

**Environmental Assessment**

# **The 67<sup>th</sup> Street Oceanfront Property Redevelopment**

**Virginia Beach, Virginia**

**February 2010**

Prepared by:



**Department of the Navy**

**UNCLASSIFIED**

**Environmental Assessment**  
**The 67th Street Oceanfront Property**  
**Redevelopment**  
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# Executive Summary

This environmental assessment (EA) evaluates the reasonably foreseeable environmental consequences of a proposed redevelopment of Navy-owned property to support the Morale, Welfare, and Recreation (MWR) Program. The proposed action is to demolish the existing approximately 8,000-square foot Joint Expeditionary Base Little Creek–Fort Story (JEBLCFS) catering facility and beach cabanas and construct new facilities to support the Navy’s MWR Program. The JEBLCFS catering facility is located on 1.7 acres of oceanfront property between 67th and 68th Streets at the north end of Virginia Beach, Virginia.

This EA was prepared in accordance with the requirements of the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) regulations implementing NEPA in 40 Code of Federal Regulations (CFR) 1500-1508 (CEQ regulations), and Navy regulations in 32 CFR 775 (Navy NEPA regulations). The Navy is the lead agency for the proposed action.

## ES.1 Purpose and Need

The purpose of the proposed action is to support the Navy’s MWR Program by redeveloping the Navy-owned oceanfront property to meet current MWR demands. The proposed action is needed to maintain a robust MWR Program, especially in light of the rapid pace of the global war on terrorism and its effects on military families and as stress on families separated by long overseas deployments becomes an increasing hardship. As such, MWR projects continue to be in high demand.

The existing catering facility at the Navy’s 67th Street property is underused and is not meeting its potential for fulfilling this need. In fiscal year (FY) 2008, the facility hosted events for only 78 days; 82% of these events were hosted over the weekends (Friday, Saturday, and/or Sunday). The facility is used very little during the week. Because of its age and condition, the existing facility is no longer commercially viable. In order to continue with catering functions at the existing facility, a large capital investment to improve and expand the facility would be necessary.

## ES.2 Description of the Proposed Action

The proposed action is to demolish the existing JEBLCFS catering facility and beach cabanas and to construct new facilities to support the Navy’s MWR Pro-

gram. The new facilities would use design criteria that meet the requirements for handicapped accessibility in compliance with the Americans with Disabilities Act (ADA), requirements of the Leadership in Energy and Environmental Design (LEED) system, and anti-terrorism/force protection (AT/FP) regulations. The existing one-story brick catering facility and parking lot occupy approximately 1.7 acres located between Atlantic Avenue and the Atlantic Ocean, approximately 9 miles from the main portion of the JEBLCFS. Demolition activities would also include removal of 17 beach cabanas.

### **ES.3 Alternatives**

Two alternatives are analyzed in this EA based on the criteria of (1) fulfilling the MWR Program mission and (2) avoiding unnecessary maintenance and upkeep of underused and outdated facilities at the expense of military operating forces.

#### **Alternative 1 – Vacation Rental Homes**

Under Alternative 1, the existing catering facility and beach cabanas would be demolished and 20 vacation rental units would be constructed. The complex would comprise 10 two-bedroom units (approximately 885 square feet each) and 10 three-bedroom units (approximately 1,050 square feet each) constructed in two multi-unit buildings of six rental units each and one multi-unit building of eight rental units with a courtyard between the three buildings. All three buildings will be two-story buildings.

Support facilities for the vacation rental units would include parking for two cars per unit, adequate utilities for year-round use, and appropriate receptacles for trash and recyclables. One of the six-unit buildings would meet ADA accessibility requirements. Although City of Virginia Beach building and zoning codes do not apply because the project is on federal property, the buildings would not exceed 35 feet in height, the maximum height requirement for buildings within residential districts (Virginia Beach City Code, Appendix A, Article 5, Section 503), and the proposed density would be consistent with the current conditions of 12 dwelling units per acre.

#### **Alternative 2 – Larger Catering Facility**

Under Alternative 2, the existing catering facility and beach cabanas also would be demolished but would be replaced with a larger, two-level catering facility. The new facility, which would be called the 67th Street Catering Complex, would be designed to accommodate up to 400 guests. Parking for up to 220 vehicles would be available, with an elevator providing easy access from the parking area to the approximately 17,000-square foot catering facility on the second level. The building would include a second floor deck with an ocean view. Similar to Alternative 1, the facility proposed under Alternative 2 would not exceed 35 feet in height.

#### **No Action Alternative**

CFR 40 Section 1502.14(d) requires that an EA analyze the No Action Alternative. Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property. The Navy's MWR Program would continue to

use the catering facility in its current condition, and none of the benefits associated with redevelopment of the 67th Street property would occur. For the purposes of this EA, the No Action Alternative serves as a baseline against which the environmental consequences of the other alternatives are measured.

#### **ES.4 Environmental Impacts of the Proposed Action**

Implementation of the proposed action would result in both short- and long-term impacts on human and environmental resources in the vicinity of the project site. Short-term impacts would occur during construction activities; long-term impacts would begin following construction and would occur over the life of the facilities.

Resources potentially impacted during construction activities include the surrounding visual setting, traffic, storm water runoff, soils, groundwater, vegetation, wildlife, and migratory birds. Minor impacts on air quality would occur during construction. The proposed action would have short-term positive effects on the local economy during the construction period. Long-term positive impacts on the local economy would be negligible. The proposed action also would have negligible long-term impacts on water supply, wastewater, police and fire protection, and medical services. Under Alternative 1, traffic generated by the proposed vacation rental homes would be nearly identical to current residential/resort traffic; implementation of Alternative 2 (larger catering facility) would generate long-term, moderate impacts on traffic. Under either alternative, there would be long-term positive impacts on the surrounding visual setting. Annual emissions generated by either alternative would be below de minimis levels for nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs) emissions. Following construction, there would be no long-term impacts on storm water runoff, soils, groundwater, vegetation, wildlife, or migratory birds. There would be no short- or long-term impacts on surrounding land use, coastal resources, topography and geology, surface water, floodplains, wetlands, or threatened and endangered species or cultural resources.

Based on the findings of the EA, and in accordance with 40 CFR 1501.4(c), no environmental impact statement (EIS) is required.

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# Table of Contents

Section	Page
<b>Executive Summary .....</b>	<b>iii</b>
ES.1 Purpose and Need.....	iii
ES.2 Description of the Proposed Action .....	iii
ES.3 Alternatives .....	iv
ES.4 Environmental Impacts of the Proposed Action .....	v
<b>1 Purpose of and Need for Action.....</b>	<b>1-1</b>
1.1 Summary .....	1-1
1.2 Need for the Proposed Action .....	1-1
1.3 Purpose of the Proposed Action .....	1-2
1.4 Public Involvement .....	1-7
1.4.1 Community Outreach.....	1-7
1.4.2 Public Website .....	1-7
1.4.3 Comments .....	1-7
1.5 Scope of the EA.....	1-8
1.6 Regulatory Requirements .....	1-9
<b>2 Proposed Action and Alternatives .....</b>	<b>2-1</b>
2.1 Description of the Proposed Action .....	2-1
2.2 Description of Alternatives .....	2-1
2.2.1 Alternative 1 – Vacation Rental Homes .....	2-1
2.2.2 Alternative 2 – Larger Catering Facility .....	2-2
2.2.3 No Action Alternative.....	2-7
2.3 Alternatives Considered and Eliminated.....	2-7
2.4 The Preferred Alternative.....	2-8
2.5 Comparison of Alternatives .....	2-8
<b>3 Existing Environment .....</b>	<b>3-1</b>
3.1 Land Use, Coastal Zone, and Visual Setting.....	3-2
3.1.1 Land Use .....	3-2
3.1.2 Coastal Zone .....	3-2
3.1.3 Visual Setting.....	3-5
3.2 Traffic.....	3-6
3.3 Noise.....	3-6
3.4 Infrastructure and Utilities .....	3-7
3.4.1 Water Supply .....	3-7
3.4.2 Wastewater.....	3-7
3.4.3 Storm Water.....	3-7

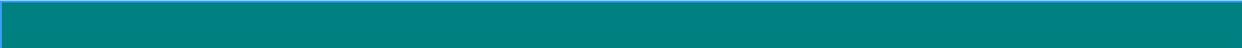
**Table of Contents (cont.)**

<b>Section</b>	<b>Page</b>
3.5 Community Facilities and Services.....	3-8
3.5.1 Police and Fire Protection.....	3-8
3.5.2 Medical Services.....	3-9
3.6 Socioeconomics.....	3-9
3.6.1 Population and Housing.....	3-9
3.6.2 Regional Economy.....	3-9
3.7 Terrestrial Environment .....	3-10
3.7.1 Topography, Geology, and Soils .....	3-10
3.7.2 Water Resources .....	3-11
3.7.2.1 Surface Water.....	3-11
3.7.2.2 Groundwater .....	3-12
3.7.2.3 Floodplains.....	3-12
3.7.2.4 Wetlands .....	3-12
3.7.3 Vegetation and Wildlife.....	3-15
3.7.4 Migratory Birds.....	3-16
3.7.5 Threatened and Endangered Species .....	3-16
3.8 Cultural Resources .....	3-17
3.9 Air Quality.....	3-18
<b>4 Environmental Consequences .....</b>	<b>4-1</b>
4.1 Land Use, Coastal Zone, and Visual Setting.....	4-1
4.1.1 Land Use .....	4-1
4.1.2 Coastal Zone .....	4-2
4.1.3 Visual Setting.....	4-2
4.2 Traffic.....	4-3
4.3 Noise.....	4-3
4.4 Infrastructure and Utilities .....	4-4
4.4.1 Water Supply .....	4-4
4.4.2 Wastewater.....	4-5
4.4.3 Storm Water.....	4-5
4.5 Community Facilities and Services.....	4-6
4.5.1 Police and Fire Protection.....	4-6
4.5.2 Medical Services.....	4-7
4.6 Socioeconomics.....	4-7
4.6.1 Population and Housing.....	4-7
4.6.2 Regional Economy.....	4-7
4.7 Terrestrial Environment .....	4-8
4.7.1 Topography, Geology, and Soils .....	4-8
4.7.2 Water Resources .....	4-8
4.7.2.1 Surface Water.....	4-8
4.7.2.2 Groundwater .....	4-8
4.7.2.3 Floodplains.....	4-8
4.7.2.4 Wetlands .....	4-8

**Table of Contents (cont.)**

<b>Section</b>	<b>Page</b>
4.7.3	Vegetation and Wildlife..... 4-8
4.7.4	Migratory Birds..... 4-8
4.7.5	Threatened and Endangered Species ..... 4-8
4.8	Cultural Resources ..... 4-8
4.9	Air Quality..... 4-8
<b>5</b>	<b>Cumulative Impacts ..... 5-8</b>
<b>6</b>	<b>List of Contributors and Preparers ..... 6-8</b>
<b>7</b>	<b>References..... 7-8</b>
<b>Appendices</b>	
<b>A</b>	<b>Agency Correspondence..... A-8</b>
<b>B</b>	<b>Coastal Consistency Determination ..... B-8</b>
<b>C</b>	<b>Air Emission Calculations and Record of Non- Applicability..... C-8</b>

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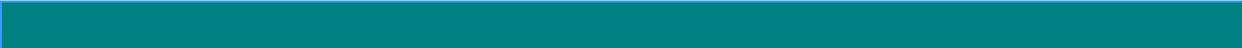
  

# List of Tables



<b>Table</b>		<b>Page</b>
1-1	Applicable Regulatory Requirements and Approvals.....	1-9
2-1	Comparison of the Environmental Consequences for Each Alternative .....	2-9
3-1	Regional Housing Availability 2007 .....	3-9
3-2	Home Vacancy Rates 2007 .....	3-9
3-3	National Ambient Air Quality Standards.....	3-19
3-4	De Minimis Levels for Exemption from General Conformity Rule Requirements .....	3-20
4-1	Total Projected Annual Emissions from Construction Activities, Alternatives 1 and 2.....	4-8

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# List of Figures



<b>Figure</b>		<b>Page</b>
1-1	General Location Map, 67th Street Beach Front Property .....	1-3
1-2	67th Street Beach Front Property, Aerial Photo, Virginia Beach, Virginia.....	1-5
2-1	Alternative 1 Conceptual Layout, 67th Street Oceanfront Property, Virginia Beach, Virginia .....	2-3
2-2	Alternative 2 Conceptual Rendering, 67th Street Oceanfront Property, Virginia Beach, Virginia.....	2-5
3-1	67th Street Oceanfront Property, North End Virginia Beach Key Features, Virginia Beach, Virginia.....	3-3
3-2	67th Street Oceanfront Property, Federal Emergency Management Agency (FEMA) Flood Hazard Zones, Virginia Beach, Virginia .....	3-13

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## List of Abbreviations and Acronyms

AADT	average annual daily traffic
ACHP	Advisory Council on Historic Preservation
ADA	Americans with Disabilities Act
APE	area of potential effect
AT/FP	anti-terrorism/force protection
bgs	below ground surface
BMPs	best management practices
CAA	Clean Air Act
CCD	Coastal Consistency Determination
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CMP	coastal management plan
CO	carbon monoxide
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
dBA	A-weighted decibels
DCR	(Virginia) Department of Conservation and Recreation
DEQ	(Virginia) Department of Environmental Quality
DGIF	(Virginia) Department of Game and Inland Fisheries
DoD	U.S. Department of Defense
DOT	Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMS	emergency medical service
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act

**List of Abbreviations and Acronyms (cont.)**

FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FR	Federal Register
FY	fiscal year
gpd	gallons per day
gpm	gallons per minute
HRSD	Hampton Roads Sanitation District
HRT	Hampton Roads Transit
JEBLCFS	Joint Expeditionary Base Little Creek – Fort Story
LEED	Leadership in Energy and Environmental Design
MBTA	Migratory Bird Treaty Act
mgd	million gallons per day
MWR	Morale, Welfare, and Recreation (Program)
NAAQS	National Ambient Air Quality Standards
NAS	Naval Air Station
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NO <sub>x</sub>	nitrogen oxides
NO <sub>2</sub>	nitrogen dioxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O <sub>3</sub>	ozone
OPNAVINST	Office of the Chief of Naval Operations Instruction
Pb	lead
PM <sub>10</sub>	particulate matter less than 10 microns in diameter
PM <sub>2.5</sub>	particulate matter less than 2.5 microns in diameter
POV	personally owned vehicle
Pub.L	Public Law

**List of Abbreviations and Acronyms (cont.)**

RONA	Record of Non-Applicability
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
tpy	tons per year
SWPPP	Storm Water Pollution Prevention Plan
U.S.C.	U.S. Code
USFWS	U.S. Fish and Wildlife Service
VPDES	Virginia Pollutant Discharge Elimination System
WWTP	wastewater treatment plant

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# 1

## Purpose of and Need for Action

### 1.1 Summary

This environmental assessment (EA) evaluates the reasonably foreseeable environmental consequences of the proposed redevelopment of Navy-owned property to support the Morale, Welfare, and Recreation (MWR) Program. The proposed action is to demolish the existing approximately 8,000-square foot Joint Expeditionary Base Little Creek – Fort Story<sup>1</sup> (JEBLCFS) catering facility and recreational pavilions (beach cabanas) and construct new facilities to support the Navy’s MWR Program. The property is located on the Atlantic oceanfront, between 67th and 68th Streets, at the north end of Virginia Beach, Virginia.

