

EST 1801



MARINE BARRACKS
WASHINGTON DC



8th & I Streets SE

MBW

2015 INSTALLATION MASTER PLAN UPDATE

Prepared for
Marine Barracks Washington, DC
Headquarters Marine Corps

PRE-FINAL REPORT | September 2015

Public Copy



Tradition



Community



Mission



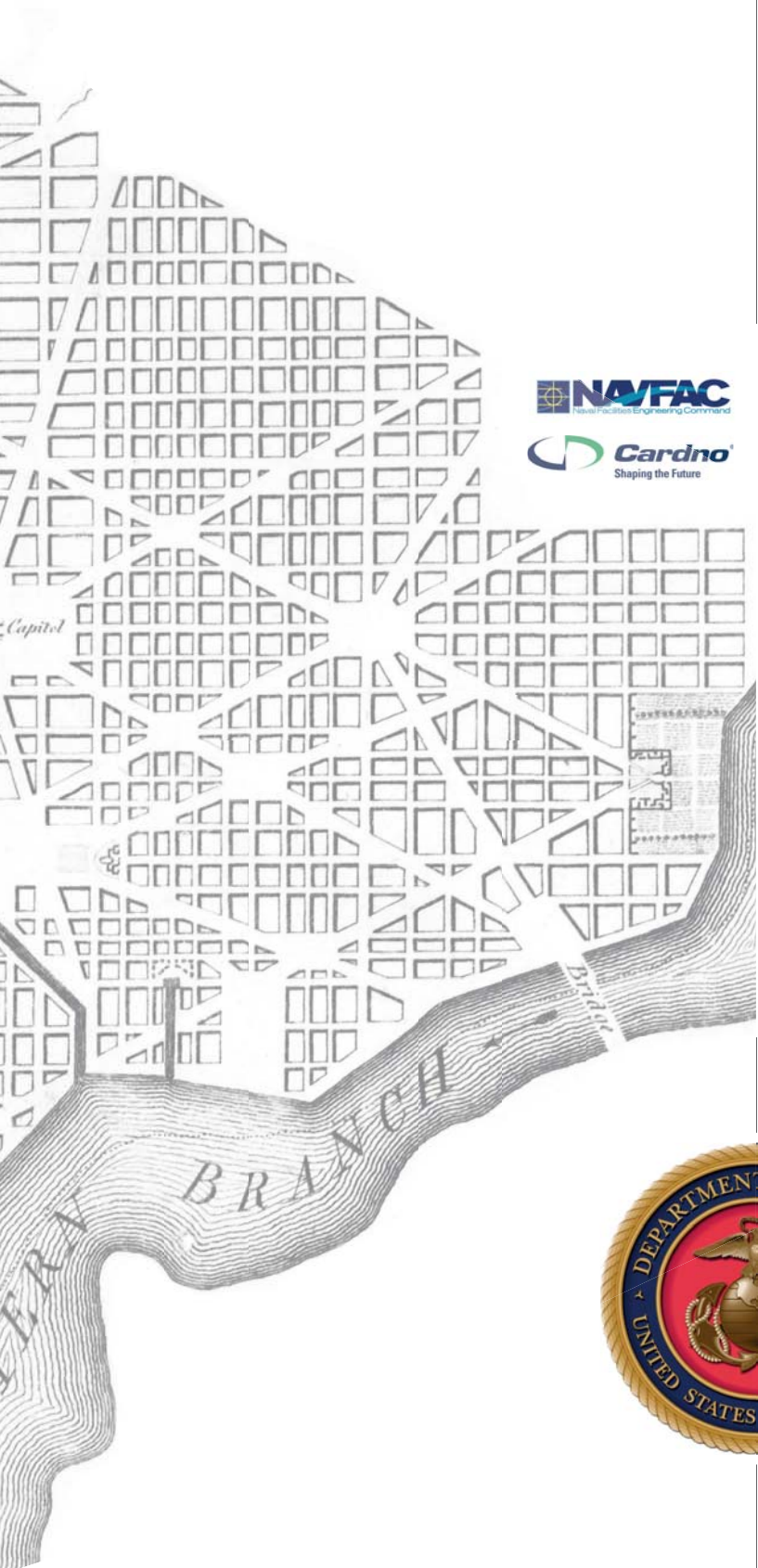
Vision



History



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Prepared By
Naval Facilities Engineering Command (NAVFAC) Washington
Cardno | Jacksonville



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Acronyms

AASHTOAmerican Association of State Highway and Transportation Officials

AC.....Acre(s)

ACHP..... Advisory Council on Historic Preservation

ADAAmericans for Disabilities Act

ADEQAdequate

ADP Area Development Plan

AE.....Asset Evaluations

ANC Advisory Neighborhood Commission

APEArea of Potential Effects

APTA.....American Public Transportation Administration

ARPA Archaeological Resources Protection Act

AT/FP..... Anti-terrorism/Force Protection

AWIAnacostia Waterfront Initiative

AWS Alternative Work Scheduling

BAS Building Automation Systems

BEQ Bachelor Enlisted Quarters

BES Building Envelope Standards

BFR Basic Facility Requirements

BID.....Business Improvement District

BLDG.....Building

BOQ.....Bachelor Officers Quarters

BTL Build-to-Line

BZA..... Board of Zoning Adjustment

CCN Category Code Number

CCSDConventional Construction Standoff Distance

CFA..... Commission of Fine Arts

CIMP.....Community Integrated Master Plan

CIP..... Capital Improvements Plan

CLDLow Density Commercial

CMOD..... Moderate Density Commercial

COL Common Output Level

CPTED Crime Prevention Through Environmental Design

D&BDrum and Bugle Corps

DC HPO.....District of Columbia Historic Preservation Office

DC WaterDistrict of Columbia Water and Sewer Authority

DC District of Columbia

DCDPR..... District of Columbia Department of Parks and Recreation

DCHA..... District of Columbia Housing Authority

DCIPDefense Critical Infrastructure Program

DCOPDistrict of Columbia Office of Planning



DDC Direct Digital Control

DDOE District of Columbia Department of Energy

DDOT District of Columbia Department of Transportation

DoD Department of Defense

DoN Department of the Navy

ECEEnvironmental Compliance Evaluation

EIS Environmental Impact Statement

EISA..... Energy Independence and Security Act

EOExecutive Order

EPA.....United States Environmental Protection Agency

EPAc..... Energy Policy Act

ETCEmployee Transportation Coordinator

FAR..... Floor Area Ratio

FC.....Facilities Criteria

FCIP Federal Capital Improvements Program

FEMA..... Federal Emergency Management Agency

FIRM..... Flood Insurance Rate Mapping

FSRMFacilities Sustainment Restoration and Maintenance

FTFoot or Feet

FYFiscal Year

GHGGreenhouse Gas

GI..... Green Infrastructure

GISGeographic Information System

GOQ General Officer’s Quarters

GSA..... General Services Administration

GSF Gross Square Feet

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GSM Gross Square Meters
 HQMC Headquarters Marine Corps
 HTHW High Temperature Hot Water
 HVAC Heating, Ventilation, and Air Conditioning
 IADQ Inadequate
 IAP Installation Appearance Plan
 ICRMP Integrated Cultural Resources Management
 Plan
 IDP Installation Development Plan
 IES Illuminating Engineering Society
 IN Inches
 iNFADS Internet Navy Facilities Assets Date Store
 INRMP Integrated Natural Resources Management
 Plan
 IPB Installation Planning Board
 IPS Installation Planning Standards
 ISP Installation Security Plan
 IWG Internal Working Group
 JBAB Joint Base Anacostia-Bolling
 LED Light-Emitting Diode
 LEED Leadership in Energy and Environmental
 Design
 LEED-ND Leadership in Energy and Environmental
 Design-Neighborhood Development
 LID Low Impact Development
 LOS Level of Service

M Meter(s)
 MARC Maryland Area Rail Commuter
 Max Maximum
 MBTU Thousand British Thermal Unit
 MBW Marine Barracks Washington, DC
 MCB Marine Corps Base
 MCI Marine Corps Institute
 MCO Marine Corps Order
 MGD Million Gallons Per Day
 MI Mile(s)
 MILCON Military
 Construction
 MIN Minute
 Min Minimum
 MMBTU Million British Thermal Units (X1,000)
 MOA Memorandum of Agreement
 MOU Memorandum of Understanding
 MPH Miles Per Hour
 MSF Million Square Feet
 MSL Mean Sea Level
 MTA Maryland Transit Administration
 MWCOG Metropolitan Washington Council of
 Governments
 NA Not Applicable
 NAGPRA Native American Graves Protection
 and Repatriation Act
 NAVFAC Naval Facilities Engineering
 Command
 NCPA National Capital Planning Act
 NCPC National Capital Planning Commission
 NCR National Capital Region
 NEPA National Environmental Policy Act
 NHL National Historic Landmark
 NHPA National Historic Preservation Act
 NPS National Park Service
 NRCS Natural Resource Conservation Service
 NRHP National Register of Historic Places
 O3 Ozone
 OSD Office of the Secretary of Defense
 Pepco Potomac Electric Power Company
 PM2.5 Particulate Matter
 PN Persons
 POV privately owned vehicle
 PRTC Potomac and Rappahannock Transportation
 Commission
 PSUP Physical Security Upgrade Projects
 PSW Paved Surface Width
 QOL Quality-of-Life

Qtrs..... Quarters
 RCRA.....Resource Conservation and Recovery Act
 RMEDMedium Density Residential
 RMOD..... Moderate Density Residential
 ROW..... Right-of-Way
 SEFC Southeast Federal Center
 SES Street Envelope Standards
 SFSquare Feet
 SHPO State Historic Preservation Office
 SOP Standard Operating Procedure
 SOQ.....Senior Officer’s Quarters
 SOVSingle Occupancy Vehicle
 SQ MI Square Mile
 SSPP Strategic Sustainability Performance Plan
 SUBST..... Substandard
 SWOT Strengths, Weaknesses, Opportunities and
 Threats
 SWOT-VPStrengths, Weaknesses, Opportunities
 and Threats–Visual Preference
 SWR Stormwater Runoff
 TBDTo Be Determined
 THEARC.....Town Hall Education Arts Recreation Campus
 TMP Transportation Management Plan
 TOD Transit Oriented Development
 UEPH..... Unaccompanied Enlisted Personnel Housing
 UFC United Facilities Criteria
 UIC Unit Identification Code
 ULC USACE Learning Center
 USACEUnited States Army Corps of Engineers
 USC United States Code
 USGBC..... United States Green Building Council
 USMC United States Marine Corps
 VMTVehicle Miles Travelled

 VRE Virginia Railway Express
 WMATA.....Washington Metropolitan Area Transit
 Authority
 WNY Washington Navy Yard
 ZC.....Zoning Commission



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COMMANDER'S LETTER & GUIDANCE

Letter to be included in Final Master Plan.

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ES1 VISION SUMMARY

The installation planning vision statement, goals and objectives provide the ideal principles and direction for maximizing Marine Barracks Washington, DC's (MBW's) long-term capabilities. The foundation of the Vision Plan is a clear and concise guiding statement that articulates the installation's desired planning direction and preferred end-state, encompasses essential mission objectives and activities, and maximizes long-range capability, flexibility and capacity. The following vision elements were identified during a one-day planning workshop which involved a collaboration of ideas and input from key stakeholders including MBW, Headquarters Marine Corps (HQMC), Naval Facilities Engineering Command (NAVFAC), and the planning consultant.

ES1.1 Vision Statement

Marine Barracks Washington, DC exists to preserve and represent to the public, the United States Marine Corps and its proud traditions. In support of the mission, we will serve as responsible stewards of our resources, while enhancing the living and working environment for our personnel and the community. We will create an integrated community of sustainable, secure and functional facilities in a campus-oriented environment.



View south of the ceremonial parade ground at MBW Main Post.

ES1.2 Vision Goals

GOAL 1

ENHANCE MISSION CAPABILITY: Ceremonial excellence reflects the core of the installation and unit’s mission and tradition in the Nation’s Capital and around the world. Mission capability is a cornerstone of the long-term vision and key to operational success.

Management Objectives

1. Maximize training capability
2. Provide adequate housing
3. Provide secure facilities
4. Adequately accommodate unique ceremonial training requirements

GOAL 2

FOSTER INTEGRATED COMMUNITIES: Positive relationships contribute to a sense of place and promote neighborhood cohesiveness.

Management Objectives

1. Face the street
2. Blend in with the surrounding community
3. Maintain and control accessibility
4. Joint/shared-uses

GOAL 3

DEVELOP SUSTAINABLE FACILITIES: The development of sustainable facilities focuses on meeting present mission needs, without compromising the ability of future generations to meet their own needs. Sustainable development strategies are aimed at energy efficient facilities, reducing resource consumption, minimizing footprints, and maximizing transportation opportunities.

Management Objectives

1. Preserve the history of Marine Barracks Washington, DC
2. Apply Leadership in Energy and Environmental Design (LEED) criteria
3. Provide compact development solutions
4. Incorporate energy conservation methods
5. Incorporate mixed-use development
6. Incorporate Low Impact Development (LID) principles
7. Promote facility reuse
8. Incorporate Building Automation Systems (BAS)

GOAL 4

OPTIMIZE FUNCTIONALITY: Functional facilities contribute to organizational efficiencies and enhanced QOL/work environments.

Management Objectives

1. **Collocate functions**
2. **Provide right-sized facilities**
3. **Promote adaptability**
4. **Maximize existing footprint**
5. **Plan for the information technology and communications requirements of the future**

GOAL 5

PROMOTE A PEDESTRIAN-FRIENDLY CAMPUS: Well-planned facilities are connected, continuous, adequately sized and located, and emphasize the human scale. Walkable communities are a principal component of campus planning and emphasize safe, comfortable, and efficient pedestrian movement as well as accommodate vehicle and bicycle traffic.

Management Objectives

1. **Incorporate walkability in the planning and design process**
2. **Site functions optimally to improve operational efficiencies and safety**
3. **Collaborate with the community on mutually beneficial pedestrian improvements**
4. **Facilitate ingress and egress at all MBW access points**
5. **Incorporate smart design principles**
6. **Promote campus concepts**

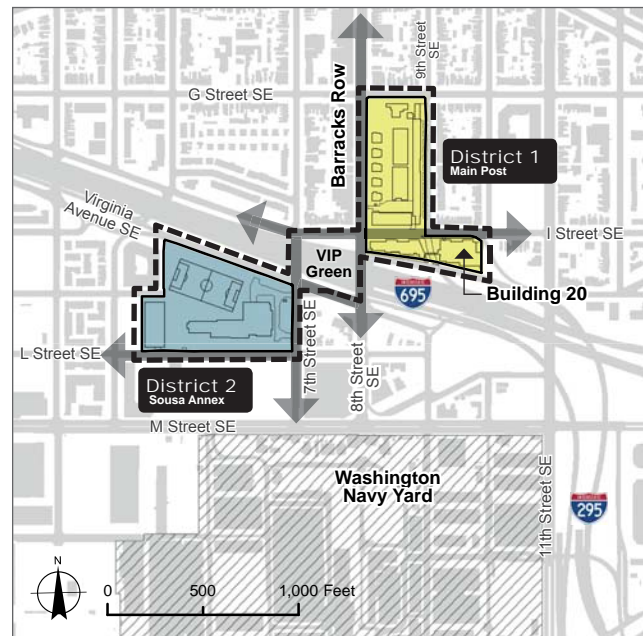
ES2 AREA DEVELOPMENT PLAN SUMMARY

The concept of Area Development Plans (ADPs) logically divides the installation into identifiable and manageable land areas based on geographic features, land and building uses, or transportation networks. Given the smaller footprint of MBW, a single ADP has been identified which incorporates all MBW sites, including potential future sites within close proximity to the current installation.

ES2.1 District Summaries

Within the overarching ADP, MBW is comprised of two distinct districts. District 1 consists of the Main Post and Building 20 site, District 2 represents the MBW Annex facilities located one block southeast of the Main Post. Together these districts establish a single ADP for the installation (Figure ES-1).

Figure ES-1 Future Area Development & District Boundaries



Legend

- District Boundary
- ADP Limits
- Planning Districts**
- District 1/ Main Post
- District 2/ Sousa Annex

District 1/ Main Post

Development patterns in District 1 include a horizontal mix of uses including administrative, officer and enlisted housing, and various support and training functions. The original Main Post lies within the established Capitol Hill community and is not subject to impacts of significant growth and development. Future activities are envisioned to be centered on continued administrative and ceremonial uses. Planned improvements include renovation and modernization projects to maximize use of the existing historic facilities to meet near- and long-term mission needs.

Significant changes to District 1 include the potential reuse of Building 20 or the Building 20 site following construction of the planned replacement Bachelor Enlisted Quarters (BEQ) Complex. The specifics regarding redevelopment and future use of this site have not been determined at this time and require further study.

District 2/ Sousa Annex

The site includes the Marine Band rehearsal/enlisted housing complex, a multi-purpose recreation field, and a detached parking garage. Planned improvements for District 2 includes the construction of the replace-



Neighboring Barracks Row commercial district .

ment BEQ Complex to consolidate Drum and Bugle Corps (D&B) functions, housing, and support functions currently located at the Main Post and Building 20. Other planned improvements are focused on maximizing the use of existing open space around the MBW Annex to enhance sustainability, integrate with the surrounding community, and incorporate US Marine Corps (USMC) identity elements that create a consistent and coordinated campus theme amongst both districts.

ES3 NETWORK PLAN SUMMARY

Network plans provide the underlying framework for supporting broad-level infrastructure goals across MBW sites. These plans serve to document existing infrastructure as well as to identify potential areas for improvement which support the installation’s vision. The Master Plan includes four network plans, including the Street & Transit Network Plan, Sidewalk and Bikeway Network Plan, Green Infrastructure Network Plan, and Primary Utility Network Plan.

The dislocated nature of MBW sites presents a challenge to network planning as the majority of these essential infrastructure networks are located off-site and are owned and governed by various public and private entities and providers. The portion of these networks that fall within the MBW installation boundaries is proportionately small, which results in recommendations that are relatively specific in nature and focused on enhancing access, improving connectivity, and identifying existing gaps or deficiencies. Emphasis should be given to monitoring ongoing local planning initiatives

within the surrounding community to ensure the long-term effectiveness of shared network infrastructure.

STREET & TRANSIT NETWORKS

The L’Enfant Plan (1791) for the City of Washington was based largely on circulation and the notion of a walkable city through its gridded streets and modest block sizes. After more than 200 years of progress, the District of Columbia’s (DC’s) reputation as a pedestrian-friendly city has remained largely intact. Being located within an established well- connected pedestrian-centered DC neighborhood, MBW benefits greatly from the existing network of connected streets, sidewalks, and bicycle routes as well as nearby housing, commercial, and transit destinations.

Street and transit networks surrounding MBW provide essential infrastructure to support the continued growth and mobility needs for the local and regional community as supported by the installation’s planning vision, goals, and objectives. The Plan identifies existing and proposed facilities, infrastructure, and connections serving the surrounding community including MBW. Additionally, a Transportation Management Plan (TMP) for MBW was updated in conjunction with the Master Plan that identifies recommendations to reduce traffic congestion, conserve energy, and improve air quality through reductions to single occupancy vehicle use for MBW commuters (please refer to the TMP for further information). MBW sites are located within a 5 to 10 minute walking distance to nearby transit, housing, and other key business, entertainment and recreational destinations.

BICYCLE AND PEDESTRIAN NETWORKS

The Bicycle and Pedestrian Networks Plan identifies existing and proposed sidewalk and bikeway facilities across the installation and within the adjacent community which form the current network. Pedestrian facilities at MBW and within the local community are generally complete, well-connected, and in good condition; however, minor on- and off-site deficiencies contribute to usability and safety issues. Measures to improve identified deficiencies include ensuring connectivity and continuity of bicycle and pedestrian routes, making walkways and bikeway connections a priority, enhancing pedestrian safety, promoting orderly streetscapes, and coordinating future pedestrian and bikeway improvements with outside entities.

GREEN INFRASTRUCTURE NETWORKS

Green infrastructure (GI) refers to the ecological framework that fosters environmental, social, and economic sustainability in an area. The GI process is a proactive approach that systematically and collectively considers impacts to broader landscape networks and incorporates a range of natural and man-made solutions to enhance the livability, productivity, and sustainability of a community. From the installation perspective, enhancing these GI for MBW and the surrounding community means the creation, preservation, and management of critical open space for the incorporation and expansion of natural stormwater runoff (SWR) reduction strategies and the multitude of interconnected ancillary benefits that follow. Due to its unique urban setting, MBW GI is focused primarily on two key open spaces that provide critical mission, cultural, social, and ecological benefits to the installation and surrounding community; the formal parade ground at the Main Post and the multi-purpose recreation field at the Annex.

Opportunities to promote GI strategies at MBW include accepted and cost-effective practices that reduce SWR, improve water quality, and conserve energy. Opportunities for incorporating GI into existing and future development include pervious pavers, native plant materials, increased tree canopy, and improved infiltration methods (biofiltration, rainwater harvesting, green roofs, and planting strips). Improvements are compatible with installation appearance, improve walkability, and enhance sustainability at all MBW sites.

PRIMARY UTILITY NETWORK PLAN

Primary utility networks at MBW include electric, wastewater, stormwater, potable water, telecommunications, and natural gas. Utilities serving the installation



Main entrance at 8th and I.

are predominately owned and operated by other entities with the exception of portions of the stormwater system and limited remaining High Temperature Hot Water (HTHW) piping, which is owned and maintained by MBW. As a general reference for all major utility corridors servicing MBW, the majority of infrastructure occurs off the installation and does not fall under the responsibility of the Marines to operate or maintain. A separate Utility Survey was developed in conjunction with the Master Plan which provides additional information and Geographic Information System (GIS) data for exiting utilities infrastructure at MBW sites.

Utility services at MBW properties are as follows:

(Note: Utility infrastructure internal of the meter box is in most cases the responsibility of MBW)

Electric Networks

Content intentionally omitted.

Wastewater Networks

Sanitary sewer collection service for the installation is provided by District of Columbia Water and Sewer Authority (DC Water) via the combined sewer system. Wastewater collected from MBW is processed at the Blue Plains Wastewater Treatment Plant. DC Water has a program in place to gradually convert combined systems into separate collection systems for sanitary sewage and stormwater in order to prevent untreated

PLAN SUMMARY

wastewater from flowing into the Potomac and Anacostia Rivers during heavy rainfall events.

Stormwater Networks

SWR at MBW is discharged underground or overland into the DC Water combined sewer system described above. MBW owns limited stormwater infrastructure related primarily to drainage of the parade ground and multi-purpose recreation field. Facilities have been recently replaced or installed and would not require normal repairs or maintenance within the next 10 years.

Potable Water Networks

Content intentionally omitted.

Telecommunications Networks

Content intentionally omitted.

Natural Gas Networks

Content intentionally omitted.

Steam/Heating, Ventilation, and Air Conditioning (HVAC) Networks

Content intentionally omitted.



Proposed BEQ Complex facing L Street SE.

ES4 DEVELOPMENT PROGRAM SUMMARY

Projected near- and long-term improvements guide future development, align with the installation's planning vision, goals and objectives, and accommodate mission requirements. Table ES-1 and Figure ES-2 provides a summary of planned improvements including military construction (MILCON) and Facilities Sustainment Restoration and Maintenance (FSRM) projects to address key planning issues: Anti-terrorism/Force Protection (AT/FP), life safety, building systems, hazardous materials, space optimization, and installation appearance. Projects support the comprehensive planning strategies that contribute to a Department of Defense (DoD)-wide planning philosophy of promoting sustainable development and supporting mission readiness for the installation. The following planning strategies have been integrated with the goals and planning recommendations, encourage sustainable development, and promote overall mission readiness.

Incorporated Comprehensive Planning Strategies

1. **Sustainable Planning**
2. **Natural, Historic, and Cultural Resources Management**
3. **Healthy Community Planning**
4. **Defensible Planning**
5. **Capacity Planning**
6. **Area Development Planning**
7. **Network Planning**
8. **Form-Based Planning**
9. **Facility Standardization**
10. **Plan-Based Programming**



Improvements at the Main Post are focused on renovating existing facilities and appearance upgrades to achieve a consistent integrated campus theme.



Concept rendering showing the proposed replacement BEQ Complex site at the MBW Annex.

New Construction

Proposed new construction at MBW includes a 191,405-square foot (SF) replacement BEQ Complex to relocate inadequate enlisted housing and support facilities currently residing in Building 20, and the D&B functions currently located in Building 9. An Environmental Impact Statement (EIS) was prepared that analyzed five alternative sites for the location of the proposed replacement BEQ Complex. The preferred site identified in the EIS is shown in Figure ES-2.

Demolition

The disposition of the 222,597-SF Building 20, following the relocation of its current functions to the replacement BEQ Complex, has not been confirmed and requires further analysis. Options for the Building 20 site would retain the existing underground parking for installation use, and may include demolition or repurposing of the remaining site for low occupancy DoD uses or other private or public functions.

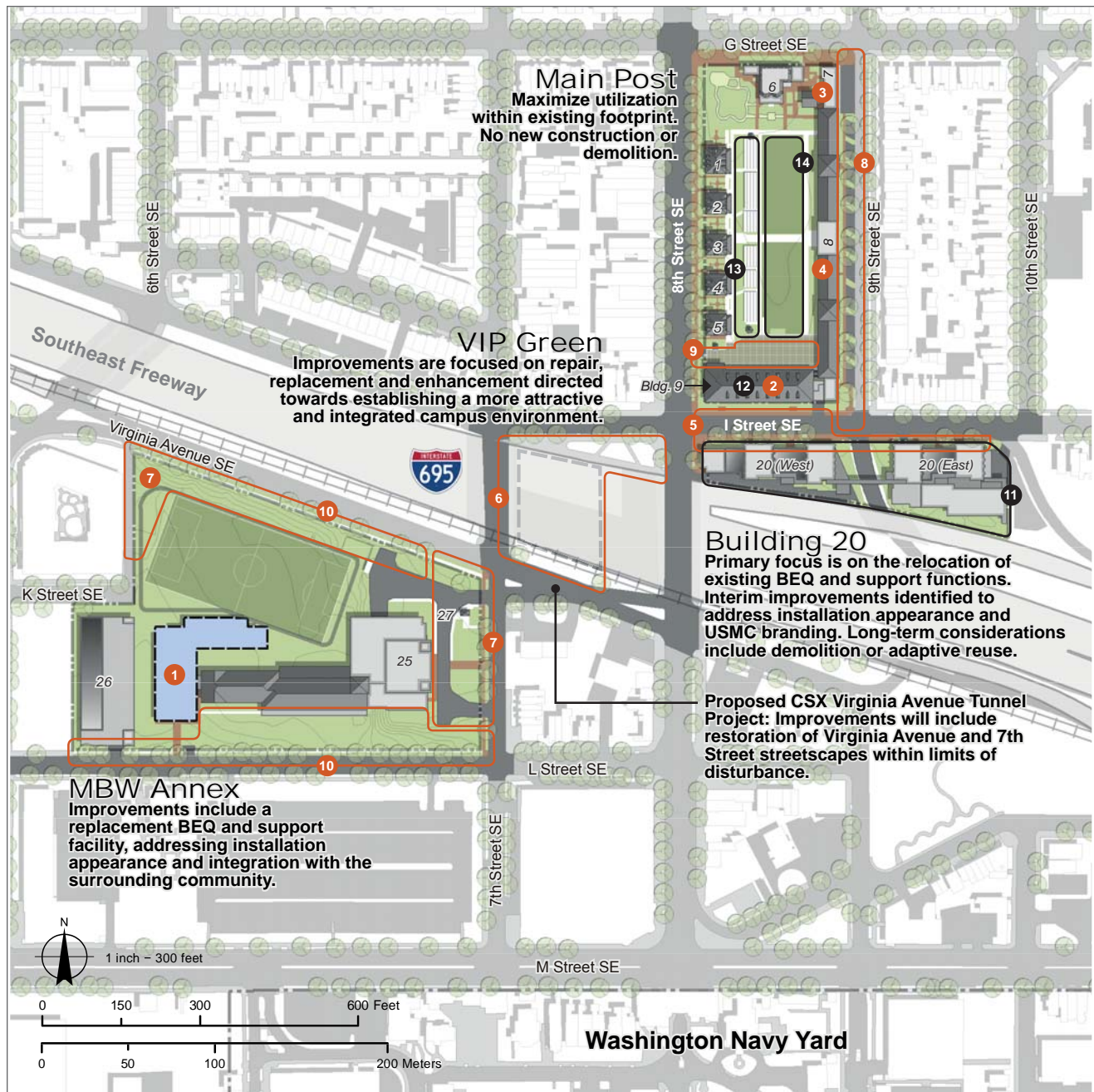
PLAN SUMMARY

Table ES-1 Program Summary

PROJECT NUMBER	MAP ID	PROJECT NAME	FUNDING SOURCE	COST (000)	FY 2015			FY 2016			FY 2017			FY 2018			FY 2019			FY 2020 OR LATER	PLANNING GOALS						
					Q-1	Q-2	Q-3	Q-4	Q-1	Q-2	Q-3	Q-4	Q-1	Q-2	Q-3	Q-4	Q-1	Q-2	Q-3		Q-4	1	2	3	4	5	
MILCON																											
P516-B	1	MBW BEQ and Support Facility	MILCON	Content Intentionally omitted																	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Renovation & Modernization																											
TBD	2	Move Communications Hub from Bldg. 8 to Bldg. 9	FSRM	Content Intentionally omitted																	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>			
TBD	3	Bldg. 7 Repair and Modernization	FSRM	TBD																	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
TBD	4	Bldg. 8 Repair and Modernization	FSRM	Content Intentionally omitted																	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Installation Appearance																											
TBD	5	(IAP) Various Upgrades to Bldg. 20 and I Street	FSRM	TBD																	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
TBD	6	(IAP) Multiple Upgrades to VIP Green	FSRM	TBD																		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
TBD	7	(IAP) Multiple Upgrades to Pedestrian Entry, 7th Street and Virginia Avenue	FSRM & OTHER*	Content Intentionally omitted																	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
TBD	8	(IAP) Multiple Upgrades to 9th Street	FSRM	TBD																		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
TBD	9	(IAP) Multiple Main Post Entry and Parking Area	FSRM	TBD																		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
TBD	10	(IAP) Multiple Upgrades to Annex Site	FSRM	TBD																	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		
LONG-TERM PROJECTS (6-10 YEARS)																											
TBD	11	Bldg. 20 Demolition or Reuse	FSRM & MILCON	TBD																			TBD				
TBD	12	Bldg. 9 Renovation	FSRM & MILCON	TBD																	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
TBD	13	(IAP) Upgrades to Main Post Viewing Stands	FSRM	TBD																		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
TBD	14	(IAP) Replace Parade Ground Turf	FSRM	TBD																	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

Notes: *Project to be funded through a joint agreement with USMC and CSX in conjunction with Virginia Avenue Tunnel Improvements. Dates, funding source, and cost are estimated and should be validated with current project information. Project phasing only includes near-term programmed projects (1-5 years).

Figure ES-2 Project Development



Map is keyed to projects list in Table ES-1.

Legend

- Installation Boundary
- Historic Streets ROW
- CSX Tunnel ROW
- Near-Term Project
- Long-Term Project

PLAN SUMMARY



Concept rendering of proposed entry improvements to the MBW Annex main gate including a formal entrance, signage, and other streetscape improvements.

Renovation

The primary objective for major renovations focuses on recapitalizing existing facilities by improving space utilization and correcting multiple life-safety and force protection issues. Key renovations include near-term improvements to Building 8 to modernize the space in support of its long-term administrative use as the Command Post. Future upgrades to Building 9 are proposed to repurpose the space following the relocation of the D&B to the replacement BEQ Complex. Future reuse of Building 9 is not known at this time, and needs to be evaluated for its best use. The Building will retain its current function as a ceremonial space that utilizes the main performance hall and lobby areas on the first floor. Both projects serve to maximize the functionality of these older historic structures, consistent with the installation planning goals and objectives.

Installation Appearance

Several key projects are targeted at enhancing overall installation appearance by ensuring continuity across the multiple sites, and integration with the surrounding community. Emphasis will be on upgrades to the Annex main gate facilities to enhance the “sense of arrival” and overall public perception for installation personnel and guests to MBW. Upgrades include a new central pedestrian gateway experience that incorporates an appropriately scaled and located main entrance that is welcoming, utilizes USMC branding, and is responsive both functionally and aesthetically to the surrounding area. Other improvements include special fencing and

improved landscaping that incorporates sustainable and AT/FP-compliant strategies that reinforce the urban edge.

VIP Green serves an integral function to MBW’s ceremonial mission as it provides an essential parking resource for frequent events held at the Main Post, including the Friday Evening Parades. It is a visual extension of the MBW campus and functional stepping stone connecting the Main Post with the Annex site. Improvements will include enhancements to the appearance of the existing parking area and associated fencing, sidewalks, signage, and lighting to help integrate the site into the overall MBW campus.

ES5 PLAN ADMINISTRATION

The MBW Master Plan has been developed to serve as a tool for future installation development, and is the approved overall guiding framework for the physical development of the installation through 2025. The long-term success and relevance of MBW’s Master Plan will rely largely on implementation efforts by its end users. The document’s content establishes the baseline of current conditions, provides an assessment of those conditions as it relates to MBW’s mission and needs, and outlines where development and improvements can occur going forward.

ES5.1 Execution of the Master Plan

All MBW functions share responsibility in the pursuit and execution of the Master Plan, with planning and development oversight from HQMC and NAVFAC



US Marine Band rehearsing at the multi-purpose recreation field at MBW Annex.

Washington. However, key roles and responsibilities are outlined here:

MBW PUBLIC WORKS DEPARTMENT

The MBW Master Plan will require maintenance as well as a review and update every five years over the course of its lifespan. Installation planners are the personnel best suited for this role due to their training and experience in planning methods and their familiarity with MBW facilities and mission requirements. Therefore, it is recommended that the S4/Public Works Department oversee all updates and maintenance of the installation Master Plan.

Installation Planning Board

The primary responsibility of an Installation Planning Board (IPB) is to serve as the action proponent for the Master Plan. The IPB is chaired by the installation Commanding Officer or its designee, and is responsible for administering the Master Plan and ensuring that it addresses all real property issues and enforces the planning vision, installation mission, and policies set forth in the Master Plan.

IPB Functions

- » **Guides the development and maintenance of all components of the Master Plan**
- » **Coordinates with all stakeholders including adjacent/nearby DoD installations, State Historic Preservation Offices (SHPOs), local agencies and planning commissions, interested non-governmental organizations, and concerned individuals**

- » **Develops plans and programs to maximize the use of existing facilities and land uses, while minimizing impacts to the environment**
- » **Approves installation architectural and design themes, as set forth in the IPS; monitors compliance, and adjudicates conflicts and variances from the established standards**
- » **Recommends formal approval of all Master Plan components, priorities and funding of Master Plan projects, and any variances from planning requirements as needed**

Currently MBW has not established an IPB, and no formal recommendation to form one has been made. However, responsibilities of the IPB, including conformance with the Master Plan, will be incorporated into existing monthly meetings between MBW Public Works Department and MBW's Commanding Officer. Proper endorsement of MBW's Master Plan will be given by MBW's Commanding Officer and submitted to HQMC for final approval. Should MBW be directed to form an official IPB, additional details on the responsibilities and composition of the IPB are identified in Unified Facilities Criteria (UFC) 2-100-01 and Marine Corps Order (MCO) 11000.12.

ES5.2 Conformance with the Master Plan

All MBW functions have a role and responsibility in adhering to the MBW Master Plan Update in the site selection, design, and construction of their proposed projects. Project conformance with the MBW Master Plan should be a simple and achievable goal as long as

PLAN SUMMARY



MBW Command Post and Home of the Commandant overlooking the parade ground at the Main Post.

proposals incorporate important criteria in the early project development phase. The following checklist of actions and considerations outlines the process of project conformance:

Step 1: Before staff commits a great deal of resources to pulling together a project proposal, consult the MBW Master Plan, and in particular the Vision Plan in Chapter 2.

Step 2: Ensure the project designs conform to the Regulating Plan (Section 5.3).

Step 3: Ensure all siting of specific facility acquisition or construction projects meets the guidelines and objectives set forth in the Planning Standards (Chapter 6).

Step 4: Submit the project proposal for consideration and approval by Public Works Department and [MBW's selected approval authority]. If approved, consult with National Capital Planning Commission (NCPC) staff for consistency with the Federal Elements of the Comprehensive Plan for the nation's capital. Following NCPC staff consultation, submit the proposal for funding. If not approved, revise and resubmit for consideration before seeking funding.

Although not currently billeted, MBW would benefit from a designated or shared (Washington Navy Yard [WNY]) Employee Transportation Coordinator (ETC) to provide increased awareness of transportation options, subsidies, and programs for MBW personnel to meet long-term commuting goals. A shared ETC position with WNY would work well due to the installations' close proximity, and given MBW's small installation size, it already relies on WNY services to fill certain responsibilities. An ETC would also be responsible for monitoring and maintaining the program and identify and prioritize MBW's short and long-term transportation management needs. Specific transportation management strategies are outlined in the TMP as well as Section 5.5.6 of the Master Plan.

