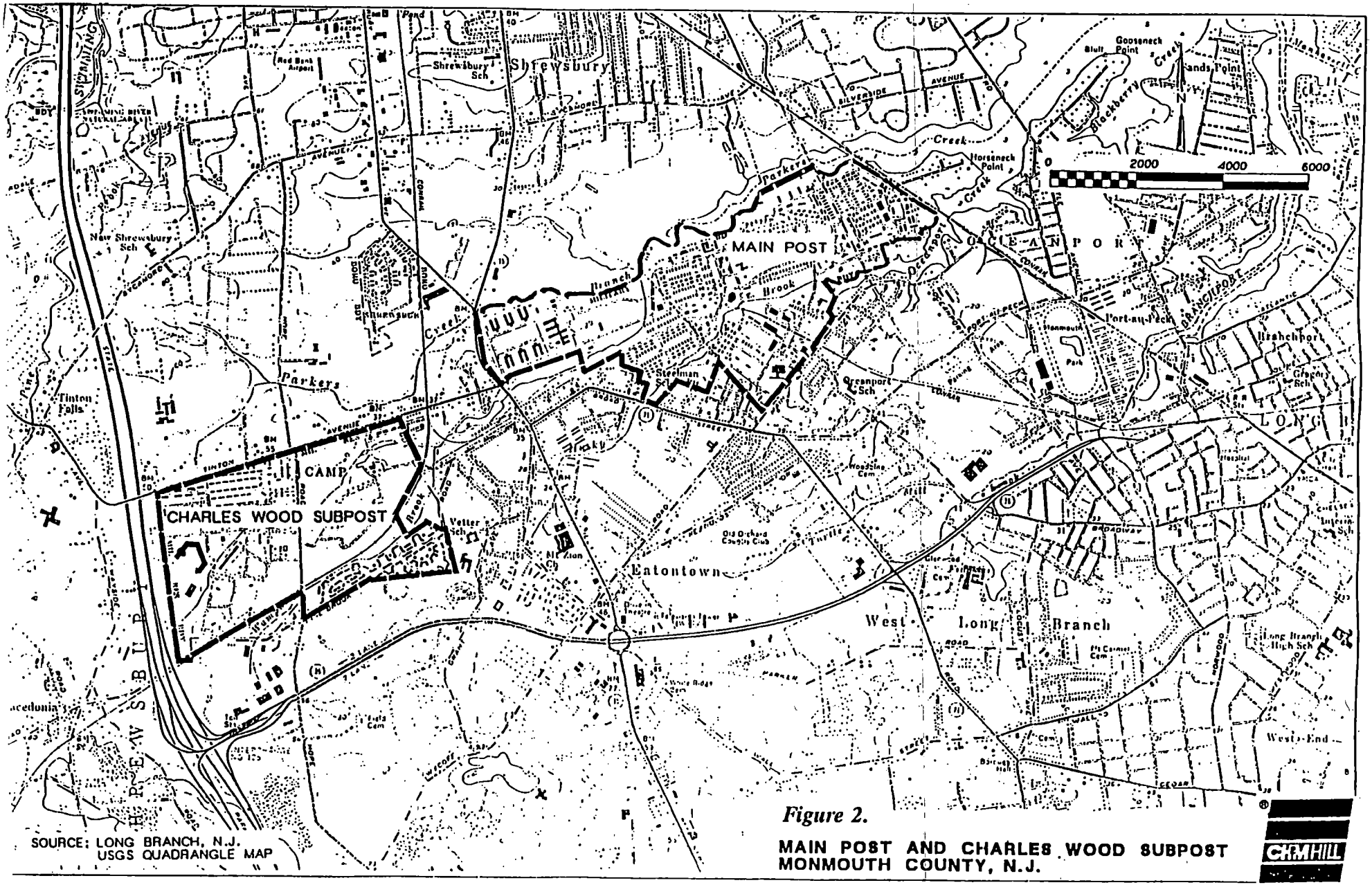


Figure 1.