This EA is prepared in accordance with the requirements of the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) regulations implementing NEPA in 40 Code of Federal Regulations (CFR) 1500-1508 (CEQ regulations), and Navy regulations in 32 CFR 775 (Navy NEPA regulations). The Navy is the lead agency for the proposed action.

### 1.2 Need for the Proposed Action

The proposed action is needed to maintain a robust MWR Program, especially in light of the rapid pace of the global war on terrorism and its effects on military families. During times of war, this need is even greater as the stress caused by family separations from sailors who are completing long overseas deployments becomes an increasing hardship. As such, MWR projects continue to be in high demand. The existing catering facility at the Navy’s 67th Street property is not fully meeting this need.

### Background

The Navy’s MWR Program administers a variety of recreational, social, and community support activities at U.S. Navy facilities worldwide. MWR programs support active-duty, reserve, and retired Navy personnel, and National Guard and Department of Defense (DoD) civilians and their families. The MWR mission is to “provide quality support and recreational services that contribute to the retention, readiness, mental, physical, and emotional well-being of our sailors.” The

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<sup>1</sup> On October 1, 2009, Naval Amphibious Base Little Creek was joined with Fort Story, forming one joint base officially named Joint Expeditionary Base Little Creek – Fort Story.

Navy’s MWR Program, which currently operates the JEBLCFS catering facility, recognizes the need to maintain a robust program.

The JEBLCFS catering facility in Virginia Beach is located on approximately 1.7 acres of desirable oceanfront property (see Figures 1-1 and 1-2). This property was transferred to the U.S. Navy in 1957. The facility and its associated structures (parking lot and beach cabanas) were built in 1962 and are still in use. For a time, the property was assigned to Naval Station Norfolk for use as a Commissioned Officer’s Beach Club. The facility has been falling into disrepair because of its age and because the mechanical systems are deteriorating and, because of the size of the facility, it cannot accommodate larger functions. The maximum inside capacity is approximately 100 guests and approximately 150 guests for outside events. This small catering facility cannot compete with larger, more modern catering facilities in the civilian sector.



**Beach Cabanas**

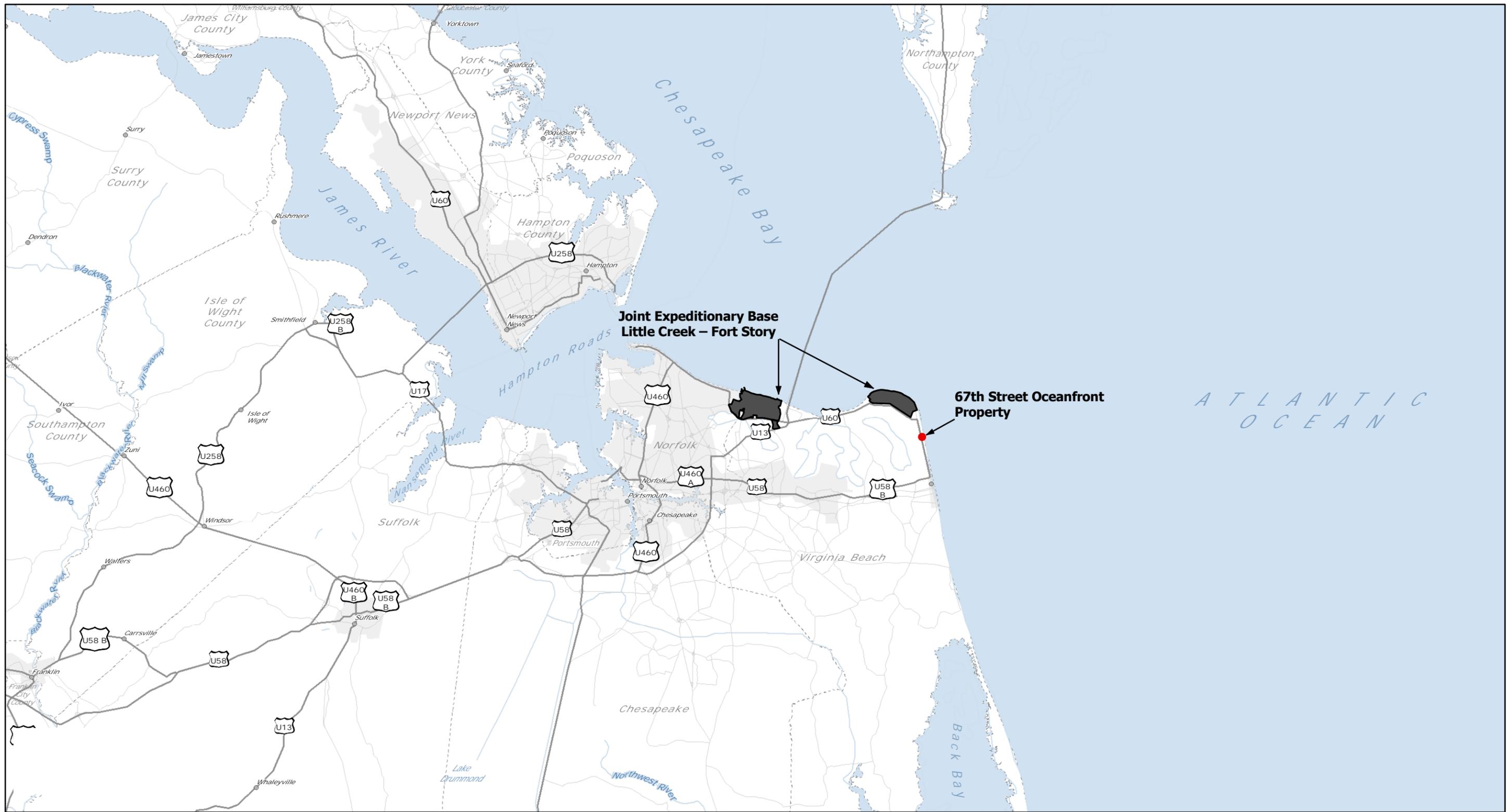
In 2006, the Navy MWR Program conducted an Internal Needs Validation Study regarding the construction of a new 67th Street catering facility. According to the study, a major renovation (remodeling the interior) of the existing catering facility would be inefficient and costly. Although the interior would be improved, the MWR Program would still be faced with maintenance and upkeep of an older facility façade and foundation that would continue to deteriorate. Demolition of the facility would enable the construction of a new modern structure for long-term use.



**Existing Catering Facility**

### **1.3 Purpose of the Proposed Action**

The purpose of the proposed action is to support the Navy’s MWR Program by redeveloping the Navy-owned oceanfront property to meet current MWR needs. The site, which currently hosts a Navy-operated catering facility, is under-used. In fiscal year (FY) 2008, the facility hosted events for only 78 days; 82% of these events were hosted over the weekends (Friday, Saturday, and/or Sunday). The facility is used very little during the week. Because of its age and condition, the existing facility is no longer commercially viable. In order to continue with catering functions at the existing facility, a large capital investment to improve and expand the facility would be necessary.



-  US Highway
-  Major Road
-  County Boundary
-  67th Street Beach Cottages
-  Joint Expeditionary Base Little Creek - Fort Story



Figure 1-1  
 General Location Map  
 67th Street Oceanfront Property





ATLANTIC  
OCEAN

70th St

69th St

68th St

67th St

Atlantic Avenue

66th St

65th St

64th St

 General Project Area

Figure 1-2  
67th Street Oceanfront Property  
Aerial Photo  
Virginia Beach, Virginia

0 0.025 0.05 0.1  
Miles





## **Objectives**

The objectives of the proposed action include:

- Redeveloping the oceanfront property to meet current MWR demands
- Redeveloping the oceanfront property consistent with the surrounding land uses
- Providing a modest return on investment (5% to 7%).

## **1.4 Public Involvement**

Early in the decision-making process, the Navy developed a public involvement strategy to share information with interested stakeholders. The strategy included:

- Community outreach, and
- Public website development.

### **1.4.1 Community Outreach**

The Navy met with several key community leaders, including officials from the City of Virginia Beach Planning Commission and the Economic Development Authority, as well as the North Virginia Beach Civic League. The purpose of these meetings was to provide information about the proposed action and to receive feedback on possible alternatives or improvements to the project as further means of enhancing community outreach efforts. As a result, the Navy held a public information meeting on April 8, 2009 at the NAVPHIBASE Little Creek catering facility from 6:30 p.m. to 8:30 p.m. The meeting was an open house forum where attendees were directed to poster displays and could ask Navy representatives questions about the proposed action. Thirty-one community members attended the meeting. A newspaper display notice was published on April 2, 3, and 4, 2009 in the *Virginian-Pilot* announcing the Navy's intent to host the meeting.

### **1.4.2 Public Website**

The Navy developed a public website, launched in conjunction with the April 8 public information meeting. The website provided details on the scope of the proposed project and afforded an opportunity to provide written comments electronically. The website was updated periodically throughout the EA process. (The website logged 1,649 visits between March 2009 and January 2010 and three comments were received.)

### **1.4.3 Comments**

The Navy also received written comments on the project proposal. Together, the following issues or concerns were raised: additional traffic on 67th Street, the need for additional storm water management, safety/security, sufficient parking, and aesthetics (landscaping, viewshed).

In order to alleviate additional traffic on 67th Street, the proposed action was revised to include an additional means of entrance/exit on 68th Street. As discussed in Section 4.2, a second entrance/exit would minimize traffic congestion in the immediate area.

The Navy determined that concerns regarding additional storm water management were outside the scope of the proposed action and its effects. Storm water management is discussed in more detail in Sections 3.4.3 and 4.4.3.

The Navy determined that concerns regarding safety and security were adequately addressed by the proposed action. Safety and security are discussed in more detail in Sections 3.5.1 and 4.5.1.

The Navy determined that concerns regarding additional aesthetics were adequately addressed by the proposed action. This issue is addressed in more detail in Sections 3.1.3 and 4.1.3.

The Navy determined that concerns regarding parking were adequately addressed by proposed action. Parking is discussed in more detail in Sections 2.2.1, 2.2.2, 2.3, and 4.1.

## **1.5 Scope of the EA**

This EA identifies and analyzes the potential environmental and socioeconomic effects associated with the proposed action and alternatives. The environmental resources and topics evaluated in this EA are:

- Land use, the coastal zone, and the visual setting
- Traffic
- Noise
- Infrastructure and utilities
- Community facilities and services
- Socioeconomics
- Terrestrial environment
- Cultural resources
- Air quality.

This EA describes existing environmental conditions at the 67th Street property, identifies reasonable alternatives to the preferred alternative, evaluates human and environmental consequences, both direct and indirect, that may result from the proposed action and alternatives, identifies measures to minimize or mitigate po-

tential adverse effects, and addresses cumulative impacts resulting from past, present, and reasonably foreseeable projects in the region. The decision to be made is whether to continue operating the catering facility as is or to demolish the catering facility and redevelop the site based on the stated objectives.

**1.6 Regulatory Requirements**

NEPA prescribes an interdisciplinary approach to environmental planning in aid of federal agency decision-making. Under NEPA, a federal agency’s proposed actions can either be “categorically excluded” from further analysis or evaluated in an EA or an environmental impact statement (EIS). An EA is a concise public document intended to provide agency decision makers with sufficient information and analysis to determine whether to prepare an EIS. An EA thus results in either a Finding of No Significant Impact (FONSI) or a decision to prepare an EIS. An EIS is required for federal actions that may significantly affect the quality of the human environment.

Information documented in this EA has been derived from interviews with Navy personnel and from review of the documents listed in the reference section of this report.

The Navy is required to obtain various federal and state permits and authorizations before implementing the proposed action or alternatives. The permits and approvals expected to be required are listed in Table 1-1. In addressing environmental consequences, the Navy is guided by relevant statutes (and their implementing regulations) and Executive Orders (EOs) that establish standards and provide guidance on environmental and natural resources management and planning.

**Table 1-1 Applicable Regulatory Requirements and Approvals**

<b>Regulation</b>	<b>Agency</b>	<b>Permit/Approval</b>	<b>Regulated Activity</b>
National Environmental Policy Act (42 U.S. Code [U.S.C.] 4321 et seq.)	Navy	Finding of No Significant Impact or prepare an EIS	Federal action
Clean Air Act (CAA) of 1970 (42 U.S.C. 7401 et seq.)	U.S. Environmental Protection Agency (EPA)	Conformity Determination	Compliance with the General Conformity Rule
National Historic Preservation Act (NHPA) of 1966 as amended (16 U.S.C. 470 and amendments)	Advisory Council on Historic Preservation (ACHP); Virginia Department of Historic Resources	Section 106	Federal undertakings that affect properties on or determined to be eligible for listing on the National Register of Historic Places (NRHP)
Coastal Zone Management Act (CZMA); Virginia Coastal Zone Management Program (CZMP)	Virginia Department of Environmental Quality (DEQ)	Coastal Consistency Determination (CCD)	Actions that potentially affect coastal resources

**Table 1-1 Applicable Regulatory Requirements and Approvals**

<b>Regulation</b>	<b>Agency</b>	<b>Permit/Approval</b>	<b>Regulated Activity</b>
Virginia Stormwater Management Act (Title 10.1, Chapter 6, Article 1.1)	Soil and Water Conservation Board; Virginia Department of Conservation and Recreation (DCR)	Virginia Stormwater Management Program permit	Construction activities equal to or larger than 1 acre
Endangered Species Act (ESA)	Virginia Department of Game and Inland Fisheries (DGIF); Virginia Department of Conservation and Recreation (DCR) Natural Heritage Division	Agency consultation for presence of threatened and endangered species	Actions that affect threatened or endangered species.

# 2

## Proposed Action and Alternatives

### 2.1 Description of the Proposed Action

The proposed action is to demolish the existing approximately 8,000-square foot JEBLCFS catering facility and recreational pavilions (beach cabanas) and construct new facilities to support the Navy's MWR Program. The property is located on the Atlantic oceanfront, between 67th and 68th Streets, at the north end of Virginia Beach, Virginia. The new facilities would use design criteria that meet the accessibility requirements for handicapped people in compliance with the Americans with Disabilities Act (ADA), requirements of the Leadership in Energy and Environmental Design (LEED) system, and anti-terrorism/force protection (AT/FP) regulations. The existing one-story brick catering facility and parking lot occupy approximately 1.7 acres located approximately 9 miles from the main portion of the JEBLCFS. Demolition activities would also include removal of 17 beach-side recreational pavilions (beach cabanas).

### 2.2 Description of Alternatives

Reasonable alternatives to be evaluated in an EA are those that meet the purpose and need for the proposed action. The proposed action is needed to maintain a robust MWR Program, especially in light of the rapid pace of the global war on terrorism and its effects on military families. The purpose of the proposed action is to provide a new facility to support the Navy's MWR Program.

The primary criterion for development of reasonable alternatives to support the proposed action is to evaluate facility options that fulfill the MWR Program mission. A secondary criterion is to avoid unnecessary maintenance and upkeep of underused and outdated facilities at the expense of military operating forces.