1.0

Master Planning Process



1.1 SCOPE & METHODOLOGY

The goal of this Master Plan is to establish a long-term vision for Marine Barracks Washington, DC (MBW), to provide for the continued efficient and orderly development of the installation's real property, and to promote long-term mission capability and sustainability.

The Master Plan is intended to serve as a tool for all echelons of decision-making relative to MBW's future physical development. Preparation of this Master Plan follows the five-step process outlined in the Unified Facilities Criteria (UFC) 2-100-01 Installation Master Planning, updated 15 May 2012 (Figure 1-1), and is consistent with the Marine Corps Order (MCO) 11000.12, updated 8 September 2014. The Master Plan was closely developed in conjunction with the analysis and recommendations from the Environmental Impact Statement (EIS) for Multiple Projects in Support of Marine Barracks Washington (Preliminary Final 20 July 2015). Supporting components of this Master Plan include a Transportation Management Program (TMP) update, Utilities Analysis, and an Installation Appearance Plan (IAP).

Figure 1-1 Master Plan Methodology



PRODUCTS PLANS & UPDATES

The following products and plan updates were developed in coordination with the Master Plan process and are intended to serve as integrated and supporting elements.

Transportation Management Program (TMP)

A TMP for MBW was updated in conjunction with the master planning efforts to incorporate current changes and measurable objectives that minimize single occupancy vehicle (SOV) trips to the installation, enhance mobility opportunities, conserve energy, and examine methods and strategies to meet and maintain recommended parking ratios. The requirement to prepare a TMP is within the National Capital Planning Commission’s (NCPC) Comprehensive Plan.

Utilities Study

To support and reinforce the Master Plan’s long-term Installation Development Plan (IDP) and Capital Improvements Plan (CIP), a Utilities Study was prepared early in the process (Appendix A). The purpose of this effort was to provide an analysis of utilities’ condition, capacity, and level of service with an associated capital improvement plan encompassing short-, mid- and long-term recommendations. This study also serves to locate and identify deficiencies in existing utilities data (potable water, wastewater, stormwater, electrical, gas, and telecommunications). Updated geographic information system (GIS) data for major utilities were provided using current survey information.

Installation Appearance Plan (IAP)

An IAP was prepared concurrently with the Master Plan by Naval Facilities Engineering Command (NAVFAC) Washington and Headquarters Marine Corps (HQMC). The IAP was developed to be a complimentary document directed at enhancing the high-quality installation appearance standards and achieving the overall planning vision, goals and objectives established in the Master Plan. Recommendations in the IAP provide detailed design and planning guidance and recommendations consistent with the Installation Planning Standards (IPS) found in Chapter 6 of this Master Plan.

Strengths, Weaknesses, Opportunities, and Threats

During the initial visioning process, a modified Crawford Slip approach to the Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis was performed to gather user-generated input and ideas from the selected stakeholder group. The analysis



Visioning workshop held on-site included participants from MBW, NAVFAC Washington and HQMC.

provided an overarching framework of key development themes and planning principles deemed significant by the group. This input was used to inform the vision process, including the development of measurable goals and objectives that support the overall planning vision statement. A visual preference exercise was also used to identify physical aspects that have both a positive and negative impact on MBW's appearance and perceptions.

1.2 STAKEHOLDER PARTICIPATION

Stakeholder involvement was integral in the development of the MBW Master Plan. Stakeholder participation began with the preceding Community Integrated Master Plan (CIMP) process, conducted from 2010 to 2013, which was utilized as a platform for open communication between the Marine Corps and the local community, primarily with regards to the development of the proposed replacement Bachelor Enlisted Quarters (BEQ) Complex. Table 1-1 provides a summary of the stakeholder groups and corresponding roles of those who participated in the CIMP process.

Additional internal stakeholder input for the Master Plan was collected through the planning charrette and visioning workshop process (Table 1-2). Stakeholders participated in a one day on-site workshop to develop a draft vision statement, goals, and objectives that guided the master planning efforts. Stakeholders also participated in a SWOT and visual survey exercise.

Table 1-1 CIMP Stakeholders

STAKEHOLDER GROUP & MEMBERS	ROLE
Internal Working Group (IWG)/CIMP Planning Team - HQMC Staff - MBW Staff - NAVFAC Washington Staff - Washington Navy Yard (WNY) Staff - Cardno Team	a) Manage the day-to-day activities of the IWG/CIMP Planning Team b) Report to command leadership c) Primary interface with military and community stakeholder groups d) Participate in community meetings and events, as needed e) Overall direction provided by HQMC f) Managed by NAVFAC Washington
Internal Stakeholder Group - HQMC, MBW, and NAVFAC Washington leadership	a) Participate in milestone meetings b) Provide input, advice, and counsel to the IWG/CIMP Project Team
Community Leadership Group - IWG - Advisory Neighborhood Commission (ANC) 6B - ANC 6D - Barracks Row Main Street - Capitol Riverfront Business Improvement District (BID) - Capitol Hill Restoration Society - Local Residents - Local Property Owners	a) Provide general advice and counsel b) Assist in developing proposed outreach strategy, schedule, agendas, etc. c) Identify stakeholder interests, actions, plans, and programs to be integrated into the planning process and communications efforts d) Bring community concerns and observations to the planning process e) Publicize CIMP effort to others and encourage participation
Public-at-Large	a) Groups invited to participate in Open Houses, Workshops, and Forums

Table 1-2 Planning Charrette Stakeholders

ORGANIZATION & PARTICIPANTS	
Marine Barracks Washington	
- Command - S3 Operations - S4 Logistics - S6 Communications - Public Works Department - Company A - Company B	- Headquarters and Services Company - Guard Company - US Marine Band - Drum & Bugle Corps - Marine Corps Institute - Marine Aide Program
Headquarters Marine Corps	
NAVFAC Washington	

1.3 PLANNING ASSUMPTIONS

The following is a summary of key planning assumptions used to guide planning analysis and recommendations in the Master Plan.

- ☑ No significant changes are anticipated to the MBW mission or requirements in the foreseeable future
- ☑ Building 20 has exceeded its useful lifespan and no longer meets current minimum life safety and space requirements as a BEQ
- ☑ MBW's ability to expand within the existing Main Post and Building 20 sites does not exist
- ☑ A replacement BEQ and support facility for the Drum and Bugle Corps (D&B) is needed, to be located within a walkable distance to the Main Post
- ☑ All designated historic structures will be retained
- ☑ Historic structures (Buildings 8 and 9) at the Main Post do not comply with minimum Anti-terrorism/Force Protection (AT/FP) standoff criteria

1.4 POLICY & GUIDANCE

Department of Defense (DoD) Instruction 4165.70 and NCPC Submission Guidelines require a master plan to cover a minimum 10-year period and to be updated every five years. The MBW Master Plan was last updated in 2001 prior to the recent development of the Annex facilities. Previous updates to the Master Plan were completed in 1998, 1986, and 1979. The 2015 Master Plan Update builds upon the earlier efforts and provides long-term guidance going forward to address multiple facility, utility, and infrastructure deficiencies at the installation.

Additionally, the current Master Plan ensures compliance with the Office of the Secretary of Defense (OSD) Policy Memorandum regarding Installation Master Planning (28 May 2013), which supports a clear and principled long-range vision for installation development and requires all installation Master Plan updates to be completed prior to October 2018.

The Master Plan incorporates recent changes to UFC 2-100-01 Installation Master Planning (updated 15 May 2012) and reflects a substantial shift towards sustainability, energy efficiency, security, and a form-based planning approach. The updated UFC promotes current planning strategies that support a DoD-wide installation planning philosophy to develop strategies for creating enduring places to live and work. A key component of the updated master planning criteria is the collaborative development of a clear planning vision, goals, and objectives that serve to guide future

development at MBW (Chapter 2). Under this guidance, crucial input was gathered early in the planning process from multiple military and civilian stakeholders as well as other DoD, local, and regional planning resources.

In accordance with MCO 11000.12 (08 September 2014), the Draft Master Plan in accordance with MCO 11000.12 (08 September 2014), the Draft Master Plan and planning personnel underwent a thorough Master Plan Training Workshop and UFC Tier Assessment in January 2015 to measure the Master Plan's adherence to the UFC 2-100-01 criteria. The three three-day intensive workshop involved a collective team effort that examined and evaluated all five metrics for conformance:

UFC Master Planning Performance Metrics

1. Training and Qualification
2. Master Plan Policies and Processes
3. Planning Product Format (Tier 1- required)
4. Strategies and Principles Application (Tier 2- required and Tier 3- optional)
5. Master Plan Administration (IPB)

Under MCO 11000.12, Master Plan compliance requires the design and planning team to be thoroughly trained in traditional techniques as well as sustainable planning practices. Attendees, who included installation personnel and planning participants from HQMC and NAVFAC Washington, received 19 credit-hours towards training and qualification in the preparation and execution of the Master Plan and a foundation in installation planning processes. Credits are also approved by the United States Army Corps of Engineers (USACE) Learning Center (ULC) and DoD Master Planning Institute. The Final Assessment Report, issued in June 2015, confirmed adherence to the planning process and policies, and rated the 2015 MBW Master Plan Update as compliant with required (Tier 1 and Tier 2) as well as optional (Tier 3) criteria. The practicum also identified a way forward for addressing the role of an IPB through the existing planning and review process at MBW.

Current revisions to the UFC 4-010-01 DoD Minimum Anti-terrorism Standards for Buildings (updated 9 February 2012, changed 1 October 2013) offer a new approach to previous land consumptive AT/FP planning practices. The revisions provide for general reductions to minimum building setback requirements from roads and parking. In some cases, the changes greatly reduce the overall impact to facility placement and promote more efficient land use strategies such as compact development and walkability.

SUPPORTING DOCUMENTS

The EIS for Multiple Projects in Support of Marine Barracks Washington was prepared concurrently and in conjunction with the Master Plan. The purpose of the EIS was to evaluate the potential environmental impacts of implementing repair, renovation, and construction projects at MBW anticipated to occur within an approximate five-year planning horizon. Among other projects, the EIS analyzed the proposed siting and construction associated with the replacement BEQ Complex, including supporting facilities and parking.

The CIMP was a key resource used to support development of the Master Plan planning vision and existing conditions elements. The CIMP was a first of its kind planning process initiated to evaluate opportunities for community-military partnerships and to obtain feedback from area residents, community organizations, local businesses, developers, and government agencies regarding the proposed replacement BEQ Complex at MBW.

Basic Facility Requirements (BFRs) and Asset Evaluations (AEs) were prepared by NAVFAC Washington early during the analysis phase and were used to inform and support master planning projects and other recommendations. BFRs constitute the evaluation of existing assets (by category code) and the determination of specific facility requirements for functions housed at MBW, as well as provide a basis for planning against deficiencies or disposition of excess property (refer to UFC 2-000-05N, formerly NAVFAC P-80). The AEs provide a snapshot of facility condition and deficiency ratings for all facilities at MBW.

1.5 PLAN GOVERNANCE

Recommendations in the Master Plan have been developed to ensure consistency and compliance with local agencies, policies, and objectives including the following:

NATIONAL CAPITAL PLANNING COMMISSION

As the central planning agency for federal activities and interests in the National Capital Region (NCR), NCPC is charged with planning for the appropriate and orderly development of the national capital and the conservation of its important natural and historical features. NCPC coordinates all federal planning activities in the region and approves federal Master Plans, and construction proposals in the District of Columbia (DC), including installations where one or more principal buildings are being proposed. NCPC

has authority to evaluate proposed federal capital projects for their conformity with its own adopted plans and policies, and uses its review through the Federal Capital Improvements Program (FCIP) to help guide its planning activities in the region. In accordance with the National Capital Planning Act (NCPA) of 1952, as amended, the MBW Master Plan requires approval from NCPC.

COMPREHENSIVE PLAN FOR THE NATIONAL CAPITAL

NCPC, in conjunction with the DC Office of Planning (DCOP), prepares the Comprehensive Plan for the National Capital. The Plan, approved in 2006 and amended in 2011, provides a statement of principles, goals, objectives, and planning policies for the future growth and development within the NCR (including DC and surrounding counties) over the next 20 years. The Comprehensive Plan has two parts, the (1) Federal Elements and (2) District Elements. The Federal Elements, prepared by NCPC pursuant to Section 4a of the NCPA of 1952 and updated in 2004, contains recommendations directed at federal lands and the federal interest in the NCR. The District Elements, updated by the Council of DC in 2006 and amended in 2001, deal with non-federal lands in DC.

Federal projects in the District, including MBW, must comply with the Comprehensive Plan's Federal Elements where applicable. There are seven Federal Elements including: Federal Workplace, Foreign Missions and International Organizations, Transportation, Parks and Open Space, Federal Environment, Preservation and Historic Features, and Visitors. These elements provide additional direction that provide guidance and influence future development at MBW.

US COMMISSION OF FINE ARTS

The Commission of Fine Arts' (CFA) review requirements for government projects apply to design proposals for the following types: new buildings or modifications or additions to existing buildings on federal or DC government property; establishing a new or modifying an existing park or public space; installing artwork in an outdoor public space; modifying the streetscape design of a public street or proposing major new public infrastructure; or proposals for memorials, coins, medals, or other matters of art with which the federal government is concerned. In accordance with Executive Orders (EO) 1259 and 1862, action in such cases will not be taken until such plans and questions have been submitted to the CFA.



The US Marine Corps Barracks and Commandant's House District is a National Historic Landmark. Photo 1917.

DC ZONING AND LAND USE

Washington, DC was one of the first cities in the United States, following New York City in 1916, to develop a comprehensive zoning ordinance under The Zoning Act of 1 March 1920. DC Zoning regulations define how a property may be used and developed as a matter of right, such as building form, height, scale or placement, as well as govern lot size and coverage, and parking requirements. DC's Zoning Commission (ZC) and Board of Zoning Adjustment (BZA) are independent, quasi-judicial bodies created by the Zoning Acts of 1920 and 1938, respectively. The District's BZA grants relief from zoning regulations, approves land use exceptions, and hears zoning appeals.

It is important to note that although MBW sites have been assigned local zoning designations, federal buildings are not specifically subject to the District's zoning laws, and NCPC has the responsibility to review and regulate federal land planning proposals for these sites.

NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act (NEPA) requires federal agencies to consider the environmental impacts of their actions and decisions. Federal agencies are required to systematically assess the environmental impacts of their proposed actions and consider alternative ways of accomplishing their missions, which are less damaging to and protective of the environment. All agencies must use a systematic interdisciplinary approach to environmental planning and evaluation of

projects which may have an effect on the environment. The Marine Corps has complied with the NEPA process through its EIS for Multiple Projects in Support of Marine Barracks Washington. The EIS, prepared concurrently with this Master Plan, assesses the environmental impacts of constructing a replacement BEQ Complex as well as other projects at MBW. The EIS is addressed in further detail in Chapter 5 (Existing Plans and Studies) and Appendix J.

NATIONAL HISTORIC PRESERVATION ACT SECTION 106 CONSULTATION PROCESS

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effects of their undertakings on properties listed, or eligible for listing, in the National Register of Historic Places (NRHP). The Marine Corps has coordinated compliance of proposed actions with Section 106 through the NEPA review process. Section 106, like NEPA, requires the federal agency to seek the views of the public, as well as consult with the SHPO and other consulting parties concerning project effects to historic properties. For this project, the Marine Corps consulted with the District of Columbia Historic Preservation Office (DC HPO).

INSTALLATION PLANNING BOARD

The IPB is responsible for guiding development at MBW that is consistent with the planning vision, goals and objectives identified in the Master Plan. It is tasked with the role of optimizing mission capabilities and operations within operational, environmental and fiscal constraints. The IPB reviews all site approvals to ensure consistency with the Master Plan, and is responsible for approving variances as appropriate. The appointed planning body coordinates with stakeholders and staff on a regular basis to assist installation leadership in prioritization and decision making regarding development and maintenance of all land and facilities, including identification of underutilized and excess capacity at MBW. No military construction, renovation, modification, or land use changes are allowed regardless of funding source without IPB approval. Although previously not established, MBW is in the process of forming an IPB. Current responsibilities of the IPB are addressed in existing monthly meetings with the MBW Public Works Department and command staff.



2.0 Vision Plan

2.1 VISION PROCESS AND PRODUCTS

The establishment of a planning vision, goals, and objectives was the first step in the master planning process. The vision process and products serve to establish and reinforce the long-range outlook for the installation's physical development. The vision process for the master Plan was modeled after the established Oregon Model which takes a flexible and scalable approach to fit installation and community needs and resources by working through the following questions with the planning team: Where are we now? Where are we going? Where do we want to be? How do we get there? Are we getting there?

MBW received input from a collaboration of community stakeholders, organizations, and government agencies from the CIMP process that served as the foundation for the Vision Plan. Building off of this input, the Vision Plan concluded with a one day planning workshop which involved a collaboration of ideas and input from MBW, HQMC, NAVFAC, and the planning consultant. The basis of the Vision Plan is a clear and concise guiding statement that articulates the installation's desired planning direction and end-state, encompasses essential mission objectives and activities, maximizes long-range capability, flexibility and capacity, and answers the question "Where do we want to be?" A draft vision statement was the result of an evolutionary process with the stakeholder group during the workshop where ideas and planning concepts were summarized and prioritized. The final vision statement was briefed to the Commanding Officer for concurrence and approval.

The vision statement is supported by a series of specific and measurable goals and objectives which flow directly from the vision statement, focus on long-range strategies, fulfill mission requirements, incorporate development and redevelopment needs, and answer the question "How do we get there?" The goals and objectives consider the overall development constraints

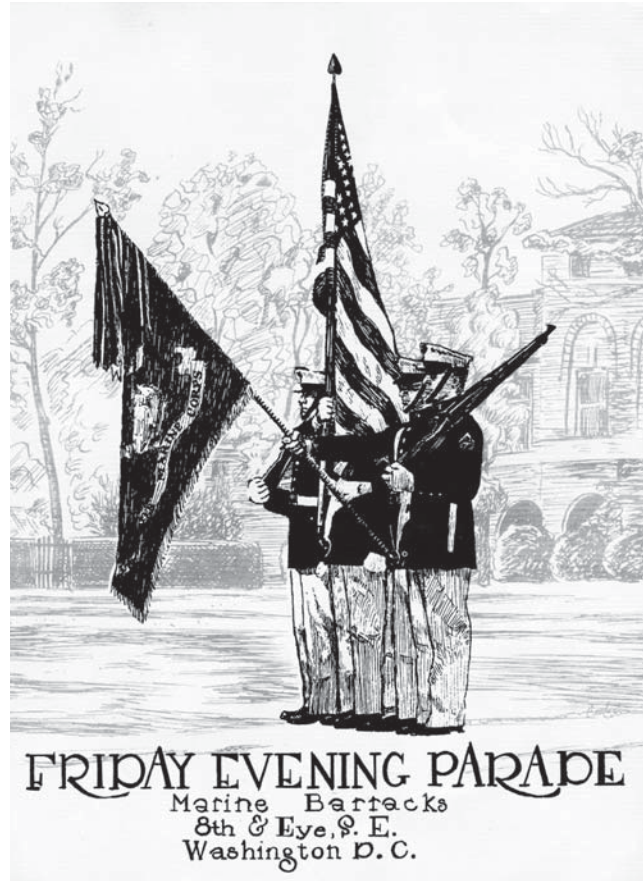


SWOT analysis was conducted during the planning workshop.

and opportunities while accommodating for future change. Planning objectives define how the goals will be achieved, are specific to each goal, and incorporate the 10 DoD Planning Strategies.

The objectives also reflect input from the SWOT analysis. A SWOT analysis and visual preference (SWOT-VP) review were conducted as part of the planning workshop to identify key issues and explore potential solutions. Results of the SWOT-VP analysis were utilized as a guide throughout the planning process to develop and support specific recommendations (Appendix F).

	Helpful to achieving the objective	Harmful to achieving the objective
Internal factors	<p>S Strengths Characteristics, assets, or resources of MBW that give it an advantage over others (What to build on)</p>	<p>W Weaknesses Characteristics or limitations that place MBW at a disadvantage or less capable to complete its mission (What to improve upon and what to avoid)</p>
External factors	<p>O Opportunities Elements or prospects that MBW could exhibit to its advantage (How to do things better)</p>	<p>T Threats Elements or restrictions in the environment that could cause trouble for MBW and plan execution (Obstacles to overcome, competing interests and changing requirements)</p>



Friday Evening Parade Marine Barracks Washington, DC 1963 Program.

2.2 VISION STATEMENT

Marine Barracks Washington, DC exists to preserve and represent to the public, the United States Marine Corps and its proud traditions. In support of the mission, we will serve as responsible stewards of our resources, while enhancing the living and working environment for our personnel and the community. We will create an integrated community of sustainable, secure, and functional facilities in a campus-oriented environment.



2.3 PLANNING GOALS & MANAGEMENT OBJECTIVES

The following planning goals and objectives have been established to support the planning vision for MBW.

GOAL 1

ENHANCE MISSION CAPABILITY

Ceremonial excellence reflects the core of the installation and unit’s mission and tradition in the Nation’s Capital and around the world. Mission capability is a cornerstone of the long-term vision and key to operational success.

Management Objectives

Maximize training capability: Provide the capability and adequate facilities to prepare for ceremonial activities throughout the year, including during inclement weather conditions. Maximize functional relationships for training in all siting and configuration decisions.

Provide adequate housing: Develop and maintain safe, compliant, and convenient housing solutions which enhance QOL and provide a mix of uses including recreation, dining, and other key support functions.

Provide secure facilities: Incorporate a cost-effective design approach that maintains adequate AT/FP requirements, while implementing methods to reduce standoff requirements (compact development, multi-story construction, mixed uses) in order to preserve and enhance the urban context as well as reduce the footprint required to support the mission.

Adequately accommodate unique ceremonial training requirements: Maintain facilities to a high standard, underscoring the professionalism and precision of the USMC on display during regular public events. Incorporate appropriate design considerations as needed to support the US Marine Band and D&B (e.g., truck/vehicle accessibility, loading areas, freight elevators).

GOAL 2

FOSTER INTEGRATION WITH THE COMMUNITY

Positive relationships contribute to a sense of place and promote neighborhood cohesiveness.

Management Objectives

Face the street: Make appropriate improvements to building façades that front adjacent streets and neighboring residential or commercial areas (e.g., signs, door awnings, lighting, landscaping). This includes enhancements to buildings whose primary entrance is inward oriented, such as the Main Post, where secondary building façades (back or side) front neighboring uses. Where appropriate and with security requirements in mind, screening, fencing, seating, or structured open space may promote the appearance of a primary street frontage.

Blend in with the surrounding community: Incorporate strategies to coordinate form, scale, fenestration, materials, and other details with elements within the existing community. Ensure that design details such as walls, fences, paving, lighting, plant materials, and other hardscape and softscape elements respond to their surroundings.

Maintain and control accessibility: Incorporate planning and design considerations which improve and enhance wayfinding, security, ease of access, safety, and other aspects which contribute to the projection of a positive image and experience to the visiting public (e.g., lighting, security technology, walkways, compliance with the Americans with Disabilities Act [ADA], emergency egress).

Create joint/shared-use facilities: Continue to work with the community on mutually beneficial joint/shared-use opportunities.



GOAL 3

DEVELOP SUSTAINABLE FACILITIES

The development of sustainable facilities focuses on meeting present mission needs, without compromising the ability of future generations to meet their own needs.

Management Objectives

Preserve MBW's history: Maintain compliance with the requirements of the NHPA (16 United States Code [USC], 470), while ensuring that any new development or major improvements respect the history of the Main Post.

Apply Leadership in Energy and Environmental Design (LEED®) criteria: Apply LEED®-Neighborhood Development (LEED®-ND) planning criteria as a measurement tool to promote sustainable, energy efficient development at the installation level.

Provide compact mixed-use development solutions: Employ multi-story mixed-use construction strategies that maximize land use, improve walkability, and incorporate open space needs.

Incorporate energy conservation methods: Increase capabilities for renewable energy and design/operate sustainable buildings wherever possible and cost effective.

Incorporate Low Impact Development (LID) principles: Include pervious pavements, greywater recycling, green roofs, bioretention and other proven techniques.

Promote facility reuse: Maximize the potential of existing facilities by considering options to renovate, adapt, and reuse the space in a more efficient and flexible way.

Incorporate Building Automation Systems (BAS): Incorporate BAS where feasible into any new construction or major renovation project. Maintain trends data to inform decisions on future utilization in order to get the greatest value from these systems.



GOAL 4

OPTIMIZE FUNCTIONALITY

Functional facilities contribute to organizational efficiencies and enhanced QOL/work environments.

Management Objectives

Collocate functions: Ensure that new and renovated facilities take advantage of collocating the appropriate uses to maximize space and operational efficiency, while reducing footprint and unnecessary travel to perform the job effectively.

Provide right-sized facilities: Match building siting and space allocations to requirements as closely as possible, while also considering shared-use opportunities within or among buildings to avoid duplication or wasted space, and allow for flexibility or growth.

Promote adaptability: Create flexible layouts that are capable of meeting future mission changes through methods such as open floor planning, limiting private office space, and considering future expansion either horizontally or vertically to accommodate mission requirements.

Maximize existing footprint: Conduct periodic space optimization planning and programming analysis as a means to identify opportunities that maximize facility utilization, incorporate current requirements, and address wasted or duplicate space concerns.

Plan for the information technology and communications requirements of the future: Ensure that new construction and renovation projects include well designed cable ducts, adequate power supply, and appropriately sized cooling and ventilation systems to support current and future information technology and communications requirements. Include design elements to allow for continuous interconnections between all MBW properties.



GOAL 5

PROMOTE A PEDESTRIAN-FRIENDLY CAMPUS

Well-planned facilities are connected, continuous, adequately sized and located, and emphasize the human scale. Walkable communities are a principal component of campus planning and emphasize safe, comfortable, and efficient pedestrian movement as well as accommodate vehicle and bicycle traffic.

Management Objectives

Incorporate walkability in the planning and design process: Ensure that integrated walkways and other pedestrian facilities between and within MBW are safe, continuous, and appropriately scaled.

Increase operational efficiencies: Reduce daily pedestrian transit to improve operational tempo, responsiveness, and accessibility to common use facilities such as dining and fitness facilities. A reasonable walking distance between functional areas should be a 10-minute walk (approximately 2,000 feet) or less.

Collaborate with the community: Partner with the neighborhood and city to identify and address improvements to streetscapes and pedestrian safety improvements that support the Complete Streets initiative.

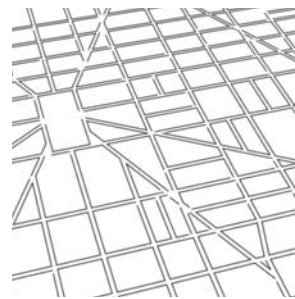
Facilitate site ingress and egress: Ensure that access control points perform well for safe and secure ingress/egress of Marines, civilians, and their families while also ensuring that they are scaled to the neighborhood character and provide an appropriate sense of arrival.

Incorporate smart design principles: Include structured and on-street parking, reduced travel lane widths, compact and infill development, mixed-use and multi-story construction, and narrow buildings.

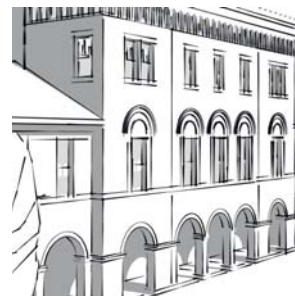
Promote campus concepts: Incorporate proven campus development strategies that support walkability within, around, and between installation sites. Where feasible, coordinate with local jurisdictions to achieve mutually beneficial solutions that contribute to a cohesive campus environment.

2.4 PLANNING PRINCIPLES

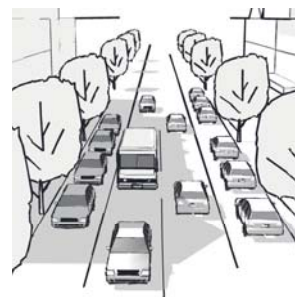
The following planning principles are supported throughout the Master Plan and summarize some of the measurable form-based strategies and practices for meeting the planning goals and objectives outlined earlier in this Chapter. The relationships of these principles to the planning goals are shown in Table 2-1 (at the end of this section). These principles are used collectively to create coherent and context appropriate design solutions, and work together to create a sense of place at MBW. Principles are organized below into categories which reflect the major physical elements of urban design.



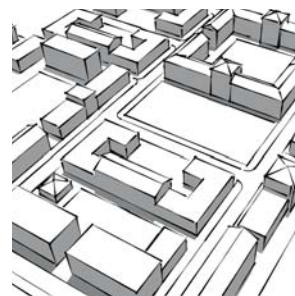
Districts are composed of relatively large areas or sections of the city or community distinguished by common characteristics.



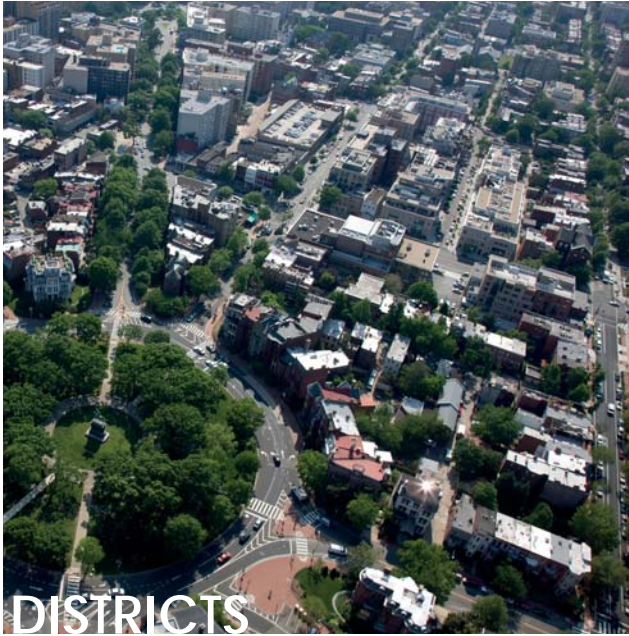
Buildings are the principle elements of urban design. Through good planning, buildings are used to establish spatial definition, scale hierarchy, and proportion of the built environment.



Roads and Parking networks create the pattern for development, connect people to spaces and places, reinforce neighborhood character, and help establish pedestrian scale.



The articulation of **Open Space** forms the diverse outdoor living areas that contribute to environmental, social, and cultural QOL in urban areas.



Capacity Planning

Capacity is the difference between the existing condition and the future build-out. Capacity planning is important for installations to consider early as it identifies notional areas for potential expansion or future development of specific uses. This doesn't necessarily reflect any known or perceived requirement; however, it recognizes opportunities for compatible growth in certain areas. Build-out capacity should be identified in the master planning process and updated as needed, particularly following demolition of existing facilities or relocation of current functions. Identify capacity at the site scale, looking at development or redevelopment of suitable sites considering operational and environmental constraints. Identify capacity at the building scale through space optimization efforts that look at the potential reuse of existing facilities or portions of existing facilities for meeting their maximum and best use.

Wayfinding

Wayfinding is the ability to find one's way in an unfamiliar environment. Wayfinding includes a variety of planning and design approaches that encompass the way people orient themselves within and between places at MBW, including the surrounding community. Good wayfinding conveys to employees, residents, and guests of MBW where they are, where they want to go, and how to get there. There are several ways to improve wayfinding without resorting to mapping and signage by using the manner in which people navigate intuitively. Solutions should be site sensitive, establish

or reinforce an identity for each site, and be oriented with landmarks or other focal points. Sites should be connected with deliberately routed sidewalks and paths with specific destinations or axial terminations. Routes should incorporate a simple and consistent signage theme, take advantage of positive views, and utilize lines of sight that assist navigation for pedestrians, bicycles, and vehicles.

Walkability

Walkability refers to a range of planning and design elements that support and enhance the pedestrian experience. People are generally willing to walk 10 minutes, or half of a mile, so it is crucial to place essential destinations, activities, and amenities within that walking radius. MBW is a "park once" destination and walking is the predominant method of commuting within and between MBW sites. Successful walkable communities consider a multitude of factors that work together to contribute to a safe pedestrian-friendly environment. They should be comfortable (shaded), connected to adjacent networks, and engage a mix of uses to be most effective, and avoid crossing parking lots, disconnected sidewalks, or long unshaded stretches. Interconnected sidewalks should be located along all streets a minimum of 6 feet wide, and align with surrounding crosswalks and existing pedestrian connection points. Pedestrian routes should emphasize the human scale, follow District of Columbia Department of Transportation (DDOT) standards for sidewalk design, and be direct and easy to follow.

Connected Campus

MBW is made up of distinct districts that collectively form a campus atmosphere. The campus is largely supported by DC's established pedestrian, bicycle, street, and transit networks as well as its proximity to adjacent commercial, recreational, and entertainment uses. While the installation does not own the majority of these shared networks, it is important to develop in a way that facilitates accesses to these essential interconnected facilities that promotes circulation and wayfinding at the local and regional level. Access points at MBW districts are primarily for pedestrian use and limited in number, and priority should be given to enhance these key entryways (including VIP Green) in a way that unifies the campus through the use of consistent design elements that reinforce the human scale of the surrounding community. This can be accomplished by incorporating common materials and streetscape elements such as signage, pavement, lighting, and landscape between districts to create a cohesive campus theme.

Focal Points

Focal points are a defining feature of a place in both form and function, and are an essential element of successful urban design. They include natural or man-made elements that are typically unique or identifiable with the site, and may include a statue, a main entrance, a courtyard, or a prominent building or building element. They help establish a pattern and can be a visual reference or a gathering place such as a monument or a city square. Focal points provide orientation and reference which enhances wayfinding and circulation as well as creating a memorable experience or destination. They often reflect the history of a site and may include prominent landmarks or nodes within the community which help to define a sense of place. Focal points should be integrated into the site, identify with its surroundings, and not look out of place. Future development should be sensitive to any established landmarks, nodes, parks, and other notable or historic focal points at the installation or within the adjacent community.

Horizontal Mixed-Use

Horizontal mixed-use refers to the collocation of multiple compatible building uses side-by-side within a single facility or a complex of compact buildings. Building uses may include places to shop, dine, live, worship, work, and entertain that create a true daily destination for residents and guests. An example of this is Building 25 at the MBW Annex, which incorporates residential, ceremonial training, retail (exchange), and community support functions in close horizontal proximity to one another. Development that incorporates a horizontal mix of uses offers multiple benefits particularly in an urban environment. Clustering uses that are similar, or that work in harmony, into a compact development pattern provides for increased density, creates logical synergies, and promotes a more walkable environment. It also allows for increased energy efficiency, minimizes land use and construction costs, and reduces trips and reliance on the automobile. Integration of complimentary functions horizontally allows users to walk or bike to everyday destinations such as work, residential, recreation, and commercial activities.

Eyes on the Street

Designing security into the planning and urban design process is the foundation of crime prevention through environmental design (CPTED). Security is accomplished through more than fences, walls, and physical barriers. Integrated planning solutions address security and crime prevention through natural access control,

natural surveillance, and territorial reinforcement. Through the planning, design, and construction process, a secure environment is established with a combination of design, technological, and operational methods to protect people, information, and property at the installation. Regular placement of outdoor lighting ensures adequate visibility of the pedestrian and vehicular realm at night, improving user safety and security. Buildings that have windows and inhabitable space that face the street and public areas can contribute to an increase in neighborhood vigilance by allowing more “eyes on the street,” watching the public realm. Visually penetrable spaces, strategic outdoor lighting, and well-defined access, provide increased opportunities for surveillance from inside and outside the installation 24 hours a day.



Compact Development

Development surrounding MBW exhibits many elements of compact development that contribute to the identifiable character, form, and function of the community. Compact development is a key element of form-based planning, and encompasses multiple strategies designed to conserve land resources by minimizing the building’s footprint and maximizing the use of the site. The strategy combines a compatible mix of uses both horizontally and vertically through one or more multi-story buildings within a 10-minute walk of each other. Compact development patterns allow for increased densities, conserve limited open space, encourage walkability and promote the use of alternative modes of transportation. The key to compact development is a close proximity of living, working, shopping, and

socializing elements in a safe, walkable environment. Planners and designers should incorporate multi-story construction, cluster facilities, and identify infill opportunities for new construction or expansion of existing facilities. Development should consider minimal spacing between buildings, appropriate AT/FP standoff distances, L'Enfant Street Right-of-Ways (ROWs), and maximum building height requirements.

Identifiable Entries

Identifiable entries are points of access to a building or a site that signify importance and are readily discernible from other entries or features. Entries are a key element of wayfinding. They help to orient users, contribute a necessary streetscape hierarchy, and anchor the primary façade of a building. The main entrance to a building or site should be clearly defined, readily accessible, and be integrated into the design of the building or site. Identifiable entries may incorporate a combination of features that define its significance depending on the primary use, location, and other unique factors. Elements such as prominent doors or gates, awnings or architectural detail, raised entries, signage, special paving, fencing, and lighting all play a role in identifying an entry's significance for a site or building. Additionally, the use of arcaded loggia serve to identify the primary façade as well as provide a covered pathway between building entries that is both functional and historically consistent.