SOURCE:
STATE HIGHWAY MAP

LOCATION OF FORT MONMOUTH MAIN POST AND CHARLES WOOD SUBPOST MONMOUTH COUNTY N J

CH2MHILL

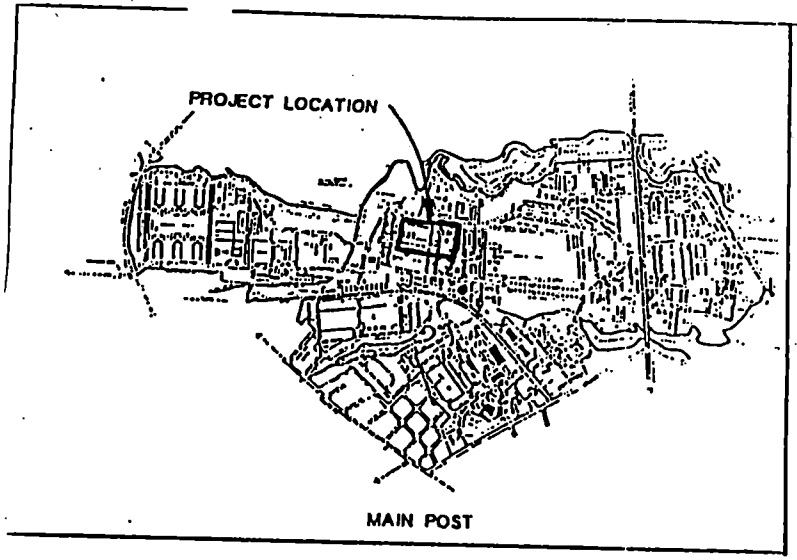


SOURCE: LONG BRANCH, N.J.
USGS QUADRANGLE MAP

Figure 2.

MAIN POST AND CHARLES WOOD SUBPOST
MONMOUTH COUNTY, N.J.

CH2MHILL



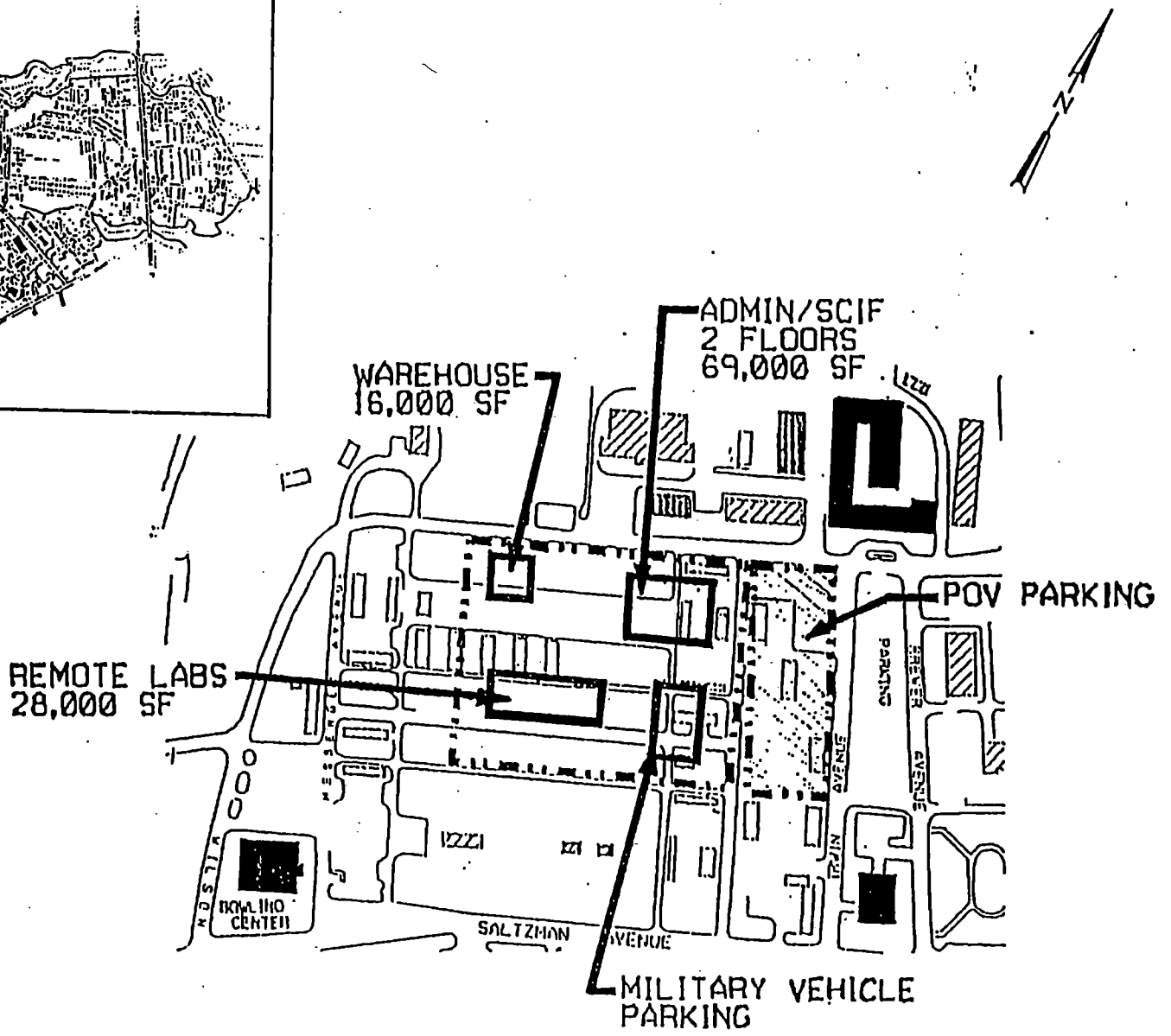


Figure 3.