#### 2.2.1 Alternative 1 – Vacation Rental Homes

The Navy has identified a high demand for oceanfront vacation rental homes in the Mid-Atlantic area to serve the community of active-duty, reserve, and retired Navy personnel, and National Guard and DoD civilians and their families. Alternative 1 would demolish the existing catering facility and recreational pavilions (beach cabanas) and construct 20 vacation rental homes. The complex would comprise 10 two-bedroom units (approximately 885 square feet each) and 10 three-bedroom units (approximately 1,050 square feet each), constructed in two multi-unit buildings of six rental units each, and one multi-unit building of eight rental units with a courtyard between the three buildings (Figure 2-1). All three

buildings will be two-story buildings. Each rental unit would include the following:

- Bedrooms (two or three), with a closet in each
- One and one-half bathrooms
- Kitchen
- Living/dining room
- Exterior patio on the first floor
- Exterior deck with a view of the ocean on the second floor
- Private washer/dryer
- Utility area.

A maintenance/maid service utility room with adequate space to accommodate maid carts and basic maintenance equipment would be located next to the eight-unit structure. Support facilities for the vacation rental units would include parking for two cars per home, adequate utilities for year-round use, and appropriate receptacles for trash and recyclables. ADA accessibility requirements would be met by using ADA accessibility design in one of the six-unit buildings. Although the City of Virginia Beach building and zoning codes do not apply because the project is located on federal property, the buildings would not exceed 35 feet in height, the maximum height allowed for buildings within residential districts (Virginia Beach City Code, Appendix A, Article 5, Section 503). Furthermore, the proposed density would be consistent with the current conditions of 12 dwelling units per acre. The property currently has a single entrance/exit onto 67th Street. Under Alternative 1, the Navy would create a second entrance/exit onto 68th Street directly in line with the existing entrance/exit at 67th Street. Redevelopment of the oceanfront property at 67th Street would enhance the MWR Program and would be consistent with the surrounding land use, which is characterized by single- and multi-family owner- and renter-occupied units.

### **2.2.2 Alternative 2 – Larger Catering Facility**

Under Alternative 2 the existing catering facility and recreational pavilions (beach cabanas) would be demolished and replaced with a larger, two-level catering facility. The new facility, which would be called the 67th Street Catering Complex, would be designed to accommodate up to 400 guests. Parking for up to 220 vehicles would be available, with an elevator providing easy access from the parking area to the approximately 17,000-square foot catering facility on the second level. The building would include a second floor deck with an ocean view (see Figure 2-2). Although the City of Virginia Beach building and zoning codes do not apply because the project is located on federal property, the facility would not



**Figure 2-1 Alternative 1 Conceptual Layout**  
67th Street Oceanfront Property  
Virginia Beach, Virginia





**Figure 2-2** Alternative 2 Conceptual Rendering  
67th Street Oceanfront Property  
Virginia Beach, Virginia



exceed 35 feet in height, the maximum height allowed for buildings within residential districts (Virginia Beach City Code, Appendix A, Article 5, Section 503). The property currently has a single entrance/exit at 67th Street. Under Alternative 2, the Navy would create a second entrance/exit to 68th Street directly in line with the existing exit/entrance at 67th Street.

### **2.2.3 No Action Alternative**

Under CFR 40 Section 1502.14(d), an EA must analyze the No Action Alternative. Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property. The Navy's MWR Program would continue to use the catering facility in its current condition. None of the benefits associated with redevelopment of the 67th Street property would occur. For the purposes of this EA, the No Action Alternative serves as a baseline against which the environmental consequences of the other alternatives are measured. The No Action Alternative, if implemented, would not satisfy the purpose and need for the proposed action, although it has been analyzed as required.

## **2.3 Alternatives Considered and Eliminated**

The following alternatives were considered but eliminated from further evaluation.

### **RV Campground**

Under this alternative, the Navy would redevelop the 67th Street property to serve as a recreational vehicle (RV) campground. The MWR Program operates similar campgrounds in the region, including the Little Creek campground located at the installation on Amphibious Drive. The Little Creek campground has 45 RV sites and 6 tent sites. The RV sites include hookups for power, water, sewer, and cable television as well as a picnic table and a grill. Other amenities include a public restroom with showers, coin-laundry facilities, a picnic pavilion, a playground, and a sewage dump station. An RV campground constructed at the 67th Street property would be similar in scope to the Little Creek campground.

### **High-Rise Lodging**

Under this alternative, the Navy would construct a high-rise Navy lodge at the 67th Street property. There are three Navy lodges in the area: Navy Lodge Dam Neck (50 units) located in Virginia Beach, Navy Lodge Norfolk (294 units), and Navy Lodge Little Creek (100 units), both located in Norfolk. This alternative would involve constructing a multi-story building to accommodate as many units as possible on the property. Additional site amenities could include conference/meeting rooms and an on-site laundry facility.

### **Pool**

Under this alternative, the Navy would construct a large swimming pool to serve local military families and DoD civilian employees and their families. JEBLCFS operates an in-ground, outdoor swimming pool, known as Gator Pool, which is open from Memorial Day to Labor Day. It has a 200-foot water slide, smaller water slides for younger children, floating lily pads, a picnic area, and a baby pool.

The pool area is approximately 15,700 square feet, including the pool, deck, pool house, and parking area.

These alternatives were removed from further evaluation for the following reasons:

- None of these alternatives are consistent with the surrounding land use, which is primarily single- and multi-family residential.
- Similar amenities exist in the local area. The community served by the Navy's MWR Program already has access to similar features within the same geographical region. The MWR Program, in keeping with its mission, is working to keep the program robust, including creating opportunities to expand recreational, social, and community support activities that meet current MWR Program community demands.
- These alternatives do not fill a gap in the services currently offered by the Navy's MWR Program.
- The size of the property precludes implementing any of these alternatives because of parking space limitations or because the facilities would not be large enough to provide an adequate return on investment.

## **2.4 The Preferred Alternative**

Although Alternatives 1 and 2 each meet the objectives of the proposed action, Alternative 1 (vacation rental homes) has been identified as the preferred alternative. In addition to meeting the needs of the Navy's MWR Program (within budget constraints) and providing a modest return on investment, the Navy has identified a high demand for vacation rental homes to serve the community of active-duty, reserve, and retired Navy personnel, and National Guard and DoD civilians and their families. Affordable opportunities in the region for military personnel to enjoy a beachfront vacation setting with their family are limited. It is for these reasons that an increase in the number of available vacation rental homes is the preferred choice for the proposed action.

## **2.5 Comparison of Alternatives**

Table 2-1 summarizes the environmental consequences associated with the demolition and construction activities that would support the Navy's MWR Program and the No Action Alternative. (For further information on environmental consequences see Chapter 4.)

**Table 2-1 Comparison of the Environmental Consequences for Each Alternative**

<b>Resource</b>	<b>Alternative 1 Beach Cottages</b>	<b>Alternative 2 Larger Catering Facility</b>	<b>No Action Alternative</b>
Land Use, Coastal Zone Management, and Visual Setting	<b>Land Use</b> Consistent with surrounding land use.	<b>Land Use</b> Consistent with surrounding land use.	<b>Land Use</b> No impact.
	<b>Coastal Zone Management</b> No adverse impacts on coastal resources.	<b>Coastal Zone Management</b> No adverse impacts on coastal resources.	<b>Coastal Zone Management</b> No impact.
	<b>Visual Setting</b> Temporary impacts during construction; long-term positive impacts. The height of the vacation rental units would be similar to the height of the existing catering facility and would not exceed 35 feet.	<b>Visual Setting</b> Temporary impacts during construction; long-term positive impacts. The height of the new catering facility would be similar to the height of the existing catering facility and would not exceed 35 feet.	<b>Visual Setting</b> Long-term negative impact from continued deterioration of the catering facility.
Traffic	Temporary impacts from construction traffic. Following construction, traffic to and from the vacation rental units would be nearly identical to current residential resort traffic.	Temporary impacts from construction traffic. After construction, there would be moderate impacts from vehicles queuing at the traffic signal following events.	Traffic would be similar to current conditions.
Noise	Minor, temporary impacts during construction; no impacts post-construction.	Minor, temporary impacts during construction; no impacts post-construction.	No impact.
Infrastructure and Utilities	<b>Water Supply</b> Total yearly water use would be about 1.26 million gallons per year or less than 0.1% of the city's average yearly water use.	<b>Water Supply</b> Total yearly water use would be about 800,000 gallons, or 0.006% of the city's average yearly water use.	<b>Water Supply</b> No impact.
	<b>Wastewater</b> Wastewater generated would be a small percentage of the Atlantic wastewater treatment plant's capacity.	<b>Wastewater</b> Wastewater generated would be a small percentage of the Atlantic wastewater treatment plant's capacity.	<b>Wastewater</b> No impact.
	<b>Storm Water</b> Temporary increase in storm water runoff during construction; long-term beneficial impact during operation because the amount of impervious surface on the property would decrease.	<b>Storm Water</b> Temporary increase in storm water runoff during construction; during operation the amount of impervious surface would remain unchanged from current conditions; therefore, there would be no long-term impact on storm water.	<b>Storm Water</b> No impact.
Community Facilities and Services	<b>Police and Fire Protection</b> Negligible impact from slight increase in temporary population.	<b>Police and Fire Protection</b> Negligible impact from slight increase in temporary population.	<b>Police and Fire Protection</b> No impact.

**Table 2-1 Comparison of the Environmental Consequences for Each Alternative**

<b>Resource</b>	<b>Alternative 1 Beach Cottages</b>	<b>Alternative 2 Larger Catering Facility</b>	<b>No Action Alternative</b>
Community Facilities and Services (con't)	<b>Medical Services</b> Negligible impacts on Navy medical facilities, public emergency medical services, and hospitals.	<b>Medical Services</b> Negligible impacts on Navy medical facilities, public emergency medical services, and hospitals.	<b>Medical Services</b> No impact.
Socioeconomics	<b>Population and Housing</b> No increase in regional population and no impact on housing.	<b>Population and Housing</b> No increase in regional population and no impact on housing.	<b>Population and Housing</b> No impact.
	<b>Regional Economy</b> Positive short-term effect from funds spent on construction labor and materials. Negligible long-term effects.	<b>Regional Economy</b> Positive short-term effect from funds spent on construction labor and materials. Negligible long-term effects.	<b>Regional Economy</b> No impact.
Terrestrial Environment	<b>Topography, Geology, and Soils</b> Temporary impacts on soils during construction could include erosion, compaction, and rutting.	<b>Topography, Geology, and Soils</b> Temporary impacts on soils during construction could include erosion, compaction, and rutting.	<b>Topography, Geology, and Soils</b> No impact.
	<b>Surface Water</b> No impact.	<b>Surface Water</b> No impact.	<b>Surface Water</b> No impact.
	<b>Groundwater</b> No impact anticipated, although temporary impacts during construction could occur from spills of fuel or other chemicals.	<b>Groundwater</b> No impact anticipated, although temporary impacts during construction could occur from spills of fuel or other chemicals.	<b>Groundwater</b> No impact.
	<b>Floodplains</b> No impact.	<b>Floodplains</b> No impact.	<b>Floodplains</b> No impact.
	<b>Wetlands</b> No impact.	<b>Wetlands</b> No impact.	<b>Wetlands</b> No impact.
	<b>Vegetation and Wildlife</b> Short-term impacts during construction; no long-term impacts.	<b>Vegetation and Wildlife</b> Short-term impacts during construction; no long-term impacts.	<b>Vegetation and Wildlife</b> No impact.
	<b>Migratory Birds</b> Would not result in the taking or mortality of migratory birds or any other action that is prohibited by the Migratory Bird Treaty Act (MBTA).	<b>Migratory Birds</b> Would not result in the taking or mortality of migratory birds or any other action that is prohibited by the Migratory Bird Treaty Act (MBTA).	<b>Migratory Birds</b> No impact.
	<b>Threatened and Endangered Species</b> No effect.	<b>Threatened and Endangered Species</b> No effect.	<b>Threatened and Endangered Species</b> No effect.

**Table 2-1 Comparison of the Environmental Consequences for Each Alternative**

<b>Resource</b>	<b>Alternative 1 Beach Cottages</b>	<b>Alternative 2 Larger Catering Facility</b>	<b>No Action Alternative</b>
Cultural Resources	No effect.	No effect.	No effect.
Air Quality	Minor, temporary impacts during construction. Annual emissions would be below de minimis levels for nitrogen oxides (NO <sub>x</sub> ) and volatile organic compound (VOC) emissions.	Minor, temporary impacts during construction. Annual emissions would be below de minimis levels for nitrogen oxides (NO <sub>x</sub> ) and volatile organic compound (VOC) emissions.	No impact.

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# 3

## Existing Environment

This section describes the existing land uses, the coastal zone, and the visual setting; traffic; noise; infrastructure and utilities; community facilities and services; socioeconomics; the terrestrial environment; cultural resources; and air quality. Environmental justice and environmental management are not fully analyzed in this EA for the following reasons:

### **Environmental Justice**

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, specifies that each agency identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. In addition, Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, mandates that federal agencies identify and assess environmental health and safety risks that may disproportionately result in health and safety risks to children.

Environmental justice issues are not analyzed in detail in this EA because the population in the vicinity of 67th Street shows no significant percentages of minorities or low-income families when compared with the percentages of these groups in the City of Virginia Beach or the Commonwealth of Virginia (U.S. Census Bureau 2000a; 2000b). This area also has a lower percentage of children aged 17 or younger than live in the City of Virginia Beach or the Commonwealth. The Navy has therefore determined that implementation of either Alternative 1, 2, or the No Action Alternative would have no disproportionately high or adverse health or environmental impacts on minority or low-income populations. Further, the alternatives would pose no disproportionate environmental health or safety risks to children.

### **Environmental Management**

Environmental management is not described in detail here because there are no hazardous waste issues at the site. Although there is a potential for the current facility to contain lead-based paint and/or asbestos-containing materials, the Navy would ensure that the demolition contractor follows all laws pertaining to proper handling of these materials during building demolition under either alternative.

### **3.1 Land Use, Coastal Zone, and Visual Setting**

#### **3.1.1 Land Use**

The U.S. Navy property at 67th Street is located in the residential area next to Virginia Beach's public North End Beach (Beach and Waterways Advisory Commission April 2002). The City of Virginia Beach refers to this area as the "North Virginia Beach community" and defines it as the residential area on both sides of Atlantic Avenue from 42nd Street to 89th Street. Other non-residential land uses in the area are limited to a high-rise hotel located at 57th Street and Atlantic Avenue and the Edgar Cayce's Association for Research and Enlightenment at 67th Street and Atlantic Avenue, across Atlantic Avenue from the catering facility. The civilian area ends at 89th Street, at the boundary of JEBLCFS (City of Virginia Beach 2003a). West of the residential area is First Landing State Park, which covers approximately 2,900 acres (Figure 3-1).