Vertical Mixed-Use

Vertical mixed-use development combines compatible uses vertically within multi-story buildings as opposed to traditional patterns of single use buildings. In response to funding streams, user wishes, or other outside drivers, installations often build single-use buildings that contribute to sprawl. These buildings come with their own AT/FP buffers, utility laterals, and parking lots. However, the 2014 Federal Defense Authorization Act tells us that "vertical mixed-use infrastructure can integrate government, non-government, or jointly-financed construction within a single unit." Vertical, mixed-use buildings in which compatible uses are collocated can reduce sprawl by combining complementary uses. Compatible functions should be collocated in vertical mixed-use facilities whenever possible.

Renewable Energy

Renewable energy sources such as wind, solar, and geothermal energy can be harnessed to power a building's operating systems. Use of alternative energies can reduce an installation's energy demand and dependence on traditional energy sources. Renewable energy

methods such as solar panels and wind turbines are low pollution, and can be close to the facilities they support. Locating in close proximity to the facility results in less energy lost due to transmission. Reducing dependence on non-renewable energy sources can also improve mission security by providing a more robust energy production system in the event of grid failure.

Modern Flexible Facilities

Flexibility in facility design allows for multiple uses of a single space. This is particularly beneficial for uses which are intermittent or can be scheduled in a staggered manner with other uses with similar facility or space requirements. Future missions change and buildings need to be easily adaptable. Modern flexible facilities help to reduce overall space requirements, create mixed building uses, promote compact development, and can adapt to changes. Where appropriate, facility design should incorporate flexibility in building and space configuration to allow for multiple possible uses. For example, a combined large classroom training space could also be used for a conference room, divided up for smaller functions, or used as indoor ceremonial training space. Buildings with narrow wings can work for administrative, mission-oriented, commercial or even housing uses. When designing facilities, it is important to consider specific space and scheduling needs for compatible uses, including floor area, ceiling height, utilities and communications requirements, access, security, and other factors that would accommodate the anticipated users or potential future reuse of the space.

Adaptive Facility Reuse

Adaptive reuse maximizes the capacity of existing facilities by optimizing space utilization and repurposing older less efficient buildings to meet current or projected needs. To the extent existing facilities are functionally adequate in terms of location and salient features, they should be fully utilized to meet installation requirements. Efficient reuse of existing buildings helps preserve historic structures, promotes sustainable development practices, and minimizes operational costs such as heating and cooling of unused or underused buildings or space. Buildings should meet broader vision goals and objectives and comply with the installation's Regulating Plan in terms of compatibility of use, form, placement, mass, and location. The installation's facility utilization and space optimization processes must identify, prioritize, and support opportunities to reuse existing structures wherever appropriate, particularly where historic facilities are considered. Existing Buildings 8 and 9 are examples of adaptive reuse

opportunities at the Main Post. These historic facilities have evolved over time to meet changes in mission and space needs.

Energy Efficient Development

Energy efficiency is a key component of the master planning process and is supported by multiple Federal, DoD, Department of Navy (DoN), and USMC mandates that require reduced energy consumption. Specifically, EO 13693 (19 March 2015) sets new goals and timelines for use of renewable electrical energy, water consumption, and greenhouse gas (GHG) reduction by federal agencies. Energy efficient facilities are not only essential to meeting various mandates, but they also contribute to the long-term sustainability, viability, and QOL at installations. There are multiple planning strategies that reduce energy consumption both at the installation and facility level. At the district level, strategies include increased density, connected networks, mixed-used buildings, and others practices that utilize synergies of systems at the broader level. From the facility perspective, strategies include narrow wing construction (recommended building width of 50 feet), operable windows, green roofs, natural lighting, and others identified in the Green Infrastructure (GI) Networks Plan.

Historic Resources

The history and tradition of MBW is captured in the original layout and construction of its facilities at the Main Post. While the interiors of these facilities have adapted over time to accommodate various uses, the exteriors have seen very little change. All major facilities at the Main Post (Buildings 1-10) are historic and remain in use today. This reflects the significance of these historic resources both to the USMC as well as the surrounding community and its historic context. Given the historic nature of the installation and its surroundings, MBW is subject to multiple federal cultural resources laws and regulations which are guided by seven standard operating procedures (SOPs) outlined in the MBW Integrated Cultural Resources Management Plan (ICRMP). Future planning and development must consider any potential adverse impacts to identified architectural and archaeological resources with historic significance on the installation. Similarly, efforts should be taken to respect and maintain the urban framework, including building heights, street frontage, and buildings that frame the parade ground to preserve site integrity and the historic footprint.

Context-Sensitive Design

Context-sensitive design refers to development which responds to its surroundings in a manner that is

consistent and compatible in form, layout, and other design elements. Vernacular design produces development that fits within the existing context, is sustainable, and is visually and functionally integrated with its surroundings. MBW is situated within the established Capitol Hill Historic District, which has a very deliberate character to its historic buildings and pedestrian-friendly streets. Future development must respond to established urban context through the consistent application of building placement (street frontage), massing and height, as well as street widths and on-street parking. Development at the installation must simultaneously establish a consistent campus between isolated MBW sites. Planning and design should incorporate consistent use of compatible materials, fenestration, building massing, arcade elements, roof types, and other elements that relate to the history and context of the built environment. This approach benefits the community and ensures a cohesive and integrated development pattern with long-term benefits.

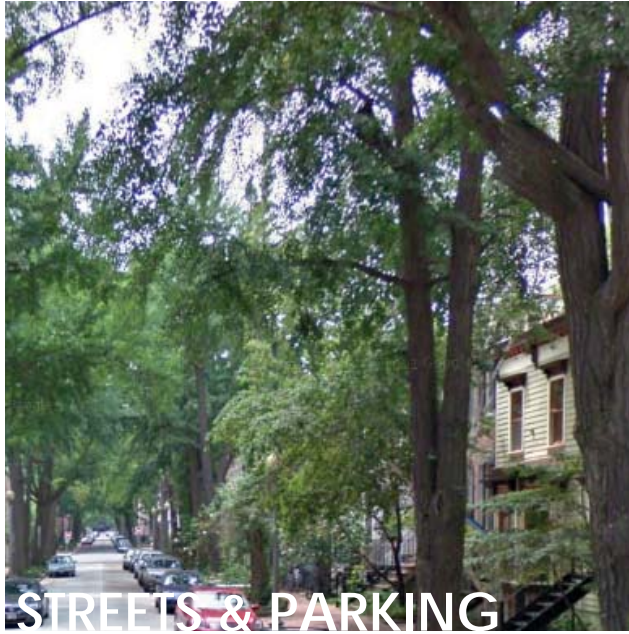
Regionally Appropriate Materials

Materials for the buildings should be appropriate for the metropolitan DC climate. Buildings must be constructed to accommodate both cold winters and humid summers. The use of regionally appropriate materials also helps to integrate buildings with the surrounding community. New development should consider the historically established style and architectural themes of the installation and be designed and constructed to respect the context of the DC area. The longevity and overall quality of buildings should be considered, making all efforts to maximize construction investments over the long-term that contribute to the durability, flexibility, and sustainability of the installation. Additionally, materials should be acquired from locally available sources whenever possible, consistent with LEED® criteria.

Sustainable Facilities

Sustainable facilities meet the needs of the present without compromising the needs of future generations. Sustainable buildings help reduce environmental impacts in urban areas like DC by reducing the costs of construction and maintenance through effective utilization of resources and environmental protection strategies. Mixed uses and increased densities enhance long-term livability and walkability while promoting development that is more efficient and less consumptive. Sustainable buildings aim to reduce the impact of development by employing environmental control strategies that decrease the energy demand, reduce water consumption, and increase daylighting and venti-

lation of buildings. Passive technologies such as natural ventilation and daylighting can be easily implemented and operate with little maintenance. Conservation of water can be accomplished through measures such as low-flow fixtures, rainwater harvesting, and greywater recycling. Facilities, both renovated and new, should consist of durable materials that withstand the test of time and can be adaptively reused for a variety of purposes.



Structured Parking

Structured parking includes both above and below ground parking garages, and is the preferred parking solution throughout DC. There are multiple benefits, including maximizing land use, promoting compact development, and supporting walkable communities. Centralized parking ensures that installation personnel can enjoy a car-free, healthful environment, with the ability to walk to their destination from their cars. Parking garages, however, present a unique challenge when it comes to embracing neighborhood character and integration within the community. Parking structures and entrances should be oriented away from primary streets when possible and should not face neighboring residential uses. Aboveground structures should be designed and constructed in a manner that responds to adjacent uses, reinforces street frontage, and is consistent with the Regulating Plan. Garage façades should incorporate strategies that support context-sensitive design solutions that mitigates incompatible visual impacts.

Bicycle Networks

Bicycle networks surrounding MBW and throughout DC are owned and maintained by the City and include dedicated on-street bike lanes, bike routes, as well as multi-use paths that connect the installation to local residential, commercial, employment, recreational, and other uses including multiple transit stations with regional access. Interconnected bicycle networks expand the options for multi-modal transportation and connect users to daily destinations without the need to drive or park. Bike riding offers many benefits including recreational, health, and QOL. Well-designed, safe, and dedicated bike facilities promote bicycling, encourage increased use, and decrease the demand for the automobile for local trips which help reduce emissions. MBW can support the surrounding networks through improved access and accommodations for adequate and secure bike storage facilities. Bike storage facilities and shower accommodations should be provided at each MBW site to promote bike use. Storage facilities should be convenient and well-lit, and provide sufficient spaces based on their location and use.

Public Transportation

MBW is fortunate to be well-connected to a full range of public transportation opportunities. Public transportation consists of a range of publicly accessible transit opportunities including busses, streetcars, Metro Rail and commuter trains. All MBW sites are within a 5-minute walk to the nearest bus stop, and within a 10-minute walk to the nearest Metro Station. After arriving at the installation, most daily uses are within easy reach without the need for a personal vehicle. Accessibility to the various means of public transportation is key to its success and use. Safe, convenient, and comfortable access to these external assets is key to their continued and increased use and should be considered in any new development or maintenance efforts at the installation. This can be accomplished through provisions for adequate lighting, shelter, seating, and connected sidewalks to nearby transit facilities.

Connected Sidewalks

Connected sidewalks provide convenient, comfortable, and uninterrupted walkable routes between key destinations. A connected network of sidewalks and trails are crucial to creating a pedestrian-friendly campus environment. Streets, sidewalks, and crosswalks should connect to one another to create a seamless pedestrian-friendly network that encourages walking. Connected sidewalks improve walkability and accessibility to adjacent uses including transit facilities. They are direct, continuous, and follow primary pedestrian

routes. Sidewalks should be connected in order to make wayfinding clear, allow for easy navigation from building to building, and provide a sense of direction to nearby destinations. Sidewalk networks should be clearly defined and interconnected with a range of destinations including installation access points and building entries at MBW. They should be a minimum of six feet wide and protected from adjacent traffic by street trees, planting strips, and on-street parking.

Complete Streets

Complete Streets promote safe, livable, and functional streets for all users regardless of mode choice, age, or ability. DC, along with MBW, has a high percentage of residents and commuters who rely heavily on walking, biking, and transit modes to meet their daily needs. Although MBW does not own any on-site streets, planners should recognize and respond to DC’s policies and procedures regarding Complete Streets to ensure compatibility and accessibility to surrounding street networks and services. Complete Streets include pedestrian-friendly elements such as connected sidewalks, handicap access, safe crosswalks, lighting, and convenience to public transportation stops. They also include narrow 10- and 11-foot travel lanes, dedicated bicycle facilities, street trees, on-street parking, and other street design strategies that improve circulation while enhancing safety and accessibility for everyone.

On-Street Parking

On-street parking includes both parallel and angled parking along the streets. At MBW the majority of on-street parking is controlled by the City. On-street parking is important to functional urbanism. In addition to providing convenient parking for residents, commuters, and visitors, on-street parking also plays a significant role in enhancing walkability and improving pedestrian safety by serving as a buffer from adjacent traffic flow. Briefly put, on-street parking makes for vibrant and active pedestrian streetscapes. It also maximizes land use and reduces the amount of off-street parking needs. This shrinks the overall footprint of paved surface (such as parking lots) in the city, which in turn helps reduce heat island effects and promotes compact development. MBW should make every effort to retain as much on-street parking surrounding the installation perimeter as possible. All new parking to support the installation should be in the form of above or below ground structured parking.



Shade Trees

Trees are a valuable asset to the installation for their shade qualities as well as a multitude of other benefits. Shade trees conserve energy by blocking sun from buildings, lower ground level temperatures, and reduce cooling costs. They clean the air by absorbing carbon dioxide, nitrogen oxides, ammonia, sulfur dioxide, and ozone while releasing oxygen back into the air. Trees help to recharge groundwater and contribute to reduced stormwater runoff (SWR) by breaking rainfall and keeping it from carrying pollutants to nearby rivers and water sources. Mature trees, when placed properly, can also serve as an effective AT/FP barrier and provide a safety buffer from adjacent traffic. They also add form and unity as well as seasonal interest (color) to otherwise underused open space or unarticulated street frontages. Shade trees should be located to serve multiple functions including mitigating the visual impacts of large AT/FP buffers, defining open space, and establishing a strong vertical edge.

Low Maintenance Landscapes

Reducing landscape maintenance involves lowering the levels of input needed to sustain a desired or required state. For MBW, this also includes the higher maintenance needs of key large open space areas, including the parade ground at the Main Post, the multi-purpose recreation field at the MBW Annex, and the force protection standoff buffer areas. Lower maintenance not only means less mowing, trimming, and debris removal, it also includes a decrease in water consumption and irrigation needs as well as reduced fertilization,

herbicide, and pest control requirements. Applications range from the introduction of artificial turf in places like the parade ground, to the use of native and drought tolerant plant materials, AT/FP-compliant ground covers, and perennial flowering plants in place of annuals. The use of bioswales and rain gardens serves to control SWR and enhance the aesthetics of otherwise vacant or sparse areas at the installation. Landscaping features should reflect the native vegetation, climate, water restrictions, and functional requirements of the installation.

Low Impact Development Strategies

Impervious surfaces generate SWR that requires additional area for retention or detention. The primary intent of Low LID strategies is to restore predevelopment hydrology through deposition, detachment, transportation, and stormwater discharge. Effects of LID include reduced water pollution, increased groundwater recharge, additional trees, and improved hydrologic balance. LID strategies combine well with reduced maintenance requirements, but have a specific set of goals focused on managing runoff and establishing natural systems that reduce its impact to the environment. Effective practices of LID include infiltration, evapotranspiration, harvest, and treatment. Examples include natural vegetated areas that help to both filter pollutants and facilitate infiltration. Directing impervious surface runoff towards pervious areas and away from storm drains reduces down-stream impacts including pollution and erosion. Multiple distributed smaller LID systems can be implemented over time to achieve long-term goals in an incremental and cost effective manner.

Viewsheds

Viewsheds are areas, corridors, or vistas visible from a specific point. These are most recognized in DC through the L'Enfant Historic Streets ROW, which serve to define and preserve the character of the natural and built environment, enhance visibility, and highlight prominent points, places, and spaces. These are important assets to many communities, but have intrinsic historic significance at MBW. Steps should be taken to establish, protect, and enhance significant views whenever possible. A thorough analysis of important views and viewsheds should be conducted early in the planning process for any future development to ensure the preservation of important views from both within and beyond the installation boundaries.

Security and AT/FP Design

This principle is focused on designing for AT/FP and physical security to mitigate the visual impacts of expansive standoff distances, incompatible building placement, and perimeter control measures. Mitigating these impacts can have significant effects on the installation's ability to "fit" within the surrounding community. This can be especially challenging at MBW given the smaller dislocated sites located within an established historic urban environment. An integrated design and planning process should involve a multi-disciplinary team of architects, landscape architects, engineers, community representatives, a cost estimator, environmental graphic designer, artist, sustainability consultant, and other specialists. Using a combination of both hardscape (i.e., bollards, barriers, fences, walls, and furniture) and landscape (i.e., trees, shrubs, berms, and swales) solutions is important to avoid a monotonous unarticulated or fortified appearance. Where appropriate and economically feasible, planners should consider additional hardening to reduce building setback requirements from perimeter streets in order to reinforce the L'Enfant Plan. Planners should also incorporate the LEED®-DoD Anti-terrorism Standards Tool into design strategies to promote functional, efficient, and environmentally friendly buildings and sites (Appendix I).

Ceremonial Space

As a primary mission function at MBW, adequate ceremonial training space must be preserved and maintained at the highest level, including the parade ground at the Main Post. The parade ground is a NRHP-listed site and a defining element of the installation in both its form and function. This formal open space was part of the original layout of 8th and I, and is prominently described by a distinct quadrangle of buildings constructed between 100 and 200 years ago that frame the perimeter with a ring of 3 (plus)-story buildings. To preserve its distinct qualities and purpose, the formal edge of the parade ground must be maintained and reinforced through thoughtful planning and design that reflects its context and primary function. No future development should occur that would alter the use, configuration, accessibility, or visibility of this resource. Improvements such as turf replacement, upgrades to the viewing stands, or hardscape enhancements, should be evaluated and implemented in a manner that reinforces the history, permanence, and functionality of the site.

Courtyards

Courtyards consist of structured outdoor spaces commonly used to define building entries or other designated gathering spaces. They include squares, plazas, and quads, and are commonly defined by surrounding buildings, walls, and landscape elements. This strategy engages the adjacent open space with the building and encourages pedestrian activity, including streetscapes. Activity nodes, including courtyards, are an integral component of place making and serve as essential gathering places and focal points particularly in urban environments. They provide opportunities for relaxation, support outdoor activities and social gatherings, and contribute to the existing open space and GI networks. They can also serve as interconnected wayfinding points and local landmarks. Appropriately designed buildings should incorporate adjacent outdoor areas, including courtyards, of varying scale and function that define outdoor rooms and accommodate multiple private and public pedestrian activities.

Table 2-1 Planning Principle/Goal Relationship Matrix

PLANNING PRINCIPLES		PLANNING GOALS				
		1	2	3	4	5
Districts	Capacity Planning	X		X	X	
	Wayfinding	X	X		X	X
	Walkability		X	X		X
	Connected Campus	X	X		X	X
	Focal Points		X			X
	Horizontal Mixed-Use	X			X	X
	Eyes on the Street	X		X	X	X
Buildings	Compact Development	X		X		X
	Renewable Energy	X		X	X	
	Vertical Mixed-Use	X		X	X	X
	Identifiable Entries	X	X		X	X
	Modern Flexible Facilities	X		X	X	
	Adaptive Facility Reuse	X		X	X	
	Energy Efficient Development	X		X		X
	Historic Resources	X	X	X		
	Context-Sensitive Design		X	X		X
	Regionally Appropriate Materials		X	X		
	Sustainable Facilities	X		X	X	

PLANNING PRINCIPLES		PLANNING GOALS				
		1	2	3	4	5
Streets & Parking	Structured Parking		X	X		X
	Bike Networks		X	X		X
	Public Transportation		X	X		X
	Connected Sidewalks		X		X	X
	Complete Streets	X	X		X	X
	On-Street Parking		X			X
Open Space	Shade Trees		X	X		X
	Low Maintenance Landscapes	X		X		X
	Low Impact Design Strategies		X	X	X	
	Viewsheds		X	X		X
	AT/FP Design	X	X	X	X	X
	Ceremonial Space	X	X			X
	Courtyards	X	X	X		X

2.5 KEY PLANNING STRATEGIES

Current DoD installation master planning criteria (UFC 2-100-01, 15 May 2012) identify 10 comprehensive planning strategies that highlight a DoD-wide planning philosophy to promote sustainable development that supports mission readiness for its installations. The majority of planning strategies are either strongly or moderately supported by the installation’s vision and goals outlined earlier in this chapter.

The following is a summary of the 10 key planning strategies that have been integrated with the goals and planning recommendations of this Master Plan, and reflected in the capital improvements recommendations in Chapter 7.

1 SUSTAINABLE PLANNING

Sustainable planning for DoD installations strives to effectively meet current mission needs with minimal impact to, and effective use of, limited resources. This strategy promotes quality development that is enduring, efficient, and continues to meet the installation’s security and safety requirements. Effective application of this strategy incorporates a number of key planning practices, which collectively contribute to sustainable development and have been considered throughout the master planning process (Table 2-2).



The Barracks (Building 8) has played many roles at MBW over the years, beginning as an enlisted housing facility. Photo taken in 1917.

Table 2-2 Sustainable Planning Practices (UFC 2-100-01)

COMMON SUSTAINABLE PRACTICES	
Compact Development	Infill Development
Transit Oriented Development	Horizontal Mixed-Uses
Vertical Mixed Uses	Connected Transportation Networks
Sustainable Landscape Elements	Low Impact Development
Multi-Story Construction	Building Orientation and Configuration
Energy Conservation	Water Conservation
Waste Management	Facility Utilization and Building Reuse
Lifecycle Planning	Flood Protection

To meet DoD and Federal sustainability requirements, the USMC developed a specific Sustainability Plan (2011), tailored to Marine mission and infrastructure requirements. The USMC Sustainability Plan outlines three goals that fulfill DoD directives in accordance with the DoD Strategic Sustainability Performance Plan (SSPP) (DoD 2014); EO 13514 (2009) and EO 13423 (2007) which have been replaced by EO 13693 Planning for Federal Sustainability in the Next Decade(2015); and other existing Federal statutes, including the Energy Policy Act of 2005 (EPAct), the Energy Independence and Security Act of 2007 (EISA), the Resource Conservation and Recovery Act (RCRA), and the Farm Bill. The USMC SSPP establishes targets and requires USMC installations and activities to meet these targets by integrating the following goals and objectives in all future planning, construction, and mission activities:

Goal 1: Improve Energy and Water Resources Management and Reduce GHGs

- » **Objective 1.1: Reduce Uses of Fossil Fuels**
- » **Objective 1.2: Improve Water Resources Management**
- » **Objective 1.3: Reduce GHGs**

Goal 2: Minimize Waste and Prevent Pollution

- » **Objective 2.1: Minimize Solid Waste**
- » **Objective 2.2: Prevent Pollution**
- » **Objective 2.3: Improve Integrated Pest Management**

Goal 3: Improve Integration of Sustainability Practices across All Mission Areas

- » **Objective 3.1: Sustainable Buildings**
- » **Objective 3.2: Sustainable Acquisition and Procurement**
- » **Objective 3.3: Integrated Regional Planning**
- » **Objective 3.4: Environmental Management System**
- » **Objective 3.5: Sustainable Ranges**

2 NATURAL, HISTORIC, AND CULTURAL RESOURCE MANAGEMENT

The responsible management of natural, historic, and cultural resources is a key consideration for planners, and an integrated component of this Master Plan. At MBW, cultural and historic resources play a substantial role in planning and need to be considered early in the planning process to protect notable buildings, structures

and objects, and to potentially avoid project delays and additional costs. The focus of the Master Plan is to identify and attempt to avoid or minimize potential historic, cultural, as well as natural resource conflicts with future development. Specific management strategies for MBW are identified through the ICRMP which is an essential planning and decision making tool for the Commanding Officer and public works department. The ICRMP serves to inform MBW facilities personnel regarding the status and appropriate care of cultural resources at the installation.

Integrated Natural Resources Management Plans (INRMPs) address natural resources management on DoD lands and near-shore environments, where appropriate. Given the urban location of MBW and the lack of protected lands, species, or water resources at the installation, MBW has no requirement under the Sikes Act of 1960 to prepare an INRMP, and does not currently have a Natural Resources Manager on staff.

3 HEALTHY COMMUNITY PLANNING

Physical fitness is a key component to support readiness and overall health and well-being for all who live and work at the installation. MBW is an inherently walkable site situated within an equally walkable community leaving numerous opportunities for pedestrian activity. Planning for a healthy community includes integrating those elements that support and encourage walking, biking, and other physical or recreational activities at the installation. Healthy planning identifies opportunities for recreational and other outdoor activities such as community gardens. It also promotes a cohesive pedestrian circulation network that encourages walking through comfortable and efficient routes that interconnect with the surrounding sidewalks and pathways to key destinations.

4 DEFENSIBLE PLANNING

Defensible planning provides for safe and secure installations through the application of two key strategies: The Defense Critical Infrastructure Program (DCIP) and AT/FP (including physical security). DCIP serves to protect and minimize risk to the installation's critical infrastructure necessary for maintaining mission readiness. DCIP also serves to ensure the viability of the installation's missions through the avoidance of single points of failure. AT/FP criteria for master planning are outlined in UFC 4-010-01 DoD Anti-terrorism Standards for Buildings, and were recently updated as of 15 May 2012. The setbacks established in the AT/FP criteria have the potential to significantly influence planning and development at the installation. Standoff distances provide for a minimum

level of protection with the intent of minimizing mass casualties in buildings owned, leased, privatized, or otherwise occupied or controlled by DoD personnel in the event of a terrorist attack. Additionally, site and physical security considerations include natural surveillance, territorial reinforcement, and natural access control applications that are key elements of Defensible Space/CPTED (MCO 5530.14A Physical Security Program Manual). These principles greatly influence planning of the built environment including massing and orientation of structures, barriers, landscaping, access control, and other physical security approaches to define and defend the installation's infrastructure and people.

5 CAPACITY PLANNING

The capacity of the installation is the difference between the existing condition and the future build-out capability. Capacity planning proactively accounts for unknown future requirements based on the installation planning vision, goals, and objectives. Capacity planning also addresses future parking requirements with the aim to minimize parking impacts through efficient land use practices and updated strategies for siting and constructing parking facilities. In addition to new development, opportunities for future growth at MBW sites should include renovation and modernization that optimizes the use of its limited real estate. Capacity planning and development opportunities at MBW are discussed in Chapter 4.

6 AREA DEVELOPMENT PLANNING

Area Development Plans (ADPs) logically divide the installation into identifiable and manageable land areas based on geographic features, land and building uses, or transportation networks. This approach is most applicable to larger installations where managing growth and prioritizing incremental development are critical for avoiding sprawl, promoting compact development, and optimizing critical resources. The Barracks consist of two distinct districts as shown in the Framework Plan (Chapter 4). The Main Post and Building 20 comprise District 1 and the Annex facilities encompass District 2. Together, these districts establish a single ADP for the installation. ADP recommendations are discussed in Chapters 4 and 5.

7 NETWORK PLANNING

Network planning is a holistic approach to coordinate future development of installation-wide systems such as utilities, transportation, and parks and open space networks within the Master Plan. This allows for planners to link improvements across the



The US Marine Band rehearsing at the multi-purpose recreation field at MBW Annex.

separate ADPs or districts to better realize efficiency, consistency, and aesthetics throughout. Network plans may also be used to incorporate energy, water, stormwater, and waste strategies across the installation. Standard network plans include street and transit plans, sidewalk and bikeway plans, GI (parks and open space) plans, and primary utilities plans (Chapter 5).

8 FORM-BASED PLANNING

The purpose of form-based planning is to guide the long-term development of the installation through a series of flexible installation planning standards, including building and street envelope standards, and landscape standards along with Regulating and Illustrative Plans. Form-based planning emphasizes spatial relationship principles that support horizontal and vertical mixed-uses, compact development, and other context-sensitive and sustainable strategies. This in turn promotes walkable development patterns and creates quality places to live and work. By regulating parameters for development such as building height and massing, build-to lines, open space, parking and landscape, form-based planning guidelines direct future development in a manner that meets mission needs, and responds to site constraints and land use considerations (Chapter 6, Installation Planning Standards). Guidelines and recommendations are consistent with the installation planning vision and goals.



Future development at MBW should reflect and reinforce the existing architectural style and character of the historic campus.

9 FACILITY STANDARDIZATION

Standardization ensures consistency in the built environment across the installation. Area requirements, spatial relationships, and aesthetics are established and preserved through the installation's Regulating Plan and Planning Standards, which provide the consistency framework for future development standards at MBW (Chapter 6). While it is key to have a campus-wide unifying theme, guidelines must also allow for diversity and flexibility based on building use, location, adjacencies, future needs, and other key factors that protect MBW's heritage and promote character and hierarchy of the built environment.

10 PLAN-BASED PROGRAMMING

Program requirements and documentation are essential components for realizing the installation's planning vision. All programmed projects and planning initiatives are tied to documented service-specific facility requirements to support mission capability, and validated against this Master Plan. Program options include new construction, space optimization, repair, renovation and modernization of existing facilities, and leasing and cover all available funding sources. Programming (or the CIP) is captured in the IDP (Chapter 7).



3.0

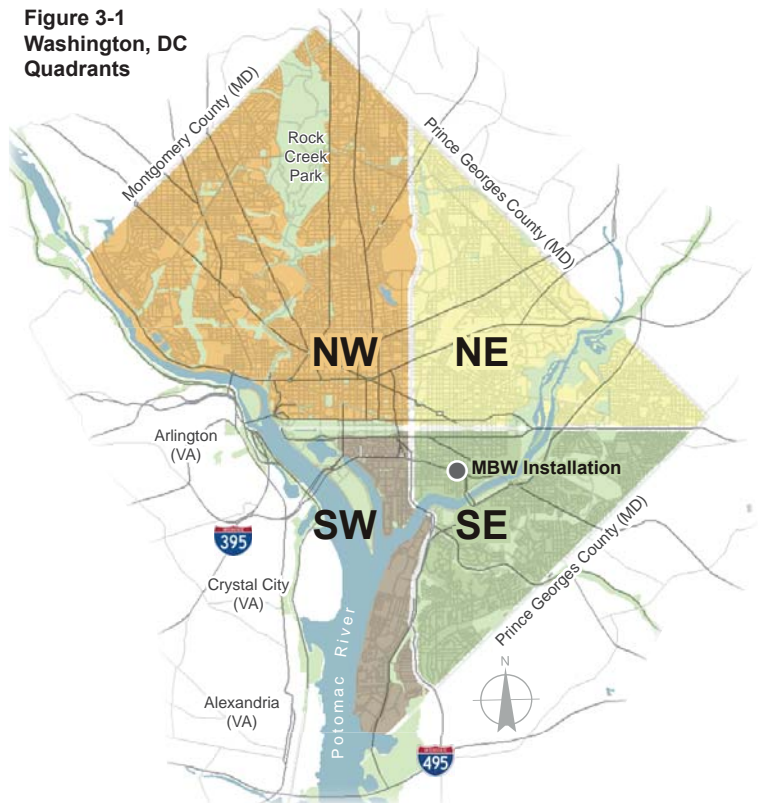
Background & Introduction

3.1 REGIONAL & LOCAL PROFILE

3.1.1 Community Context

DC is administratively divided into four geographical quadrants of unequal size (Figure 3-1), each delineated by their ordinal directions originating from the US Capitol. MBW is located in the Southeast Quadrant, south of East Capitol Street. Within Southeast DC lie the neighborhoods of Capitol Hill, Anacostia, Eastern Market, Barracks Row, and Near Southeast. The MBW Main Post and Building 20 complex are located in the Capitol Hill neighborhood. The MBW Annex is located in the Near Southeast neighborhood, which generally encompasses the area south of the Southeast Freeway, and east of South Capitol Street SE, including Washington Navy Yard (WNY).

Figure 3-1
Washington, DC
Quadrants





Capitol Hill neighborhood.

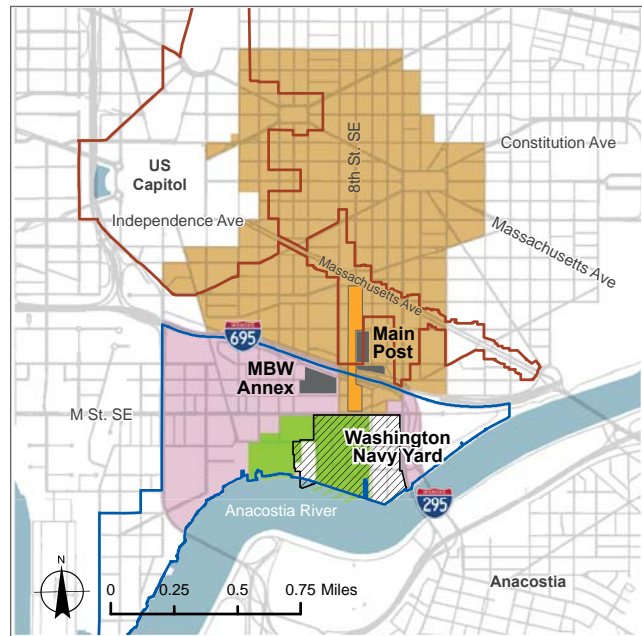
CAPITOL RIVERFRONT BUSINESS IMPROVEMENT DISTRICT

The Capitol Riverfront Business Improvement District (BID) is one of eight commercial areas of DC that collect a “self-tax” from property owners to provide services and programs to the entire BID, and supports the development of the area as a new mixed-use riverfront community. The mission of the Capitol Riverfront BID is to provide management services that assist in creating a neighborhood that is clean, safe, and friendly, as well as vibrant, progressive, and surprising (Capitol Riverfront BID 2010b). The Annex falls within the boundaries of the Capitol Riverfront BID (Figure 3-2).

CAPITOL HILL BID

The Capitol Hill BID is the largest historic neighborhood in DC covering approximately two square miles (SQ MI) and straddling both the Southeast and Northeast quadrants of DC. It is one of the oldest and most densely populated historic residential neighborhoods in DC. The Capitol Hill community is known for its culture, architectural tradition, and consistent urban form, with many of its 19th and 20th century row houses listed on the NRHP. The neighborhood framework is a system of grid and diagonal streets that has remained faithful to the L’Enfant Plan. Capitol Hill is also one of DC’s most celebrated and attractive communities and encompasses popular and rapidly growing commercial districts including the Eastern Market and Barracks Row. The community has an active and involved citizenry. The Capitol Hill Restoration Society,

Figure 3-2 Local Jurisdiction Boundaries



Legend

- MBW Installation
- ▨ Washington Navy Yard
- ▭ Business Improvement Districts
- ▭ Capitol Hill BID
- ▭ Capitol Riverfront BID
- ▭ Near Southeast
- ▭ Barracks Row
- ▭ Washington Navy Yard
- ▭ Capitol Hill

founded in 1955, led the efforts that resulted in the designation of the Capitol Hill historic district in 1976. MBW’s Main Post and Building 20 complex fall within these boundaries (Figure 3-2).

NEAR SOUTHEAST

The Near Southeast neighborhood of DC includes the area bounded by the Southeast Freeway (I-695), South Capitol Street (West), and the Anacostia River (Figure 3-2). Over the past half century, Near Southeast experienced a notable period of decline and abandonment. Between 1980 and 2000, population in this area decreased by an estimated 26 percent. Recent District and federal initiatives combined with private investment over the past decade have begun to revitalize the area with increased employment, housing, commercial, and recreational uses along M Street and the Anacostia waterfront. Since 2000, the residential population of Near Southeast increased from approximately 4,600 people to approximately 5,700 people in 2010.

BARRACKS ROW

The Barracks Row business district, the City’s oldest commercial corridor, is located along 8th Street SE and connects the Eastern Market area to WNY (Figure 3-2).



Barracks Row commercial district is a popular area for local residents drawn to its diversity of walkable retail, commercial, and dining options.

Recent efforts to revitalize Barracks Row have successfully begun to transform this district into a popular commercial destination for the community. Efforts increased in the 1990s as local merchants founded the Barracks Row Business Alliance, and along with community members, founded Barracks Row Main Street through the National Main Street Center in 1999. Three years later, DC Main Streets was formed by DC’s Office of Economic Development, and Barracks Row was selected as one of the first five official DC Main Streets programs. The western boundary of MBW’s Main Post comprises a full city block of Barracks Row and is an integral character defining element of this prominent business corridor.

ADVISORY NEIGHBORHOOD COMMISSIONS

Advisory Neighborhood Commissions (ANCs) are established to ensure representative input from the various residential and business communities throughout the District on policies and programs affecting their neighborhoods including zoning, transportation, recreation, streetscape enhancements, economic development, and other key budget issues. ANCs have the closest ties to the local populations and interests, and serve to present their position to the District’s government, Executive Branch, DC Council, and federal agencies. The Main Post and Building 20 are within the boundaries of ANC 6B and the MBW Annex is located within the boundaries of ANC 6D (Figure 3-3).

Figure 3-3 Advisory Neighborhood Commissions



Legend

- ANC Boundaries
- ANC 6B
- ANC 6D
- Ward 6 Boundary
- MBW Installation

3.1.2 Local Demographics

The DC government uses 39 neighborhood clusters for budgeting, planning, service delivery, and analysis purposes. The MBW Main Post is located on the southern edge of the Capitol Hill/Lincoln Park neighborhood cluster and the MBW Annex is located in the Navy Yard/Near Southeast neighborhood cluster. Demographic data for these areas is one indicator of how these neighborhoods vary from one another. As identified in Table 3-1, the WNY/Near Southeast area has a notably higher minority population, rates of poverty, unemployment, and crime than the adjacent Capitol Hill/Lincoln Park neighborhood. The average family income in the Near Southeast area is roughly two-thirds of the DC average and roughly 40 percent of the Capitol Hill/Lincoln Park Cluster. Median sales price for single family homes have risen in recent years throughout, which may be due to the fact that the housing stock in the WNY/Near Southeast area is in transition and there were comparatively few higher priced single family homes sold during 2012. US Census and related databases do not necessarily provide an accurate reflection of the recent and relatively rapid reinvestment and transition of the Near Southeast area.