IEWD COMPLEX
PREFERRED LOCATION
(MAIN POST)

CH2MHILL

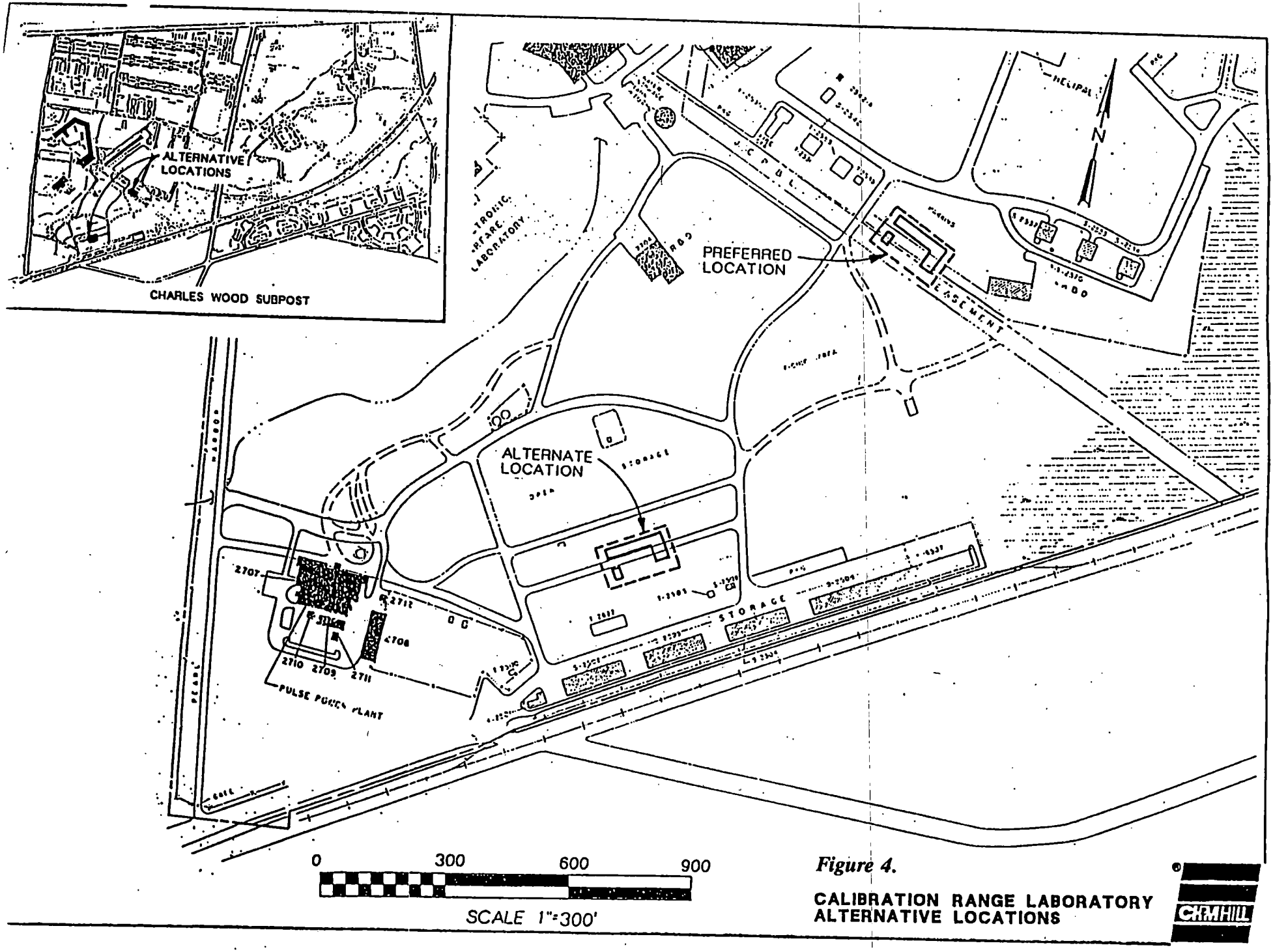
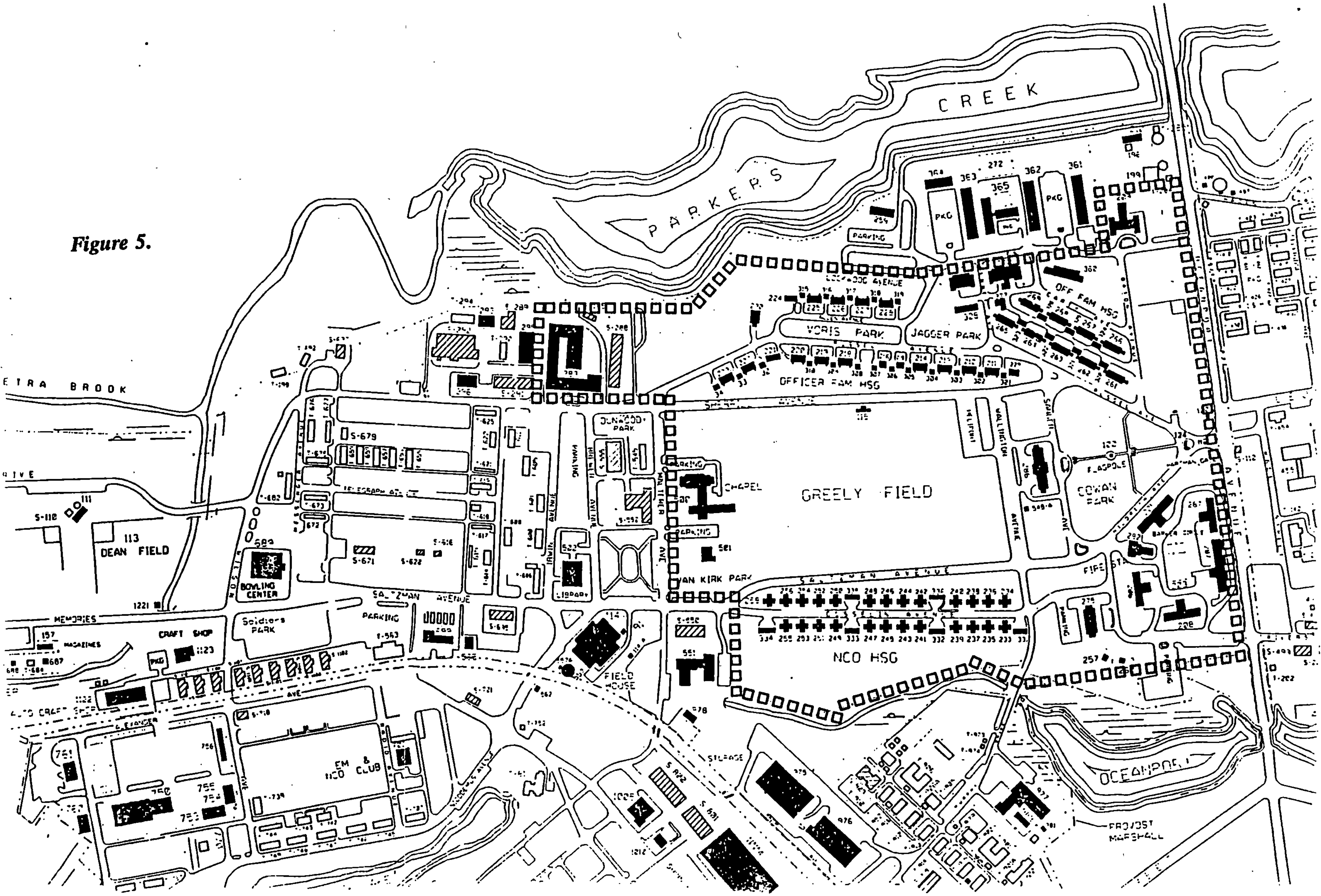