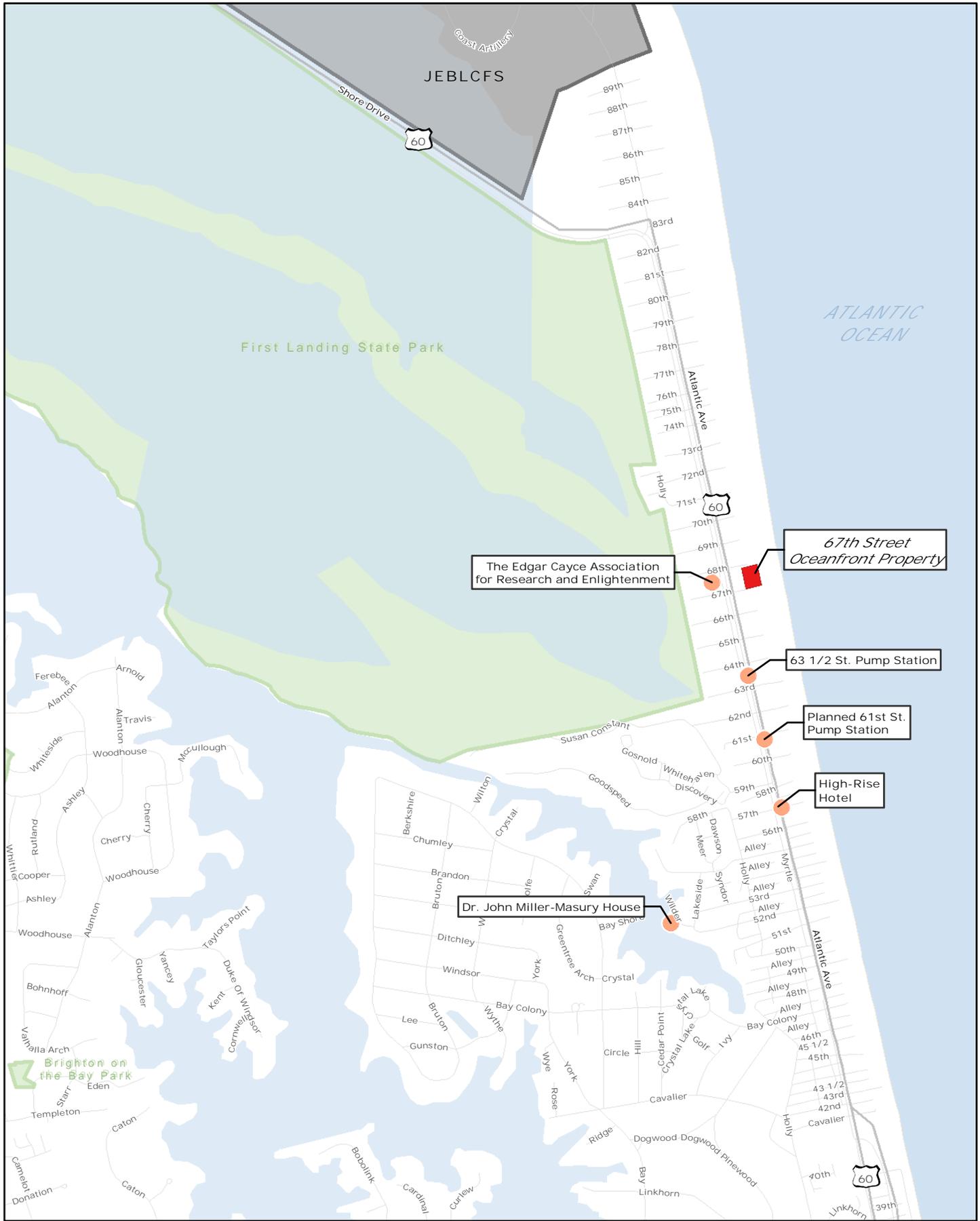
Local residents commonly refer to the North Virginia Beach community as the "North End." Houses in this area are generally detached single-family homes and duplexes, some of which are permanent residences and some vacation rental homes. Because the area is close to the Atlantic Ocean, property values are typically higher than average real estate values. Housing densities adjacent to the Navy's property are generally 8 to 12 residential units per acre.

The North Virginia Beach community, including the block containing the Navy's 67th Street property, is zoned "Residential Resort District," or R-5R (City of Virginia Beach, Planning 2008; City of Virginia Beach 2008a). The residential resort district is defined as a developed area where existing single-family and duplex dwellings are on lots of less than 7,500 square feet and where the neighborhood includes both permanent and seasonal residents (City of Virginia Beach 2008a).

#### **3.1.2 Coastal Zone**

The Coastal Zone Management Act (CZMA) of 1972 (16 United States Code [U.S.C.] §1451 et seq. as amended) provides assistance to states, in cooperation with federal and local agencies, to develop land- and water-use programs in coastal zones. Section 307 of the CZMA stipulates that, when a federal project involves reasonably foreseeable impacts on any coastal use or resource (land- or water-use or natural resource), the action must be consistent, to the maximum extent practicable, with the enforceable policies of the affected state's federally approved coastal management plan (CMP).

The Commonwealth of Virginia has developed and implemented a federally approved Coastal Zone Management Program (CZMP) describing current coastal legislation and enforceable policies (Virginia Department of Environmental Quality December 12, 2008). A network of core agencies and coastal localities in the Commonwealth of Virginia administers the enforceable policies of the Virginia CZMP. The Virginia Department of Environmental Quality (DEQ) serves as the lead agency for the program.



- Key Features
- Project Site
- Water
- Park Boundary
- Joint Expeditionary Base Little Creek - Fort Story

**Figure 3-1**  
**67th Street Oceanfront Property**  
**North End Virginia Beach Key Features**  
**Virginia Beach, Virginia**  
 0 0.125 0.25 0.5  
 Miles





The enforceable policies of the Virginia CZMP include:

- Wetlands management
- Fisheries management
- Subaqueous lands management
- Dunes and beaches management
- Point-source air pollution control
- Point-source water pollution control
- Nonpoint-source water pollution control
- Shoreline sanitation
- Coastal lands management.

When a state CMP is federally approved, federally proposed actions with the potential to affect the state’s coastal uses or resources are subject to review under the CZMA Section 307 federal consistency determination requirement. Section 307 mandates that federal actions within a state’s coastal zone (or outside the coastal zone, if the action affects land or water uses or natural resources within the coastal zone) be consistent to the maximum extent practicable with the enforceable policies of the state CMP. Federal agency actions include direct and indirect activities, federal approval activities, and federal financial assistance activities. Accordingly, federal agency activities under NEPA review that could affect the state’s coastal zone must be fully consistent with the enforceable policies of the state’s CMP unless compliance is otherwise prohibited by law.

Federal lands, such the Navy-owned property at 67th Street, are “lands the use of which is by law subject solely to the discretion of . . . the Federal Government, its officers, or agents” and are statutorily excluded from the CZMA’s definition of the Commonwealth of Virginia’s “coastal zone” (16 U.S.C. §1453(1)). If, however, the proposed federal activity affects coastal resources or uses beyond the boundaries of the federal property (i.e., has spillover effects) or is located outside federal property, the CZMA Section 307 federal consistency requirement applies.

The Navy’s 67th Street property is subject to federal regulations and Virginia coastal zone management policies because of its potential to affect the coastal zone. Its eastern boundary abuts a primary sand dune.

### **3.1.3 Visual Setting**

The character of the area is typical of a seaside resort community—upscale and densely developed. The homes are primarily single-family houses or duplexes and have two or three stories. The existing catering facility is one story high and

is shorter than many of the surrounding homes. The exteriors of the surrounding homes tend to be made of wood or vinyl siding and many have balconies. Yards are small and the natural soil composition is sand. Dunes covered with coastal scrub vegetation separate the residential area from the beach. There are designated public beach access points to help reduce potential damage to sand dunes.

### **3.2 Traffic**

The local street network in the North End consists of Atlantic Avenue, which runs north-south parallel to the ocean, and residential cul-de-sacs from 42nd Street to 89th Street that run east-west, perpendicular to the ocean. Atlantic Avenue (U.S. Route 60) is a four-lane arterial road. Atlantic Avenue runs north past 89th Street and into Fort Story; at 83rd Street it turns west and becomes Shore Drive, a major four-lane arterial roadway running along the shore of Chesapeake Bay from Virginia Beach to Norfolk. From 42nd Street south to Rudee Inlet, Atlantic Avenue passes through the primary Virginia Beach resort area (see Figure 3-1). There is a traffic signal at the intersection of 67th Street and Atlantic Avenue.

The Virginia Department of Transportation (DOT) regularly collects traffic volume data on most major roads in Virginia. The annual average daily traffic (AADT) for the portion of Atlantic Avenue from 50th Street to 83rd Street was 16,000 vehicles per day in 2007 (Virginia Department of Transportation May 14, 2008). Of the vehicles traveling this section of Atlantic Avenue, 98% were cars, vans, pickup trucks, and motorcycles. Of the remainder, 1% consisted of buses and 1% of trucks with two axles (Virginia Department of Transportation May 14, 2008).

Hampton Roads Transit (HRT) contracts with the City of Virginia Beach to provide bus service. Sixty-seventh Street is only a block from a bus stop located at Atlantic Avenue and 68th Street, and both Bus Route 20 and Bus Route 33 include this stop (Hampton Roads Transit 2008a; 2008b). Passengers can transfer to other buses to travel throughout the Hampton Roads area. HRT operates additional public transportation services throughout the Hampton Roads Region, including the VB Wave, a seasonal bus route serving the Virginia Beach resort area, and the Metro Area Express (MAX), which is a regional express bus line serving the entire Hampton Roads region (Hampton Roads Transit 2008c; 2008d).

Bike facilities are also available in the North End and resort areas of Virginia Beach. An on-road bike facility consisting of a service road with low vehicular traffic runs along northern Atlantic Avenue (City of Virginia Beach, Department of Parks and Recreation 2006). The adjacent resort area has a designated bike trail along the boardwalk that runs parallel to Atlantic Avenue.

### **3.3 Noise**

The property is located in an urban, resort, residential area between a busy arterial (Atlantic Avenue) and the oceanfront. Common sources of noise are voices, traffic, air conditioners, and surf.

### **3.4 Infrastructure and Utilities**

Infrastructure consists of the physical systems supporting the local population and includes water supply, wastewater collection and treatment, and storm water management.

#### **3.4.1 Water Supply**

The Navy's 67th Street property is connected to the City of Virginia Beach's public water supply. The Virginia Beach Department of Public Utilities provides potable water service to the northern (urban) part of Virginia Beach (City of Virginia Beach 2003a). Virginia Beach's water supply is drawn primarily from Lake Gaston, located along the Virginia-North Carolina border, and is supplemented with water from the City of Norfolk system and several in-town supplemental reservoirs (Geo-Marine, Inc. July 2004).

Virginia Beach's permit allows it to use an annual average of 45 million gallons per day (mgd) from Lake Gaston (City of Virginia Beach 2003b). In 2008 the City of Virginia Beach drew an average of 35.0 mgd from Lake Gaston, with a minimum average in May of 11.3 mgd and a maximum average in July of 55.5 mgd. In total, Virginia Beach drew 12.8 billion gallons from Lake Gaston in 2008 (City of Virginia Beach 2008d).

The Navy's catering facility used approximately 600,000 gallons during the last fiscal year or 1,650 gallons per day (gpd) (Cabral February 19, 2009), a very small percentage (0.005%) of the total potable water use for all of Virginia Beach.

#### **3.4.2 Wastewater**

The Hampton Roads Sanitation District (HRSD) operates 13 wastewater treatment plants (WWTPs) that treat domestic and commercial wastewater from the Hampton Roads region. Wastewater from the North End area of Virginia Beach is transported via an interceptor force main and pump station to the Atlantic WWTP, located at 645 Firefall Drive in Virginia Beach. The permitted treatment capacity of this facility, opened in 1983, is 36 mgd (City of Virginia Beach 2003b). The average flow at the WWTP in FY 2008 was 26 mgd. The Atlantic WWTP is nearing hydraulic capacity and is also nearing or at capacity for total suspended solids and biochemical oxygen demand; the HRSD, therefore, is undertaking a major expansion of the WWTP to increase the design capacity to 54 mgd (Hampton Roads Sanitation District Interceptor Systems Department, Planning and Analysis Division March 2006).

The HRSD, including the Atlantic WWTP, is regulated by a Virginia Pollutant Discharge Elimination System (VPDES) permit issued by the Virginia DEQ. Treated wastewater effluent from the Atlantic WWTP is discharged into the Atlantic Ocean. The quantity of wastewater generated, approximately 1,650 gpd, is a small percentage (0.005%) of the total wastewater treatment capacity of 36 mgd.

#### **3.4.3 Storm Water**

Storm water is collected and transported using a system that is separate from the wastewater system. Atlantic Avenue is an important urban arterial road that has

no natural means of drainage and relies on an old, 15-inch gravity storm water pipe system that leads to six small pump stations. Minor storms cause flooding, and major rainfall renders Atlantic Avenue impassible for long periods of time. A proposed project currently in the design phase will alleviate storm water flooding along Atlantic Avenue (City of Virginia Beach 2008e).

The proposed city storm water project includes the construction of a new storm water pump station, ocean outfall, and collector system. The pump station will be located in the Atlantic Avenue median south of 61st Street (see Figure 3-1) and will be capable of pumping approximately 45,000 gallons per minute (gpm). The pump station will discharge to a new ocean outfall consisting of a single 48-inch force main extending approximately 1,200 feet from the primary sand dune. The proposed collector system will be constructed along Atlantic Avenue from 55th Street to 61st Street and is planned to connect to the beachfront interceptor at 55th Street with a 48-inch storm drain. The existing small pump station at 63½ Street will be evaluated for discharging to the new 61st Street pump station. Construction of the project was scheduled to begin in October 2009 and continue for 24 months (City of Virginia Beach Public Works October 1, 2009).

### **3.5 Community Facilities and Services**

#### **3.5.1 Police and Fire Protection**

Virginia Beach has a local population of about 435,000 (U.S. Census Bureau n.d.[a]) and more than two million tourists visit the city each year (City of Virginia Beach 2008b). The Virginia Beach Police Department comprises four precincts (City of Virginia Beach 2008f). The Navy's property at 67th Street is located within the Virginia Beach Police Department's Second Precinct, which serves the northeastern part of the city, including the Virginia Beach resort area (City of Virginia Beach 2008f). The Second Precinct is responsible for 36 square miles of land and approximately 79,000 residents plus most of the city's tourists (City of Virginia Beach 2008b). The Second Precinct Building is located at 820 Virginia Beach Boulevard in a public safety complex along with Virginia Beach Fire Department Station 11 and Virginia Beach Emergency Medical Services (EMS) Station 14 (City of Virginia Beach 2008b; 2008c). The complex is approximately seven blocks from the oceanfront and approximately 4 miles from 67th Street.

The Virginia Beach Fire Department divides the city into 21 districts, each with a fire station. The Navy's property at 67th Street is in the Station 11 district, the Beach Borough station (City of Virginia Beach Fire Department 2008). Like the Virginia Beach Police Department's Second Precinct Building, Virginia Beach Fire Station 11 is located in the public safety complex on Virginia Beach Boulevard near the oceanfront. In FY 2007, this station had a travel time of approximately 7 minutes and a total response time of approximately 11 minutes for 90% of its structural fires. For EMS calls, the Virginia Beach Fire Station 11 had an average travel time of 6:22 minutes and an average total response time of 12:24 minutes (City of Virginia Beach Fire Department 2008).

**3.5.2 Medical Services**

Medical clinics serving active-duty and retired Navy personnel and their dependents are located on two Navy installations in the City of Virginia Beach. The Admiral Joel T. Boone Branch Health Clinic at JEBLCFS is located on Nider Boulevard, approximately 11 miles from the Navy property at 67th Street. The Oceana Branch Health Clinic at Naval Air Station (NAS) Oceana is located on Tomcat Boulevard, approximately 9 miles from the Navy property at 67th Street.