Table 3-1 Local Demographics Data

NAVY YARD/ NEAR SOUTH- EAST	CAPITOL HILL LINCOLN PARK	DC AVG.	DESCRIPTION
POPULATION 2010			
5,705	20,909	N/A	
RACE/ETHNICITY (%) 2010			
46	35	51	Black
44	56	35	White
4.7	3.4	4.2	Asian/Pacific Islander
5.5	5.2	9.1	Hispanic
POVERTY RATE (%) 2007-2011			
34	6.0	18	NA
AVERAGE FAMILY INCOME (\$) 2007-2011			
77,952	186,314	113,160	NA
UNEMPLOYMENT (%) 2007-2011			
14	4.0	10	NA
MEDIAN SALES PRICE/\$ SINGLE FAMILY (2012)			
776,000	632,000	554,000	NA
REPORTED CRIME (PER 1,000 POP) 2012			
10	5.8	12	Violent
53	39	43	Property

*Note: Data for Area Neighborhood Clusters and DC Average.
Source: Neighborhood Info DC.*

3.1.3 Local Planning Initiatives

The Capitol Hill and Near Southeast neighborhoods surrounding MBW have experienced a period of significant growth in recent years. Looking forward, there are multiple initiatives on the horizon and underway in the vicinity of MBW that have the potential for direct and/or indirect impacts to MBW (Figures 3-4 and 3-5). These initiatives are anticipated to have varying degrees of impact on local land use, densities, traffic patterns, transit use, and pedestrian circulation, and should be considered in future planning efforts at MBW.

ANACOSTIA WATERFRONT INITIATIVE

The Anacostia Waterfront Initiative (AWI) is a large scale initiative in southeast and southwest DC that promotes new jobs, businesses, and economic opportunity along the Anacostia Waterfront while creating a vibrant “River Park” system that interconnects Nationals Ballpark, RFK Stadium, the DC Armory, Langston Golf Course, Arena Stage, Yards Park, and various destinations along both banks of the Anacostia River. In support of the AWI are multiple significant transportation infrastructure improvement projects designed to promote safe, efficient multi-modal travel while also promoting economic development, environmental stewardship, and enhancing connectivity between residential neighborhoods, recreational amenities, and local communities. The initiative is led by the DC government including DCOP, DDOT and DC Department of Energy (DDOE). It is supported under a memorandum of understanding (MOU) by 19 city, regional, and federal agencies that own or control land along this seven-mile stretch of the Anacostia River. The AWI is comprised of a series of transportation, environmental, economic, community, and recreation projects. From the Tidal Basin to the city’s northeast border with Maryland, the 30-year, \$10 billion AWI Program is transforming the shores of the Anacostia River into a world-class waterfront. The following project descriptions provide a summary of key elements of the transportation projects associated with the AWI.

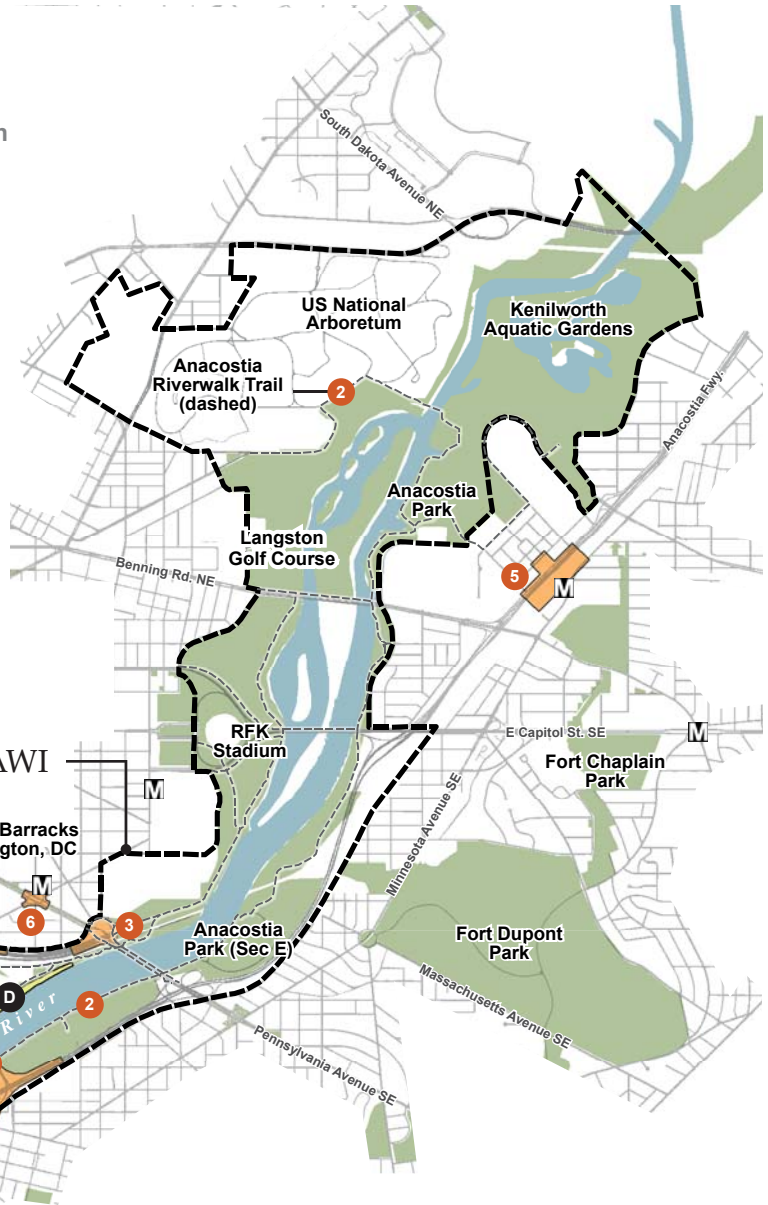
1 11TH STREET BRIDGE

Construction is underway to improve the 11th Street Bridge over the Anacostia River to enhance circulation and promote the larger vision of the AWI. The 11th Street Bridge project is the largest ongoing DDOT project, costing \$390 million with estimated completion in late 2015. The project accommodates light rail connection across the Anacostia River and improves connectivity between the Southeast Freeway (I-695) and I-295. Key plan elements include:

Figure 3-4 Planning Initiatives (Local)

Key Anacostia Waterfront Initiative (AWI) Transportation Improvement Initiatives

- Major DDOT transportation projects (within AWI)
- Near Southeast
- Southwest Waterfront
- 11th Street Bridge Project
- Anacostia Riverwalk Trail
- Barney Circle and Southeast Boulevard Transportation Planning Study
- M Street SE/SW Transportation Study
- Parkside Pedestrian Bridge
- Pennsylvania and Potomac Avenue Intersection
- South Capitol Street Corridor



Other Local Development Initiatives

- Additional development plans and key planning initiatives with potential impact to MBW
- Arthur Capper Carrollsburg Redevelopment
- The Yards and Yards Park
- Near Southeast Urban Design Framework Plan
- Boathouse Planning Study/1333 M Street
- Poplar Point Development
- Nationals Park
- CSX Virginia Avenue Tunnel Reconstruction Project
- DC United Stadium/Buzzard Point
- DC Water Headquarters
- Department of Homeland Security Headquarters at Saint Elizabeths



11th Street Bridge crossing the Anacostia River near WNY.



11th Street Bridge Park.



11th Street Bridge Park.



Riverwalk directional signage identifies access points to the trail.

- » **A 14-foot wide pedestrian and bike path that connects with the Anacostia Riverwalk**
- » **Provides connections to the DC Streetcar network**
- » **Measures to address critical area infrastructure needs**
- » **Replacing two bridges connecting Anacostia with SE DC with three new structures**
- » **Separating local, freeway, and multi-modal traffic crossing the Anacostia River**

1 11TH STREET BRIDGE PARK

As the 11th Street Bridge that connect the Capitol Hill and Anacostia neighborhoods is being modernized, the DC government and the Town Hall Education Arts Recreation Campus (THEARC) will transform the original aged infrastructure into DC’s first elevated park: a new venue for healthy recreation, environmental education, and the arts. The 11th Street Bridge Park will span the capital’s cityscape and include outdoor performance spaces, playgrounds, and fruit orchards, as well as classrooms to teach students about river systems and even kayaks and paddle boats. Bound by WNY on one side and the National Park Service’s (NPS’s) Anacostia Park on the other, the Bridge Park will be a destination for some, a pedestrian or bicycle route for others, and an iconic architectural symbol across the Anacostia River.

2 ANACOSTIA RIVERWALK TRAIL

The Anacostia Riverwalk Trail plays an important role in the ongoing effort to improve the transportation network and mobility options throughout southeast and southwest DC. Upon completion, the Trail will include 20 miles of scenic shared-use bike and pedestrian connections for DC residents and visitors, and provide essential access to a number of popular tourist attractions, recreational sites, and businesses. To date, 15 of the 28 miles of the Riverwalk Trail are open and heavily utilized. Key plan elements include:

- » **Providing a long-term connection to Maryland’s Anacostia Tributary Trail System**
- » **Connecting residents and visitors to popular destinations including the Fish Market, Nationals Ballpark, Historic Anacostia, RFK Stadium, and the National Arboretum among others**
- » **Ensuring Trail elements are within walking distance of local Metro stations**
- » **Providing educational signage**

3 BARNEY CIRCLE AND SE BOULEVARD TRANSPORTATION STUDY

The Barney Circle intersection currently restricts multiple turning movements to and from neighborhood side streets. The Transportation Study seeks to



Improvements to the Barney Circle intersection seek to improve circulation, safety, and accessibility for residents and visitors.

evaluate realignment of the intersection as well as investigate opportunities to recapitalize on the segment of the Southeast Freeway between 11th Street and Pennsylvania Avenue after being removed from the interstate system. Key plan elements include:

- » **Examining the transformation of Southeast Freeway into an integrated multi-use corridor**
- » **Providing connections to adjacent residential communities and Anacostia River Waterfront**
- » **Looking at vehicle, bicycle, and pedestrian circulation improvements to Barney Circle**
- » **Considering potential for increased multimodal uses**

4 M STREET SE/SW TRANSPORTATION STUDY

The Study evaluates multiple current and future transportation issues facing the M Street SE/SW transportation corridor from 12th Street SE to 14th Street SW and from the Southeast Freeway south to the Anacostia River/Washington Channel (approximate 1.7 SQ MI area). Recommendations seek to improve local connections and mobility as well as to establish regional integration and accommodate future development. Key plan elements include:

- » **Evaluating existing conditions, proposed land uses, and projected transportation needs along M Street SE/SW and the southwest waterfront**
- » **Examining the safe and balanced integration of transit, bicycle, and pedestrian uses throughout the corridor with surrounding communities**



Pedestrian bridge connecting Diamond Teague Park to the Yards Park.

- » **Supporting proposed retail and mixed-use development**
- » **Seeking to improve long-range mobility options for residential, working, and visiting populations**

5 PARKSIDE PEDESTRIAN BRIDGE PROJECT

The project was initiated to address accessibility and safety deficiencies between local residential communities and the nearby Minnesota Avenue Metro Station. The 400-foot long Parkside Pedestrian Bridge will provide safe, well-lit, disabilities-accessible pedestrian travel between neighborhoods and the Minnesota Avenue Metro Station now separated by I-295 and two sets of railroad tracks just north of the Benning Road interchange. Key plan elements include:

- » **Incorporating sustainable design features for long-term durability and reduced maintenance**
- » **Improving safety and accessibility (including ADA) of pedestrian and bicycle users commuting between adjacent Mayfair and Parkside neighborhoods and the nearby Metro Station, Downtown Ward 7, and the Deanwood Community**

6 PENNSYLVANIA AND POTOMAC AVENUE SE INTERSECTION PEDESTRIAN SAFETY STUDY

The Study examines proposed intersection safety enhancements for pedestrians and local Metrorail (Potomac Avenue) transit users. Key plan elements include:

- » **Enhancing pedestrian connection and intersection safety**
- » **Reducing the number of pedestrian and vehicle conflict points**
- » **Proposing access enhancements to Potomac Avenue Metro Station and local bus stop locations**
- » **Conducting an environmental planning study of the potential impacts**

7 SOUTH CAPITOL STREET CORRIDOR

This project proposes the transformation of the existing urban freeway (South Capitol Street SE) corridor into a scenic, interconnected, and multi-modal capable boulevard. Key plan elements include:

- » **Replacing the Frederick Douglass Memorial Bridge with a new six-lane bridge**
- » **Creating a new traffic oval west of the river that connects South Capitol Street, Potomac Avenue, and Q Street SW**
- » **Improving vehicle and pedestrian safety and accessibility, drainage and stormwater management along the Anacostia River**
- » **Promoting economic development**

A ARTHUR CAPPER CARROLLSBURG REDEVELOPMENT

In 2001, DC Housing Authority (DCHA) received a \$35M Hope VI Grant to redevelop the 23-acre Arthur Capper Carrollsburg public housing project located immediately west of the MBW Annex and extending to South Capitol Street. The project redeveloped a 707-unit public housing community and calls for multiple mixed-uses, including a community center on 5th Street just west of the Annex garage to include a daycare facility for 66 children, recreation center, computer lab, gym, game room, and meeting/classrooms. The 10-story 700,000-SF office space includes ground level retail at 250 M Street, four mixed-income apartment buildings just east of Canal Park along 2nd Street, and 50,000 SF of retail space contained in multiple buildings at 600 M Street, all of which are yet to be constructed. A hallmark of this development plan is the replacement of every one of the previous 707 public housing units within the footprint of the Arthur Capper Carrollsburg site. In addition, the project provides 1,200 new market-rate and workforce-rate rental and ownership units. Completed construction includes a Senior Center just west of the MBW Annex in 2006 and both phases of the Capitol Quarter townhomes that sit on seven of



Capper Carrollsburg housing located west of MBW Annex.

the city blocks west of the MBW Annex. The Lofts at Capitol Quarter just south of the MBW Annex at 7th and L Streets SE are currently under construction and expected to open with 195 available units in 2016.

B THE YARDS AND YARDS PARK

The Yards, previously known as the Southeast Federal Center, is a 42-acre development site located in the Capitol Riverfront BID and originally an annex of the adjacent WNY. The Yards development is proposed as an eclectic, modern mixed-use riverfront neighborhood located within walking distance of Capitol Hill and situated between Nationals Ballpark and the WNY. Over the next 10 to 20 years, future development will ultimately combine adaptive reuse of a historically industrial site and buildings with new and modern construction with an emphasis on sustainability. Upon its completion, the Yards will include 5.5 million square feet (MSF) of retail, residential, office, and recreational uses.

The Yards Park was developed in 2010 through a public/private partnership between the General Services Administration (GSA), DC, and Forest City Washington. It is part of the larger Yards development and provides expansive green space and a performance venue along the Anacostia Riverwalk Trail. The Yards Park includes open grassed areas, a canal-like water feature and waterfall, gardens, overlook, an iconic pedestrian bridge, and recreational trails. A future phase will also include a marina.



The Yards and Yards Park located near the Washington Navy Yard along the Anacostia River Trail.

C NEAR SOUTHEAST URBAN DESIGN FRAMEWORK PLAN

The vision for the 346-acre urban design for Near Southeast is a connected, vibrant neighborhood of urban density, regional attractions, and distinct local amenities. Located five blocks from the US Capitol, Near Southeast is poised to become Washington’s newest up and coming neighborhood. The Framework Plan emphasizes walkability to create an increasingly attractive, accessible, and convenient downtown by the water. Addressing the diminished water quality of the Anacostia River is a major goal for all future construction under the Framework Plan. Through its green building guidelines, all new construction will serve to improve the water quality of the Anacostia River over time. Other key initiatives include regional transit, local circulation, open space, civic framework, and clustered retail along with interim use.

At its completion, the Framework Plan’s development will accommodate employment of nearly 10,000 people and provide varied housing options for more than 11,000 residents. The Plan proposes to expand on the L’Enfant Plan by extending the street grid to engage the Anacostia riverfront. Part of this framework includes some of the significant infrastructure projects mentioned above, such as the 11th Street Bridge, South Capitol Street Bridge, Virginia Avenue Tunnel, and the DC Streetcar.



Boathouse Row Planning Study.

D BOATHOUSE ROW PLANNING STUDY

The Boathouse Row Planning Study was developed by the DC Office of the Deputy Mayor for Planning and Economic Development and the DCOP, and was completed in March 2009. The planning area encompasses a stretch of the west bank of the Anacostia River and is included as part of the AWI. The study proposes recommendations that guide future land use, propose facility upgrades, improve environmental conditions, and maximize existing resources to improve and expand boathouse functions. The study anticipates significant increased demand for as many as 550 slips for motorized and non-motorized boats. Planning goals include:

- » **Building on the framework and goals of the AWI while still being specific to Boathouse Row**

- » **Balancing the needs of existing and future boat club users and the public**
- » **Providing guidance for the future development of Boathouse Row**

E POPLAR POINT DEVELOPMENT

In 2003, the AWI identified the 130-acre site in southeast DC, located across the river from WNY and adjacent to Old Anacostia and Barry Farm, for future redevelopment and revitalization. The vision was developed for Forest City Washington to create a mixed-use neighborhood and a central 70-acre waterfront park and pier facility to form a connection over the river and become the gateway to Anacostia from the Capital. The build-out calls for 4,100 residential units along with 1.2 MSF of office space, 465,000 square feet (SF) of retail space and two hotels (600 rooms) in proximity to the Anacostia Metro Station.

F NATIONALS PARK

Located in SE DC within sight of the Capitol and in proximity to the WNY and the Navy Yard Metro Station, the Nationals Park became the first new ball-park in DC since 1962. Upon completion, the National’s Park became the first United States Green Building Council (USGBC) LEED® Silver rated major stadium in the US. The \$611M facility anchors recent mixed-use development along the Capitol Riverfront and was inspired by the East Wing of the National Gallery of Art. The park has a capacity of approximately 43,000 seats and opened in March 2008 as the new home to the Washington Nationals baseball team, previously located at RFK Stadium.

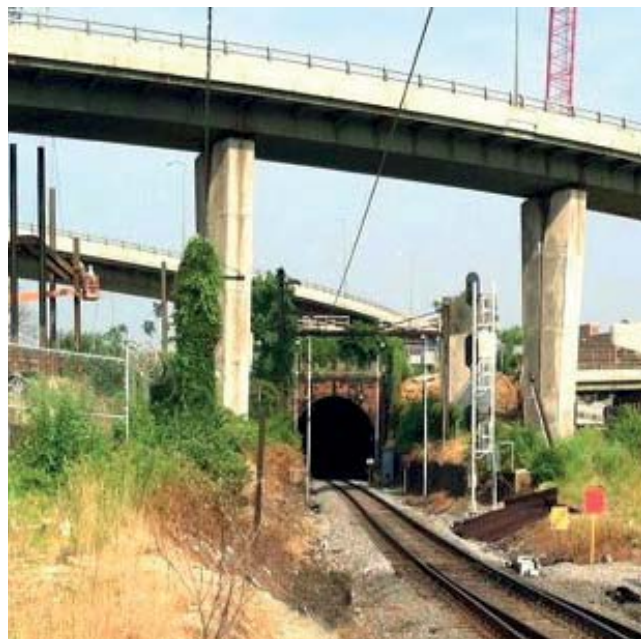
G CSX VIRGINIA AVENUE TUNNEL RECONSTRUCTION PROJECT

The National Gateway Initiative is a project to accommodate projected increase in freight railroad traffic extending from CSX’s Northwest Ohio Terminal to Baltimore, Maryland; Hampton Roads, Virginia; and Wilmington, North Carolina. The increase in freight traffic is anticipated due to changes to the nearly completed Panama Canal and Suez Canal projects and the influx of container ships to provide goods to the east coast to meet growing market demands.

The Virginia Avenue Tunnel is an approximately 4,000-foot railroad tunnel primarily located under Virginia Avenue from 2nd to 12th Streets SE, including along the northern portion of the MBW Annex. Currently, the Virginia Avenue Tunnel houses a single track but is double-tracked on either end of the tunnel. The project objectives are to modify the Virginia Avenue



Nationals Park and surrounding Capitol Riverfront development.



Existing Virginia Avenue tunnel (11th Street entrance).

Tunnel by providing a minimum vertical clearance of 21 feet to allow for double stacking of cargo on train cars. Congressional authorizations allow for up to four tracks within the Virginia Avenue Corridor. Studies have determined that the Virginia Avenue Tunnel is one of the main bottlenecks of rail movement on the eastern seaboard. This bottleneck affects the efficiency and movement of both freight and passenger rail. As part of the corridor mitigation plan, additional improve-



Concept rendering of DC United Stadium (source: DC United)



Proposed DC Water Headquarters facing Anacostia River

ments are being considered for a future greenway connection to the Riverwalk and Trail east of 12th Street, future expansion of Virginia Avenue Park to the north and east, enhanced underpass conditions and cross-neighborhood connections at 4th and 8th Streets SE, along with a recreational trail, street trees, rain gardens, and lighting. Phase I of the tunnel project construction is scheduled to begin in 2015.

H DC UNITED STADIUM/BUZZARD POINT

The vision for a soccer specific stadium for DC United was envisioned in 2006 and several sites were considered in DC, Virginia, and Maryland. The current proposed location for the stadium at Buzzard Point in SW DC was approved by the DC Council as of December 2014. Under the current agreement, DC United is expected to submit a preliminary concept design for the proposed stadium to the city by September 2015. The proposed \$300M facility is estimated to accommodate 20,000 to 24,000 seats initially, with potential future capacity upwards of 30,000. Completion of the new stadium is expected to open for the 2018 Major League Soccer season.

I DC WATER HEADQUARTERS

District of Columbia Water and Sewer Authority (DC Water) is planning to construct a \$55M headquarters facility on the banks of the Anacostia River in Capitol Riverfront, to be located next to its historic O Street Pumping Station in SE DC. The proposed construction will free up land for expansion and improvement at DC Water’s central Blue Plains facility, which has reached capacity. Proposed development would consolidate and centralize all administrative functions into a LEED® Platinum facility anticipated for completion in mid-2017. Given the high visibility of the site, the existing pumping station will be encapsulated along the east and south sides to maintain views from the Anacostia River.

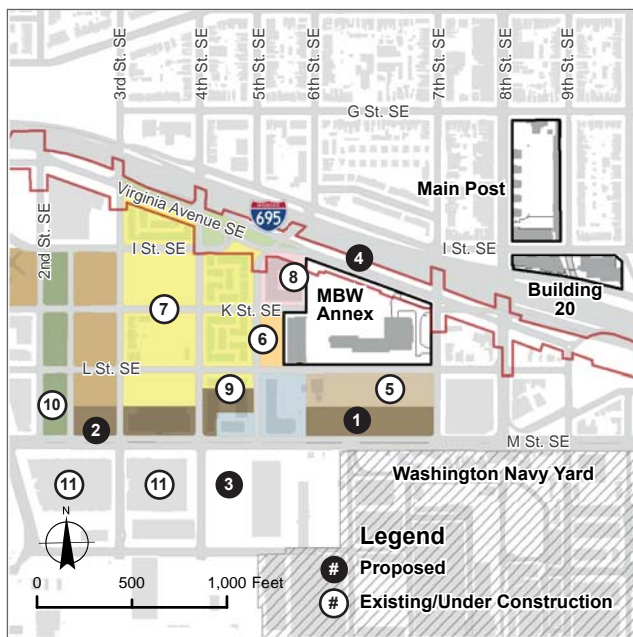
J DEPARTMENT OF HOMELAND SECURITY HEADQUARTERS

The Department of Homeland Security (DHS) has proposed construction of its national headquarters facility on the grounds of St. Elizabeths Hospital to accommodate elements of all 22 DHS divisions. The plan represents the largest federal construction project since the Pentagon in 1940 at an initial cost of \$4.7B. The planned facility would be developed by the GSA and accommodate an estimated 17,000 employees in a nearly 4.5 MSF facility. While the plan is more than 12 years behind schedule, and has undergone numerous changes both in scope and schedule, the current plan proposes to reduce costs and shrink the previous footprint by 1 MSF. Current plans propose to accelerate the construction period by five years with an anticipated completion date of 2021.

ADJACENT PLANNING & DEVELOPMENT

The following is a snapshot of major development efforts either recently constructed, underway, or planned within close proximity to MBW (Figure 3-5). This analysis represents a point in time and should be reviewed and updated as necessary. Adjacent development has the potential for a range of impacts, directly and indirectly, to MBW. Installation planners should be continuously aware of potential initiatives in the surrounding community to help them coordinate mutual benefits and avoid potential conflicts where possible.

Figure 3-5 Adjacent Planning and Development



Proposed

- 1) 600 M Block
- 2) 250 M Street/Federal Gateway II
- 3) Harris Teeter/Parcel D
- 4) CSX Virginia Avenue Tunnel Expansion

Existing or Under Construction

- 5) The Lofts at Capitol Quarter
- 6) Capitol Quarter Community Building
- 7) Capper Carrollsburg Housing Redevelopment
- 8) Capper Senior Building
- 9) Carroll Apartment Building
- 10) Canal Park
- 11) US DOT Headquarters



600 M Block proposed commercial office complex across from the Washington Navy Yard.



Proposed 250 M Street/Federal Gateway II development, 10-story office complex.



Recently constructed Harris Teeter site (Parcel D) provides 50,000 SF of ground level retail along M Street.



CSX Virginia Avenue Tunnel Expansion will increase capacity between 2nd and 11th Streets SE, adjacent to MBW Annex (Virginia Avenue).



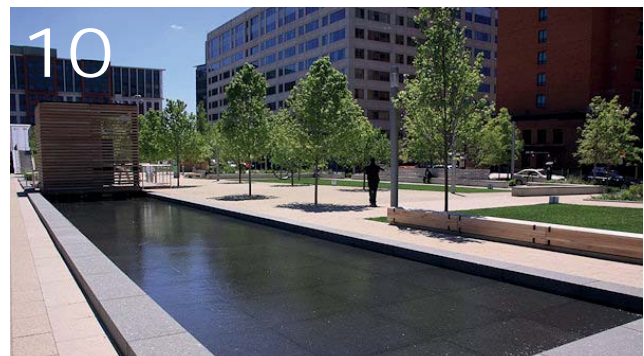
The Lofts at Capitol Quarter are under construction and projected to open in 2016 with 195 units at 7th and L Streets SE.



The 138 unit Carroll Apartment building was constructed at 400 M Street in 2007.



Capitol Quarter Community Building is under construction west of the Annex parking garage.



Canal Park is a linear community open space that includes a pavilion, tavern and a seasonal water feature and ice rink.



Capper Carrollsburg Housing Redevelopment, Capitol Quarter multifamily housing community.



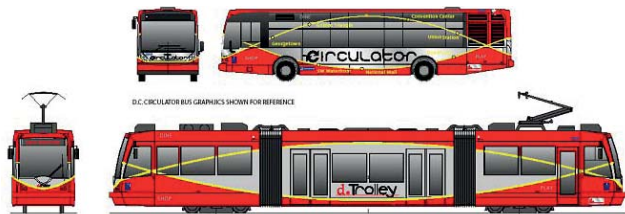
The 1.1-MSF USDOT headquarters building was completed in the spring of 2007 on a previous 11-acre portion of the Southeast Federal Center site.



The Capper Senior Building includes 162 residential units.



DC Streetcar.



Concept designs for DC Streetcars.

DDOT STREETCAR PROPOSAL

DDOT, in partnership with the Washington Metropolitan Area Transit Authority (WMATA), developed DC’s proposed Transit Future System Plan, which includes a 22-mile priority system and a 37-mile expanded network of new streetcar lines operating in eight corridors serving eight wards in the District (Figure 3-6). The streetcars will provide an environmentally-friendly transit alternative that improves travel times and enhances connectivity along key transportation corridors. In one of the corridors, the streetcar system will consist of modern low floor vehicles operating on surface tracks that are embedded in the street pavement. The vehicles will mostly operate in vehicle travel lanes that are shared with automobile traffic, although in some instances the streetcar may take advantage of available ROWs, and operate in exclusive transit-only lanes. The streetcar vehicles for the initial projects will be electrically powered via overhead wires. Vehicles used in subsequent segments will have the ability to travel for limited distances without overhead wires to protect historical viewsheds.

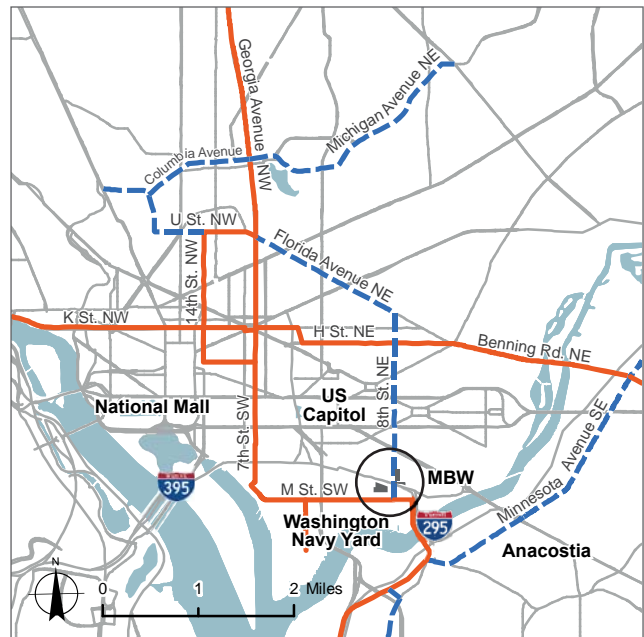
Goals for the proposed DC Streetcar project

- » **Linking neighborhoods with a modern, convenient and attractive transportation alternative**
- » **Providing quality service to attract and reach new transit ridership**

- » **Offering a broader range of transit options for DC residents**
- » **Reducing short inner-city auto trips, parking demand, traffic congestion, and air pollution**
- » **Encouraging economic development and affordable housing options along streetcar corridors**

The streetcar stops will be generally located within walking distance (every 0.25 to 0.50 mile) along the proposed routes and will incorporate a small shelter. Proposed routes include 8th Street SE adjacent to the MBW Main Post and Building 20. This would have the benefit of expanding transit alternatives to MBW commuters and visitors to the area. The streetcar system is planned to operate seven days per week with service frequencies of around 10 minutes throughout the day and evening, including late night service on weekends. Daily ridership on the 8th Street corridor is projected at greater than 4,000 boardings per mile by the year 2030. The proposed street car system is anticipated to attract more intense mixed-use development and revitalization in streetcar corridors that is consistent with zoning and the District Elements of the DC Comprehensive Plan.

Figure 3-6 DC Streetcar Routes, MBW Vicinity



Source: dcstreetcar.com (July 2015)

Legend

- MBW Installation
- DC Streetcar System
- Priority Streetcar System
- Expanded Streetcar System

SUMMARY

This section is not intended to represent an exhaustive look at ongoing or planned development, but rather serves to illustrate the level of growth and development under construction or proposed in the vicinity of MBW at the time of the 2015 Master Plan Update. A review of these and/or other projects with DCOP should be conducted on a regular basis by installation planning staff to fully understand their potential impacts. In summary, the impacts of local planning initiatives surrounding MBW are generally positive in nature. Ongoing and planned improvements collectively address many shortcomings and deficiencies within the surrounding community including transportation, housing, waterfront access, and recreation.

Potential Benefits of Local Planning Initiatives

- » **Increased densities, through compact mixed-use development**
- » **Improved walkability, and connectivity to surrounding residential and commercial areas**
- » **Increased housing options for local residents and MBW personnel (civilians and officers)**
- » **Greater commuting options (local and regional) and potentially reduced commuting times to nearby commercial and residential areas**
- » **Greater employment, entertainment, dining, and recreational opportunities**
- » **Improved access to adjacent recreational uses including the Anacostia Riverwalk Trail**

Potential Negative Impacts of Local Planning Initiatives

- » **Increased demand for off-base parking**
- » **Potential security issues may arise with increased density and taller buildings in proximity to MBW**
- » **Increased traffic from future development may result in elevated traffic volumes and greater risk for pedestrian-vehicle conflicts**
- » **Increased residential development could potentially lead to an increase in noise complaints related to band practice, Friday evening parades, or other outdoor ceremonies at MBW**

3.1.4 Land Use & Zoning

The unique character of the Nation's Capital is attributable to a large degree to multiple layers of guiding principles and regulations including land use and zoning as described below. Planners at MBW should be familiar with applicable regulatory guidance in surrounding communities to both foresee future growth and to ensure compatibility and compliance with adjacent uses and future development. Additional land use and zoning information is provided in Appendix B.



DC's Monumental Core is encompassed by Parks, Recreation, and Open Space land use designations.

DC LAND USE

The DC land use designations in the vicinity of MBW include residential medium (RMED), residential moderate (RMOD), commercial moderate (CMOD) and commercial low (CLD) uses (Figure 3-7). Future land uses indicate potential for increased intensities and mixed-use development to be located in the vicinity of MBW extending south on 8th Street SE and along M Street SE. These adjacent uses are largely compatible and don't conflict with the current or proposed activities at MBW. Detailed land use data is available from the DC Office of Zoning.

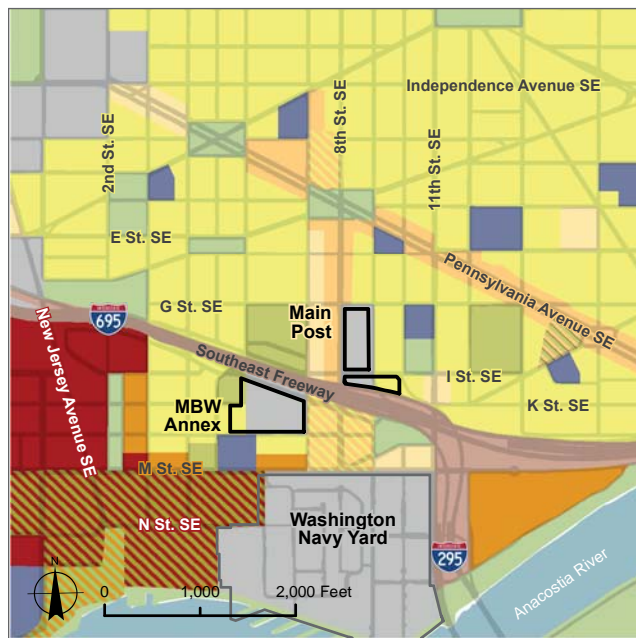
DC ZONING

DC zoning categories are divided into four basic districts based on their predominant use: residential (R), commercial (C), industrial/manufacturing (M), and waterfront (W), and a range of mixed-use categories (Figure 3-8). Intensities for various categories are defined as low, medium, or high for each category and rated by increasing intensity from 1 to 10. The Main Post and eastern portion of Building 20, as well as areas eastward, are shown within moderate density residential (R-4) zones. The western portion of Building 20 and western side of 8th Street SE (Barracks Row) are located within a low density commercial (C-2-A) zone and the MBW Annex is encompassed by a moderate density residential (R-5-B) zone. The blocks between the MBW Annex and Building 20/Main Post are zoned moderate density commercial (C-3-A). Generally, the areas adja-



The predominate land use surrounding MBW is medium and moderate density residential in the Capitol Hill neighborhood (shown 9th Street SE).

Figure 3-7 DC Future Land Use Map, MBW vicinity



Legend

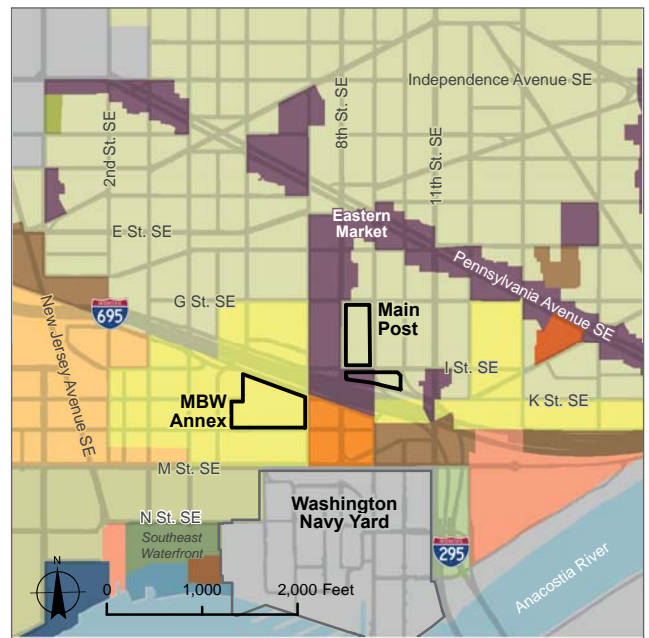
Future Land Use Classification

 CHD	High Density Commercial
 CMED	Medium Density Commercial
 CMOD	Moderate Density Commercial
 CLD	Low Density Commercial
 RHD	High Density Residential
 RMED	Medium Density Residential
 RMOD	Moderate Density Residential
 RLD	Low Density Residential
 FED	Federal
 LPUB	Public
 PROTECH	Production, Distribution & Repair
 PROS	Parks, Recreation & Open Space
 INST	Institutional
 MIXED	Mixed Used (Hatched)



Barracks Row represents the moderate density commercial zone connecting Eastern Market to WNY.