Figure 4.

CALIBRATION RANGE LABORATORY ALTERNATIVE LOCATIONS

CH2MHILL

Figure 5.



Pr ed nal isto

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection

Robert C. Shinn, Jr.
Commissioner

DIVISION OF PARKS AND FORESTRY
HISTORIC PRESERVATION OFFICE
CN-404
TRENTON, N.J. 08625-0404
TEL: (609) 292-2023
FAX: (609) 984-0578

April 27, 1995
HPO-D95-198

Mr. Hugh A. McClellan, Chief
Environmental Branch
Department of the Army
Mobile District, Corps of Engineers
P.O. Box 2288
Mobile, Alabama 36628-0001

Dear Mr. McClellan:

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 2 September 1986 (51, 169, 31115-31125), I am providing **Consultation Comments** for the following project:

Fort Monmouth, New Jersey
Charles Wood Subpost
Buildings 2502, 2503, 2504 & 2506 - Demolition
Department of the Army
U.S. Department of Defense

800.4 Identifying Historic Properties

I concur with your assessment that the four concrete block warehouses, Buildings 2502, 2503, 2504 and 2506, are not eligible for the National Register of Historic Places.

Should you have any questions, please contact Dan Saunders of my staff at (609) 984-0140.

Sincerely,

James F. Hall
Deputy State Historic
Preservation Officer

JH/ds951157

c: Neil Robison

State of New Jersey
Department of Environmental Protection and Energy
Division of Parks and Forestry
Historic Preservation Office
CN 404
Trenton, NJ 08625-0404
Tel. # 609-292-2023
Fax. # 609-292-8115

Robert C. Shinn, Jr.
Commissioner

Nancy Zerbe
Administrator

March 25, 1994
HPO-C94-111

Mr. William Fickel, Jr.
Chief, Planning Division
Department of the Army
Fort Worth District, Corps of Engineers
P.O. Box 17300
Fort Worth, Texas 76102-0300

Dear Mr. Fickel:

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 2 September 1986 (51, 169, 31115-31125), I am providing Consultation Comments for the following project:

Monmouth County, New Jersey
Fort Monmouth
Fort Monmouth Realignment Plan (BRAC 93)
Department of the Army
U.S. Department of Defense

800.4 Identifying Historic Properties

The Fort Monmouth Historic District is eligible for listing on the National Register of Historic Places.

800.5 Assessing Effects

I concur with your determination the Fort Monmouth Realignment Plan will have no adverse effect on the Fort Monmouth Historic District. The proposed new Intelligence and Electronic Warfare Directorate (IEWD) complex is located close enough to the Fort Monmouth Historic District to have some effect on the District. Although the IEWD complex will be large, it is not immediately adjacent to the District and its scale is compatible with the scale of Building 283, the nearest building within the District.

Should there be any questions, please contact Dan Saunders of my staff at (609) 984-0140.

Sincerely,

James F. Hall
Deputy State Historic
Preservation Officer

JH\ds94743

CH2M HILL
Engineers
Planners
Economists
Scientists

May 4, 1994

NJDEPE
Bureau of Air Quality Planning
401 E. State Street, 7th Floor
CN-418
Trenton, NJ 08625-0418

Attention: Bruce Benton

Dear Mr. Benton:

Subject: Conformity Determination - Fort Monmouth Realignment

The U.S. Army plans to realign activities at Fort Monmouth, New Jersey as required by the Base Closure and Realignment Act of 1990 (Public Law 101-510). The purpose of this letter is to coordinate the planned realignment activities with your agency with regard to conformity with the state's Clean Air Act Implementation Plan (SIP).

Our environmental assessment determined that the actions planned to implement the realignment qualify for a *de minimis* exception under 40 CFR 51.853(c), and will not adversely affect the SIP for these reasons:

(1) Future activities will be similar in scope and operation to activities currently being conducted at the existing structures, properties, facilities and lands [40 CFR 51.853(c)(2)(x)]

(2) There will be a net decrease in population at Fort Monmouth including personnel reductions caused by the overall decline in defence spending.

A description of the proposed action as evaluated in our environmental assessment is attached for your information.

Philadelphia Office
1216 Arch Street, Philadelphia, PA 19107-2835
P.O. Box 40, Philadelphia, PA 19105-0040
215.563.4220
FAX 215.563.3828

Please feel free to call me if you have any questions or comments on this letter or our conclusions.

Sincerely,

CH2M HILL

Rusty Diamond

Rachel S. Diamond
Project Manager

cc: F. Cuiffo/CECOM
N. Robison/USACE

2.0 Proposed Action

2.1 Introduction

The proposed action analyzed in this Environmental Assessment (EA) is the receiving of all Department of the Army personnel and missions from the leased U.S. Army Communications-Electronics Command (CECOM) Office Building (Tinton Falls, New Jersey) and the Evans subpost (which is closing) at the Main Post or Charles Wood subpost. Personnel and missions from the closing Vint Hill Farms Station (VHFS) in Warrenton, Virginia will also be received at either the Main Post or Charles Wood subpost as part of this action. Fort Monmouth locations are shown in Figure 2-1.

Department of the Army personnel from the CECOM Office Building will be moved to the Main Post. Evans subpost elements scheduled to move to either the Main Post or Charles Wood subpost include, in part, elements of the Program Executive Office for Intelligence and Electronic Warfare; elements of the Army Research Laboratory's Survivability/Lethality Analysis Directorate; elements of the CECOM Research Development and Engineering Center (RDEC); elements of the Command, Control, Communications, and Intelligence (C3I) Logistics and Readiness Center (LRC); and the Army Materiel Command (AMC) Test Measurement and Diagnostic Equipment (TMDE) Support Group. VHFS elements to transfer include the Program Executive Officer for Intelligence and Electronic Warfare; the Program Manager for Signals Warfare; elements of the C3I Acquisition Center; and the CECOM Legal Office.