For medical emergencies requiring an ambulance and specialized rescue squad care, the Virginia Beach Department of Emergency Medical Services has the largest volunteer rescue service in the country, with ten volunteer rescue squads (Virginia Beach 2008c). The EMS station closest to the Navy’s property at 67th Street is EMS Station 14, the Virginia Beach Volunteer Rescue Squad. EMS Station 14 has more than 80 active members and provides free 24-hour emergency care to Virginia Beach citizens and tourists (City of Virginia Beach 2008c). EMS Station 14 is located at 740 Virginia Beach Boulevard within the oceanfront public safety complex, approximately 4 miles from 67th Street. The public hospital nearest to the Navy’s property at 67th Street is Sentara Virginia Beach General Hospital, located approximately 6 miles away on First Colonial Road.

**3.6 Socioeconomics**

**3.6.1 Population and Housing**

As shown in Table 3-1, Virginia Beach has a total of approximately 174,700 residential housing units, while the Hampton Roads region has approximately 678,500 (U.S. Census Bureau n.d. [c]; [d]). Homeowner and rental home vacancy rates (Table 3-2) in both the City of Virginia Beach and the Hampton Roads region are lower than the U.S. national average.

**Table 3-1 Regional Housing Availability 2007**

	Total Housing Units	Occupied Housing Units	Owner-occupied Housing Units	Renter-occupied Housing Units	Vacant Housing Units
City of Virginia Beach	174,669	162,546	112,444	50,102	12,123
Hampton Roads	678,451	623,695	405,970	217,725	54,756

Source: U.S. Census Bureau n.d.[c]; U.S. Census Bureau n.d.[d]

**Table 3-2 Home Vacancy Rates 2007**

	Homeowner Vacancy Rate	Rental Vacancy Rate
City of Virginia Beach	1.3 %	4.2 %
Hampton Roads	1.4 %	5.3 %
United States National Average	2.2 %	7.7 %

Source: U.S. Census Bureau n.d.[c]; U.S. Census Bureau n.d.[d]

**3.6.2 Regional Economy**

Hampton Roads has one of the largest military concentrations in the country (Hampton Roads Statistical Digest 2006), and the DoD is the largest employer in the area (Virginia Employment Commission November 15, 2008). In addition to the 9% of the workforce that consists of enlisted military personnel, the military

directly employs numerous civilian and contractor personnel and indirectly supports additional employment through the purchase of goods and services in the region. In 2004 the DoD spent \$18.6 billion in Hampton Roads (Hampton Roads Statistical Digest 2006). The Navy is the largest branch of the military in Hampton Roads and in 2005 was estimated to have a direct economic impact in the area of \$10.8 billion (Hampton Roads Statistical Digest 2006).

By several economic measures, the Hampton Roads regional economy exceeds the national average. In 2007, civilian unemployment within Hampton Roads was estimated to be at about 3.3% of the labor force, whereas the national average that year was 4.1% (U.S. Census Bureau n.d.[e]; [f]). The median household income in the Hampton Roads region in 2007 was \$54,824; the national median was \$50,740 (U.S. Census Bureau n.d.[e]; [f]). About 10.4% of the population of Hampton Roads was estimated to live below the poverty level in 2007, compared with 13.0% nationally (U.S. Census Bureau n.d.[e]; [f]).

By the same measures, the local economy in the City of Virginia Beach exceeds both the national average and the Hampton Roads average. In 2006, civilian labor force unemployment within Virginia Beach was 2.4%, the median household income was \$61,462, and about 6.4% of the population lived below the poverty level (U.S. Census Bureau n.d.[g]).

The JEBCFS catering facility is a small facility capable of hosting events of 100 to 150 guests. The catering facility currently employs about six permanent staff and occasionally hires local musicians or disc jockeys to staff individual events. The catering facility does not generate enough employment or revenue to noticeably affect the regional economy.

### **3.7 Terrestrial Environment**

#### **3.7.1 Topography, Geology, and Soils**

##### **Topography**

The Navy property at 67th Street is located at the eastern edge of the Atlantic Coastal Plain physiographic region (U.S. Geological Survey April 2003). The coastal plain region gradually inclines towards the ocean and because the 67th Street property is at the extreme eastern boundary of this region, its elevation is only slightly above sea level. The site is mostly flat with gentle slopes occurring on the dunes at the eastern edge of the site.



**Oceanfront Dunes**

**Geology**

The Navy property at 67th Street is in the Beach Sand and Dune Sand Deposits Geologic Unit. The unit is Quaternary Age and consists of fine- to coarse-grained quartz sand (U.S. Geological Survey 1993).

**Soils**

Three different soil types are identified in the vicinity of the Navy 67th Street property: Psammments-Urban land complex, Newhan fine sand, and beaches (Natural Resources Conservation Service February 2008). Soils underlying the property are classified as Psammments-Urban land complex (National Map Unit Symbol 120908) (Natural Resources Conservation Service February 2008). Psammments are characterized as loamy fine sands with less than 35% rock fragments that generally have a 0% to 2% slope (Natural Resources Conservation Service February 2008). These soils may be found on geologic surfaces of any age and can support all types of vegetation (Natural Resources Conservation Service 1999). They are moderately well-drained, with a low water-holding capacity (Natural Resources Conservation Service 1999; February 2008). The depth through this type of soil to the water table is generally 12 to 36 inches; the depth to bedrock is generally more than 80 inches (Natural Resources Conservation Service February 2008). Psammments that are bare and dry are susceptible to wind erosion (Natural Resources Conservation Service 1999). Urban land, characterized as land that is paved with impervious surface, covers about 90% of the property.

Newhan fine sand (National Map Unit Symbol 120898) occurs in the dune area on the east side of the property (Natural Resources Conservation Service February 2008). Found along the U.S. Atlantic Coast from Florida to Virginia, this soil series is associated with beaches and sparsely vegetated, gently undulating coastal dunes with slopes from 2% to 30% (Natural Resources Conservation Service February 2008; November 13, 2008; 1999). Newhan fine sand consists of sand and shell fragments deposited primarily by wind action (Natural Resources Conservation Service February 2008). This soil type is excessively drained, with a very low water-holding capacity (Natural Resources Conservation Service February 2008; November 13, 2008). Surface runoff is slow (Natural Resources Conservation Service February 2008). The depth to both the water table and bedrock is generally more than 80 inches (Natural Resources Conservation Service February 2008).

The soil type directly on the coast is classified as “beaches” (Natural Resources Conservation Service February 2008). Beaches are sandy deposits of marine material that are generally found at an elevation of 0 to 10 feet (Natural Resources Conservation Service February 2008).

**3.7.2 Water Resources****3.7.2.1 Surface Water**

No surface waterbodies are located directly on the Navy’s 67th Street property. The property is located within the Lynnhaven River watershed (a tidal estuary), which encompasses the northern part of the City of Virginia Beach (U.S. Envi-

ronmental Protection Agency 2008). The Lynnhaven River empties into Chesapeake Bay. The eastern branch of the Lynnhaven River is located a little more than a mile away from the 67th Street property. Surface water runoff from the property flows into Broad Bay, which empties into the eastern branch of the Lynnhaven River. Surface water runoff from the property is prevented from directly entering the Atlantic Ocean by a large sand dune.

### **3.7.2.2 Groundwater**

Groundwater is present beneath the 67th Street property in a shallow, unconfined aquifer and a deeper, confined aquifer. The Columbia aquifer is an unconfined aquifer near the surface consisting generally of sandy superficial deposits. The Columbia aquifer overlies the Yorktown confining unit, a leaky, discontinuous confining unit of variable mineral composition. Beneath the Yorktown confining unit is the Yorktown-Eastover aquifer, a confined aquifer composed of sandy deposits from the Yorktown and upper Eastover formations. The Yorktown-Eastover aquifer lies above the St. Mary's confining unit, which is a continuous, impermeable unit (Smith and Harlow 2002).

Because the City of Virginia Beach is located on a lowland adjacent to the Atlantic Ocean, freshwater generally is found down to only 200 feet below ground surface (bgs). The Columbia aquifer becomes shallower as it approaches the coast, and groundwater present beneath coastal areas such as the 67th Street property is typically brackish (Smith and Harlow 2002).

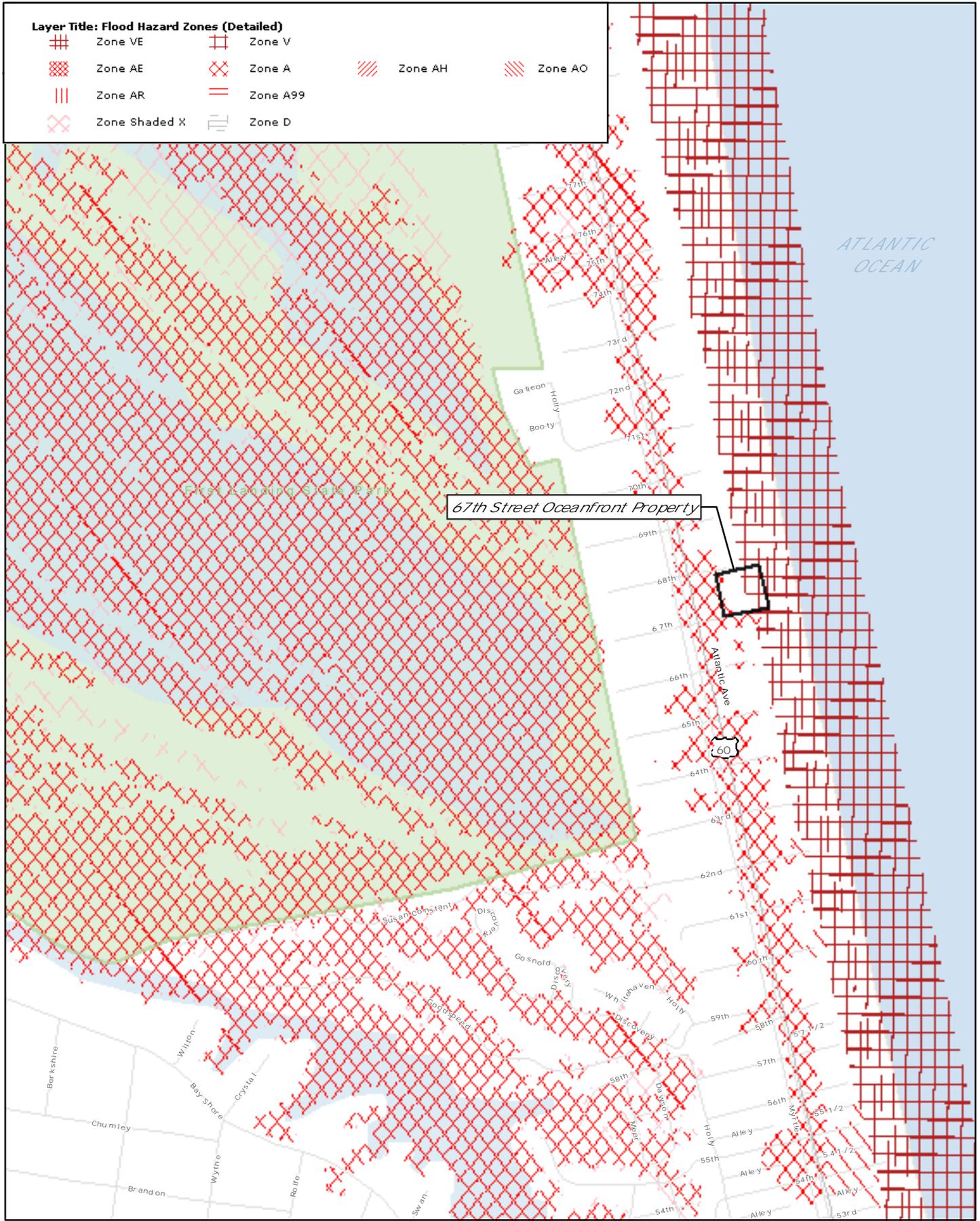
### **3.7.2.3 Floodplains**

Executive Order 11988 requires federal agencies to identify and consider practicable alternatives for locating incompatible facilities in areas identified as floodplains. Where practicable alternatives are not available, federal structures and facilities must be constructed in accordance with and consistent with the intent of the standards and criteria of the National Flood Insurance Program (NFIP).

The oceanfront portion (within approximately 100 feet landside of the dune) of the Navy property is located within the coastal flood zone (Figure 3-2) and is subject to wave action. The middle portion of the property is within the 500-year floodplain. The last 50 to 75 feet, closest to Atlantic Avenue, are within an area that is subject to inundation by a 100-year flood (Federal Emergency Management Agency 2009).

### **3.7.2.4 Wetlands**

The National Wetlands Inventory (NWI) indicates that no wetlands are located on the Navy's parcel of land at 67th Street (U.S. Fish and Wildlife Service January 14, 2009). A site survey confirmed the absence of wetlands—the land is urban with a parking lot and a building. The sand dunes and beach adjacent to the site are classified as a marine wetland system (M2USN), i.e., a marine intertidal unconsolidated shore, regularly flooded (U.S. Fish and Wildlife Service January 14, 2009).



**Figure 3-2**  
 67th Street Oceanfront Property  
 Federal Emergency Management Agency (FEMA) Flood Hazard Zones  
 Virginia Beach, Virginia

Project Site   
 Park Boundary  
 Water

0 0.125 0.25 0.5  
 Miles

N



### 3.7.3 Vegetation and Wildlife

#### Vegetation

The catering facility and associated parking lot take up the majority of the 67th Street property. During a site visit by Ecology and Environment, Inc. on December 5, 2008, it was determined that vegetation on the site is limited to a maritime dune grassland community on the eastern side of the property. The dunes and dune vegetation are protected under Virginia's Coastal Primary Sand Dune Protection Act (Code of Virginia § 28.2-1400 through § 28.2-1420).

Sea oats (*Uniola paniculata*) are the dominant species in the grass community. Other abundant species identified in this community during the field survey include bitter panicgrass (*Panicum amarum*), American beachgrass (*Ammophila breviligulata*), seaside goldenrod (*Solidago sempervirens*), seaside little bluestem (*Schizachyrium littorale*), and dune sandbur (*Cenchrus tribuloides*). Plants that were not identified during the survey but are likely to be present in the community include sea-beach evening primrose (*Oenothera humifusa*), spurges such as *Chamaesyce bombensis* and *Chamaesyce polygonifolia*, purple lovegrass (*Eragrostis spectabilis*), purple sandgrass (*Triplasis purpurea*), and sea-coast marsh-elder (*Iva imbricata*) (Virginia Department of Conservation and Recreation, Division of Natural Heritage 2006b).



**Maritime Dune Grassland Community at the 67th Street Oceanfront Property**

Plants that were not identified during the survey but are likely to be present in the community include sea-beach evening primrose (*Oenothera humifusa*), spurges such as *Chamaesyce bombensis* and *Chamaesyce polygonifolia*, purple lovegrass (*Eragrostis spectabilis*), purple sandgrass (*Triplasis purpurea*), and sea-coast marsh-elder (*Iva imbricata*) (Virginia Department of Conservation and Recreation, Division of Natural Heritage 2006b).

#### Wildlife

Terrestrial mammal species that could be found in the maritime dune habitat at 67th Street are limited to small rodents. The Pungo white-footed mouse (*Peromyscus leucopus easti*) and the marsh rice rat (*Oryzomys palustris palustris*) are both known to inhabit beaches and have been recorded within a 3-mile radius of 67th Street (Virginia Department of Game and Inland Fisheries, Fish and Wildlife Information Service 2008). The adjacent water of the Atlantic Ocean provides habitat for a variety of marine mammals. The most abundant marine mammal along the Virginia coast is the inshore Atlantic bottlenose dolphin (*Tursiops truncatus*) (Blaylock July 1985). Additionally, one true porpoise, the harbor porpoise (*Phocoena phocoena*), occurs in Virginia waters, and various whale species pass through Virginia waters, including humpback whales (*Megaptera novaeangliae*), fin whales (*Balaenoptera physalis*), and minke whales (*Balaenoptera acutorostrata*) (Geo-Marine, Inc. July 2004; Blaylock July 1985; Virginia Department of Game and Inland Fisheries, Fish and Wildlife Information Service 2008).