Figure 3-8 DC Zoning Map, MBW Vicinity



Legend

Zoning Classifications

 C-2-A	} Commercial
 C-2-B	
 C-3-A	
 C-3-C	
 C-M-1	} Commercial & Light Manufacturing
 C-M-2	
 CR	Commercial & Residential
 M	General Industrial
 R-4	} Residential
 R-5-B	
 R-5-D	
 R-5-E	
 SP-2	Special Purpose
 UNZONED	Unzoned
 W-0	} Waterfront
 W-2	

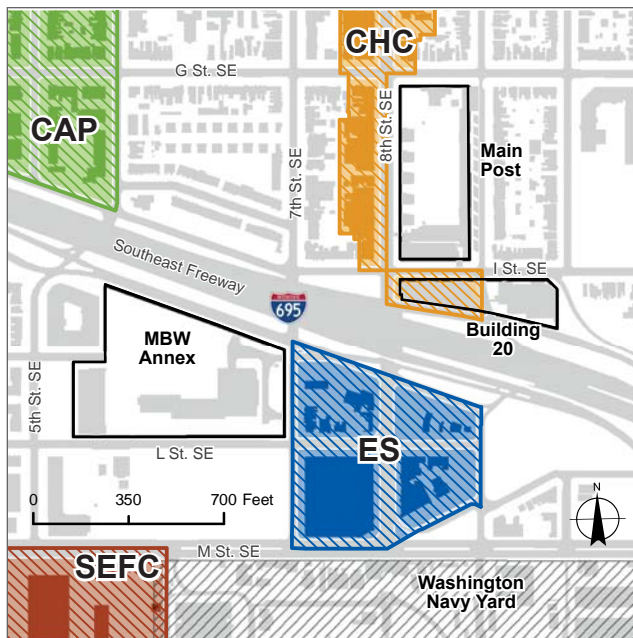
cent to the MBW properties are zoned for similar and compatible uses. Definitions for DC’s zoning classifications adjacent to MBW are provided in Appendix B.

It is important to note that although MBW sites have been assigned local zoning designations, federal buildings are not specifically subject to the District’s zoning laws, and NCPC has responsibility to review and regulate federal land planning proposals for these sites. Future development at MBW sites should strongly consider the impact to the surrounding built environment and corresponding regulations in order to promote compatibility and consistency within the local community. Additionally, zoning relief would likely be sought in order to maximize the build-out potential of certain sites.

Zoning Overlay Districts

Zoning Overlay Districts apply restrictions on use and development, in addition to, and compatible with, the existing underlying Zone Districts. Overlays address specific development concerns, such as increasing shopping opportunities or a tree protection policy. There are two zoning overlay districts that directly relate to MBW and adjacent properties (Figure 3-9). The Capitol Hill Commercial (CHC) Overlay District includes the western part of Building 20 and extends north along

Figure 3-9 DC Zoning Overlay Districts, MBW Vicinity



Legend

Zoning Overlay Districts	
Capitol Hill Commercial (CHC)	Eighth Street (ES)
Southeast Federal Center (SEFC)	Capital Interest (CAP)
	MBW Installation

8th Street SE running adjacent to the Main Post to Pennsylvania Avenue SE. The Eighth Street Southeast Neighborhood Commercial (ES) Overlay District encompasses a small group of 4 blocks directly east of the MBW Annex and south of the Southeast Freeway. Appendix B summarizes the zoning and zoning overlay district regulations within the vicinity of MBW. Detailed zoning descriptions are available from the DC Office of Zoning.

HEIGHT OF BUILDINGS ACT OF 1910

NCPC’s Federal Elements of the Comprehensive Plan specifies that

The federal government should preserve the horizontal character of the national capital through enforcement of the 1910 Height of Buildings Act (Height Act).

The Height Act is a federal law that imposes restrictions on the height of all buildings within DC’s boundaries resulting in the predominantly horizontal skyline that defines the urban character of DC. The Height Act and associated regulations in DC Code (6-601.05) relate maximum building height to street width to establish proportionality and a relative human scale to the buildings and streets.

In general, the Height Act restricts a building’s height, in most cases, to the width of the street it fronts plus 20 feet (Figure 3-10). Where there are two or more street corners at a site, the maximum height is dictated by the street that delivers the greatest height. The Height Act limits most buildings to 110 feet, except those on wider boulevards, such as K Street and 13th Street, which may reach heights of 130 feet. Buildings along Pennsylvania Avenue may be as tall as 160 feet.

DC Height Act Guidance

- » **Business/Commercial Streets and Avenues:**
Maximum height = 130 feet (12- to 13-stories) with the exception of the north side of Pennsylvania Avenue between 1st Street and 15th Street NW where maximum height is 160 feet
- » **Residential Streets, Avenues, or Highways:**
Maximum height = 90 feet (8-9 stories) at the highest part of the roof or parapet and:
 - For street width greater than 65 feet: Maximum height = Street width less 10 feet
 - For street width 60 to 65 feet: Maximum height = 60 feet
 - For street width less than 60 feet: Maximum height = Street width



The relatively flat and consistent building heights throughout the District is a result of the Height Act of 1910.

Under the Height Act, rooftop embellishments, such as domes, spires, and minarets, are not calculated as part of a building’s total height, which is measured from the front center of the structure, but are required to be set back from the exterior wall distances equal to their respective heights (1:1 ratio) above the adjacent roof. Penthouse structures are subject to the same 1:1 setback ratio.

The federally-mandated Height Act cannot be superseded by other zoning laws.

While the Height Act sets the maximum building heights, the District zoning code sets the actual height limits for buildings and many areas have lower height limits (per the zoning regulations) than what is allowed by the Height Act. NCPC provides comments to the ZC after determining if buildings are in compliance with the Height Act.

Figure 3-10 DC Height Act Graphic

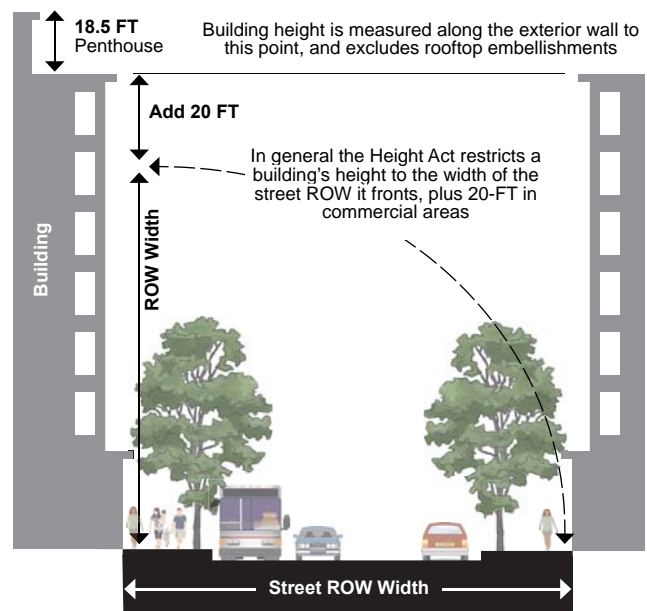


Figure 3-11 L'Enfant Plan of the City of Washington, 1791

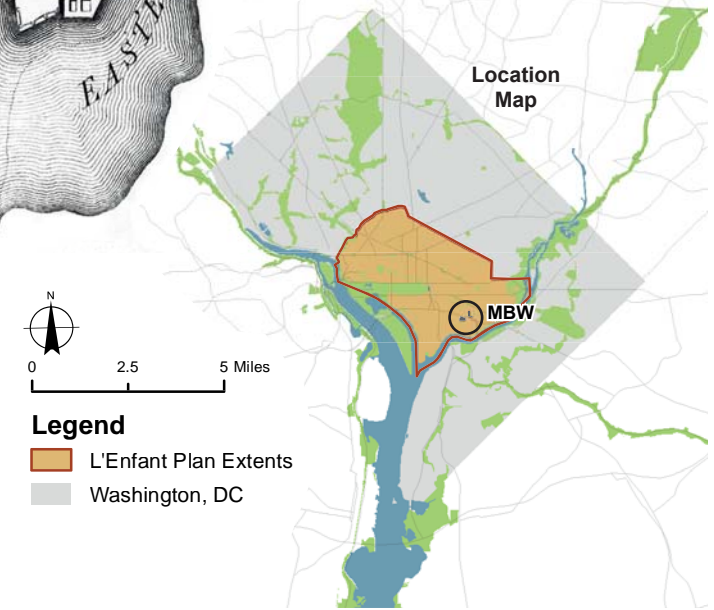


L'ENFANT STREETS NETWORK ROWS AND VISTAS

Pierre Charles L'Enfant designed the plan for DC in 1791, later to be named the *L'Enfant Plan of the City of Washington* (L'Enfant Plan). Andrew Ellicott mapped the plan the following year (Figures 3-11 and 3-12). L'Enfant developed a baroque plan for the US Capitol, which features open ceremonial spaces, grand avenues, and vistas of monuments and sites over the federal land. The L'Enfant Plan and subsequent McMillan Plan (1901) both continue to have a profound influence on American city planning.

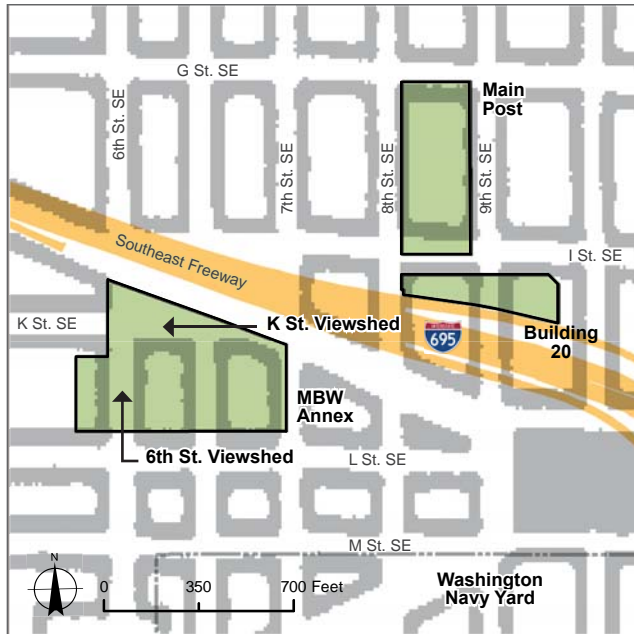
The L'Enfant Plan is included in the NRHP (4 April 1997) and listed in the DC Inventory of Historic Sites (19 January 1971, expanded 23 January 1997). The historic city of Washington, DC is the only example in America of a major US city based on a baroque urban plan that consists of a grid of orthogonal streets within four quadrants, designated numerically (north-south) and alphabetically (east-west). Occupying the center of the grid is the US Capitol. Superimposed on the grid is a series of diagonal avenues named after states. Parks, monuments or public buildings, and vistas are at the intersections of the diagonal and orthogonal thoroughfares.

The L'Enfant Plan places great emphasis on democracy by including abundant public space in the form of reservations and ROWs and preserves prominent



vistas. Vistas along the course of avenues and streets are broad, a result of a 160-foot height limit that was set more than 100 years ago to preserve vertical open space. The commemorative and symbolic location of buildings, structures, and vistas collectively establish the historic Federal City as the singular American example of an urban core, which from inception has physically expressed its political role as a “designed” national capital.

Figure 3-12 L'Enfant Plan, 1791

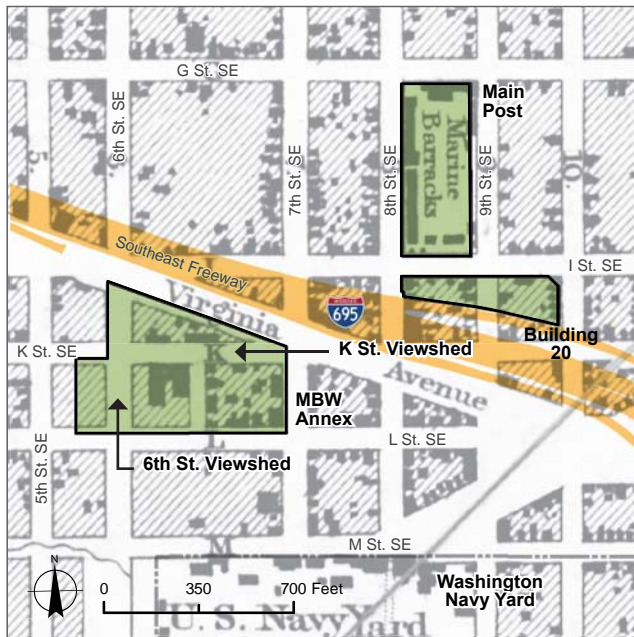


Legend

- MBW Installation
- I-695 (approximate location)

Basemap Source: L'Enfant Plan, 1791.
(Map indicates approximate alignment)

Figure 3-13 Boschke Plan, 1861



Legend

- MBW Installation
- I-695 (approximate location)

Basemap Source: Boschke Map, 1861 (Surveyed 1856-1859).
(Map indicates approximate alignment)

Figure 3-14 DC Office of Planning, 1990

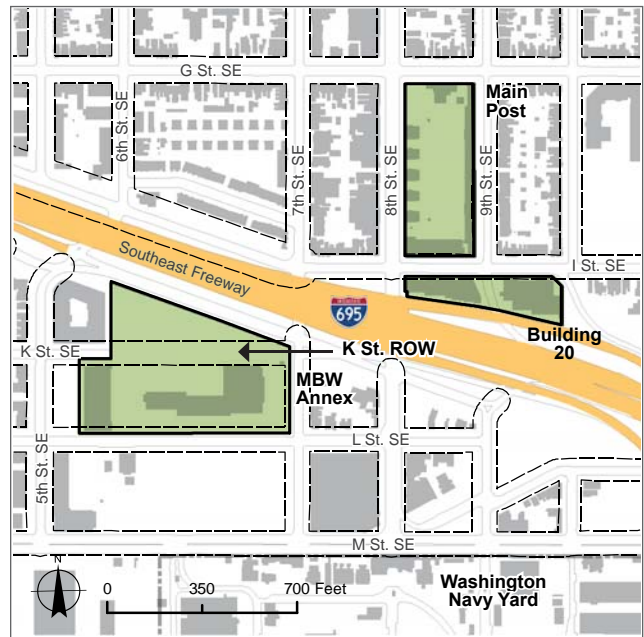


Legend

- MBW Installation
- I-695 (approximate location)

Basemap Source: DC Office of Planning.
(Map indicates approximate alignment)

Figure 3-15 Historic Streets ROW



Legend

- MBW Installation
- L'Enfant Streets ROW (DC GIS)
- Existing Buildings
- Existing Street Network
- I-695

Basemap Source: DCGIS, DC Office of Planning

Note: http://www.planning.dc.gov/preservation/histpres_pdf.shtm

NCPC’s historic preservation policies and the Comprehensive Plan for the National Capital, Historic Preservation Elements call for the protection, preservation, and enhancement of the open space and views along the ROWs established by L’Enfant streets (Figure 3-12) for its contribution to the District’s urban design framework. At the MBW Annex, the historic viewshed corridors (6th and K Streets SE) have been incorporated into the layout of the buildings and multi-purpose recreation field, and are protected through a 2001 Memorandum of Agreement (MOA) between the Marine Corps, the National Park Service (NPS), and the DC HPO for construction of the MBW Annex (Section 3.2.6, Assets Analysis). The MOA stipulated that design and construction of new facilities in this area will not obstruct or interfere with the view corridors for 6th and K Streets SE. Future development at MBW must consider the impacts of these form-giving ROWs and vistas as an integrated design element. Figures 3-12 through 3-15 illustrate the approximate relationship of MBW with key plans for DC which highlight the progression of historic street viewsheds and ROWs in DC.

3.1.5 Transportation Systems

REGIONAL TRANSIT

Major commuter railways servicing the DC metropolitan area include Maryland Area Rail Commuter (MARC), Virginia Railway Express (VRE), and Amtrak (Figure 3-16). Existing railways link commuters to MBW with widespread surrounding communities of Frederick, Baltimore, and Perryville in Maryland, and Manassas and Fredericksburg in Virginia, including Marine Corps Base (MCB) Quantico. Amtrak currently provides linkages to destinations across the US and Canada with over 500 destinations in 46 states along a 21,000-mile network. The nearest connection points for railway commuters are the Union Station and L’Enfant Plaza Metrorail stops.

MBW is located within the heart of the District’s broad network of rapid transit infrastructure. WMATA Metrorail and Metrobus systems provide public transportation to over 5 million people in a 15,000 SQ MI area encompassing the NCR. According to the American Public Transportation Administration (APTA), WMATA Metrorail has the second highest rapid transit ridership in the US (behind New York City) with a weekly ridership of 855,300, and annually serving 273,464,800 people. Constructed in 1976, Metrorail currently operates six lines with 91 stations connecting over 117 miles of tracks in the NCR (Figure 3-17). There are three lines with stops within a 10- to 15-minute walk (0.5 to



Union Station in Washington, DC.

Figure 3-16 Regional Rail Lines



Legend

- Regional Commuter Rail Lines
- Virginia Railway Express
- Maryland Area Regional Commuter
- Urban Areas

0.7 mile) from MBW. Metrorail stops most frequented by commuters to MBW are the Eastern Market Station (Orange, Blue, and Silver lines), and the Navy Yard Station (Green Line). Construction is underway to



WMATA Metrorail's Eastern Market Station is nearest to MBW's Main Post.



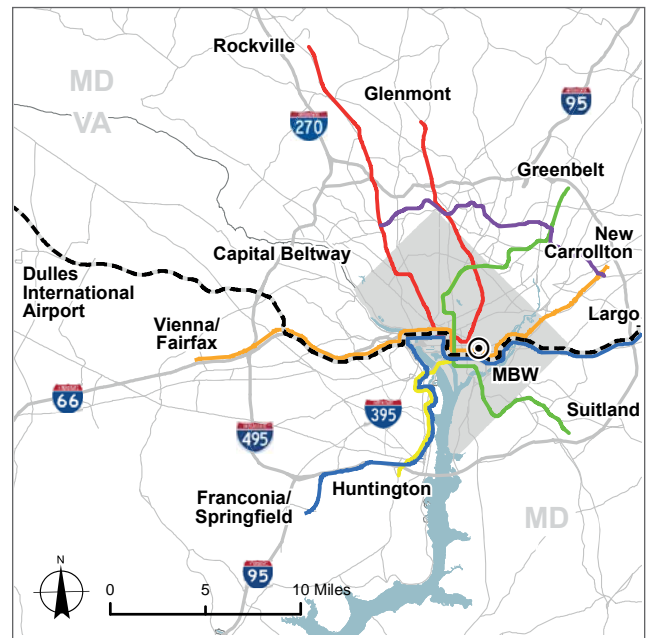
The DC Circulator has stops along 8th and I Streets SE as well as Virginia Avenue within easy access for MBW commuters.

expand services throughout Maryland and northern Virginia on the Yellow and Silver lines.

Metrobus and the DC Circulator provide convenient bus stops for commuters along 8th Street, I Street, and Virginia Avenue in proximity to the gates at each MBW site. Metrobus currently operates over 1,500 buses on 325 routes with more than 11,500 stops in DC, Maryland, and Virginia. Additional service is provided by surrounding area bus systems including Maryland Transit Administration (MTA), Loudoun County (Virginia), and the Potomac and Rappahannock Transportation Commission (PRTC). PRTC provides direct service to the WNY from the Woodbridge/Dale City area. Services extend throughout DC, Maryland counties of Montgomery and Prince George's, the Virginia counties of Arlington, Fairfax, and Loudoun, and the cities of Alexandria, Fairfax, and Falls Church. Figure 3-18 illustrates the network of available bus routes in close proximity to MBW.

To encourage its use, subsidies for mass transit and vanpool are available to MBW personnel (civilians and officers) to help mitigate the cost of commuting and encourage its use.

Figure 3-17 DC Metro Routes



Legend

- | | |
|-------------|------------------------|
| Red Line | Major Roads |
| Blue Line | Washington, DC |
| Green Line | Silver Line |
| Orange Line | Purple Line (proposed) |
| Yellow Line | |

Figure 3-18 Local Bus Routes



Legend

- | | |
|----------------------------------|------------------|
| Major Local Bus Routes | MBW Installation |
| 10 Minute Walk from Metrostation | |
| Metrorail Station | |



Capitol Hill's vibrant and walkable streetscapes are a reflection of its deliberate network of streets, associated blocks, and compatible land uses.

STREET NETWORKS

Street networks in the District form the fundamental framework of the walkable urban form that supports its quality of community life. These interconnected networks of radial and gridded patterns accommodate local as well as regional mobility needs and link people with a wide range of residential, commercial, recreation, and civic destinations.

MBW does not currently own or operate any internal roadways other than minor service drives, and relies fully on the established network of local city-owned roads and highways for access to the installation. The surrounding road network provides ample local and regional access through multiple routes including a major interstate (Southeast Freeway) and regional highway (Anacostia Freeway). Principal and minor arterials including Pennsylvania Avenue, 11th Street, and M Street provide additional regional access from within the District and Maryland. Additionally, several collectors and an expansive network of local or neighborhood streets surrounding MBW afford multiple means of access to and from the surrounding community. Refer to Figure 3-19 for local road classifications.

Street networks are discussed further in Chapter 5 under Network Plans. Additional information on local and regional transit opportunities and other transportation infrastructure and services can be found in the TMP for MBW prepared concurrently with the Master Plan Update.

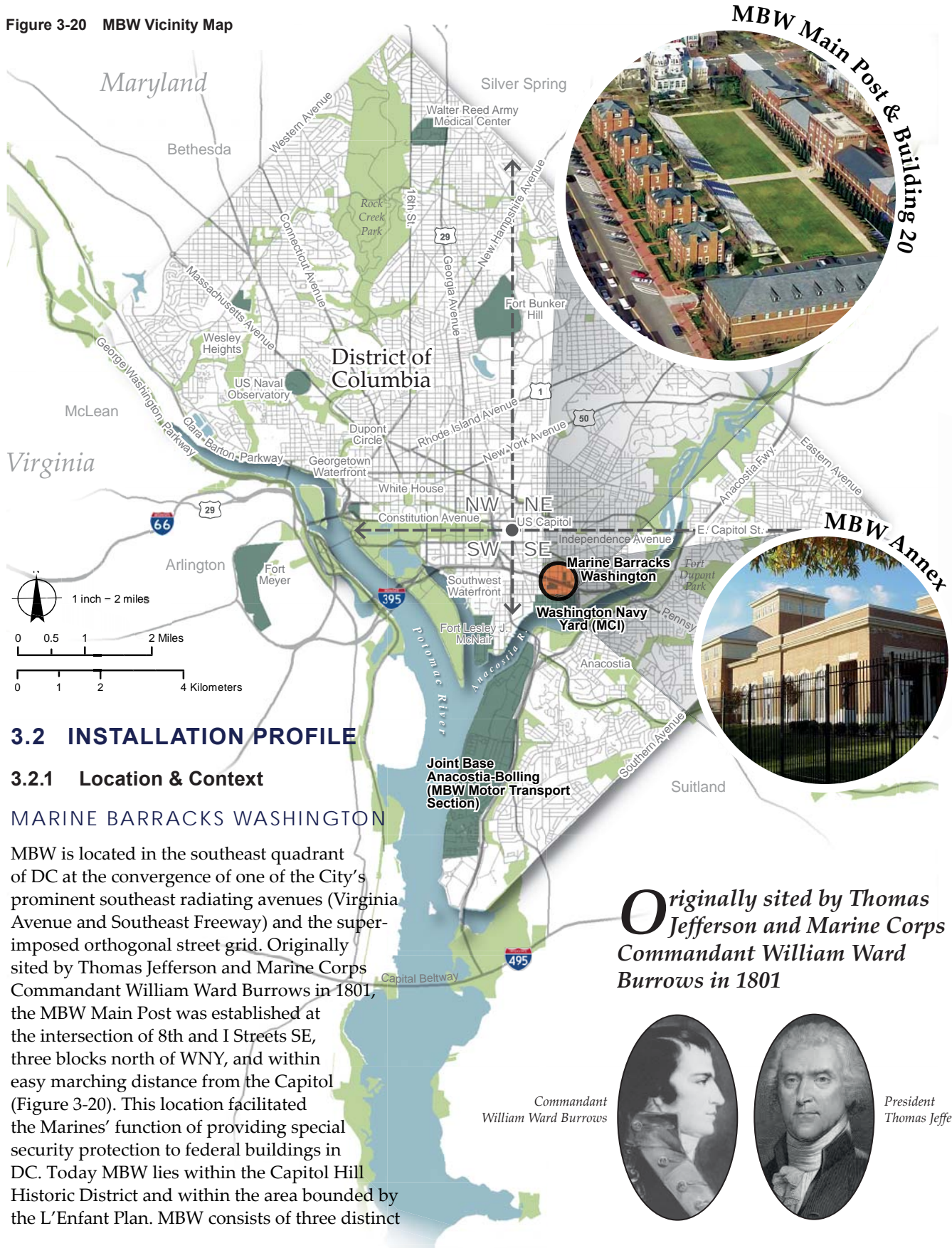
Figure 3-19 Road Classification



Legend

- | | |
|--|---|
| Functional Classification | — Minor Arterial |
| — Interstate | — Collector |
| — Other Highway | — Local |
| — Principal Arterial | MBW Installation |

Figure 3-20 MBW Vicinity Map



3.2 INSTALLATION PROFILE

3.2.1 Location & Context

MARINE BARRACKS WASHINGTON

MBW is located in the southeast quadrant of DC at the convergence of one of the City’s prominent southeast radiating avenues (Virginia Avenue and Southeast Freeway) and the super-imposed orthogonal street grid. Originally sited by Thomas Jefferson and Marine Corps Commandant William Ward Burrows in 1801, the MBW Main Post was established at the intersection of 8th and I Streets SE, three blocks north of WNY, and within easy marching distance from the Capitol (Figure 3-20). This location facilitated the Marines’ function of providing special security protection to federal buildings in DC. Today MBW lies within the Capitol Hill Historic District and within the area bounded by the L’Enfant Plan. MBW consists of three distinct

Originally sited by Thomas Jefferson and Marine Corps Commandant William Ward Burrows in 1801

Commandant William Ward Burrows



President Thomas Jefferson



sites (Main Post, Building 20, and MBW Annex) with a combined area of 12.58 acres. Additionally, MBW leases facility space at the WNY for the Marine Corps Institute (MCI) and at Joint Base Anacostia-Bolling (JBAB) for the MBW Motor Transport Section operations.

3.2.2 Mission & Organization

Provide a provisional infantry battalion in order to support ceremonial commitments within the NCR, provide security at designated locations, conduct enlisted distance education mission for the Marine Corps, and prepare Marines for service in the operating forces. On order, support contingency security missions.

MBW provides special security and ceremonial support duties throughout the NCR and the world as directed by the Commandant of the Marine Corps and the President of the United States. This includes presidential support duties, light infantry training, ceremonial marchers, and funeral support at Arlington National Cemetery. MBW is home to many nationally recognized units, including the Silent Drill Platoon, Marine Corps Body Bearers, Marine Corps Color Guard, D&B, and the US Marine Band (Figure 3-21).

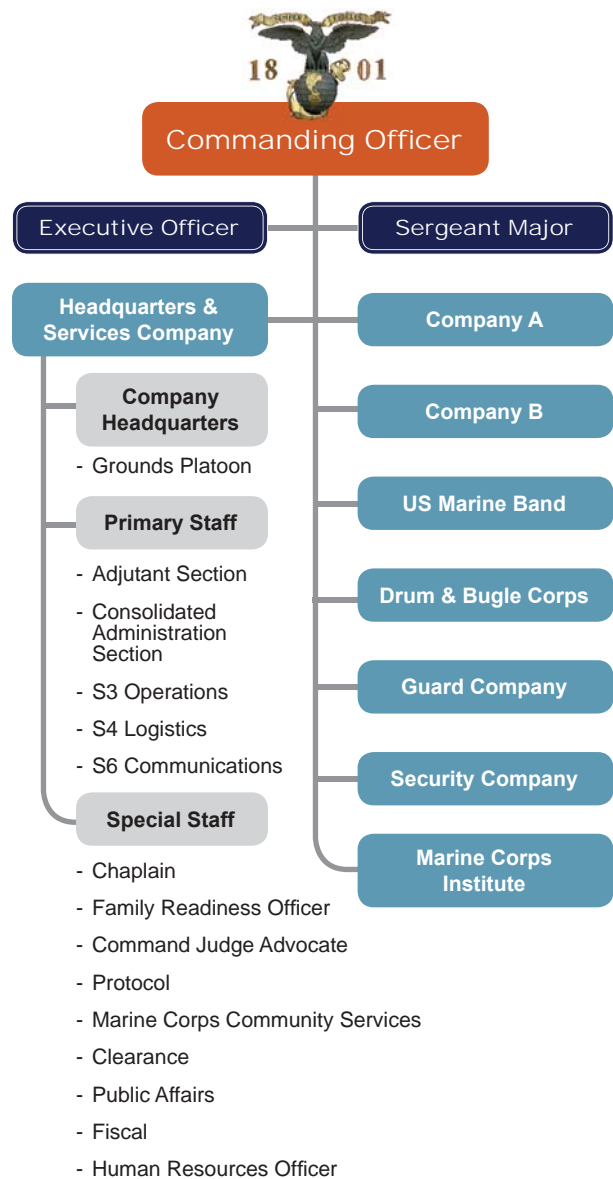
There are no anticipated changes to MBW’s current mission-related functions or responsibilities.

MBW Major Mission Functions

- » **Provide a light infantry battalion for operations as directed**
- » **Provide US Marines for presidential security and special security tasks as directed**
- » **Provide military occupational specialty and professional non-resident instruction through MCI**
- » **Provide US Marines for ceremonial purposes as directed**
- » **Provide administrative and logistical support for the US Marine Band**
- » **Maintain quarters for the Commandant of the Marine Corps and other officers**
- » **Carry out other such missions as the Commandant of the Marine Corps may direct**

Since 5 July 1957 MBW has hosted an evening parade at the Main Post every Friday evening from late April until Labor Day, with typical attendance for each event between 3,500 and 4,000. From June through August, MBW performs a sunset parade every Tuesday evening

Figure 3-21 MBW Organization Chart



at the Marine Corps War Memorial (Iwo Jima Memorial) near Arlington National Cemetery. MCI, assigned to MBW, ensures access to learning materials worldwide and provides opportunities to improve performance, enhance professional military education, and to provide promotion opportunity, together with sponsors of Marine Corps education and programs. MCI also coordinates, hosts, and provides escort plans for the Friday evening and sunset parades and supports other ceremonies and hosting events assigned to MBW.



USMC Color Guard.

MBW Assigned Units

- » **Company Alpha (A Co)**
Silent Drill Platoon
The United States Marine Corps Color Guard
Alpha Company Ceremonial Marchers
- » **Company Bravo (B Co)**
Ceremonial Marchers
Body Bearers
- » **Battle Color Detachment**
- » **Headquarters and Service Company (HQ&S)**
- » **US Marine Band (USMB)**
- » **Guard Company**
- » **Marine Corps Institute (MCI)***
- » **US Marine Drum & Bugle Corps (D&B)**
- » **Security Company (Sec Co)**

* Note: Proposed mission changes identify the relocation of current MCI functions to Marine Corps Base Quantico, Virginia.

3.2.3 Personnel Loading

There are 1,286 personnel currently assigned to MBW. The vast majority, roughly 96 percent (1,230) are military personnel, of which nearly 90 percent (1,098) are junior enlisted (E1-E4). Approximately 10 percent (132) comprise officer positions, of which five reside on-site in officer housing. Additionally, MBW is served by a civilian force of approximately 56 full-time personnel. An estimated 49 percent (500 persons or PN) of enlisted personnel reside on base, plus the Commandant, four officers, and their families. The duty station for approximately 140 of the personnel assigned

to MBW is elsewhere within the NCR, including Camp David (known formally as the Naval Support Facility Thurmont) in Frederick County, Maryland and the US Naval Academy in Annapolis, Maryland. Military personnel are typically assigned to MBW for two years, and the transition between incoming and outgoing personnel usually occurs in the fall months. Table 3-2 and Figures 3-22 and 3-23 illustrate the breakdown of personnel at MBW by section and rank. At the time of this report, MBW's population is anticipated to remain steady for the next five years.

Figure 3-22 MBW Organization Breakdown (personnel)

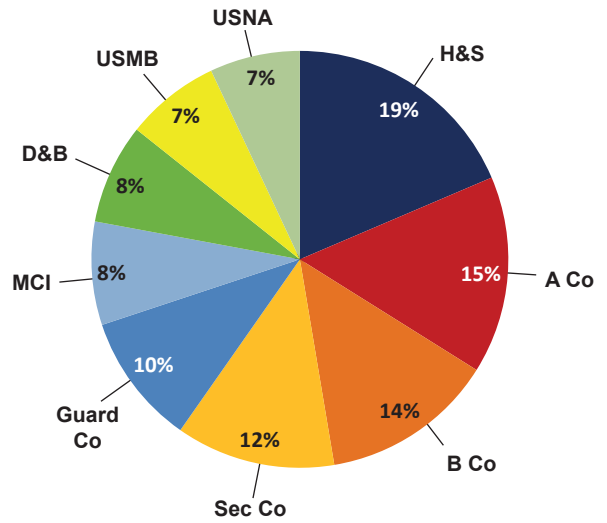


Figure 3-23 MBW Personnel Analysis

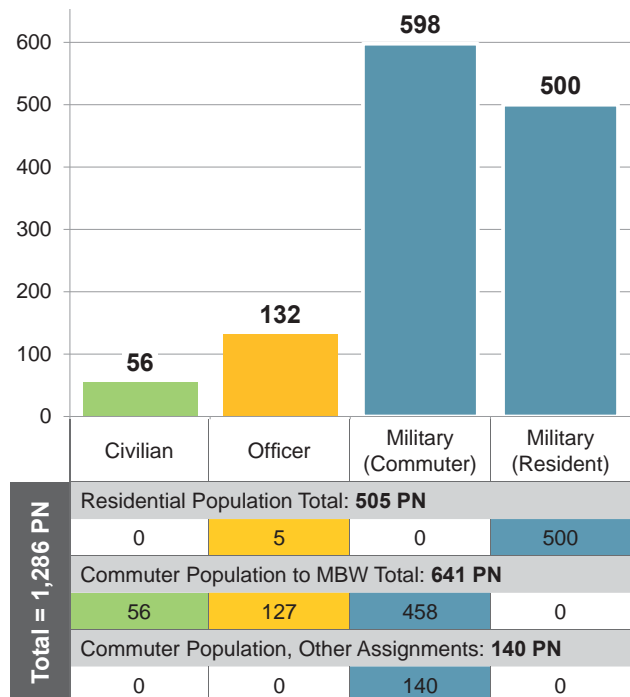


Table 3-2 MBW Personnel Loading Chart

SECTION	OFFICERS			ENLISTED			CIVILIAN SUBTOTAL	TOTAL
	USMC	USN	SUBTOTAL	USMC	USN	SUBTOTAL		
H&S	15	4	19	184	8	192	28	239
A Co	5	0	5	154	0	154	0	159
B Co	8	0	8	123	0	123	0	131
Sec Co	2	0	2	98	0	98	0	100
Guard	2	0	2	195	0	195	0	197
MCI	7	0	7	68	0	68	28	103
D&B	3	0	3	87	0	87	0	90
USMB	5	0	5	168	0	168	0	173
USNA	81	0	81	13	0	13	0	94
Totals	128	4	132	1,090	8	1,098	56	1,286

Data Source: Marine Barracks Washington, DC Public Affairs Office. December 2013. US Naval Academy (USNA). Security Company (Sec Co).

3.2.4 Marine Community Support Services

Manpower and Reserve Affairs plans, coordinates and supports a number of community and personnel services, QOL programs and other resources to veteran and active duty Marines and their families, retirees,

and civilians. Table 3-3 provides a summary of services available at MBW for various groups. Additionally, MBW offers shared use of the multi-purpose recreation field at the Annex to be scheduled for public availability most evenings and often during the day.

Table 3-3 MBW Community Support Services

SERVICE	CIVILIAN MARINE	FAMILY	VETERAN MARINE	RESERVE MARINE	ACTIVE MARINE
Awards Information	X	X			
Civilian Workforce Management	X	X	X	X	X
Employment Opportunities	X	X	X	X	X
Equal Employment Opportunity	X	X	X	X	X
Financial Management (MB)	X	X	X	X	X
Manpower Management (MM)					X
Manpower Plans and Policy (MP)				X	X
Manpower Systems (MI)					X
Marine and Family Programs Division (MF)	X	X	X	X	X
Marine Corps Community Services (MCCS)	X	X	X	X	X
Military Awards (MMMA)			X	X	
NAF Business and Support Services Division (MR)	X	X	X	X	X
Promotion Branch (MMRP)				X	
Records and Performance Branch (MMRP)				X	
Reserve Affairs (RA)				X	
Separation and Retirements (MMSR)			X	X	
Support Branch (MMSB)			X		

Source: MBW Family Readiness Officer, June 2014.