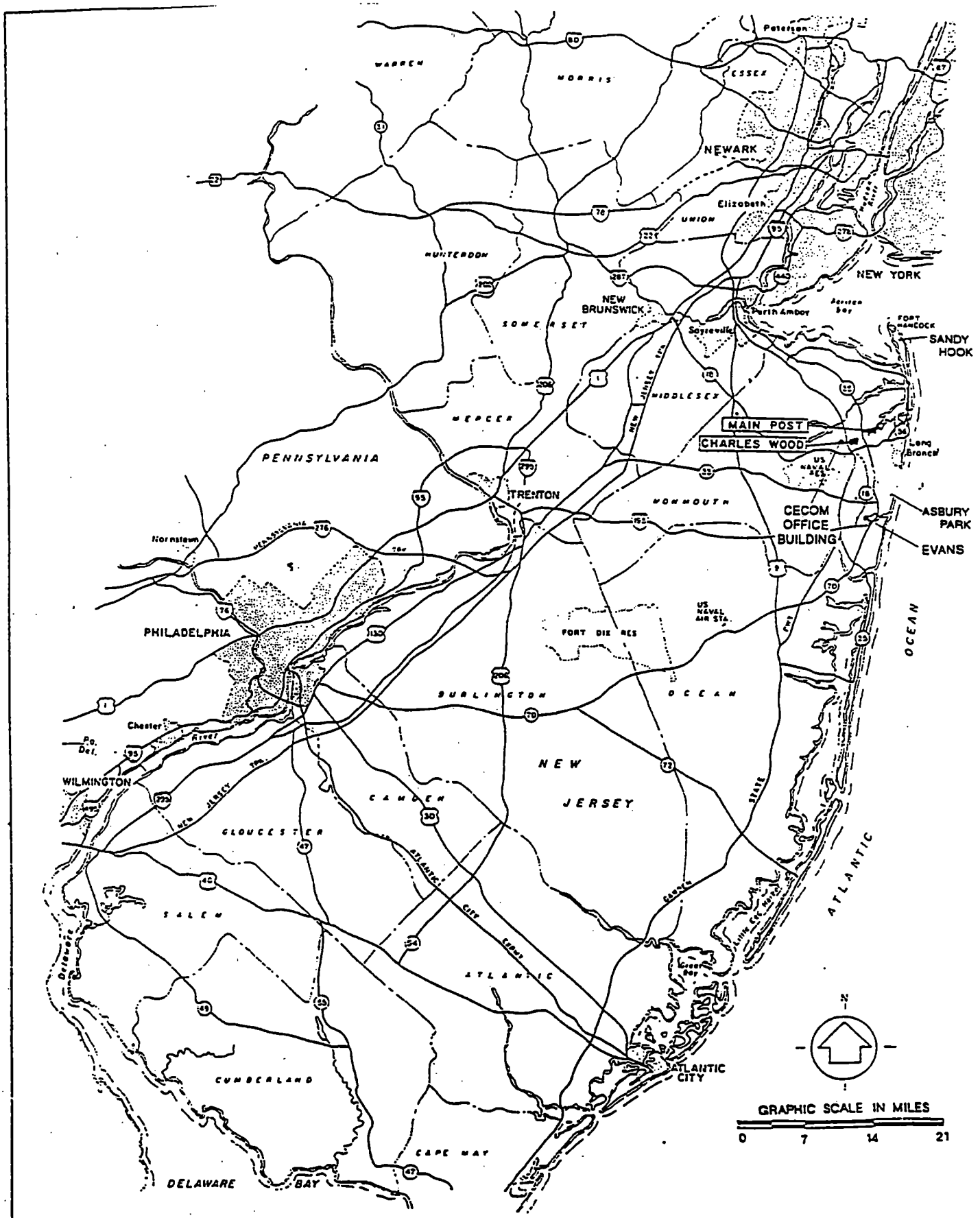
Since not all of these elements can be accommodated in existing buildings, new facilities will need to be constructed. Actions to implement this realignment include the construction of up to 7 new buildings, demolition of 5 buildings, and renovation of 15 buildings. Alternative locations for these actions are described in Section 3.0 ("Preferred Action and Alternatives"). Evaluation and analysis of disposal and reuse of the Evans subpost facility will be addressed in a separate follow-on National Environmental Policy Act (NEPA) document.

2.2 Realignment

CECOM Headquarters is currently located in leased space 1.9 miles west of Main Post (Figure 2-1). There are approximately 2,339 CECOM personnel, mostly civilian, to move into renovated buildings located on Main Post. This move is scheduled to begin in 1994. The buildings that CECOM will occupy are being vacated as a result of the 513th Military Intelligence Brigade (MIB) relocating to Fort Gordon, Georgia (a non-BRAC move), the Electronic Power Sources Directorate relocating to Adelphi, Maryland (a non-BRAC move) and the U.S. Army Chaplain School moving to Fort Jackson, South Carolina (a BRAC-mandated move).

As part of the BRAC action to dispose of excess facilities, the Evans subpost of Fort Monmouth is to be closed. The approximately 497 personnel currently stationed on the Evans subpost will be transferred to the Main Post and the Charles Wood subpost. These personnel and their missions will be moved into the renovated buildings, the new Intelligence and Electronic Warfare Directorate (IEWD) complex, Buildings 2700 and 2705, and the new calibration range laboratory to be constructed at the Charles Wood subpost. Evans subpost personnel will begin the transfer to Main Post and Charles Wood subpost in 1995.