A variety of seabirds and shorebirds are found on the coast of Virginia Beach and include seabird species such as the brown pelican (*Pelecanus occidentalis carolinensis*), common loon (*Gavia immer*), red-throated loon (*Gavia stellata*), and the pied-billed grebe (*Podilymbus podiceps*) (Virginia Department of Game and

Inland Fisheries, Fish and Wildlife Information Service 2008; Geo-Marine, Inc. July 2004). Shorebirds include the semipalmated plover (*Charadrius semipalmatus*), black-bellied plover (*Pluvialis squatarola*), and spotted sandpiper (*Actitis macularia*) (Virginia Department of Game and Inland Fisheries, Fish and Wildlife Information Service 2008; Geo-Marine, Inc. July 2004).

Beaches and sand dunes provide potential nesting habitat for sea turtles. Sea turtles regularly found in Virginia waters include the loggerhead sea turtle (*Caretta caretta*), leatherback sea turtle (*Dermochelys coriacea*), Kemp's Ridley sea turtle (*Lepidochelys kempii*), and green sea turtle (*Chelonia mydas*) (Virginia Department of Game and Inland Fisheries, Fish and Wildlife Information Service 2008). However, only the loggerhead normally nests in Virginia Beach. In the city's 2008 season, six loggerhead nests were found—five on the Back Bay National Wildlife Preserve beach and one at Sandbridge Beach; both locations are more than 9 miles from the project site (Virginia Department of Game and Inland Fisheries, Fish and Wildlife Information Service 2008). The staff of Back Bay National Wildlife Refuge and False Cape State Park, with volunteer assistance, monitors the Virginia Beach coast each summer for sea turtle nesting activity. When a nest is discovered, the current policy is to relocate it to a nursery site at the Refuge where the eggs are protected from storm activity. If the eggs have already started to hatch and a storm is not approaching then it may be left in place, covered with a wire cage for protection and monitored by volunteer nest-sitters (Virginia Department of Game and Inland Fisheries, Fish and Wildlife Information Service 2008).

A limited number of snakes and lizards, which inhabit sandy areas, could potentially occur in the dunes at the site. Amphibians generally are not saltwater tolerant and are unlikely to be in the maritime dune environment at 67th Street.

### **3.7.4 Migratory Birds**

The Migratory Bird Treaty Act (MBTA) is the primary legislation in the United States established to conserve migratory birds. The MBTA prohibits taking, killing, or possessing migratory birds unless permitted by regulation. Under 50 CFR 21, the U.S. Armed Forces are authorized to take migratory birds during military readiness activities; however, they must confer and cooperate with the U.S. Fish and Wildlife Service (USFWS) on development and implementation of conservation measures to minimize or mitigate adverse impacts of military readiness activities if the USFWS determines such activities may have an adverse impact on a population of migratory birds.

Many of the avian species potentially occurring at the maritime dune grassland and beach environment at the 67th Street property are protected under the MBTA. Although there have been no migratory bird studies at the site, the maritime dune grasslands could provide suitable nesting habitat for some shorebirds.

### **3.7.5 Threatened and Endangered Species**

The Endangered Species Act (ESA) of 1973 and subsequent amendments provide for the conservation of threatened and endangered species of animals and plants

and the habitats in which they are found. The Navy ensures that consultations are conducted as required under Section 7 of the ESA for any action that “may affect” a federally listed threatened or endangered species. In accordance with the Secretary of the Navy Instruction (Office of the Chief of Naval Operations Instruction [OPNAVINST] 5090.1C), the protection of non-federally listed species that are listed at the state level as threatened or endangered is not legally mandated. However, the Navy encourages cooperation with states to protect such species.

The Virginia Department of Game and Inland Fisheries (DGIF) and the Virginia Department of Conservation and Recreation (DCR) were contacted to obtain information on protected species on and in the vicinity of the Navy’s 67th Street property. In a letter dated December 17, 2008, the Virginia DCR advised that no federal- or state-listed threatened or endangered species occur at the 67th Street property (McKelvey December 17, 2008). Natural heritage resources are documented in the area, but the project is not anticipated to adversely impact them because of the scope of the proposed action and the distance to the resources (McKelvey December 17, 2008).

### **3.8 Cultural Resources**

Section 106 of the National Historic Preservation Act (NHPA) of 1966 (Public Law [Pub.L.] 96-515), as amended (1980; 1992), and its implementing regulations (36 CFR 60, 63, and 800), requires federal agencies to protect significant cultural properties, including archaeological sites, historic structures, landscapes, and districts. Under Section 106, the head of any federal agency having direct or indirect jurisdiction over a proposed federal or federally funded undertaking is required to account for the impacts of this action on any district, site, building, structure, or object that is included on or is eligible for listing on the National Register of Historic Places (NRHP).

No archaeological or historic resources eligible for the NRHP are present on the Navy’s 67th Street property (Commander, Navy Regions Mid-Atlantic November 1999). One historic structure, the Beach Club observation tower, was formerly located on the property but was demolished in 2002 following consultation with the Virginia State Historic Preservation Officer (SHPO). The U.S. Army, which formerly owned the 67th Street property, built the tower in 1941 to provide fire control for Battery Worcester and the 155-mm gun battery at Fort Story. Following transfer of the property to the Navy in 1958, the tower was used for underwater sensor research and development activities. Eventually the Navy stopped using the tower, and it became an outdated, unnecessary facility that incurred maintenance costs. Because the structure was eligible for the NRHP, the Navy was required to consult with the Virginia SHPO before taking action. In 2002, the SHPO concurred with the Navy demolishing the structure, contingent on proper submittal of historical documentation to the SHPO. The approved actions were taken and the tower was demolished.

Further consultation with the SHPO regarding demolition of buildings or structures at the project site is not required, in accordance with the 1999 Programmatic Agreement (Commander, Navy Region Mid-Atlantic November 1999) among the

Navy, the Advisory Council on Historic Preservation (ACHP), and the Virginia SHPO, stating that isolated off-base Naval facilities less than 45 years old at the time of the agreement are not eligible for inclusion in the NRHP. The existing catering facility and recreational pavilions (beach cabanas) at 67th Street fall into this category.

To determine if any archaeological or historic resources located in the vicinity of the Navy's 67th Street property could be affected by the proposed action, the Navy identified archaeological and historic resources located within an area of potential effect (APE) encompassing a 1-mile radius around the property. The Navy performed a desktop (online) review of the Virginia Department of Historic Resources *Virginia Landmarks Register*, the National Park Service National Historic Landmarks Program database, and the NRHP State Listings and Historic Districts databases for Virginia (Virginia Department of Historic Resources 2008; National Park Service n.d.; National Register of Historic Places n.d.). Two resources in the vicinity of the proposed project site were identified, First Landing State Park (i.e., the Seashore State Park Historic District) and the Dr. John Miller-Masury House (National Register of Historic Places n.d.) (see Figure 3-1).

First Landing State Park, located partly within the APE, was built by the Civilian Conservation Corps in the 1930s. The park covers about 2,900 acres in the northeastern corner of Virginia Beach and is the most visited state park in Virginia (see Figure 3-1). First Landing State Park is listed on the National Register of Historic Places. The park is historically significant because it is where members of the Virginia Company first landed before settling Jamestown, farther inland on the James River. The park's natural area makes it distinct as the northernmost point on the east coast that can support both subtropical and temperate plant species (Virginia Department of Conservation and Recreation 2006).

The Dr. John Miller-Masury House was added to the NRHP in 1997. The house was constructed in the early 1900s and is an example of late 19th and 20th century revival architecture (National Register of Historic Places n.d.).

### **3.9 Air Quality**

This section discusses air quality in the area around the 67th Street oceanfront property in Virginia Beach, Virginia. It addresses air quality standards and describes current air quality conditions in the region. Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions.

#### **Federal Air Quality Standards**

The 1970 Clean Air Act (42 U.S.C. 7401 et seq., as amended in 1977 and 1990) is the primary federal statute governing air pollution. The CAA designates six pollutants as criteria pollutants, for which National Ambient Air Quality Standards (NAAQS) have been promulgated to protect public health and welfare. The six criteria pollutants are particulate matter less than 10 microns in diameter (PM<sub>10</sub>) and particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), lead (Pb), and ozone (O<sub>3</sub>).

Virginia has adopted the NAAQS for most criteria pollutants. Table 3-3 summarizes the NAAQS that apply to the proposed project area.

**Table 3-3 National Ambient Air Quality Standards**

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Time
Carbon Monoxide (CO)	9 ppm (10 mg/m <sup>3</sup> )	8-hour <sup>1</sup>	None	
	35 ppm (40 mg/m <sup>3</sup> )	1-hour <sup>1</sup>		
Lead (Pb)	0.15 µg/m <sup>3</sup>	Rolling 3-Month Average	Same as Primary	
	1.5 µg/m <sup>3</sup>	Quarterly Average	Same as Primary	
Nitrogen Dioxide (NO <sub>2</sub> )	0.053 ppm (100 µg/m <sup>3</sup> )	Annual (Arithmetic Mean)	Same as Primary	
Particulate Matter (PM <sub>10</sub> )	150 µg/m <sup>3</sup>	24-hour <sup>2</sup>	Same as Primary	
Particulate Matter (PM <sub>2.5</sub> )	15.0 µg/m <sup>3</sup>	Annual <sup>3</sup> (Arithmetic Mean)	Same as Primary	
	35 µg/m <sup>3</sup>	24-hour <sup>4</sup>	Same as Primary	
Ozone (O <sub>3</sub> )	0.075 ppm (2008 std)	8-hour <sup>5</sup>	Same as Primary	
Sulfur Dioxide (SO <sub>2</sub> )	0.03 ppm	Annual (Arithmetic Mean)	0.5 ppm (1300 µg/m <sup>3</sup> )	3-hour <sup>1</sup>
	0.14 ppm	24-hour <sup>1</sup>		

Source: U. S. Environmental Protection Agency January 20, 2010.

Notes:

- <sup>1</sup> Not to be exceeded more than once per year.
- <sup>2</sup> Not to be exceeded more than once per year on average over three years.
- <sup>3</sup> To attain this standard, the three-year average of the weighted annual mean PM<sub>2.5</sub> concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m<sup>3</sup>.
- <sup>4</sup> To attain this standard, the three-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m<sup>3</sup> (effective December 17, 2006).
- <sup>5</sup> To attain this standard, the three-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm (effective May 27, 2008).

Key:

- mg/m<sup>3</sup> = Milligrams per cubic meter.
- µg/m<sup>3</sup> = Micrograms per cubic meter.
- ppm = Parts per million.

**State Implementation Plan**

Federal law requires states or local air quality control agencies to have a state implementation plan (SIP) that prescribes measures to eliminate or reduce the severity and number of violations of the NAAQS and to achieve expeditious attainment of these standards. The SIP is the primary means for implementing, maintaining, and enforcing the measures needed to attain and maintain the NAAQS in each state. Areas that do not meet NAAQSs are designated as “nonattainment” for those criteria pollutants. Nonattainment status is further defined by the extent the standard is exceeded, e.g., moderate or severe nonattainment.

**General Conformity**

The General Conformity Rule has been promulgated by the EPA to ensure that the actions of federal departments or agencies conform to the applicable SIP. The General Conformity Rule covers direct and indirect emissions of criteria pollut-

ants or their precursors that are caused by a federal action and are reasonably foreseeable. Conformity is demonstrated if the total net emissions expected to result from a federal action in a nonattainment or maintenance area will not:

- Cause or contribute to any new violation of any NAAQS,
- Interfere with provisions in the applicable SIP for maintenance of any standard,
- Increase the frequency or severity of any existing violation, or
- Delay the timely attainment of a standard, interim emission reduction or milestone, nor can it, where applicable, exceed emission levels specified in the applicable SIP for purposes of demonstrating reasonable further progress, attainment, or a maintenance plan.

A federal action is exempt from the General Conformity Rule requirements if the action’s total net emissions are below the de minimis levels specified in the rule and are not regionally significant (i.e., the emissions represent 10% or less of a nonattainment or maintenance area’s total emission inventory of that pollutant) or are otherwise exempt per 40 CFR 93.153 (see Table 3-4). Total net emissions include direct and indirect emissions caused by the federal action from all stationary point and area sources, construction sources, and mobile sources.

Virginia Beach, which includes the 67th Street property, is currently in attainment for nitrogen dioxide, carbon monoxide, sulfur dioxide, PM<sub>10</sub>, and lead. It is a marginal maintenance area for the 8-hour ozone average (U.S. Environmental Protection Agency March 12, 2009).

Because Virginia Beach is a marginal maintenance area for 8-hour ozone, the NO<sub>x</sub> and the VOC emissions, which are precursors to ozone, have been compared with the de minimis levels given above to determine if this action is exempt from the Conformity Rule (see Section 4.8).

**Table 3-4 De Minimis Levels for Exemption from General Conformity Rule Requirements**

<b>Pollutant</b>	<b>Area Type</b>	<b>Tons/year</b>
Ozone (VOCs or NO <sub>x</sub> )	Serious nonattainment	50
	Severe nonattainment	25
	Extreme nonattainment	10
	Other areas outside an ozone transport region	100
Ozone (NO <sub>x</sub> )	Marginal and moderate nonattainment inside an ozone transport region	100
	Maintenance	100
Ozone (VOCs)	Marginal and moderate nonattainment inside an ozone transport region	50
	Maintenance within an ozone transport region	50
	Maintenance outside an ozone transport region	100

**Table 3-4 De Minimis Levels for Exemption from General Conformity Rule Requirements**

<b>Pollutant</b>	<b>Area Type</b>	<b>Tons/year</b>
CO, SO <sub>2</sub> , and NO <sub>2</sub>	All nonattainment and maintenance	100
PM <sub>10</sub>	Serious nonattainment	70
	Moderate nonattainment and maintenance	100
Pb	All nonattainment and maintenance	25

Source: 40 CFR 51

Key:

- CO = carbon monoxide.
- NO<sub>2</sub> = nitrogen dioxide.
- NO<sub>x</sub> = nitrogen oxides.
- Pb = lead.
- PM<sub>10</sub> = particulate matter less than 10 microns in diameter.
- SO<sub>2</sub> = sulfur dioxide.
- VOC = volatile organic compound.

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# 4

## Environmental Consequences

This section describes the potential impacts on the resources described in Section 3. Impacts are synonymous with effects and include direct, indirect, and cumulative impacts.

- Direct impacts are the result of an action and occur at the same time and place as the action. Indirect impacts are also the result of an action but occur later in time or at a location removed from the action.
- Indirect impacts are reasonably foreseeable and include growth-inducing effects; effects related to induced changes in the pattern of land use, population density, or growth rate; and related effects on the human environment.
- Cumulative impacts result from the incremental impact of an action when combined with other past, present, or reasonably foreseeable future actions, regardless of the organization or individual undertaking the action. Cumulative impacts can result from individually minor but collectively significant actions occurring over a period of time (U.S. Department of the Navy October 30, 2007).