3.2.5 History

At over 200 years old, the Barracks Main Post located at 8th and I Streets is the oldest continuously active Marine Corps installation in the United States. MBW has served as the residence of the US Marine Corps Commandant since 1805 and is home to the US Marine Band, the oldest musical organization in the country.

MBW DEVELOPMENT MILESTONES

The history of development at MBW has occurred in four major phases: Barracks Construction, Barracks replacement, Building 20 expansion, and Annex expansion. Figure 3-24 graphically depicts development history at the Main Post from 1801 to 2015.

1798 The Marines were reestablished as the US Marine Corps by President John Adams.

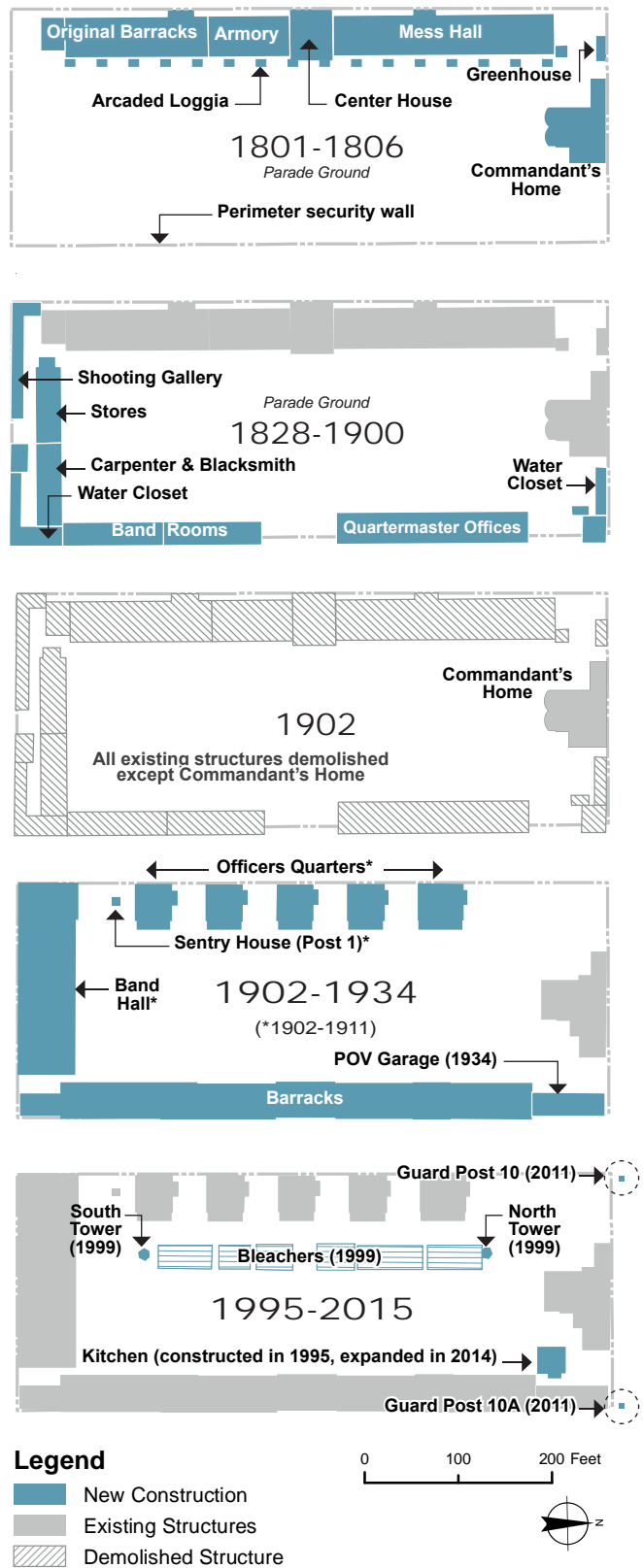
1801 Congress approved a sum of \$20,000 to build permanent Marine Corps barracks in DC. Designed by architect George Hadfield who had served as superintendent of Capitol Construction, MBW included the Commandant’s Home on the north side, a parade ground in the center of the complex, and non-extant Center House with flanking barracks and armory on the west (8th Street SE side). Much of the new construction was done by Marines assigned to MBW, including the barracks and armory facilities. Additionally, a heavy brick wall was constructed around the perimeter of the compound for security. Construction of the original installation was completed between 1801 and 1806.

Previous research suggests a Marines and Sailors Cemetery, which was located on the grounds of a hospital, may be located along the southern or eastern end of the MBW Main Post. The cemetery was established in 1806 or 1816, and was active through at least 1836 (Thunderbird Archeological Associates, 1999).

1812 The Commandant’s Home is one of the few public buildings in Washington, DC that survived the attack and subsequent burning of the city by British troops during the War of 1812.

1828-1900 During the latter half of the nineteenth century, new development at the Main Post included a shooting gallery, band building, and additional barracks (NRHP

Figure 3-24 Main Post Historic Development Patterns





MBW Annex construction was completed in 2006.

Inventory Nomination Form, December 1972. Sanborn map, 1903).

Early 1900s In 1902, the Sanitary Commission recommended that nearly all of the existing wood-frame buildings be replaced. Subsequently, all of the original buildings at MBW, except for the Commandant’s Home (Building 6), were deemed inadequate and demolished. Hornblower & Marshall, a prominent architectural firm of the time and active in the City Beautiful Movement, was awarded the redesign of the installation and construction of most of the present-day Main Post facilities, including the Battalion Headquarters (Building 8), Crawford Hall (Building 9), five separate officers’ quarters (Buildings 1–5), and a gate house (Building 10). By 1911, construction was complete, and only minor improvements occurred at the Main Post until the construction of Building 7 in 1934. The result was a multi-functioning urban quadrangle of two-plus story brick buildings surrounding a formal parade ground.

1960s The construction of the Southeast Freeway significantly altered the character of southeast DC and isolated land uses to the south from the Main Post and surrounding Capitol Hill community. Interstate development provided an opportunity for MBW to expand along I Street SE. In 1964 MBW was designated as a local historic district on the DC Inventory of Historic Sites.

1970s MBW remained essentially unchanged until 1971 when the Marines acquired a parcel of land south of the Main Post (across I Street SE) and adjacent to the Southeast Freeway to construct the multi-story Building 20 complex. The complex was built to accommodate much needed BEQ and support functions, as well as provide two decks of below-grade parking. Construction of the new replacement BEQ Complex was completed in 1975.



The parade ground at MBW’s Main Post was part of the original layout of the Barracks in 1801 and is a contributing resource to the US Marine Corps Barracks and Commandant’s House District.

1995-2014 In 1998, the Marine Corps identified the need to build a BEQ and associated support functions to meet ongoing shortfalls that were degrading mission effectiveness and reducing operational capability and flexibility. Following the transfer of the DCHA Arthur Capper Dwelling site, located southwest of and within a short walking distance of the Main Post, MBW Annex facilities were constructed in 2004. Development served to accommodate the growing requirements of the US Marine Band. Today the Annex site includes a combined band rehearsal hall, enlisted quarters, support facility, shared multi-purpose recreation field, and separate aboveground parking garage. In 1995 a kitchen was constructed adjacent to the Home of the Commandant. In 1999, new viewing stands and two (north and south) watch towers were added to the ceremonial parade ground at the Main Post. Recent improvements include construction of two century posts (Buildings 11 and 13) along G Street in 2012 and the expansion of Building 12 in 2014.

Future The next phase of growth for MBW accommodates development of the proposed replacement BEQ Complex, including support functions and associated parking, to address existing and anticipated facility deficiencies. Additional information on the proposed development and other repair and maintenance projects is provided in Chapter 7.



Harper's Weekly engraving (June 1861) showing the United States Marines at Marine Barracks Washington, DC.

HISTORIC PROPERTIES

The historic Main Post, with its quadrangle of early-nineteenth and early-twentieth century buildings surrounding the central Parade Ground, is the oldest continuously active Marine Corps installation in the nation (Figures 3-25 and 3-26). The Main Post and Building 20 site are both included within the boundaries of the NRHP-listed Capitol Hill Historic District, and the entire installation is included within the boundary of the L'Enfant Plan. Because of the historic significance of the MBW Main Post and surrounding areas, planning, and implementation of all projects at the installation must be carefully considered in order to balance stewardship needs with the USMC and MBW mission.

Tables 3-4 and 3-5 provide a summary of architectural and archaeological resources found at MBW. A complete inventory, analysis, and treatment of historic and cultural resources is provided in the ICRMP for MBW 2013-2018 (Final March 2013).

Figure 3-25 Historic Districts, MBW Vicinity

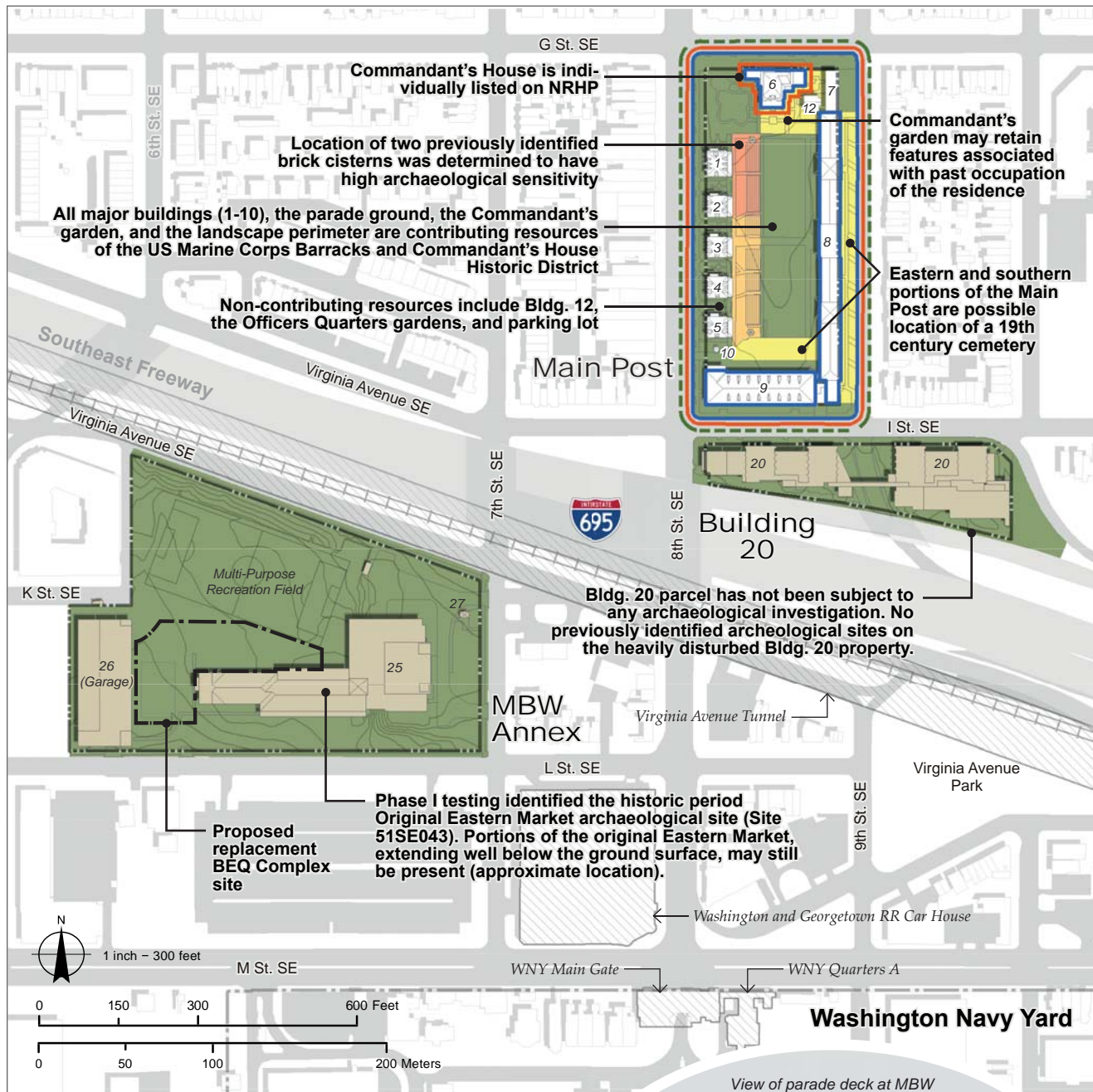


Legend

Historic Properties

- Capitol Hill Historic District (National Register)
- Marine Barracks (National Historic Landmark)
- Washington Navy Yard (National Historic Landmark)

Figure 3-26 Historic Properties and Archaeological Sensitivity



Legend

- | | |
|-----------------------------------|-------------------------------------|
| Archaeological Sensitivity | National Historic Landmark |
| High | DC Inventory of Historic Sites |
| Moderate | National Register Listed Properties |
| Moderate-Low | Contributing Structures |
| Low-None | Installation Boundary |
| | Adjacent Historic Properties* |

Note: *Refer to NRHP and EIS for additional information on adjacent historic properties.



Barracks (Building 8) at the Main Post, circa 1917.

Table 3-4 Summary of Historic Architectural Resources (Main Post)

DESIGNATION	DESCRIPTION	BOUNDARY
National Historic Landmark	US Marine Corps Barracks and Commandant's House District	Corresponds to MBW Main Post; bounded to north by G Street SE; south by I Street SE; east by 9th Street SE; and west by 8th Street SE
National Register Listed Properties	US Marine Corps Commandant's House	Building 6, 801 G Street SE
	US Marine Corps Barracks and Commandant's House District (includes same contributing resources as National Historic Landmark [NHL])	Same as NHL boundary
DC Inventory of Historic Sites	Marine Barracks Historic District	Same as NHL boundary
	Marine Barracks and Band Hall	Buildings 8 and 9; 9th and I Streets SE
	Marine Corps Commandant's House	Building 6; 801 G Street SE

Table 3-5 Status of Archaeological Resources by Parcel

SITE	CITY SQUARE	ARCHAEOLOGICAL RESOURCE
MBW Main Post	Square 927	Two un-evaluated historic brick cistern features, east of Buildings 1 and 2, officers' quarters.
		Fireplace Midden Deposit (Site 51SE068) in basement fireplace in Building 6, Commandant's Home, and documented on District of Columbia State Historic Preservation Office (DC HPO) archaeological site form.
		19th-century Marines and Sailors Cemetery possibly at MBW Main Post, location unknown.
MBW Building 20	Squares 928 and 951	Parcel not surveyed, however, appears to be heavily disturbed. There are no previously identified archaeological sites at the MBW Building 20 site.
MBW Annex	Squares 880, 881 and 881W	Original Eastern Market archaeological site (Site 51SE043) consists of buried remains of 19th century public market that sold perishable and non-perishable goods; Phase III data recovery conducted to mitigate impacts to site prior to construction of MBW Annex; artifacts owned by National Park Service (NPS); housed at DC HPO.



MBW Command Post (Building 8).

3.2.6 Assets Analysis

The following analysis is a summary of real estate (Type 1 assets), buildings (Type 2 assets), and other structures (Type 3 assets) at MBW. A complete list of tabular facility assets data for MBW is provided in Appendix C.

REAL ESTATE (TYPE 1)

MBW real estate (Type 1 assets) consists of three distinct land areas, five city squares, and 14 lots totaling 12.58 acres at the Main Post, Building 20, and the Annex sites (Table 3-6, Figure 3-28). The oldest of the sites is the original Main Post acquired in 1801, also referred to as Square 927 and located at 8th and I Streets SE. This remained the only site for the Marines in DC for over 170 years, until the Building 20 site (Squares 928 and 951) was acquired in 1971 to alleviate overcrowding and provide needed berthing and support space. The MBW Annex site (Squares 880, 881, and 881W) was acquired in 2002 to accommodate growing requirements for the US Marine Band, previously housed at the Main Post (Building 9).

Table 3-6 Type 1 Facilities Summary

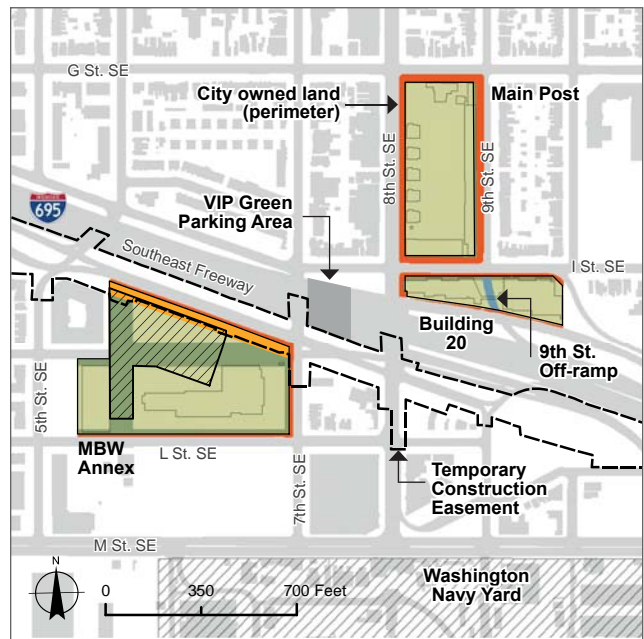
DATE ACQUIRED	CITY SQUARE	SITE (AC)
1801	Square 927 (Main Post)	3.56
1971-72	Squares 928 and 951 (Building 20)	1.56
2002	Squares 880, 881, and 881W (MBW Annex)	7.46
Total		12.58

REAL ESTATE AGREEMENTS

Southeast Freeway Off-Ramp "Ramp B" Easement (9th Street SE)

The Southeast Freeway off-ramp easement (approximately 0.1 acre) was established when the Building 20 site was acquired by the DoN (or Navy) from DC (Figure 3-27). The Navy assumed responsibility for construction of the Southeast Freeway (I-695) off-ramp "Ramp B" through the Building 20 site, and for requesting closures to 9th Street subject to the District retaining a three-dimensional easement (i.e., with "air rights") for roadway and highway facilities and access for inspection, maintenance, and law enforcement. DDOT is in the process of construction upgrades to the west-bound on-ramp as part of the 11th Street Bridge Improvement Project (discussed earlier in this Chapter/ Local Planning Initiatives), which encompasses portions of the Southeast Freeway. Ramp B will be closed as a part of the 11th Street Bridge project after which DoN and the Marines will work with the District to terminate the easement.

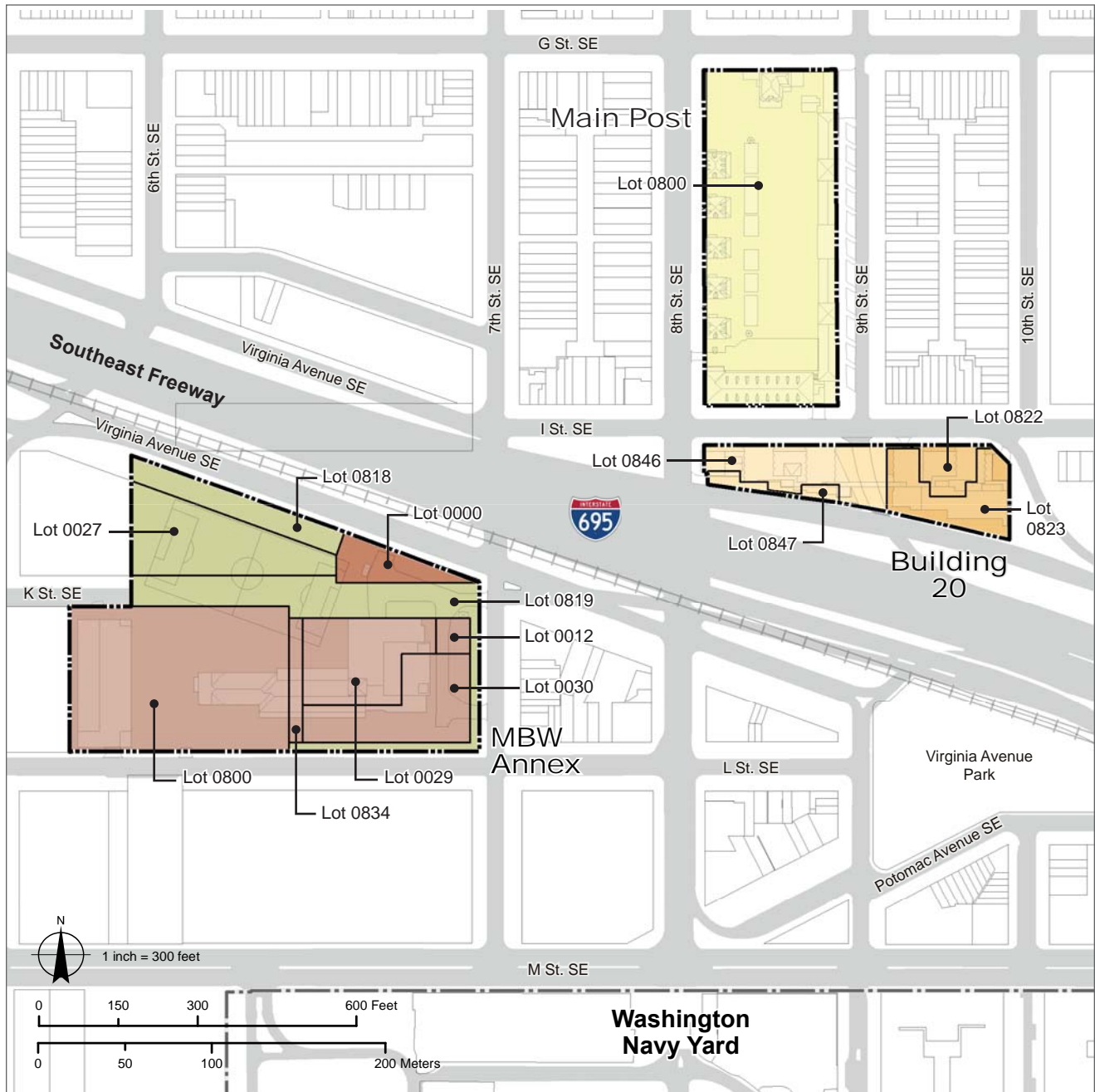
Figure 3-27 Real Estate Agreements



Legend

- Easement for Public Use
- Highway Ramp Easement
- Historic Viewshed Preservation
- CSX Limits of Construction
- CSX Easement (Approx.)
- City Owned Land
- MBW Installation

Figure 3-28 Land Ownership



Legend

- City Square Reserve 124
- Square 880 Lot (# Indicated)
- Square 881 Installation Boundary
- Square 927 Surrounding Parcels
- Square 928
- Square 951

CSX Virginia Avenue Tunnel ROW

The Virginia Avenue Railroad Tunnel (and corresponding ROW), which runs east/west along the northern boundary of the Annex, includes a 4,000-foot single-track tunnel. The below-grade portion of these tracks extends from 2nd to 11th Streets SE and was built between 1872 and 1904. The tunnel has been deemed eligible for inclusion in the NRHP. Congressional authorizations for the CSX tunnel allow for up to four railroad tracks within the Virginia Avenue corridor. Proposed improvements to the CSX corridor would expand the existing tunnel and includes improvements to Virginia Avenue for adjacent landscaping, street realignment, and other upgrades and restoration within the specified area to be disturbed. As proposed, the limits of construction (shown in Figure 3-27) would require a temporary construction easement that extends onto the MBW Annex site along the northern boundary, which would return any temporary impacts to the original condition upon completion. A Final EIS for the project was released in June 2014, and following the completion of construction, additional easement modifications and a permanent ROW expansion may also result.

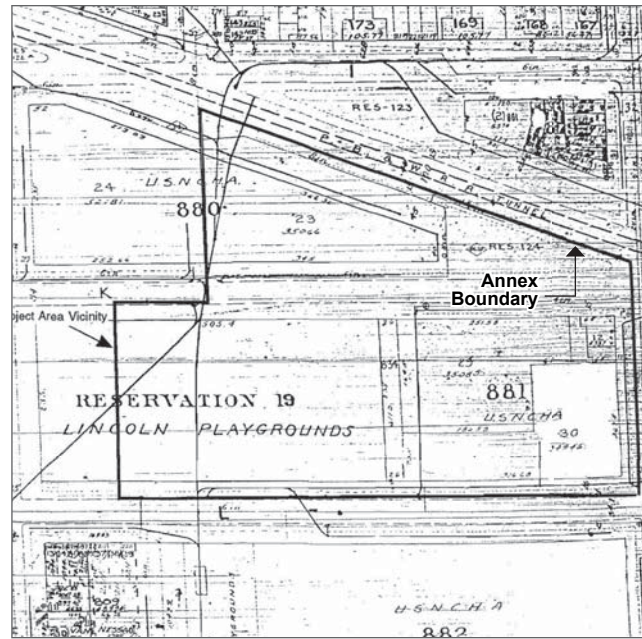
MBW Annex Deed Restriction: Realignment and Preservation of Previous Lincoln Playground

Prior to development of the Annex facilities, a covenant was established to address future ownership and use of the previous Lincoln Playground parcel (Figure 3-29 and 3-30). The deed restrictions for the transfer of the land from the NPS to MBW include a covenant that reads: "The realigned multi-purpose recreation field will remain dedicated to that purpose and shall be available for public use in perpetuity." This "realigned recreational field" refers to the multi-purpose recreation field that is used for training for the MBW ceremonial mission as well as for meeting Marine Corps physical fitness training requirements. MBW maintains this deed restriction commitment in coordination with the DC Department of Parks and Recreation (DCDPR) program, which includes a permit program for fields use. The field can be scheduled for public use most evenings and often during the day.

MOA Viewshed Preservation at MBW Annex, June 26, 2001

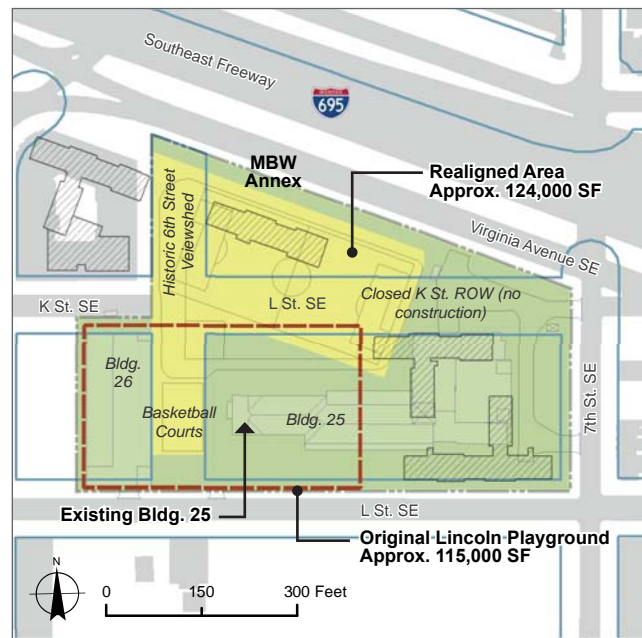
Under this MOA between the Marine Corps, NPS, and the DC HPO, in an effort to mitigate the potential effects of the MBW Annex proposed construction and fulfill the requirements of Section 106 of the NHPA, the Marine Corps committed to "design and construct new facilities within the land to be transferred in a manner that does

Figure 3-29 Original Lincoln Playground



1956 R H Baist Real Estate Atlas of Surveys showing approximate location of the original Lincoln Playground, currently realigned and preserved as open space at the MBW Annex.

Figure 3-30 Realigned Lincoln Playground



Legend

- Realigned Lincoln Playground
- Original Lincoln Playground
- Previous Arthur Capper Dwellings
- Installation Boundary
- Historic Street Viewshed



A MOU with the City allows for shared parking along 9th St. SE, adjacent to the Main Post.



As indicated at the Main Post, city-owned land surrounding MBW is integral to maintaining the visual continuity of the public edge.

not obstruct or interfere with the view corridors for 6th and K Streets SE as established and depicted in the L’Enfant Plan for Washington, DC.” The ROW corridors are each 90 feet wide and effectively divide the parking garage (Building 26) from the main enlisted quarters and band hall facility (Building 25) and incorporate the multi-purpose recreation field. Additionally, the Navy and Marine Corps agreed to publish the results of an investigation and data recovery of the Early Eastern Market site under the MOA.

Bill 14-836. Street Closures at Annex, 19 November 2002

Bill 14-836, also known as the “Closing of Portions of Virginia Avenue, SE, K Street, SE, L Street, SE, and 7th Street, SE, and Transfer of Jurisdiction of Reservations 19 and 124, S.O. 02-2677, Act of 2002,” was developed to address the proposed closure of portions of K Street SE and 6th Street SE to facilitate the construction of the MBW Annex facilities. The portions of the closed streets within the Annex site were not functional and were unimproved, yet their ROWs were included as part the L’Enfant Plan and subject to the historic preservation process. Under this Bill, the DoN agreed to avoid construction within the viewsheds of the historic ROWs. In exchange for the transfer of a portion of Reservation 19 from the DCDPR, the DoN also agreed to preserve a roughly equivalent amount of open space (previously the Lincoln Playground) for recreational purposes at the Annex site to be available for USMC and community use in perpetuity.

Memorandum of Understanding Parking on Adjacent City Streets

A MOU between DC and the USMC allows MBW to utilize street parking along G, 8th, and 9th Streets SE. The agreement states that the Marines control all parking along G Street (southern side facing the Home of the Commandant) between 8th and 9th Streets SE at all times. Additionally, the Marines have the ability to reserve parking spaces along 9th Street SE (facing Building 8), and along 8th Street facing the Main Post (east side) between G and I Streets SE for event parking with 72-hour notice. Parking for Marines is otherwise not permitted in these areas.

City-Owned Land

At the Main Post, the strip of land between the perimeter of the buildings or walls and the adjacent street is beyond the installation boundary and is owned and maintained by DC. A similar condition exists at the other MBW sites and defines the ROW for surrounding streets. The perception is that this peripheral area is aesthetically part of the installation and should reflect the visual continuity of MBW. Currently, MBW



VIP Green parking area located at the Southeast Freeway underpass at 7th Street SE, used primarily during ceremonial events at MBW.

conducts limited landscaping and maintenance of these areas solely to ensure their consistent upkeep and appearance. As such, the Marines have invested in improvements over the years to enhance the appearance of this public edge including foundation landscaping and lawn areas. A similar condition exists for the fenced parking area located below the Southeast Freeway along 7th Street SE (known as VIP Green) which is utilized by the Marines for routine ceremonial parking and off-site storage. The VIP green is a visual stepping stone between the Main Post and the Annex, and is a highly visible area during weekly ceremonies and year round events. It is essentially an extension of the MBW campus in use but not appearance as the area currently does not portray the desired image reflected at nearby MBW sites. An agreement is being sought by USMC that would formalize the future maintenance of perimeter areas as well as VIP Green for ceremonial parking.

During the construction of the Building 20 complex in 1974, a tunnel was added below I Street SE that connects the underground parking area at Building 20 with the Main Post. MBW is currently pursuing an agreement that supports the continued use, which is contingent on the long-term disposition of Building 20.

BUILDING ASSETS (TYPE 2)

The following analysis is provided as a summary of Type 2 assets at MBW. Data to support this analysis was collected from the MBW AEs completed in December 2013 and supported by Internet Navy Facilities Assets



Housing and Community Support (Facility Category 100) encompasses the largest facility footprint at MBW.

Data Store (iNFADS) information downloaded as of May 2014.

There are currently 20 permanent Type 2 facilities at MBW located on three separate sites (Figures 3-31 and 3-32). These facilities are classified into six primary facility categories with the largest footprint (over 40 percent) comprising Housing and Community Support (Table 3-7). The facilities fall into 27 facility category codes as defined by the Facility Planning for Navy and Marine Corps Shore Installations (UFC 2-000-05N, formerly P-80). Table 3-8 shows the breakdown of Type 2 facilities at MBW by category code number (CCN) as reflected in MBW AEs (December 2013). Tables 3-9 and 3-10 provide a summary and breakdown of all Type 2 facilities by area and building number.

Table 3-7 Summary Primary Facility Categories

CAT-EGORY	CLASS DESCRIPTION	AREA (SF)	AREA (SM)	PERCENT
100	Operations & Training	99,877	9,279	16.0
200	Maintenance Production	9,201	855	1.5
400	Supply & Fuels	3,246	302	0.5
600	Administrative	58,587	5,443	9.7
700	Housing & Community Support	245,571	22,814	40.4
800	Public Works & Utilities	191,489	17,790	31.5
Total		607,971	56,483	100.0

Source: MBW Assets Evaluation, December 2013.



Building 20, a 5-story BEQ and support facility built in 1974, is rated as inadequate and planned for replacement.



Structured parking (CCN 85310) is the largest building use at MBW, comprising nearly one third of the total facility footprint.

Figure 3-31 Summary Primary Facility Categories

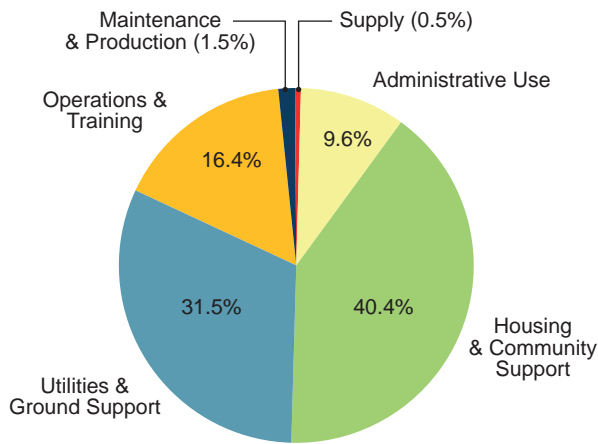


Table 3-8 Summary MBW Category Code Breakdown

CCN	USE DESCRIPTION	AREA (SF)	AREA (SM)	PER-CENT
85310	Parking Building	189,839	17,637	31.2
72124	BEQ-Marine E1-E4	142,846	13,271	23.5
17120	Applied Instruction	97,105	9,021	16.0
61010	Administrative	58,587	5,443	9.6
71144	Married Officers Qtrs. O7-O10	35,261	3,276	5.8
74044	Indoor Physical Fitness Ctr.	28,805	2,676	4.7
21910	Public Works Shop	9,201	855	1.5
74064	Enlisted Club	7,556	702	1.2
71143	Married Officers Qtrs. O6	6,140	570	1.0

CCN	USE DESCRIPTION	AREA (SF)	AREA (SM)	PER-CENT
72210	Enlisted Dining Facility	5,034	468	0.8
74002	Location Exchange	3,700	344	0.6
72412	BOQ Transient W3-W5 & O3	2,900	269	0.5
14345	Armory	2,772	258	0.5
73035	Locker Room	2,240	208	0.4
44110	General Warehouse	2,086	194	0.3
72340	Garage Detached	2,016	187	0.3
72112	BEQ E5/E6 (MC E5 Only)	1,968	183	0.3
74054	Military Rec Center	1,932	179	0.3
74060	Commissioned Officers Club	1,790	166	0.3
82610	Cooling System Plant Bldg.	1,650	153	0.3
74078	Recreation Pavilion	1,222	114	0.2
42135	Ready Magazine	1,160	108	0.2
72241	Dining Facility Detached	816	76	0.1
73020	Security Building	543	50	0.1
73025	Gate Sentry House	348	32	0.1
74009	Exchange Service Outlets	.310	29	0.1
71477	Housing Det. Misc. Storage	144	13	<0.1
Total		607,971	56,483	100.0

Source: MBW Assets Evaluation, December 2013.