Approximately 712 positions currently located at the closing VHFS will be transferred to Main Post or the Charles Wood subpost. It is estimated that 40 percent of these positions will involve actual transfer of personnel, with the remainder filled locally. These personnel and their missions will be



SOURCE:
STATE HIGHWAY MAP

FIGURE 2-1
LOCATION MAP
FORT MONMOUTH, NJ

CRMHILL

moved into renovated buildings, the new IEWD complex, and Building 2700. VHFS personnel will begin the transfer to Fort Monmouth in 1996.

Other realignments, unrelated to the proposed action, will also occur. The 513th Military Intelligence Brigade (MIB; 603 positions) is relocating to Fort Gordon in 1994; the 389th Army Band (40 positions) will relocate to Aberdeen, Maryland, in 1995; and the Electronic Power Sources Directorate (EPSD; 310 positions) will relocate to Adelphi, Maryland in 1997. During the same period of time, additional reductions in force are expected as a result of the downsizing of the Department of Defense. The combination of these non-BRAC realignments and downsizing, collectively referred to as force change, will decrease Fort Monmouth's personnel by a total of 1,962 positions.

Workforce population changes resulting from BRAC and non-BRAC actions are summarized in Figure 2-2. The migration diagram (Figure 2-2) includes projected loss of personnel through force change (that is, attrition). As seen in Figure 2-2 and including consideration of force change, the net changes in employment levels would be 1,038 jobs at the Main Post and -389 jobs at the Charles Wood subpost. These numbers are based on implementation of Alternative 1, which is described in Section 3.0 ("Preferred Action and Alternatives"). Alternative 2 would result in a shift in about 300 jobs from the Main Post to the Charles Wood subpost.

2.3 Mission

Activities and associated personnel scheduled to move to the Main Post or to the Charles Wood subpost perform a mix of office and laboratory work. No large-scale on-site manufacturing or field training missions are conducted by the CECOM activities scheduled to move to Main Post or the Charles Wood subpost. The CECOM mission is:

- To exercise life cycle integrated management of assigned communication and electronics material/systems, including research, development, engineering, product assurance, testing, production, material acquisition and readiness, to include integrated logistic support.

- To execute assigned missions in support of other AMC or Department of Defense elements having project management or product management responsibility for specific weapon systems or items and in support of other U.S. customers and Security Assistance Program customers; to conduct research and development as directed for other government agencies.

In addition to the Headquarters element, the following CECOM activities are to move from the Evans subpost and VHFS to Main Post or to the Charles Wood subpost. These activities support the general CECOM mission described above.

- Program Executive Office Intelligence/Electronics Warfare (PEO-IEW). Subordinate PEO-IEW project managers (PMs), including:
  - PM-Electronics Warfare/Reconnaissance, Surveillance and Target Acquisition
  - PM-Joint Surveillance Target Attack Radar System (JOINTSTARS)
  - PM-Combat Identification
  - PM-Firefinder
  - PM-Signals Warfare

- Elements of C3I Acquisition Center

- Elements of C3I LRC

VINT HILL FARMS STATION

	OFF	ENL	TOT MIL	CIV	TOTAL
BEFORE	32	93	125	935	1,060
TRANS OUT	32	93	125	587	712
FRC CHG	0	0	0	(247)	(247)
ELIM	0	0	0	(101)	(101)
AFTER	0	0	0	0	0

FT JACKSON, SC

	OFF	ENL	TOT MIL	CIV	TOTAL
BEFORE	480	2,986	3,466	2,162	5,628
TRANS IN	38	85	123	52	175
FRC CHG	155	337	492	784	1,276
ELIM	0	0	0	0	0
AFTER	673	3,408	4,081	2,998	7,079

FORT MONMOUTH - MAIN POST

	OFF	ENL	TOT MIL	CIV	TOTAL
BEFORE	441	1,661	2,102	2,208	4,310
TRANS IN	77	134	211	2,901	3,112
TRANS OUT	38	85	123	52	175
FRC CHG	(183)	(696)	(879)	(258)	(1,137)
ELIM	0	0	0	0	0
AFTER	297	1,014	1,311	4,799	6,110

CHARLES WOOD AREA SUB POST

	OFF	ENL	TOT MIL	CIV	TOTAL
BEFORE	28	17	45	1,608	1,653
TRANS IN	3	12	15	96	111
FRC CHG	(15)	(17)	(32)	(468)	(500)
ELIM	0	0	0	0	0
AFTER	16	12	28	1,236	1,264

EVANS SUB POST

	OFF	ENL	TOT MIL	CIV	TOTAL
BEFORE	18	32	50	447	497
TRANS OUT	18	32	50	390	440
FRC CHG	0	0	0	(57)	(57)
ELIM	0	0	0	0	0
AFTER	0	0	0	0	0