### 4.1 Land Use, Coastal Zone, and Visual Setting

#### 4.1.1 Land Use

Under Alternative 1, the Navy proposes to demolish the existing catering facility on the 67th Street property and construct 20 vacation rental homes. The complex would comprise 10 two-bedroom units (approximately 885 square feet each) and 10 three-bedroom units (approximately 1,050 square feet each) constructed in two multi-unit buildings of six rental units each and one multi-unit building of eight rental units (see Section 2, Figure 2-1). Implementation of Alternative 1 would result in a change in land use on the Navy property, but because the new use would be in character with the surrounding properties, implementation of Alternative 1 would be consistent with surrounding land use. The development would not be large enough to generate indirect impacts such as additional development or demolition.

Under Alternative 2, the Navy would demolish the existing 8,000-square foot catering facility and replace it with a larger (17,000 square foot), two-level catering facility. The proposed 67th Street catering facility would be designed to accom-

moderate up to 400 guests and would include parking for up to 220 vehicles. The existing catering facility can accommodate up to 100 to 150 guests with space for 75 cars. Implementing Alternative 2 would not result in a change in land use on the Navy property. While the resulting facility would be larger and have a greater capacity than the existing catering facility, the development would not be large enough to generate indirect impacts such as additional development or demolition. Therefore, Alternative 2 would have no effect on surrounding land uses.

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property, and the Navy's MWR Program would continue to use the catering facility in its current condition. Therefore, the No Action Alternative would have no impact on land use.

#### **4.1.2 Coastal Zone**

No adverse impacts on resources within the coastal zone would occur as a result of the proposed action. The Navy, in its Coastal Consistency Determination (CCD) letter, dated September 15, 2009, determined that the proposed action would be consistent to the maximum extent practicable with the enforceable policies of the Virginia Coastal Zone Management Program. The Virginia DEQ concurred with the Navy's determination in a letter dated November 12, 2009.

A copy of the Navy's Coastal Consistency Determination and the Virginia DEQ's comments are included in Appendix B.

#### **4.1.3 Visual Setting**

The proposed action would have temporary impacts on the aesthetic environment during construction because the site would be disturbed by the activities and the presence of construction materials and equipment on the site. However, redevelopment of the property under either Alternative 1 or 2 would have positive impacts on the aesthetic environment. The current catering facility is old and falling into disrepair. Under either Alternative 1 or 2, the existing catering facility would be demolished, and either vacation rental units or a new catering facility would be constructed on the site. The city's architectural standards, although not a requirement, would be followed. The height of the proposed new facilities under either Alternative 1 or 2 would be similar to the height of the existing catering facility and would not exceed 35 feet, the maximum height allowed for building within residential districts (Virginia Beach City Code, Appendix A, Article 5, Section 503).

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property, and the Navy's MWR Program would continue to use the catering facility in its current condition. If the condition of the existing catering facility continues to deteriorate, implementation of the No Action Alternative would have a negative impact on aesthetic resources.

## **4.2 Traffic**

Under either alternative, temporary impacts from construction vehicles entering and exiting the property would occur. There would be no impacts on public transportation or bicycle/pedestrian traffic.

Following construction, traffic under Alternative 1 would decrease compared with current traffic from the existing catering facility and would be similar to current residential traffic. Under Alternative 2, moderate impacts from vehicles queuing at the traffic signal upon leaving an event would be likely. The larger catering facility would accommodate four times the current capacity and could have up to 145 more vehicles at a single event; the frequency of events could also increase.

Adding a second entrance/exit on 68th Street would likely alleviate some traffic congestion at the 67th Street intersection; however, 68th Street is an unsignalized intersection. As driver access and use at the 68th Street intersection increases, traffic volume and the potential for automobile accidents increases. Under Alternative 1, traffic is expected to decrease from current conditions and would not be expected to create safety hazards at the 68th Street intersection. Under Alternative 2, the increase in traffic volume, as described above, could create potential safety hazards for drivers, pedestrians, and local residents. The Federal Highway Administration's Highway Safety Improvement Program recommends keeping driveways more than 250 feet from an unsignalized intersection to reduce vehicle conflict (CH2M Hill 2003). The proposed second driveway would be located approximately 250 feet back from the 68th Street intersection. To reduce 67th/68th Street cross traffic, the Navy would place speed bumps in the parking lot connecting the two entrances/exits.

Under the No Action Alternative, there would be no demolition or redevelopment at the property. There would be no change in traffic from existing conditions and thus no impact on traffic.

## **4.3 Noise**

### **Construction**

The action could have a temporary impact on the existing noise environment from the demolition of the JEBLCFS catering facility and construction of either vacation rental homes (Alternative 1) or a larger catering facility (Alternative 2).

However, demolition and construction activities would be temporary in nature and would occur only during daylight hours, when noise is less intrusive for residential receptors.

### **Operation**

Operation of the vacation rental homes or the larger catering facility would likely add little, if any, additional noise over that of the existing catering facility. Noise from the vacation rental homes would be primarily residential in nature (air conditioning units, children playing, outdoor conversation, doors closing, etc.). Noise from the larger catering facility would come from kitchen exhaust fans, air conditioning, doors closing, and outdoor conversation. The sound of the nearby surf

would likely mask much of these operational noise sources under either alternative.

### **Traffic**

To evaluate traffic noise for 20 rental units (Alternative 1), the Federal Highway Administration TNM (Traffic Noise Model) Version 2.5 Look-up Tables were used as a screening tool. The Look-up Tables calculate A-weighted hourly equivalent sound level at a noise receptor based on the type of vehicle, speed of the vehicle, volume of traffic, ground surface, and distance from the road to the receptor. Assuming a worst-case scenario with 40 passenger car trips (two vehicles per unit) in an hour at a distance of 50 feet from the center line of 67th or 68th Street to the nearest residential receptor, and at a vehicle speed of 30 miles per hour, the TNM Look-up Model predicts an A-weighted hourly equivalent sound level of 48 decibels (dBA).

As a comparison, the estimated AADT of 16,000 vehicles for the nearby segment of Atlantic Avenue, derived from the *2007 Virginia Department of Transportation Daily Traffic Volume Estimates*, was pro-rated over 24 hours and entered into the model. The predicted A-weighted hourly equivalent sound level 50 feet from Atlantic Avenue using this traffic data is 61 dBA and 53 dBA, 300 feet away down 67th Street. Based on the predicted noise levels for Atlantic Avenue, the additional 40 passenger cars, in an hour, on 67th or 68th Street would cause an insignificant increase in the existing traffic noise for the residences along 67th Street.

With space to accommodate 220 parking spaces for the larger catering facility (Alternative 2), assuming a worst-case scenario with 220 passenger car trips in an hour, at a distance of 50 feet from the center line of 67th and 68th Street to the nearest residential receptor and a vehicle speed of 30 miles per hour, the TNM Look-up Model predicts an A-weighted hourly equivalent sound level of 55 dBA. This level would cause an increase of 1 dBA in the existing traffic noise for residences near Atlantic Avenue and 2 dBA for residences 300 feet away down 67th and 68th Street. An increase of 3 dBA is barely perceptible to the human ear; therefore, the increase in noise from 220 passenger cars traveling on 67th Street during an hour would be imperceptible.

## **4.4 Infrastructure and Utilities**

### **4.4.1 Water Supply**

Residential per capita water consumption in the City of Virginia Beach is about 60 gpd (Public Utilities Business Division 2008). This number was used to estimate the average daily and yearly water use under Alternative 1. The total capacity of the vacation rental homes at any one time would be about 100 people, assuming that each bedroom is used by two people. Based on this assumption, the average daily water use generated by this development would be approximately 6,000 gpd. Assuming that the vacation rental homes would be filled to capacity 30 weeks out of the year, the total yearly water use generated by the development would be about 1.26 million gallons per year.

As noted in Section 3.4.1, the City of Virginia Beach withdrew an average of 35.0 mgd and a yearly total of 12,822 million gallons (12.8 billion gallons) from Lake Gaston in 2008. Under Alternative 1, the average daily water use generated by the vacation rental homes on the Navy's 67th Street property would be less than one-tenth of one percent of the city's average daily and yearly water use, a negligible impact on the city's water supply. This projected use is less than current use at the existing catering facility. The new facility would be designed to LEED standards, including water conservation measures such as water-metering and low-flow fixtures.

Under Alternative 2, a new catering facility would be designed to similar LEED standards as Alternative 1. Assuming 400 guests at 200 events (100 days, two events per day), or 80,000 meals, and water usage at a rate of 10 gpd per meal<sup>2</sup>, water usage would be approximately 800,000 gallons annually, or 0.006% of the total water consumed by the city. Although this amount is an increase over the current consumption of 600,000 gallons, it remains a small percentage of the total, and the city's existing permit has ample capacity. Therefore, impacts would be negligible.

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property and thus there would be no impact on the water supply for Virginia Beach.

#### **4.4.2 Wastewater**

The current permitted capacity at the Atlantic WWTP is 36 mgd, and a project to increase the permitted capacity to 54 mgd is now under way. The average flow per day during 2008 was 26 mgd. Under either alternative, the quantity of wastewater generated on a daily basis (Alternative 1 – 6,000 gpd or Alternative 2 – 8,000 gpd) would remain a small percentage of the actual average flow per day or the projected 54 mgd permitted capacity. Therefore, there would be minor impacts on wastewater collection and treatment systems.

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property; therefore, there would be no impact on wastewater at Virginia Beach.

#### **4.4.3 Storm Water**

A temporary increase in storm water runoff under both Alternatives 1 and 2 would occur during construction. Much of the 1.7-acre site would be disturbed. Land-disturbing activities would be reviewed and approved under all applicable state or local development regulations.

The EPA and Virginia DEQ define small construction activities as “any clearing, grading, and excavating that results in land disturbance of equal to or greater than one acre and less than five acres” (Virginia Department of Environmental Quality 2002), so construction activities for either alternative would be classified as small.

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<sup>2</sup> City Environmental Quality Review Technical Manual, New York City Department of City Planning

Small construction activities in Virginia require a VPDES Construction General Permit (9 VAC 25-180-10 et seq.). Under the permit, the Navy would submit a site-specific Storm Water Pollution Prevention Plan (SWPPP) for new discharges. The SWPPP would include a site plan for managing storm water runoff and would describe best management practices (BMPs), e.g., silt fencing, to be implemented to reduce or eliminate erosion, sedimentation, and storm water pollutants. This SWPPP would be submitted under either alternative. Both Alternative 1 and Alternative 2 would be compliant with Virginia's Storm Water Management Regulations.

The *Virginia Beach Comprehensive Plan* recommends that driveways, sidewalks, and other paved surfaces be constructed of porous materials to reduce the amount and velocity of storm water runoff from new development and redevelopment sites in North Virginia Beach (City of Virginia Beach 2003a). Following construction, storm water runoff would be collected in the current system and transported to the 61st Street storm water pump station that is to be constructed (see Section 3.4.3). If the 61st Street storm water pump station is not completed before redevelopment of the 67th Street property, storm water would continue to be collected along Atlantic Avenue and transferred to the existing six pump stations. Redevelopment of the 67th Street property with vacation rental housing under Alternative 1 would reduce the amount of impervious surface at the site. Upon completion of construction, undeveloped areas would be vegetated, which would reduce the amount and velocity of storm water runoff from the site. Thus Alternative 1 would have a long-term beneficial impact on storm water. Under Alternative 2, redevelopment of the property with a larger catering facility, the amount of impervious surface would remain unchanged from current conditions; therefore, there would be no long-term impact on storm water.

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property and therefore there would be no impact on storm water management.

## **4.5 Community Facilities and Services**

### **4.5.1 Police and Fire Protection**

The 20 vacation rental homes proposed under Alternative 1 could accommodate about 100 people at any one time. As noted in Section 3, the Virginia Beach Police Department's Second Precinct serves a permanent population of about 79,000 residents plus most of the city's seasonal tourist population. An additional 100 people within the second precinct's jurisdiction would represent less than 1% of the population the police precinct currently serves. Implementation of Alternative 1 would add less than 1% to the population served by Virginia Beach Fire Department Station 11. The slight increase in the tourist population in the Virginia Beach Police Department's Second Precinct and Virginia Beach Fire Department Station 11's district would have a negligible impact on the city's police- and fire-protection services.

Under Alternative 2, the 67th Street Catering Complex primarily would host weekend events with up to 400 guests at a time. The existing catering complex

can accommodate 100 guests for an indoor event or 150 guests for an outdoor event. An additional 250 to 300 guests at the new catering facility would represent an increase of less than 1% in the population served by the Second Precinct and Fire Department Station 11. Therefore, there would be a negligible impact on the city's police- and fire-protection services.

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property, and the Navy's MWR Program would continue to use the catering facility in its current condition. Therefore, there would be no change in police- and fire-protection services.

#### **4.5.2 Medical Services**

Under Alternative 1, military families staying in the vacation rental units would have access to established military and civilian medical facilities and services in the area. Compared with the total annual influx of the tourist population, the potential increase of 100 people in a vacation rental area would have negligible impacts on Navy medical facilities, public emergency medical services, and hospitals.

Under Alternative 2, the 67th Street Catering Complex would host events with up to 400 guests at a time. The existing facility can accommodate 100 guests for an indoor event or 150 guests for an outdoor event. The additional 250 to 300 people attending events at the new catering facility would have minor impacts on Navy medical facilities or on public emergency medical services and hospitals.

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property; therefore, there would be no change from current conditions in Navy or public medical services.

### **4.6 Socioeconomics**

#### **4.6.1 Population and Housing**

Implementation of either Alternative 1 or 2 would not require the transfer of Navy personnel and, therefore, would not result in an increase or decrease in regional population. The 20 vacation rental homes that would be constructed under Alternative 1 would be managed under the Navy's MWR Program for the use of Navy personnel and families. The proposed rental homes would not be permanent residences and would not contribute to the city's housing stock. Thus, there would be no permanent impact on population and housing under either Alternative 1 or 2.

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property; therefore, there would be no impacts on the regional population or housing market.

#### **4.6.2 Regional Economy**

Demolition and construction activities under either Alternative 1 or 2 would have a positive short-term effect on the Hampton Roads regional economy. A large portion of the demolition and construction funds would be spent on labor and materials purchased in the region. Every additional dollar spent on local contractors

and suppliers to support the demolition would stimulate the regional economy and create more employment and business opportunities. However, because construction-related investments are considered one-time expenditures, positive economic impacts would be short-term. Once these funds leave the regional economy, e.g., through savings, taxes, or purchases of goods and services from outside the region, the positive effects would no longer be multiplied.

Following completion of construction, neither alternative would significantly affect the regional economy over the long-term. Long-term economic impacts are mainly generated by increased or decreased payroll expenditures, and neither alternative would create a large number of new jobs. The existing catering facility employs about six permanent staff (Cabral February 19, 2009).

Under Alternative 1, no additional permanent employees would be required to staff the vacation rental homes—cleaning services for the vacation rental homes would be outsourced. Under Alternative 2, about 12 MWR Program personnel would staff the larger catering facility, with the exception of local musicians or disc jockeys who could be hired to staff individual events (Cabral February 19, 2009). Thus, there would be short-term positive impacts on the regional economy under either Alternative 1 or 2.

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property and so there would be no short-term or long-term impact on the local economy.