Figure 3-32 MBW Existing Facility Assets Summary

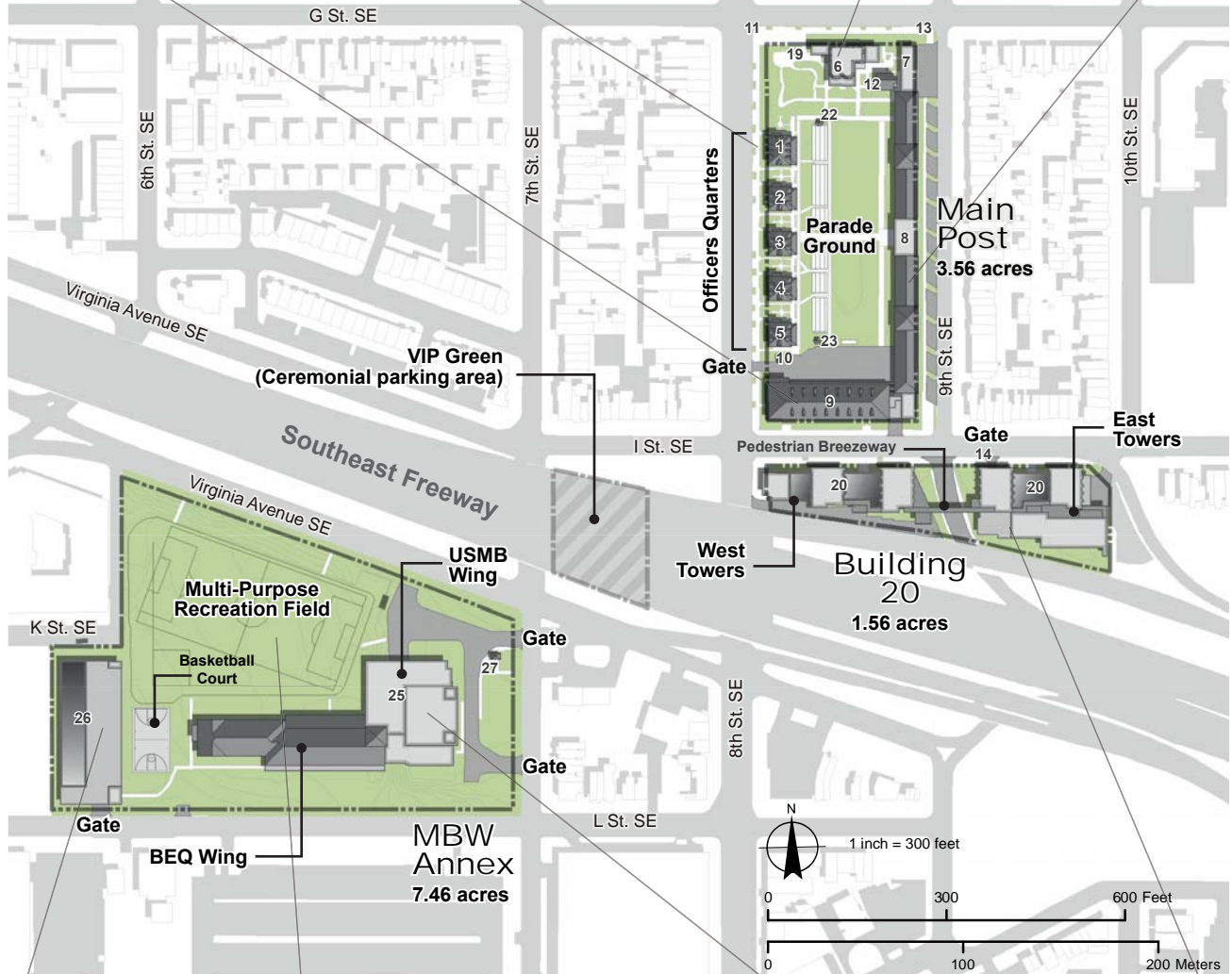


Table 3-9 Type 2 Facilities Site Summary

MBW SITE	BLDGS.	BLDG. AREA (SF)	BLDG. AREA (SM)
Main Post	14	135,257	12,566
Building 20 Complex	2	222,633	20,683
Annex	4	250,081	23,233
Total	20	607,971	56,483

Table 3-10 Type 2 Facilities Breakdown

FACILITY NAME	BLDG. NO.	AREA (SF)	AREA (SM)
Main Post (8th & I)		135,257	12,566
Married Officers Quarters	1	7,376	685
Married Officers Quarters	2	6,140	570
Married Officers Quarters	3	6,140	570
Married Officers Quarters	4	6,140	570
Bachelor Officers Quarters/ Center House	5	6,140	570
Commandants House	6	15,605	1,450
Garage / Post Supply	7	4,102	381
Marine Barracks, East Wing	8	47,983	4,458
Marine Barracks, South Wing	9	34,543	3,209
Post 1 Sentry Booth	10	56	5
Post 10 Sentry Booth	11	36	3
Multipurpose Kitchen	12	816	76
Post 10A Sentry Booth	13	36	3
Storage Shed @ Quarters 6	19	144	13
Building 20 Complex		222,633	20,683
Post 4 Sentry Booth	14	36	3
BEQ & Personnel Support Facility	20	222,597	20,680
MBW Annex		250,081	23,233
BEQ and Band Support Facility	25	156,674	14,555
Annex Parking Garage	26	91,631	8,513
Gate/Sentry House	27	126	12
HVAC Enclosure	30	1,650	153
Total	20	607,971	56,483

Source: MBW Assets Evaluation, December 2013.

BUILDING USE

Major building uses at MBW include administrative, housing, and training to support the mission. Other auxiliary uses include parking, storage, kitchen, and security. Additionally, there are two tenant sites at JBAB and WNY that support the Motor Transport Section and MCI, respectively. As tenant sites, these facilities are accounted for under the inventory of their respective hosts sites, and do not fall under the asset inventory for MBW. The following summarizes the building uses and supporting facilities at MBW.



Housing close to 48,000 SF, the Command Post (Building 8) is MBW's largest administrative facility at MBW.

Administrative Facilities (CCN 61010)

Administrative uses include headquarters and office-type functions that support general administrative and professional services. Although administrative functions are conducted throughout the installation in support of various activities, the administrative hub for MBW is located at the Main Post in Building 8 (Command Post). Building 8 was originally constructed in 1902 as an open-bay barracks facility with an accompanying mess hall, which replaced the original barracks located along the Main Post's western boundary. At 3 ½ stories and nearly 48,000 SF, Building 8 is the largest facility at the Main Post. Building 8 also accommodates classroom/training areas, a Public Works shop and locker/changing rooms. The historic facility prominently serves as the ceremonial background to the weekly (seasonal) evening or "sunset" parades at the Main Post.

Training Facilities (CCN 17120)

Crawford Hall (Building 9) and Sousa Hall (Building 25) accommodate training for the D&B and US Marine Band, respectively. The USMB Band Facility, constructed at the MBW Annex in 2004, is a 433-foot by 173-foot 3-story structure, and combines the US Marine Band and other support functions with the adjoined BEQ in a mixed-use footprint. The building has an 95-foot unoccupied tower structure at the intersection of the two wings and a ground floor arched loggia reminiscent of the Barracks at 8th and I.

Crawford Hall frames the southern boundary of the Main Post. It replaces the original structure built in 1806 that served as the Band's Drill Hall. The current 2 ½-story building is approximately 200 feet long and 60 feet wide. Building 9, originally built to house the US Marine Band, underwent a complete modernization in 2006 following the development of Annex facilities to accommodate the D&B.



Senior Officers Quarters (SOQ) 1 through 5 provide repeating symmetry and a residential scale to the western boundary of the Main Post.

Family/Officer Housing

(CCN 71143, 71144, 72412 and 74060)

The General Officers Quarters (GOQs) at MBW consist of five 3-story single family historic brick dwellings of nearly identical design that form the western edge of the Main Post quadrangle. Each Georgian Style structure is based on a symmetrical square floor plan (approximately 45 x 45 feet) that opens to the central parade ground to the east. Thought to have been designed by the same firm of Hornblower and Marshal who was responsible for design of the Command Post (Building 8) and Band Hall (Building 9) in the early 1900s, these structures incorporate a similar character and style of the rest of the Main Post. Quarters 2, 3, and 4 (each 6,140 SF) house senior general officers at the Post, and their families (CCNs 71143 and 71144). Quarters 1 is slightly larger (7,376 SF) and is reserved for the installation's Commanding Officer and family. Quarters 5 (6,140 SF), also referred to as Center House (CCNs 74060 and 72412), is identical to Buildings 2 through 4 and serves as a visitors quarters and mess facility sited adjacent to the main gate.

Located at the north end of the parade ground at the Main Post is the Home of the Commandant (CCN 71144) representing the oldest federally owned facility in the District in continual use. The original 2½-story 15,605-SF brick house, designed by George Hadfield, was one of the first structures to be built at the Barracks in 1802, and the only public building in Washington, DC that survived the attack and subsequent burning of the city during the War of 1812. The original structure portrayed the classic symmetry of federal design, although the structure has received a number of alterations from its early years, including a 1-story wing and a 2-story addition in 1840. Other notable design elements include the massive arched front entry, characteristic mansard roof, elegant round-head dormers, and striking bow rooms which overlook the parade grounds



The latest addition to the BEQ inventory at MBW is Building 25 at the Annex, housing approximately half of enlisted personnel.

at the rear of the residence. The home boasts a spacious covered porch at the south façade, and is adjoined by a private garden to the west and accompanied by a private kitchen (Building 12) immediately to the east. Rehabilitation of Quarters 6 was recently completed to restore aging and outdated elements, enhance security and meet current AT/FP requirements.

Unaccompanied Housing (CCN 72124)

There are two BEQ facilities (also known as Unaccompanied Enlisted Personnel Housing or UEPH) that house unaccompanied enlisted personnel in multi-story, interior corridor permanent party facilities at MBW. Building 20 is a 5-story masonry structure with a brick façade. The facility was constructed in 1975 to accommodate overcrowding, and is connected to the Main Post via an underground tunnel beneath I Street SE. The large 222,597-SF complex consists of four connected towers separated into east and west wings by a pedestrian bridge over the freeway off-ramp to 9th Street. It nearly doubled the space of MBW at the time of construction, and houses approximately half of the BEQ requirement for Marines from the Alpha and Bravo Companies. It also houses a dining hall, fitness facilities, an armory, and an underground parking garage. Architecturally, the building does not reflect the style, massing, or materials used at the Main Post or Annex facilities and is visually isolated from the MBW campus.

Building 25 (Sousa Hall) is a multi-purpose 5-story masonry facility constructed at the Annex site in 2004 that houses approximately half of the BEQ requirement for enlisted personnel from the D&B, Guard Company, H&S Co., and MCI. The facility was built to the current minimum 2+0 room standard and is adjoined (east wing) to the rehearsal, performance, and support space for the US Marine Band. In addition to barracks space, located in the west wing, Building 25 includes fitness space, an exchange, music library, and administrative office space to support the US Marine Band.



Building 20 houses over 200 below-grade parking spaces under the existing BEQ and support uses.



The ground floor of Building 7 houses eight POV parking spaces for on-site SOQ and GOQ residents.

Structured Parking (CCN 72340 and 85310)

There are currently an estimated 534 parking spaces at MBW, with 508 spaces provided in structured parking (above and below ground), and 26 surface parking spaces for government-only vehicles (Table 3-11 and Figure 3-33). Based on the commuter population to MBW of 641 (Figure 3-23), existing commuter parking assets (150 spaces) achieve a ratio for spaces to employees of 1:4.27, and comply with the DC Comprehensive Plan maximum ratio of one parking space for every four employees (1:4) within the historic boundaries of DC. Current assets also provide parking for 70 percent of enlisted MBW residents (500 PN), or 350 spaces. Additional information on future parking ratios can be found in Table 7-4.

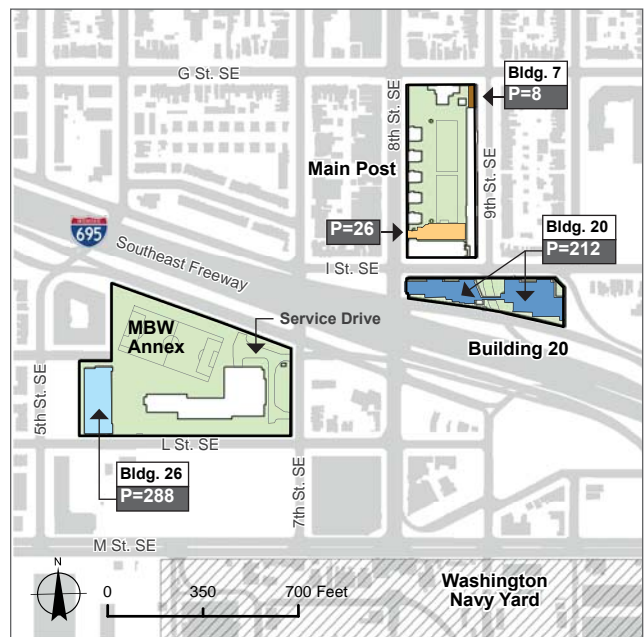
Table 3-11 Parking Summary of Spaces

PARKING FACILITY	PARKING SPACES	PARKING USE
Main Post (Surface Lot)	26	Government Vehicles (only)
Building 7	8*	Officers Housing (only)
Building 20	212*	Enlisted Housing (350 spaces) and Commuter (150 spaces)
Building 26	288*	
	500* (combined)	
Total	534 Spaces	

Notes: * Indicates structured parking assets. Spaces at Bldg. 7 are reserved for government vehicles only (SOQs). Surface parking area is classified as a Type 1 facility (CCN 85210) and included here to capture all parking resources at MBW. Total surface parking equates to 1,650 SY/1,359 SM.

Structured parking assets within Buildings 20 and 26 serve enlisted personnel housed at the two sites. Building 20 has a 2-deck below-grade parking facility for 212 vehicles (CCN 85310). The parking area in Building 20 is also occasionally used for indoor training and houses a small arms armory. The largest parking facility is Building 26 at the Annex. The aboveground 5-story structure accommodates 288 parking spaces.

Figure 3-33 Parking Assets



Legend

- Surface Parking
- Structured, Above Grade
- Structured, Below Grade
- Officer Parking (controlled)
- MBW Installation

Access to all parking areas is controlled and available to MBW personnel only, unless otherwise authorized.

Building 7 (CCN 72340) at the Main Post is reserved for senior officers who reside in the GOQs at the Main Post. The 4,100-SF 2-story brick structure was constructed as an addition to the north end of Building 8. The structure houses eight personal vehicles on the ground floor with independent controlled access. The second floor is currently used for a logistics warehouse.



Building 10, vehicle and pedestrian sentry house at the Main Post.

In addition to structured parking there is limited surface parking at the Main Post. The small paved area north of Building 9 can accommodate up to 26 government-only vehicles and is restricted to authorized staff and subject to ceremony and delivery schedules. Parking/storage for MBW buses and other transportation vehicles is located at JBAB.

Gate/Sentry House (CCN 73025)

There are five sentry houses located among the three MBW sites. Building 10 (Post 1) is the oldest and most prominent of the sentry posts and is located on the northern side of the main gate at 8th and I. Post 1 was constructed in 1911 and is a NRHP-listed facility. Buildings 11 and 13 (Posts 10 and 10A constructed in 2011) are located at the Main Post on the northwest and northeast corners of the site providing security for the Commandant’s Home including lines of sight along 8th, 9th, and G Streets SE. Building 14 (Post 4 constructed in 2011) is located at the entry to the Building 20 garage, and Building 27 (constructed in 2004) is sited at the main gate to the Annex.

Installation Access Points

There are 23 points of access to MBW that provide pedestrian, vehicle, service, and emergency access across the installation (Table 3-12). Access points are not classified as Type 2 facilities but have been included here in association with the previously discussed gate structures. All access points are controlled. There are 10 vehicle gates including two roll-up service doors located at the southeast connection of Buildings 8 and

9 at the Main Post. There are six manned gates and eight gates that have installed electronic controls. The Commandant’s Home is flanked by two sentry posts that control the pedestrian gates associated with these locations (CMC 1 and CMC 2). There are two pedestrian-only gates at each of the four GOQs (Buildings 1-4) and one for Center House (Building 5). Additionally, there are two pedestrian-only gates located along the north side of the multi-purpose field at the MBW Annex along Virginia Avenue. These gates do not currently serve as public entry points. Emergency vehicle gates are also provided at the MBW Annex. Public access points are established at the Main Post Main Gate and the Annex Main Gate.

Table 3-12 MBW Access Points

GATE ID	VEHICLE	MANNED	CON-TROLLED	ELECTRIC
MAIN POST				
Main Gate	Y	Y	Y	Y
Gate 1	N	N	Y	N
Gate 2	N	N	Y	N
Gate 3	N	N	Y	N
Gate 4	N	N	Y	N
Gate 5	N	N	Y	N
Gate 6	N	N	Y	N
Gate 7	N	N	Y	N
Gate 8	N	N	Y	N
Gate 9	N	N	Y	N
CMC Gate 1	N	Y	Y	N
CMC Gate 2	N	Y	Y	N
Rollup Door 1	Y	N	Y	Y
Rollup Door 2	Y	N	Y	Y
BUILDING 20				
Bldg. 20 Garage	Y	Y	Y	Y
Back Alley	Y	N	Y	N
ANNEX				
Annex Main Gate	Y	Y	Y	Y
Annex Gate	Y	N	Y	Y
Bldg. 26 Garage	Y	Y	Y	Y
Emergency (vehicle 1)	Y	N	Y	N
Emergency (vehicle 2)	Y	N	Y	Y
Emergency (pedestrian 1)	N	N	Y	N
Emergency (pedestrian 2)	N	N	Y	N
Totals*	10	6	23	8

Source: iNFADS download October, 2013.

Note: *Totals identify number of entries in the “yes” category.

MISCELLANEOUS USES

Building 12 is the multi-purpose kitchen facility (CCN 72241) which serves the Commandant’s Home. The 1-story 816-SF facility was constructed in 1995 by the Seabees, and was renovated and expanded in 2014. The structure is located between Buildings 6 and 7 on the site previously occupied by a greenhouse and tool shed.

Building 19 is the designated storage facility (CCN 71477) serving the Commandant’s Home. This 12 x 12-foot storage shed was built in 2011 immediately west of Building 6 in the adjacent gardens.

OFF-SITE LEASED FACILITIES

MBW currently operates tenant facilities at nearby federal sites to meet its mission needs. Sites at JBAB and WNY support the Motor Transport Section and MCI activities, respectively. As tenant sites, ownership of these leased facilities falls under the host Unit Identification Code (UIC). Although they do not fall under the assets inventory for MBW, they are included below for reference purposes.

Marine Corps Institute

MCI relocated from MCB Quantico in 1920 and occupies space in Buildings 169 (21,561 SF) and 220 (36,117 SF) at the WNY. The facilities are located at the northeastern corner of WNY along M Street SE, three blocks south of the Main Post. MBW currently leases space in the two federally-owned facilities for MCI printing plant (CCN 22950) and administrative (CCN 61010) functions. The Marines share space with the DoN in Building 220. Proposed mission changes for MCI identify the relocation of current functions within Buildings 169 and 220 to MCB Quantico, Virginia.

Motor Transport Branch

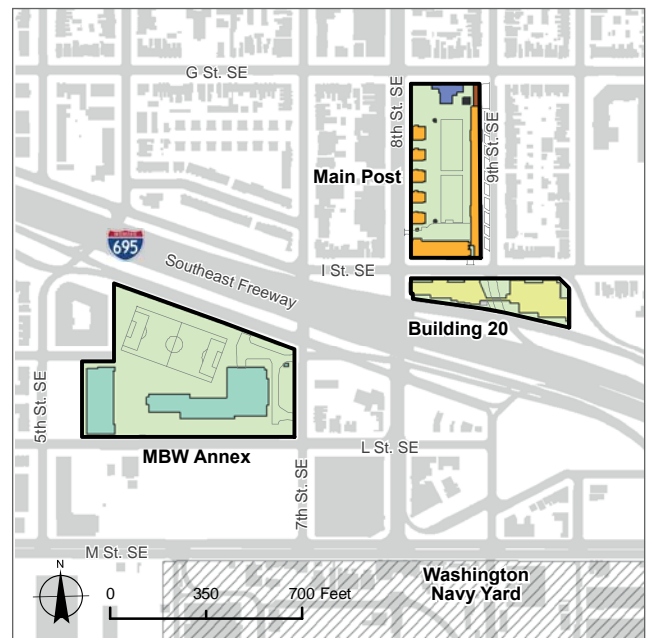
The MBW Motor Transport Branch provides ceremonial transportation and logistics support capabilities (CCN 21420) accommodated through leased facilities at nearby JBAB (Building 400A). The 4,973-SF facility and adjacent hardstand area at JBAB are shared by the Seabees for operational efficiencies of similar space type and functions. The Marines motor transport platoon (S4) is responsible for housing and providing first and second echelon maintenance for assigned vehicles and equipment. A list of vehicles stored at JBAB is provided in Table 3-17 and discussed in the Major Equipment section later in this Chapter.

BUILDING AGE

The Main Post is the original and historic core of MBW, and the vast majority (96 percent) of its building footprint is over 100 years old, including the Commandant’s Home that is over 200 years old (constructed in 1805). Overall, 22 percent of buildings and 41 percent of the total building footprint at MBW exceed the century mark (Figure 3-34 and Table 3-13). This is a result of, and continued focus on, reinvestment in the existing historically significant structures at the Main Post.

Age of buildings at MBW can be clearly grouped by their location. The development pattern expanded from the Main Post to Building 20 in 1974, and most recently to the Annex in 2004 that houses the newest buildings on MBW’s inventory (Buildings 25, 26, and 27).

Figure 3-34 Building Age



Legend

Building Age	
1805	1975
1902-1911	1995-2000
1934	2004-2011
	MBW Installation

Table 3-13 Analysis of Building Age

YEAR CONSTRUCTED	BUILDING AGE (YRS)	AREA (SF)	PERCENT OF AREA TOTAL	NUMBER OF BUILDINGS*	DESCRIPTION
1801-1810	>200	15,605	3	1	Building 6 (Commandant's Home)
1902-1911	>100	114,518	19	8	Buildings 1, 2, 3, 4, 5, 8 (Barracks), 9, 10
1934	>75	4,102	<1	1	Building 7
1975	>35	222,597	37	1	Building 20 (BEQ)
1995-2000	>10	816	<1	3*	Buildings 12, 22*, 23*
2004-2011	<10	250,333	41	8	Buildings 11, 13, 14, 19, 25 (BEQ), 26, 27, 30
Total		607,971		22*	

Source: iNFADS download October 2013. Note:* Buildings 22 and 23 are classified as type 3 (structures), and referenced here for age of construction purposes only.

BUILDING HEIGHT

A brief overview of building heights at MBW reveals that 99 percent of occupied space occurs in buildings of two or more stories. 1-story structures are limited to sentry posts (5), a screen enclosure (1), a shed (1), and the kitchen (1). Two buildings exceed 50 feet (Buildings 20 and 25) in height and the highest point is a central tower structure at the Annex (Building 25) which reaches 95 feet (Figure 3-35). The shortest buildings are three sentry booths (10, 10A, and 4) at 8 feet high. The result of this more compact development pattern largely defines MBW's urban character and moderate densities that relate well to the surrounding community. Tables 3-14 and 3-15 and Figure 3-36 summarize building heights at MBW.

Table 3-14 Summary of Building Height

HEIGHT (FT)	BLDG. AREA (SF)	% OF BLDG. AREA	NO. BLDGS.	% OF TOTAL BLDGS.
Less than 25	7,002	1	9	45
25 to 50	379,271	62	9	45
Over 50	221,698	37	2	10
Total	607,971		20	

Building height as measured from ground to highest point of elevation, excluding towers. Source: iNFADS download July 2013

Figure 3-35 MBW Height Profiles

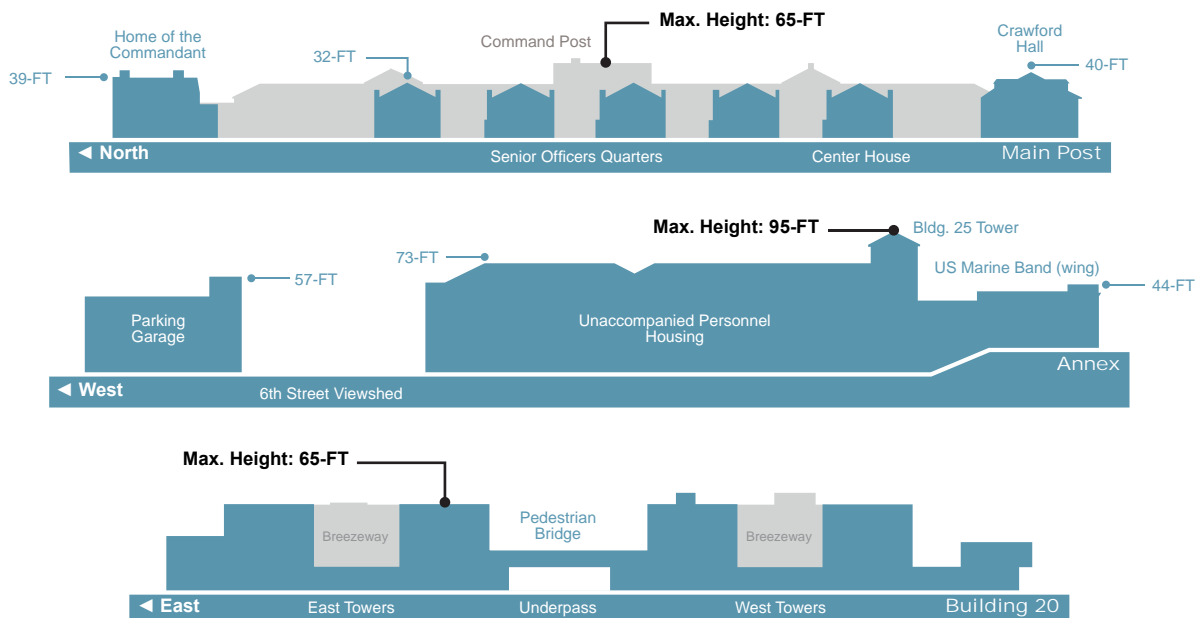
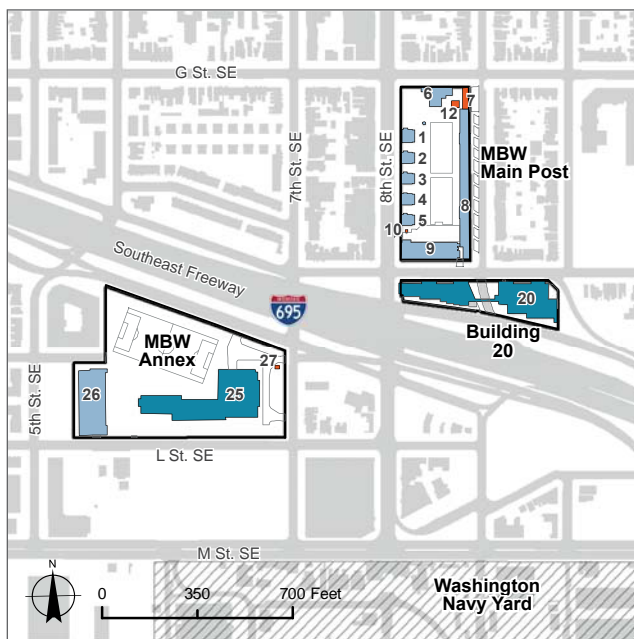


Figure 3-36 Building Height



Legend

- Building Height** MBW Installation
- < 25 FT
 - 25-50 FT
 - >50 FT

Table 3-15 Summary of Building Stories

HEIGHT (FT)	BLDG. AREA (SF)	% OF BLDG. AREA	NO. BLDGS.	% OF TOTAL BLDGS.
1-story	2,900	<1	8	40
2-story	38,645	6	2	10
3- to 5-story	566,426	93	10	50
Total	607,971		20	

Building stories as measured from ground to highest point of elevation, excluding towers. Source: iNFADS download July 2013.

FLOOR AREA RATIO

$$\text{Floor Area Ratio (FAR)} = \frac{\text{Total building area (all floors)}}{\text{Total site area (developable)}}$$

FAR is a measure of development intensity expressed as the ratio of gross building floor area to site area. As an indicator of development intensity, Table 3-16 summarizes the calculated FAR for each MBW site. The FAR for MBW ranges between 1.2 (MBW Annex) and 3.3 (Building 20). Compared to the range of maximum allowable FARs for surrounding DC commercial and residential zoning classifications of 1.8 to 4.0, these intensity indicators for MBW are compatible.

Table 3-16 Summary Floor Area Ratio

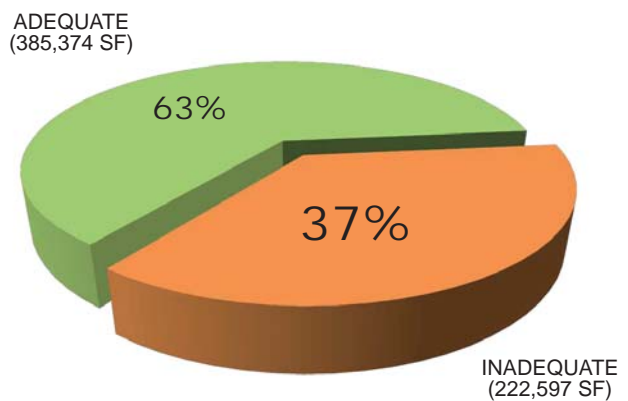
MBW SITE	TOTAL FLOOR AREA (SF)	TOTAL SITE AREA (SF)	FAR
Main Post	135,257	93,654	1.4
MBW Annex	250,081	208,217	1.2
Building 20	222,633	67,954	3.3
Total	607,971	369,824	1.6

Total site area does not include dedicated open space parcels: parade ground (61,600 SF) at the Main Post and the multi-purpose recreation field (116, 660 SF) at the Annex. Source iNFADS download July 2013.

FACILITY CONDITION

A summary of facility condition shows that over one-third of the facility footprint at MBW is rated as inadequate (Figure 3-37). The 222,597 SF of inadequate facilities represents the full footprint of Building 20. No facilities at MBW are rated as substandard according to iNFADS (October, 2013).

Figure 3-37 Facility Condition Summary



OTHER STRUCTURES (TYPE 3)

The following Type 3 facilities at MBW are considered notable assets.

Parade Ground (CCN 17960)

Located at the Main Post, the parade ground (Facility No. 200026) is the prominent ceremonial core and central framework for the historic quadrangle of buildings. Established in the early 1800s, the parade ground is a contributing resource to the NHL US Marine Corps Barracks and Commandant’s House Historic District. The rectangular turf area is approximately 160 feet wide by 385 feet long (61,600 SF, or 1.41 acres), serves as the focal point of the evening parades, and is bounded on the west by relocatable bleachers on concrete pads with interconnecting pathways. Surrounding the parade



The Main Post historic parade ground, site of the weekly Friday Evening Parades from April until Labor Day.

ground on three sides are numerous formal plantings of maple and oak trees. At the southern boundary lies a small parking area that exits through the main gate at the southwest corner of the Main Post. The grounds are generally not used for training purposes in order to minimize wear and preserve their appearance. Their primary function is for ceremonial use during the evening parades and special events held at the Main Post between late April and Labor Day. The field was fitted with an automatic irrigation system in 1998.

Open Space and Recreation (CCN 75020)

The multi-purpose recreation field (Facility No. 28) located at the Annex was developed under an MOA during the land transfer to develop the MBW Annex with the goal to preserve its location and shared-use with the community in perpetuity. The field is approximately 116,660 SF or 2.68 acres. It is used primarily by the Marines for physical training, marching and performance rehearsal, and recreation. The multi-purpose recreation field is available for the community to use most evenings with prior reservation.

Guard and Watch Towers (CCN 87220)

There are two 30-foot tall, 100-SF watch towers (Buildings 22 and 23) at MBW, both located at the Main Post and sited at the north and south end of the viewing stands that overlook the parade ground. The facilities are open-air metal framed towers with single spiral staircase access, hexagon platforms, and compatible roof elements. The two towers were added in 1999,



Building 23 south tower, one of two structures overlooking the parade ground at the Main Post.

provide lighting for evening performances, and are only manned during ceremonial events at the parade ground.

Basketball Courts (CCN 75010)

An outdoor basketball court (Facility No. 29) is located between Buildings 25 and 26 at the Annex. The 6,634-SF lighted facility is located within the historic streets viewshed and adjacent to the multi-purpose recreation field and walking/jogging path.

MAJOR EQUIPMENT

The following provides a brief summary of MBW's major equipment assets.

Printing Equipment (MCI)

Specialized printing equipment needs for MCI's operations are housed in Building 169 (printing plant and warehouse) at the WNY and used to produce and deliver hundreds to thousands of MCI textbooks daily to Marines worldwide. Major equipment includes two significant pieces; a large in-house industrial printing press (40 feet in length), and a Bourg binding machine. Additional equipment needs include large shipping

machinery (scanners, printers, and conveyors) and support from two forklifts to run operations in the warehouse and loading dock at Building 169. The existing equipment in Building 169 is currently in functional condition and meets the current mission needs for MCI.

Transportation

MBW operates a range of transport vehicles to support the ceremonial mission. All vehicles are stored and maintained at JBAB. Table 3-17 provides a summary of MBW’s vehicle fleet.

Table 3-17 Transportation Inventory

QTY	DESCRIPTION
8	56-passenger MCI Buses
4	44-passenger Blue Bird Buses
3	3+ Ton Stake beds
1	Cargo Truck, 24-FT box
3	Cargo Truck, 20-FT box
3	Cargo Vans
7	12-passenger Vans
1	Metro Van (Bread Truck)
7	Mini-vans
2	Pick-up Trucks
2	16-passenger Mini-buses
41	Total

Armory (CCN 14345)

MBW currently utilizes a single 2,772-SF single weapons storage and distribution space located in the below-grade parking garage within Building 20 that serves all three MBW sites. The space is undersized and does not meet current AT/FP and security requirements.

MAJOR UTILITIES

An independent Utilities Study was developed in conjunction with the Master Plan. The study provides essential information on existing utilities infrastructure and proposed recommendations to be referenced for additional information. Major site utilities infrastructure discussed includes water; stormwater; electric; natural gas; telecommunications; sanitary sewer; HVAC; lighting; and solid waste removal. The utilities serving MBW are largely owned and operated by other entities with the exception of on-site stormwater systems and hot water piping. The following serves as a summary of existing utilities assets servicing MBW.

Potable Water

Content intentionally omitted.

Stormwater

Provider: DC Water

SWR is collected through a variety of means including roof drains, downspouts, underdrains, and swales that enter peripheral catch basins connected to the combined sewer system and ultimately leading to the Anacostia River. Infrastructure interior to the installation is owned and maintained by MBW. Primary facilities include subsurface infrastructure to drain the parade ground and multi-purpose recreation field.

Sanitary Sewer

Provider: DC Water

MBW is located in a sewer collection service area that utilizes a combined sewer system. These older systems capture stormwater and sanitary sewage into a single collection system. During rainfall-free and low-rainfall days, the system captures all of the sanitary sewage and the small amount of stormwater and routes it for processing at the local water treatment plant (Blue Plains Wastewater Treatment Plant). The wastewater treatment plant provides primary, secondary, and tertiary treatment that includes grit removal, trickling filters, clarifiers, nitrification/denitrification, chlorination, and dechlorination. During higher rainfall events, the combined sanitary sewage and stormwater flows without treatment directly into the Potomac or Anacostia Rivers. DC Water has a program to gradually replace the combined sewer areas with separate storm and sanitary sewers.

In general, each building at MBW has a separate sewage connection to the DC Water sewer system. The installation does not own any on-site sanitary sewer collection infrastructure, excluding minimal short services between the building exits and the public collection system.

Electric

Content intentionally omitted.

Natural Gas

Content intentionally omitted.

Telecommunications

Content intentionally omitted.

Heating, Ventilation, & Air Conditioning

Content intentionally omitted.

Solid Waste Removal

Providers: EMCOR (solid waste), Melwood (recycling)

Dumpsters are located at each site for routine trash collection and removal. Trash handling for all refuse generated on the Main Post is handled in a service area located in the southeast corner of the Main Post, where Buildings 8 and 9 intersect. Dumpsters are located at the Annex along the service drive/parking area north of Building 25 and accessed through the Annex Main Gate. Trash storage and removal at Building 20 is located along the south side and accessed from 8th Street SE. The current solid waste removal service provider is EMCOR under a regional refuse collection contract. Recycling is handled by Melwood under a separate contract. Collection and removal sites for recyclables are in the same locations as solid waste.

Lighting

Exterior lighting contributes to the overall safety, security, function, and aesthetics of the site in multiple ways. Site lighting and associated electrical infrastructure within the installation boundaries is owned and operated by MBW. The installation relies on exterior lighting for multiple uses in addition to daily functions. Special lighting has been adapted to support the weekly parades and numerous ceremonial activities that take place at the Main Post on a year round basis. Additional specialty lighting is provided at the Annex multi-purpose recreation field to accommodate evening activities for MBW residents as well as the public.



Period-specific lighting provides pedestrian level lighting along the row of historic officers' quarters at the Main Post.

According to available GIS data and site analysis, existing lighting assets at MBW include street lights, flood lights, walk lights, security, and pole-mounted lights. Within this classification, flood lights include wall mounted fixtures as well as stand-alone event or stadium-style lighting. The current exterior lighting layout and distribution sufficiently covers the majority of high-use areas on and around the installation and functions well in conjunction with surrounding city-owned lighting infrastructure.

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4.0

Framework Plan



4.1 INSTALLATION FRAMEWORK

Development throughout DC shares a common history of deliberate urban design and planning direction beginning with the implementation of the L'Enfant Plan, reinforced through the McMillan Plan, and later supported through the Height Act. Over the years, development patterns throughout the City have evolved with a consistent and purposeful form and hierarchy through the direction of these notable guiding resources. These strong development patterns are readily apparent in the figure-ground analysis of the area (Figures 4-1 and 4-2).