LEASED SPACE: CECOM OFFICE BUILDING

	OFF	ENL	TOT MIL	CIV	TOTAL
BEFORE	30	21	51	2,288	2,339
TRANS OUT	30	21	51	2,020	2,071
FRC CHG	0	0	0	(268)	(268)
ELIM	0	0	0	0	0
AFTER	0	0	0	0	0

OFF = Officers
ENL = Enlisted
TOT MIL = Total Military
CIV = Civilian
FRC CHG = Force Change (loss of personnel through attrition)

FIGURE 2-2
PROPOSED REALIGNMENTS

- Elements of CECOM RDEC
- AMC TMDE Support Group

2.4 Demolition

Buildings T-601, T-621, T-655, T-656 and T-657 at Main Post are to be demolished within the preferred construction site for the proposed Intelligence and Electronic Warfare Directorate (IEWD) complex. All these structures are temporary buildings constructed during World War II. Debris from the demolition of these buildings will include concrete, wood, bricks, window glass and water pipes. All debris will be removed to an approved landfill site.

2.5 Renovation

Fifteen building renovation projects are to occur at both the Main Post and the Charles Wood subpost under any alternative. Main Post buildings to be renovated are Buildings 288, 296, 550, 563, 1150, 1152, 1200, 1201, 1202, 1207, 1208, 1209, 1213, and 1214. These buildings will house CECOM personnel from off-post leased space, as well as personnel relocated from VHFS and the Evans subpost.

Minor interior building renovations are to occur at the Myer Center (Building 2700) on the Charles Wood subpost. The Myer Center will house administrative and laboratory space for activities that will relocate from the Evans subpost and VHFS.

Typical renovations will involve reconfiguration of interior walls, improvements to heating, ventilation, air conditioning and information systems, and provision of support facilities including paving, parking, storm drainage, and wheelchair access.

2.6 New Construction

Three new construction projects are to take place as a result of the BRAC realignment action.[1] Alternative locations for these projects are described in Section 3.0 ("Preferred Action and Alternatives"). One of these projects, the IEWD complex, will consolidate Intelligence and Electronic Warfare activities now stationed at either the Evans subpost or VHFS.

The IEWD complex is to consist of three to five buildings and parking areas for both military and privately-owned vehicles. The IEWD complex buildings will include some combination of the following functions:

- A limited-access administration facility
- A secure facility built to sensitive-compartmented-information-facility (SCIF) specifications containing two Special Access Programs areas, two computer labs, an integrated access control system, common support areas, and other functional areas for graphic arts and classified documents destruction
- Remote non-SCIF laboratories including a high-bay shop
- A pre-engineered storage building with receiving and loading dock

[1] Figures provided in Section 3.0.

- A warehouse for the US Army Command Intelligence Materiel Management Center (IMMC)

The other two construction projects are a high bay facility for Building 2705, and a new calibration range laboratory. The high bay facility will add 2,600 square feet for Building 2705. The calibration range laboratory building will be a stand-alone structure with approximately 3,250 square feet of floor space. Both facilities would be located at the Charles Wood subpost.

ACRONYMS AND ABBREVIATIONS

AEHA	Army Environmental Hygiene Agency
AMC	Army Materiel Command
AR	Army Regulation
BRAC	Defense Base Realignment and Closure Commission
CECOM	US Army Communications–Electronics Command
CEQ	Council on Environmental Quality
2,4-D	dichlorophenoxyacetic acid
DCPA	dimethyl ester of tetrachloroterephthalic acid
dBA	decibel, A-rated
DPW	Directorate of Public Works
DSN	Defense System Network
EA	environmental assessment
FNSI	finding of no significant impact
FY	fiscal year
ICUZ	installation compatible use zone
JCP&L	Jersey Central Power and Light Company
km	kilometers
kVA	kilovolt amps.
LAN	Local Area Network
LBP	Lead Based Paint
Leq	equivalent sound level
LOS	Level of Service
LRC	Logistics and Readiness Center
mgd	million gallons per day
MONOC	Monmouth-Ocean County Mobile Intensive Care Unit
msl	mean sea level
NAF	non-appropriated fund
NEPA	National Environmental Policy Act
NJAC	New Jersey Administrative Code
NJDEP	New Jersey Department of Environmental Protection
NJNGC	New Jersey Natural Gas Company
NJT	New Jersey Transit
NOI	Notice of Intent
NRHP	National Register of Historic Places
NTI	Northern Telecomm Inc.
PA	Programmatic Agreement
PCB	polychlorinated biphenyl
PACH	Patterson Army Community Hospital
SCS	Soil Conservation Service
SHPO	State Historic Preservation Officer
SR	State Route
US	United States
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
WWII	World War II