## **4.7 Terrestrial Environment**

### **4.7.1 Topography, Geology, and Soils**

Implementation of either Alternative 1 or 2 would have minor impacts on topography. As noted in Section 3.7.1, most of the site is flat and paved and thus no major grading would be required prior to construction. Underground utility lines would be installed under either alternative.

Construction activities under either Alternative 1 or 2 would have temporary impacts on soils at the site. Demolition and construction activities (i.e., movement of equipment, material, and vehicles) would expose soils to wind and storm water erosion, compaction, and rutting. These impacts would be minimized, or avoided altogether, by using standard soil erosion and sedimentation control techniques.

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property; therefore, there would be no impact on topography, geology, or soils.

### **4.7.2 Water Resources**

#### **4.7.2.1 Surface Water**

As noted in Section 3.7.2.1, no surface waterbodies are located on the site; therefore, there would be no direct impacts on surface waters under either Alternative 1 or 2.

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property; therefore, there would be no impact on surface waters.

#### **4.7.2.2 Groundwater**

Construction under Alternatives 1 and 2 could affect the shallow Columbia aquifer if fuels or other materials were spilled during construction. No impacts are anticipated because the Navy would use best management practices, including spill prevention and immediate cleanup of spills, which would prevent infiltration into area groundwater resources in the unlikely event of a spill.

Following completion of construction, no activities are proposed at the site that would potentially impact groundwater resources.

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property; therefore, there would be no impacts on groundwater resources.

#### **4.7.2.3 Floodplains**

The Navy's property is located within the 100-year floodplain, the 500-year floodplain, and the coastal flood zone subject to wave action. Executive Order 11988, *Floodplain Management*, requires federal agencies to identify and consider practicable alternatives for locating incompatible facilities in areas identified as floodplains. Although the 67th Street oceanfront property is located within the 100-year floodplain, there is no practicable alternative for locating the proposed structure(s) outside of the floodplain, and the property meets the needs of the MWR Program because it is oceanfront property. Moreover, the proposed development is in an area that is already developed and would not extend any farther into the floodplain than any other existing development at the oceanfront. None of the alternatives would increase the impact on the floodplains: Alternative 1 would reduce the amount of impervious surface at the site; implementing either Alternative 2 or the No Action Alternative would not change the amount of the existing impervious surface. Thus, none of the alternatives would increase the impact on the floodplain from current conditions.

Executive Order 11988 further stipulates that when practicable alternatives are not available, federal structures and facilities must be constructed in accordance with the intent of the standards and criteria of the NFIP. The Navy will adhere to the intent of this program as well as to the intent of the Virginia Beach municipal floodplain building standards (Virginia Beach City Code Appendix C, Section 5B).

#### **4.7.2.4 Wetlands**

As noted in Section 3.7.2.4, no wetlands are located on the site; therefore, there would be no impacts on wetlands under either Alternative 1 or 2.

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property; therefore, there would be no impact on wetlands.

### **4.7.3 Vegetation and Wildlife**

Under either Alternative 1 or 2, new construction on the 67th Street property would be sited entirely within the area that is currently developed; neither alternative would result in the creation of any additional impervious surface. This area contains sparse landscape vegetation, which would be removed during construction under either alternative. Following construction, the area surrounding the new facilities would be revegetated with similar ornamental or lawn species. No structures (such as a boardwalk or path) would be constructed over the dunes, although the maritime dune grassland community on the dunes could be indirectly impacted during construction activities from movement of construction equipment and materials. Impacts on this community could include soil compaction and the loss of some vegetation. These potential impacts would be avoided or minimized by locating the staging area for construction equipment and materials on existing paved surfaces and restricting vehicle and foot traffic near the dunes. Following completion of construction, the Navy could revegetate the dunes as needed with species native to this type of plant community. Thus, there would be short-term, minor impacts but no long-term impacts on vegetation under either Alternative 1 or 2.

Under either Alternative 1 or 2, redevelopment of the 67th Street property would occur within the footprint of the current development. The proposed action would not result in permanent loss of any of the dune habitat present on the property. As noted above, the dunes on the eastern part of the property could be impacted during construction activities; however, these impacts would be temporary and would be avoided or minimized using the measures noted above. Mobile wildlife such as birds and small mammals would likely avoid the site during construction activities. Following construction, the urban character of the site would remain the same, and sea birds and other species typically found in urban environments would continue to use the property. Thus, there would be only short-term, minor impacts and no long-term impacts on wildlife under either Alternative 1 or 2.

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property; therefore, there would be no impact on vegetation and wildlife at the site.

### **4.7.4 Migratory Birds**

The 67th Street property is developed and urban in character, with existing suitable migratory bird habitat limited to the dunes on the eastern side of the property. Redevelopment of the property under either Alternative 1 or 2 would not result in the loss of any natural habitat, and the character of the developed area following construction would be similar to existing conditions. Implementation of either Alternative 1 or 2 would not result in the taking or mortality of migratory birds or any other action prohibited by the MBTA.

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property; therefore, there would be no impact on migratory birds.

#### **4.7.5 Threatened and Endangered Species**

No federal- or state-listed threatened or endangered species occur on the Navy's 67th Street property. Implementing Alternative 1 or 2 thus would have no effect on threatened or endangered species. Under the No Action Alternative, no demolition or redevelopment would occur at the property; therefore, there would be no effect on threatened or endangered species.

#### **4.8 Cultural Resources**

Because there are no archaeological or historic resources listed or eligible for listing on the NRHP at the 67th Street property, demolition of the catering facility and construction of a new facility under either Alternative 1 or Alternative 2 would have no direct impact on cultural resources. First Landing State Park is located within the 1-mile APE around the Navy's 67th Street property. In addition, an NRHP-listed historic property, the Dr. John Miller-Masury House, is located just outside the APE. Redevelopment of the 67th Street property would have no indirect impacts on either of the historic sites or their viewsheds because (1) the 67th Street property is currently developed and (2) the proposed redevelopment would be consistent with surrounding land use. The No Action Alternative also would have no impact on cultural resources because no demolition or redevelopment would occur at the property. In a letter signed on April 23, 2009, the Virginia SHPO concurred with the Navy on the finding that the proposed development would have no effect on historic properties (see Appendix A).

#### **4.9 Air Quality**

Under Alternative 1, construction would have minor impacts on air quality, including the generation of fugitive dust and equipment emissions. ("Fugitive dust" refers to particulate emissions released from non-point sources or dust caused by vehicles traveling over an unpaved road). Windblown soil and dust may also occur during construction as a result of equipment being moved over exposed soil areas. Fugitive dust can be minimized by appropriate dust control measures such as wetting the surfaces and by re-vegetating disturbed areas as soon as possible.

Construction is assumed to take place over a period of 12 months, and site preparation is assumed to take 60 days. The analysis assumes an 8-hour long workday, during which equipment (other than site preparation equipment) operates continuously. Assumptions for the use of construction equipment and other activities are based on recently published guidance for estimating construction emissions (El Dorado County February 2002; U.S. Environmental Protection Agency 1995). Construction equipment, activities, emission factors, and calculations are detailed in Appendix C.

Vehicle emissions, demolition of existing structures, emissions from architectural coatings, paving work, etc. would have short-term localized impacts on air quality. Operation of the construction equipment would have minor, temporary, negative impacts on air quality during construction. It is anticipated that overall local emissions would return to existing conditions after completion of construction activities.

There would be no significant long-term impacts on air quality associated with Alternative 1. Constructing vacation rental homes would mean more personally owned vehicles (POVs) would be in the area, but the increase in vehicle use would be insignificant compared with existing vehicle use in the region and therefore has not been quantified.

Total annual projected construction emissions under Alternative 1 are listed in Table 4-1. Construction emissions under Alternative 1 would not result in a significant impact on the Virginia Beach area.

**Table 4-1 Total Projected Annual Emissions from Construction Activities, Alternatives 1 and 2**

Activity	Emissions (tpy)			
	NO <sub>x</sub>	VOC	CO	PM <sub>10</sub>
<b>Alternative 1</b>				
Construction equipment	11.30	1.20	7.40	0.60
VOCs from paving and painting		0.35		
PM <sub>10</sub> from grading and demolition				3.19
<b>Total</b>	<b>11.30</b>	<b>1.55</b>	<b>7.40</b>	<b>3.79</b>
<b>Alternative 2</b>				
Construction equipment	14.38	1.53	9.48	0.76
VOCs from paving and painting		2.16		
PM <sub>10</sub> from grading and demolition				3.19
<b>Total</b>	<b>14.38</b>	<b>3.69</b>	<b>9.48</b>	<b>3.95</b>

Key:

- CO = Carbon monoxide.
- NO<sub>x</sub> = Nitrogen oxides.
- PM = Particulate matter less than 10 microns in diameter
- tpy = Tons per year.
- VOCs = Volatile organic compounds.

Alternative 2, which includes the construction of a new 17,000-square foot catering facility and parking for up to 220 vehicles, would also have minor impacts on air quality. The same assumptions for determining short-term emissions from construction activities described above for Alternative 1 were used to complete the air quality analysis for Alternative 2. The construction equipment, activities, emission factors, and calculations are detailed in Appendix C.

Total annual projected construction emissions for the 67th Street property under Alternative 2 are listed in Table 4-1. Air emissions from construction under Alternative 2 would not result in a significant impact on the Virginia Beach area.

Under the No Action Alternative, no demolition or redevelopment would occur at the 67th Street property. The Navy’s MWR Program would continue to use the catering facility in its current condition. Emissions would remain at current levels. Consequently, implementation of this alternative would have no effect on current air quality conditions.

**Clean Air Act Conformity**

As discussed in Section 3, a federal action is exempt from the General Conformity Rule requirements if the action's total net emissions are below the de minimis levels specified in the rule and are not regionally significant (i.e., the emissions represent 10% or less of a nonattainment or maintenance area's total emission inventory of that pollutant) or are otherwise exempt per 40 CFR 51.153. Since the Virginia Beach area is in marginal maintenance for ozone, emissions of nitrogen oxides (NO<sub>x</sub>) and VOCs were evaluated. As shown in Table 4-1, annual emissions from either Alternative 1 or Alternative 2 are below the de minimis of 100 tons per year (tpy) for NO<sub>x</sub> and VOC emissions, and these emissions would not make up 10% of the region's emission inventory. Therefore, a formal conformity determination is not required. A Record of Non-Applicability (RONA) for the proposed action is found in Appendix C.

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# 5

## Cumulative Impacts

CEQ regulations for implementing NEPA define cumulative impacts as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what other agency (federal or non-federal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions by various agencies (federal, state, and local) or individuals that take place over time. Accordingly, a cumulative impacts analysis must identify and define the scope of other actions and their relationship with the proposed action or its alternatives if there is an overlap in space and time.

For the purposes of this analysis, the time frame for cumulative impacts would begin with recently started or recently completed projects and continue through 2014, two years beyond completion of the Navy’s project. The focus of this cumulative impact assessment is on similar actions occurring within the North Virginia Beach community from 42nd Street to 89th Street at the north end of the oceanfront. Similar actions would be other development projects, either residential or commercial facilities. Public documents prepared by federal, state, and local agencies were the primary sources of information for identifying reasonably foreseeable similar actions.

To determine which projects should be included in the cumulative impacts analysis, the Navy reviewed the following community planning documents:

- City of Virginia Beach Planning Commission agendas, staff reports, and minutes for 2008 through February 2009
- Virginia Department of Transportation, Hampton Roads Projects
- Virginia Beach Public Works Department North Beach Drainage Improvements (City of Virginia Beach 2008e)
- Virginia Beach Beaches and Waterways Advisory Commission Beach Management Plan (April 2002)
- Hampton Roads Sanitation District Development Plan 2000 (May 2003).

The following people also were contacted for information concerning projects that should be included in the cumulative impacts analysis:

- Mike Mundy, Virginia Beach Engineering Department (January 16, 2009)
- Nancy McIntire, Virginia Beach Planning Department (February 25, 2009)
- Wayne Creef, Virginia Beach Public Works Department, Beach Management Division (March 2, 2009).

Review of the documents and contacts listed above identified one recently completed residential project, consisting of two duplexes (four units), on 65th Street.

There are three planned infrastructure projects that will provide long-term benefits to this area: the North Beach drainage improvement project, the HRSD Atlantic WWTP capacity upgrade, and the City of Virginia Beach's program of beach nourishment and dune revegetation at the North End beach. None of these projects are connected with the proposed action; they are unrelated actions each having independent usefulness.

The effects of these infrastructure projects are discussed below.

- **North Beach Drainage Improvement.** Atlantic Avenue is the primary arterial in North Virginia Beach. As the result of natural topography, Atlantic Avenue is regularly flooded even during minor rainfall events. The City of Virginia Beach plans to improve storm water drainage by providing an updated system to remove storm water in an area that has no natural means of positive drainage. The city plans to construct a storm water pump station at 61st Street and Atlantic Avenue and a 48-inch subsurface outfall pipe extending 1,200 feet from Atlantic Avenue east into the Atlantic Ocean (City of Virginia Beach 2008e). The project design began in 2005 and construction was scheduled for 2008 to 2009. The potential effects on the human environment are not similar to the 67th Street project. The North Beach project involves potential impacts primarily on aquatic resources: laying pipe on the ocean floor could have potential impacts on shellfish and finfish species and habitat, although, because of the magnitude of the project, these impacts are not likely. The 67th Street project would have no impact on these resources.

Construction of the 61st Street storm water pump station would improve storm water drainage in the area over the long-term. The proposed Navy redevelopment would reduce storm water runoff from the site by decreasing the amount of impervious surfaces at the site.

- **HRSD Atlantic WWTP capacity upgrade.** As discussed in Section 3.4.2, Wastewater, the HRSD is currently working on the systematic expansion of its facilities. The HRSD is expanding its Atlantic WWTP to 54 mgd capacity in order to meet the future needs of its customers. Future needs were projected

based on population and employment projections for 2010 and 2020 from the Hampton Roads Planning District Commission and the professional judgment of the HRSD staff. Based on conservative per capita water consumption estimates and computer modeling of wastewater flow output at the treatment plant, the maximum monthly flow in 2020 is expected to be 53 mgd.

Either of the redevelopment alternatives for 67th Street would generate a tiny fraction of the current wastewater treatment capacity (36 mgd) at the HRSD facility. The capacity expansion to 54 mgd is more than adequate to handle this development and others into the future.

- **Beach Nourishment and Dune Revegetation.** The North End beach is a naturally accretional beach: sand migrates north to this beach from the city's southern beaches, and the dunes are natural (Beaches and Waterways Advisory Commission April 2002). The city includes this beach in the Beach Erosion Control and Hurricane Protection project (Beaches and Waterways Advisory Commission April 2002), so wherever the beach profile becomes less than the project's design profile, the city adds sand (Beaches and Waterways Advisory Commission April 2002). Beach nourishment projects are completed as needed; there is no regular schedule for this work.

The City's Beach Management Division of the Public Works Department also conducts yearly revegetation of the sand dunes at the North End beach (Creef March 2, 2009). The city purchases American beachgrass from a nursery and plants it during the winter months on dunes needing revegetation. All appropriate care is taken to ensure the dunes are not adversely disturbed (Creef March 2, 2009).

Implementation of either of the Navy's redevelopment alternatives would not result in long-term direct or indirect impacts on the sand dunes or dune vegetation. The city's beach nourishment and dune revegetation programs would have a positive effect on the dunes; there would be no adverse cumulative impacts on coastal resources at the project site.

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# 6

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# 7

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