Figure 4-1 Figure-Ground/ Buildings

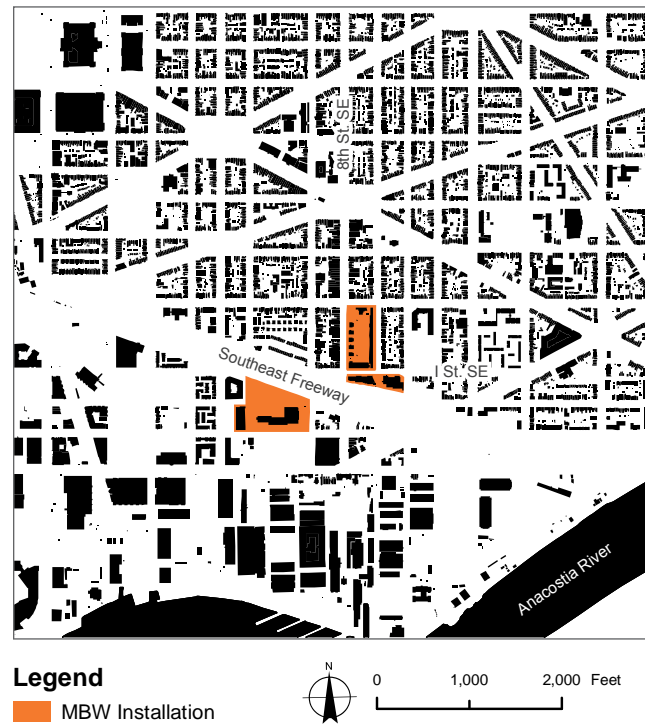
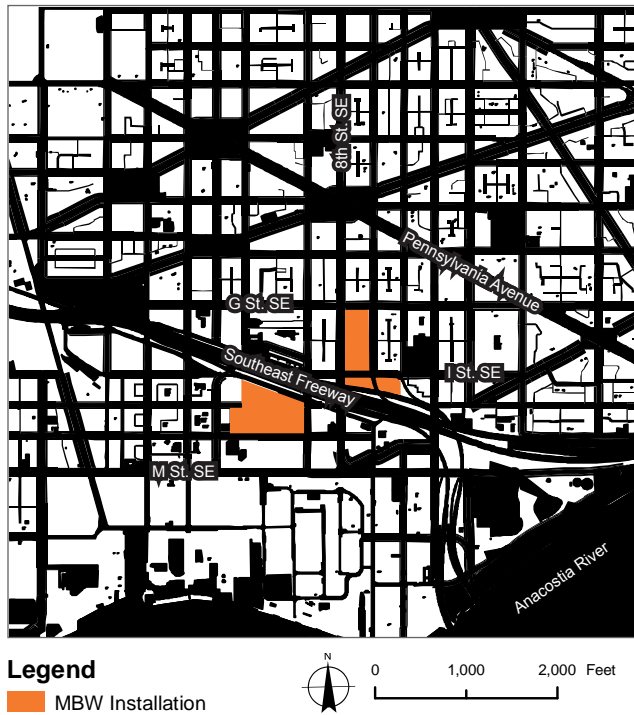


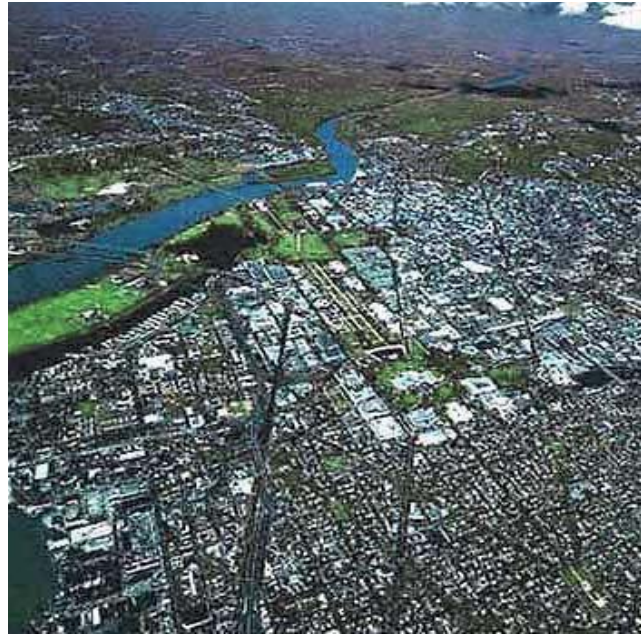
Figure 4-2 Figure-Ground/ Roads & Open Space



In the vicinity of MBW, orderly blocks are unified by tree-lined streetscapes and parallel parking which further contribute to the consistent urban neighborhood character. Mixed land uses of moderate to medium density residential with varied municipal and multi-story commercial uses provide the additional regulatory framework for the eclectic and walkable neighborhood character of the Capitol Hill District.

Surrounding development is comprised largely of 2- to 4-story brick and wood-clad structures dating back to the early 1800s. MBW building heights are generally consistent with surrounding uses and range between 2 and 5 stories. This consistency serves to integrate MBW with its moderate density residential and commercial neighbors, and establishes a compatible pattern to guide and support future development. Future development at the installation must continue to reflect these and other urban influences in a manner that contributes to the consistent form and character of the local community (Figure 4-3).

The Framework Plan (summarized in Figure 4-5) recognizes the significant features of the natural, built, and regulatory environment which have the greatest influence on existing and future development patterns. The Framework Plan provides the foundation for future development strategies and identifies key contributing elements on and around the installation. It also forms the basis for the ADP and Planning Districts. The



Aerial showing the larger framework of DC.

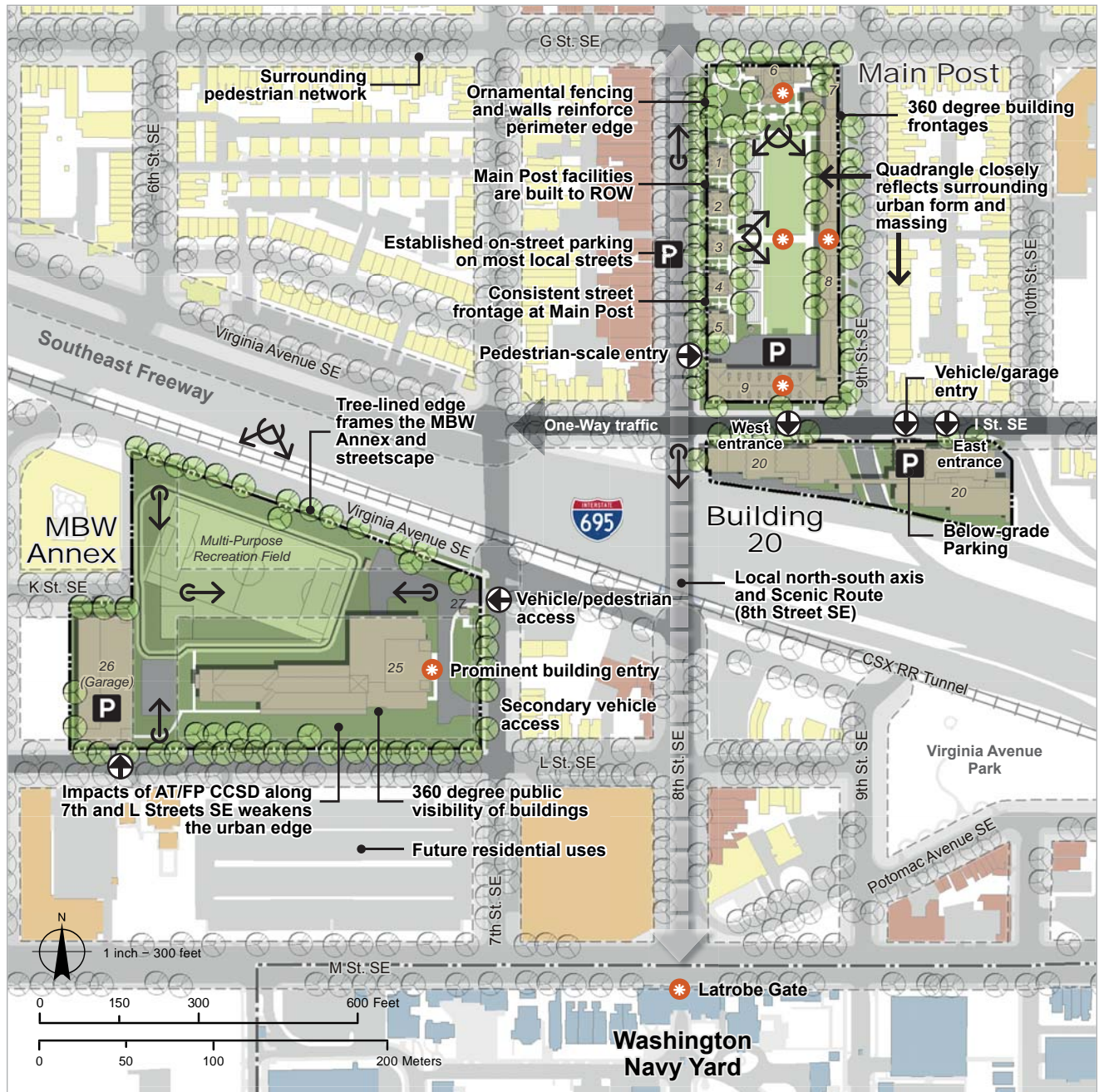
Framework Plan is organized into five key elements which incorporate various urban features that influence the way people comprehend and interact with the environment: Districts, Paths, Edges, Nodes, and Landmarks. Some features may serve multiple functions.

DISTRICTS

Districts are composed of relatively large areas or sections of the city or community distinguished by common characteristics.

The MBW campus is divided into three non-contiguous sites divided by the local street networks and ROWs, including the Main Post, Building 20, and the MBW Annex (Figure 4-4). While each site serves specific operational and support uses, the three locations function collectively as a single campus that is integrated with the surrounding networks and interconnected with the surrounding community. The three sites can be divided into two primary districts separated by the Southeast Freeway, creating the Main Post District (District 1) and Sousa Annex District (District 2). This distinction reflects synergies between activities within and between the individual sites such as enlisted housing and training for the D&B at the Main Post, and the US Marine Band activities at the MBW Annex. There are also essential support functions that are shared between districts such as dining facilities, gym, exchange, and the chaplain to name a few, which highlights the need for walkability between districts.

Figure 4-3 Urban Context Analysis



Legend

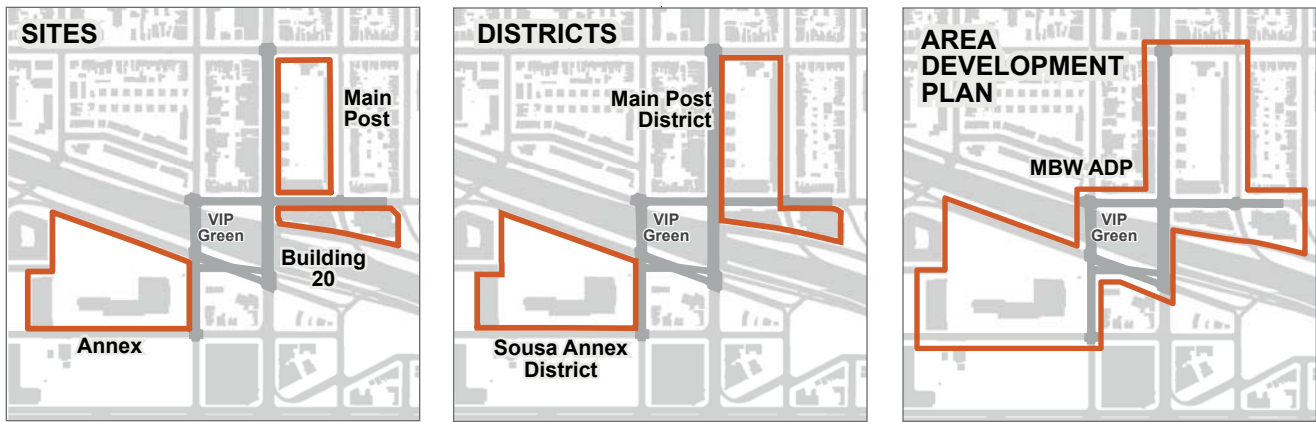
- | | | |
|-------------------------------|---------------------------|-----------------------------------|
| Installation Boundary | Open Space | Primary Access Point |
| Historic Streets Viewshed | Ceremonial/Training Areas | Major Parking |
| Adjacent Building Uses | | |
| Residential | Surrounding Tree Canopy | Prominent Building or Focal Point |
| Municipal | On-Site Tree Canopy | Prominent View (linear) |
| Commercial | | Prominent View (panoramic) |
| Washington Navy Yard | | |

Surrounding districts include the Barracks Row commercial area and WNY which contribute to and help define the surrounding built environment. Given the relatively compact and smaller scale of MBW as a whole, the installation is viewed as a single ADP, shown in Figure 4-4. The ADP looks at the broader scale as the basis for most installation planning efforts and is supported at multiple levels including development constraints, Regulating Plan, Illustrative Plan, Installation Planning Standards, and IDP and Program.



Building facades fronting 8th Street depicting the positive urban edge quality of DC and the Capitol Hill neighborhood.

Figure 4-4 MBW District and ADP Analysis



PATHS

Paths encompass the routes along which people move including streets, sidewalks, and trails.

Block patterns and building alignment that form the surrounding community conforms to the underlying historic street ROWs and reinforces the local pedestrian-scaled streetscapes and overall urban form. Established street networks, and the walkable city blocks, parks, and viewsheds form the organizational circulation groundwork of DC’s development framework. MBW sites are separated geographically, yet connected to one another through this formal grid of local tree-lined streets and a continuous network of sidewalks. The Main Post is anchored along 8th Street SE and the historic Barracks Row (commercial zone) which forms the prominent north-south axis of the installation framework and terminates at key destinations; the Eastern Market to the north and WNY to the south.

EDGES

Edges are both physical and perceived boundaries and breaks in the continuity including walls, buildings, parks and water bodies.

The Main Post and Sousa Annex Districts are separated by the Southeast Freeway (I-695) raised interstate which runs east-west bisecting the campus creating a physical and visual barrier between districts. It is the most prominent edge condition affecting the installation. Other edges have a more positive impact such as the consistent building facades fronting the streets, and open spaces or parks that reinforce the L’Enfant Plan.

NODES

Nodes are strategic focal points, loci, or junctures of orientation, including squares, intersections, or known gathering places.

As with any active campus, MBW has multiple destinations for installation personnel and guests. Nodes provide key orientation points and gathering places that enhance wayfinding, create a sense of place, and are used on a regular basis. Notable activity nodes at MBW include the parade ground, performance halls (Buildings 9 and 25), dining hall, gym, exchange, and VIP Green (during ceremonial events). Local off-site nodes contribute to the overall framework as well and include the Capitol Quarter Community Center, Virginia Avenue Park, and nearby Metro stations.



Aerial view of Logan Circle, illustrating L'Enfant's vision of radial avenues, orthogonal streets, and the resulting urban framework.



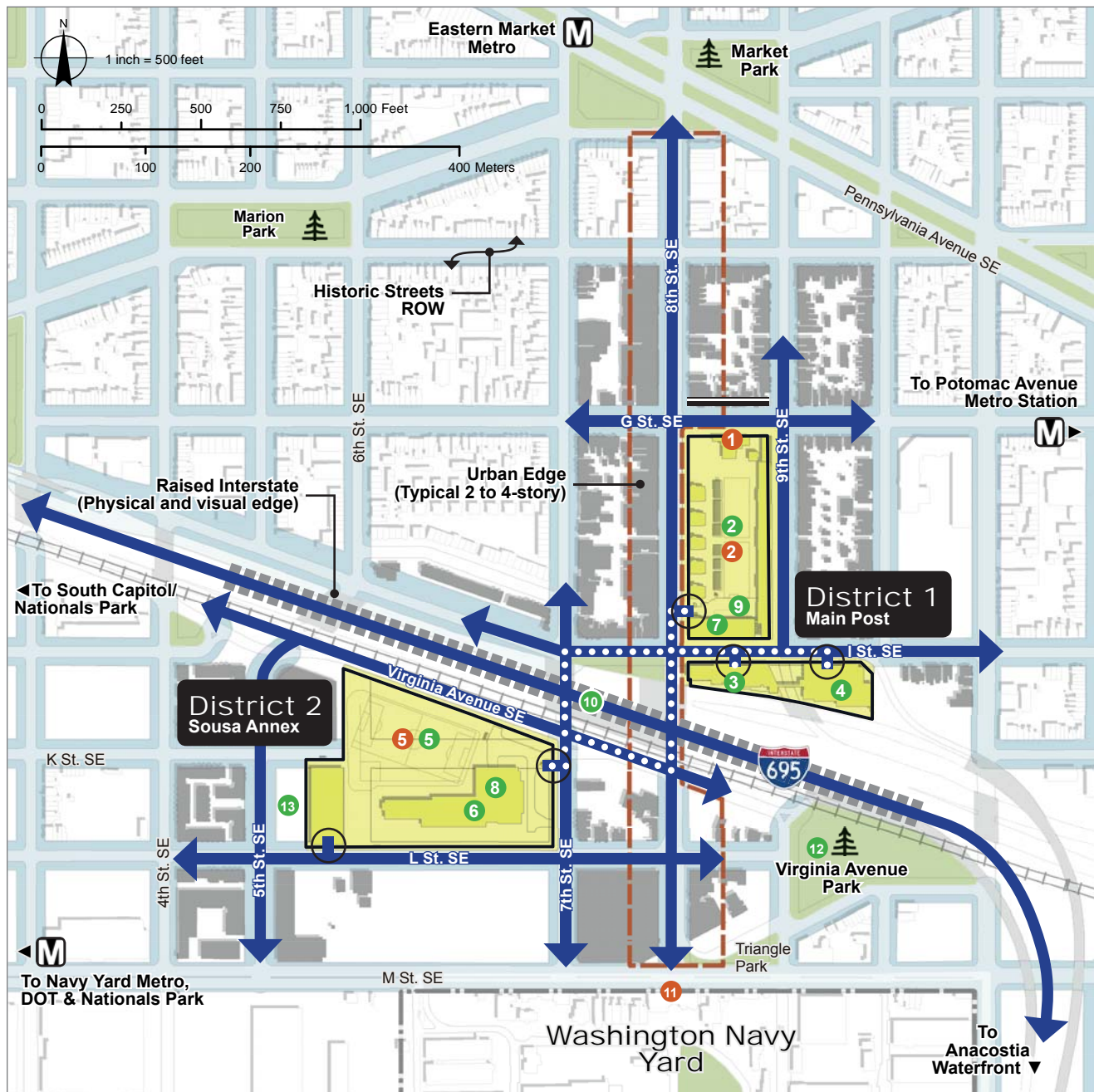
The Home of the Commandant and adjacent parade ground are prominent landmarks at MBW.

LANDMARKS

Landmarks are readily identifiable external points of reference of varying scales, including visually notable natural or man-made objects and spaces.

Local landmarks contribute to the framework by establishing strong visual anchors and well-known reference points for residents and visitors to the area. They contribute to the overall character and physical framework of the community and installation. Landmarks are a source of wayfinding and are critical place making elements similar to nodes. These and other recognized features on and around MBW should be considered a priority in all major planning efforts, particularly those actions that may pose adverse impacts to these prominent features. Some of the distinguished landmarks at MBW include the Home of the Commandant, historic parade ground, and the multi-purpose recreation field. Significant community assets within close proximity to MBW include the Latrobe Gate at WNY.

Figure 4-5 Framework Plan



Legend

Districts

- MBW Planning Districts
- MBW Installation Boundary
- WNY Installation Boundary
- Barracks Row
- Edges**
- Raised Interstate
- Adjacent Buildings
- Historic Streets View Corridor
- Park

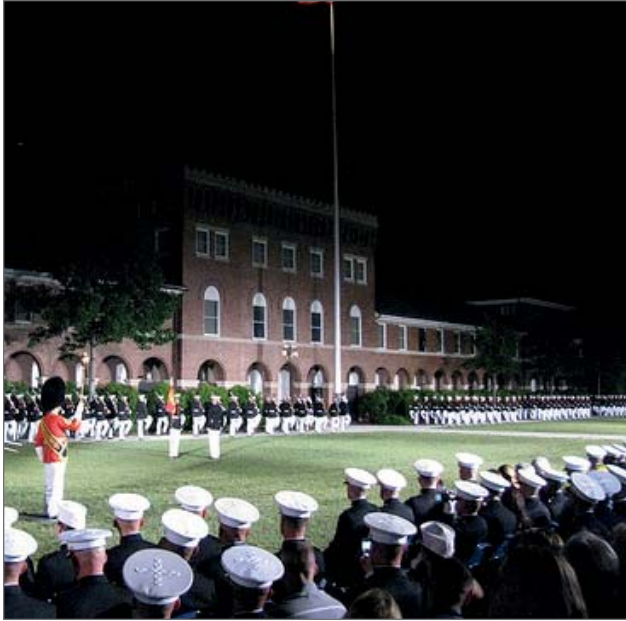
Paths

- Vehicle Circulation
- Pedestrian Path
- Primary Access Point

Focal Points

- Landmarks (LM)
- Activity Node (AN)

	LM	AN	
1.	X		Commandant's Home
2.	X	X	Parade Ground
3.		X	Dining Hall
4.		X	Gym/Fitness Center
5.	X	X	Multi-Purpose Recreation Field
6.		X	Exchange
7.		X	Performance Hall (Bldg. 9)
8.		X	Performance Hall (Bldg. 25)
9.		X	Parking lot
10.		X	VIP Green
11.	X		Latrobe Gate (WNY)
12.		X	Virginia Avenue Park
13.		X	Capitol Quarter Community Center



The ceremonial parade ground at the Main Post serves as both an activity node and landmark for MBW residents and guests.



The Main Post District includes the historic 8th and I facilities as well as Building 20.

4.2 AREA & DISTRICT DEVELOPMENT

ADPs and district designations promote an incremental and organizational approach to addressing installation needs and establish the basic foundation of form-based planning.

These defined areas are designed to consolidate and coordinate proposed improvements within structured geographic areas in an effort to promote a more compatible, coordinated, and efficient development process.

Considering the relative compact nature and overall smaller footprint of the MBW, a single ADP has been identified that incorporates all MBW sites (as previously shown in Figure 4-4). As mentioned above, the Master Plan identifies two existing Planning Districts with accompanying site specific regulations designed to maximize capacity and mission capability, reinforce existing and historic fabric, and integrate with the surrounding community.

District planning takes into consideration development constraints and opportunities, known requirements, and the implementation of the installation vision, goals, and objectives (Chapter 2). District boundaries are approximately defined by one or more city blocks and interconnected by the surrounding road and sidewalk networks. Specific ADP District supporting plans include the

Regulating Plan, Network Plans, Implementation Plans, and Illustrative Plans described in Chapters 5 and 6.

District 1 Main Post

District 1 currently encompasses the historic Main Post and the adjacent Building 20 complex. Development patterns in this district include a horizontal mix of uses including office space, housing (officer and enlisted), and various support and training functions. The original Main Post form is shaped by a ring of 2- to 3-story brick structures framing a central parade ground. Building 20 consists of four inter-connected 5-story towers with underground parking abutting the Southeast Freeway.

District 1 is situated within the established Capitol Hill community and not subject to impacts of significant surrounding growth and development patterns. Surrounding District 1 is comprised of a continuous built edge of historic 2- to 4-story buildings. To the north (G Street SE) and east (9th Street SE) are residential uses, while the western boundary consists of the moderate density commercial development along 8th Street SE (Barracks Row). The southern boundary is bordered by the raised Southeast Freeway. District 1 is approximately an 8-minute walk from the Eastern Market Metro Station.

Potential changes to this district could result from the possible reuse of Building 20 or the Building 20 site following construction of the replacement BEQ Complex (including support facilities and parking) for facilities currently housed in Building 20. The redevelopment and future use of this site has not been deter-



Sousa Annex (District 2) includes more recent mixed-use development that accommodates the US Marine Band, housing, and support facilities.



Annex development, while AT/FP compliant, lacks the visually consistent urban edge exemplified in the surrounding historic Capitol Hill community.

mined at this time; however, the site would be removed from District 1 should the Marine Corps choose to completely divest its interest in the Building 20 site at some point.

District 2 Sousa Annex

District 2 includes the MBW Annex facilities (established in 2004) and is located one block southeast of the Main Post and one block north of the WNY. The site

includes the 5-story Marine Band rehearsal/enlisted housing complex (Building 25), a multi-purpose recreation field, and a detached 5-story parking structure (Building 26). District 2 is physically and visually separated from District 1 by the raised Southeast Freeway to the north and accessed via 7th and 8th Street underpasses. The Sousa Annex site is bounded on the east and west by 2- to 4-story commercial and residential uses. To the south of the Annex is the Lofts at Capitol Quarter, a 4- to 5-story multi-family housing development (part of the Arthur Capper Carrollsburg HOPE VI redevelopment) including a mixture of affordable and market rate rental apartments.

While architecturally compatible with the Main Post, District 2 facilities do not reflect the deliberate urban edge of its established surrounding development (consistent with the L’Enfant Plan). This contrasting and disparate edge is largely a result of the space consuming and restrictive AT/FP setbacks that visually disengage Building 25 from the street. District 2 is approximately a 10-minute walk from the Navy Yard Metro Station located to the west along M Street SE.

4.3 DEVELOPABLE LAND

4.3.1 Development Constraints Analysis

The following section summarizes the impacts of the most significant natural and man-made barriers to future development at MBW. This summary provides the basis for identifying potential development opportunities to accommodate both known and unknown future requirements.



Sousa Hall, ceremonial performance hall at Main Post (circa 1920).

HISTORIC SIGNIFICANCE

Compliance with various standards for historic structures and landmarks can have a range of impacts to the installation’s ability to modify, expand, or construct facilities to accommodate changing needs or planned growth. MBW is subject to various federal cultural resources laws and regulations, including federal statutes, EOs, and DoD regulations. The Marine Corps’ application of these regulations is guided by Chapter 8 of MCO P5090.2A, Change 3 (May 2014) and the seven SOPs contained in the MBW ICRMP. The SOPs cover compliance with the NHPA (Section 106 and Section 110), integration of the requirements of the NHPA and NEPA, maintenance of historic buildings, and compliance with federal laws and regulations pertaining to the protection of archaeological resources. Under Section 106 of the NHPA, the DoD is required to consider the effects of its actions on properties listed, or eligible for listing, in the NRHP.

NHPA Section 106 consultation was conducted concurrently with the Master Plan and EIS efforts. The consultation served to identify and assess potential adverse effects not only to MBW but to other historic properties identified as being within the Area of Potential Effects (APE). Because of the historic significance of the MBW Main Post and surrounding area, planning and implementation of all projects at the installation are carefully considered to balance stewardship needs with the Marine Corps and MBW mission. In carrying out its military mission, MBW may affect the historically significant installation or the historic properties in the

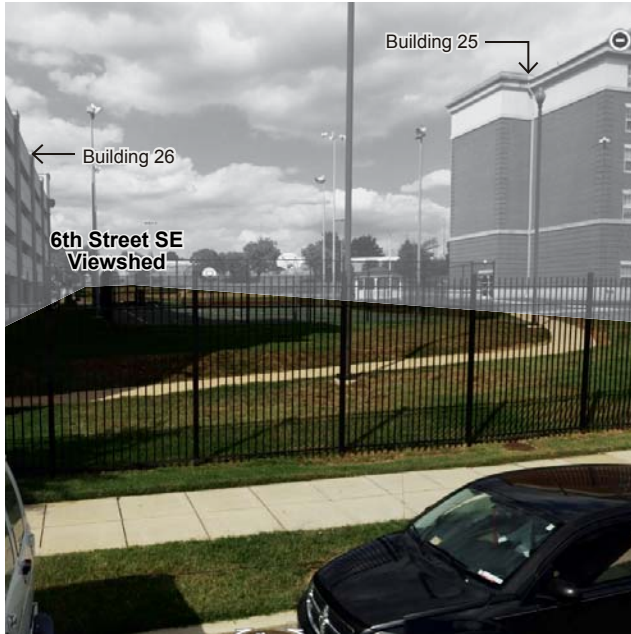


The historic significance of Main Post facilities ensures compliance with local and federal cultural resources laws and regulations.

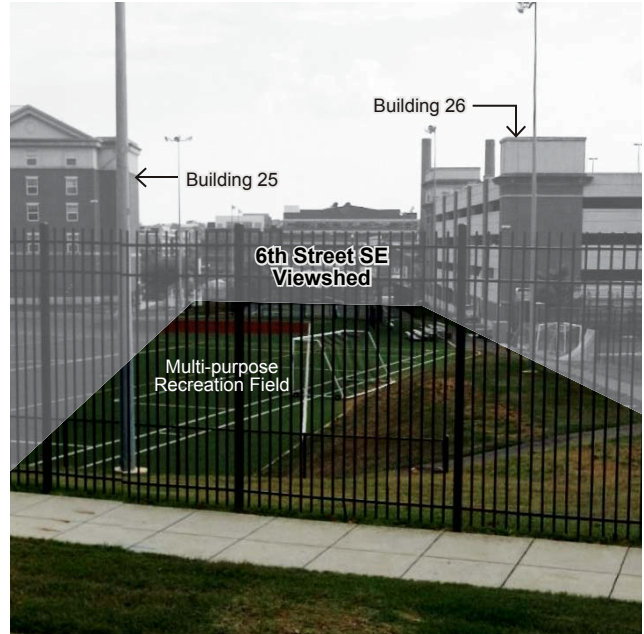
surrounding neighborhoods within the APE. Therefore, it is paramount that military and civilian personnel who are involved in project planning and implementation consider the potential impacts to cultural resources at MBW prior to, and during the execution of, any activity or project. Impacts to land and facilities from various proposed actions at MBW could range widely, and projects and appropriate mitigation measures need to be evaluated on a case-by-case basis. Additional information on the installation’s historic resources and context is discussed in Chapter 3.

Historic Streets Viewsheds

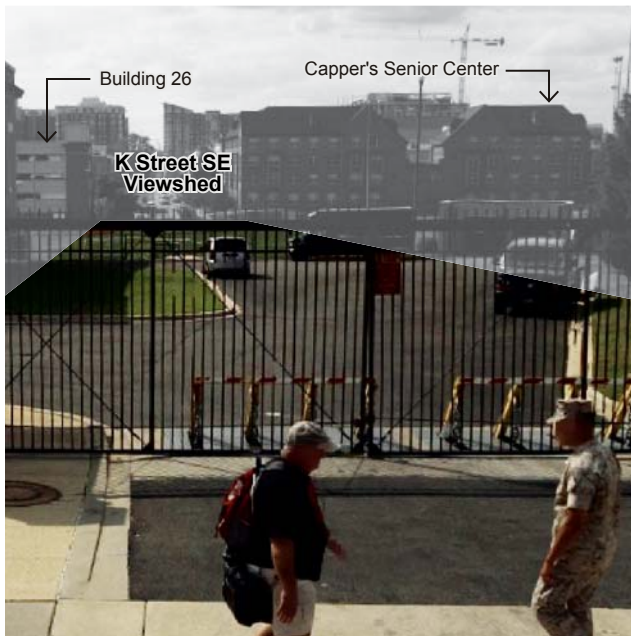
Historic streets viewsheds serve an important role in establishing the spatial arrangement of buildings and open space in DC, as discussed in Chapter 3. MBW is encompassed by several historic streets viewsheds,



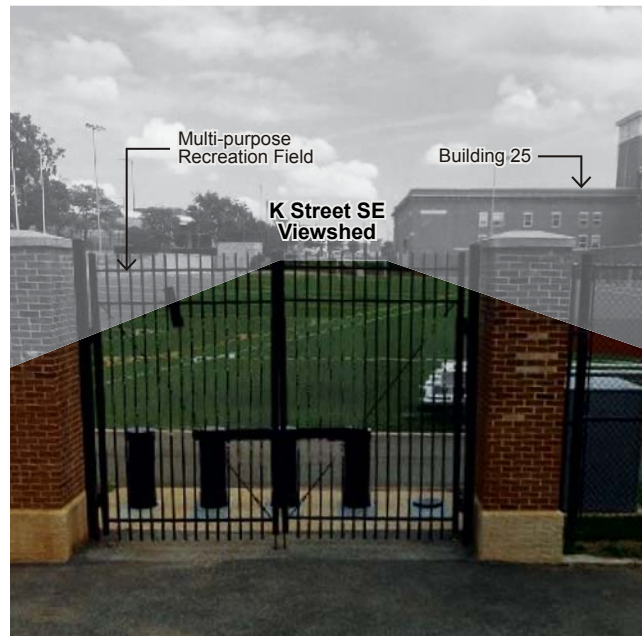
6th Street SE viewshed (facing north) is framed by Buildings 25 and 26 at the MBW Annex along L Street SE.



6th Street SE viewshed (facing south) as viewed from Virginia Avenue across the multi-purpose recreation field.



K Street SE viewshed (facing west) overlooking the multi-purpose recreation field from the main gate (7th Street SE).



K Street SE viewshed (facing east) overlooking the multi-purpose recreation field from the K Street SE terminus north of the parking garage.

as well as two which bisect the installation, the 6th Street SE and K Street SE corridors at the MBW Annex. These viewsheds are currently protected from future development under an MOA established in conjunction with the development of the MBW Annex facilities. Future development at the Annex site would necessitate revisiting the MOA to consider construction within the 6th Street viewshed to allow infill development along L Street SE.

OPERATIONAL CONDITIONS

Anti-Terrorism Force Protection

Current AT/FP requirements (UFC 4-010-01 Minimum Anti-terrorism Standards for Buildings, updated 9 February, 2012; Change 1, 1 October, 2013) are a key component of the DoD planning and design process, and greatly influence the physical layout and aesthetic of future development at the installation. AT/FP regula-



Non-compliant parking along 9th Street is within 17 feet of Building 8 and lacks a controlled perimeter.

tions create real challenges for future development at MBW, and have a significant impact on its ability to “fit” in with the surrounding community, particularly with regard to building form and placement. These criteria inherently promote more land consumptive design practices and hamper the flexibility of DoD installations to create comfortable, appropriately-scaled street frontages and walkable environments, especially along the installation’s perimeter.

Standards include horizontal setback requirements for various inhabited building uses based on occupancy and construction type (Tables 4-1 and 4-2).

Table 4-1 MBW Building Occupancy Levels

LEVEL	OCCUPANCY	BLDGS.
Inhabited: Routinely occupied by more than 11 PN		
Primary Gathering	> 50 PN	8, 9
Billeting	> 11 Enlisted PN housed	20, 25
Low Occupancy: Routinely occupied by less than 11 PN		
Low Occupancy	< 11 PN	7, 10, 11, 13, 14, 27
Other	Not routinely occupied	12, 19, 22, 23, 26
Family Housing:		
High Occupancy	> 13 Units per building	NA
Low Occupancy	< 12 Units per building	1, 2, 3, 4, 6

For site and master planning purposes, the most cost-effective approach to mitigate blast effects to existing and proposed buildings is through horizontal separation from the potential threat.

Conventional Construction Standoff Distances (CCSDs) provide recommended safe distances for conventional construction methods to be used without the need for additional specific blast analysis, except for windows and doors. Reinforced concrete has been used as the most likely construction method for proposed new primary gathering or billeting structures at MBW. For new buildings, CCSDs of less than those shown in Table 4-2 are generally not allowed. Current AT/FP standards require a 66-foot (20-meter) CCSD for primary gathering and berthing structures (without a controlled perimeter) of reinforced concrete construction to the installation perimeter, including roads and parking. This distance increases to 86 feet (25 meters) for similarly occupied buildings of reinforced masonry construction.

CCSDs have a major impact on land use as a significant percentage of the facility footprint (Buildings 8, 9, 20, and 25) at MBW is classified as billeting or primary gathering, defined as buildings or portions of buildings routinely occupied by 50 or more DoD personnel, and with a population density of greater than one person per 430 gross square feet (GSF), or 40 gross square meters (GSM). For older facilities of unreinforced masonry, such as the Main Post (Buildings 8 and 9), the CCSD increases to 262 feet (80 meters). Where CCSDs cannot be achieved, building components must be evaluated to determine applicable building hardening standards to mitigate explosive effects (UFC-4-020-01, DoD Security Engineering Facilities Planning Manual, updated 11 September, 2008), including the use of more heavily constructed windows and doors.

Table 4-2 Master Planning Conventional Construction Standoff Distances

CONSTRUCTION CLASS	CONSTRUCTION TYPE	CONVENTIONAL CONSTRUCTION STANDOFF DISTANCE (CCSD)			
		WITHOUT A CONTROLLED PERIMETER ⁽⁶⁾		WITHIN A CONTROLLED PERIMETER ⁽⁷⁾	
		PG & BIL LOW LOP	INHAB VERY LOW LOP	PG & BIL LOW LOP	INHAB VERY LOW LOP
Light Construction	Wood Stud w/ Brick Veneer	105 FT (32 M)	105 FT (32 M)	36 FT (11 M)	36 FT (11 M)
	Metal Stud w/ Brick Veneer	187 FT (57 M)	187 FT (57 M)	75 FT (23 M)	75 FT (23 M)
Pre-Engineered Building (PEB)	Girt and Metal Panel ⁽⁸⁾	N/A	N/A	N/A	N/A
Heavy Construction	Reinforced Concrete	66 FT (20 M)	66 FT (20 M)	16 FT (5 M)	16 FT (5 M)
	Reinforced Masonry	86 FT (25 M)	86 FT (25 M)	30 FT (9 M)	30 FT (9 M)
	Unreinforced Masonry	262 FT (80 M)	262 FT (80 M)	80 FT (24 M)	80 FT (24 M)

Notes:

Revised CCSD from UFC 4-010-01 (update 01 Oct. 2013).

1. Source: UFC 4-010-01, 09 February 2012.
2. FOR MASTER PLANNING PURPOSES ONLY – NOT FOR PROJECT DEVELOPMENT/PROJECT SPECIFIC DESIGN. For project specific planning and design see UFC 4-010-01: DoD Minimum Anti-terrorism Standards for Buildings and UFC 4-020-01: Security Engineering Facilities Planning Manual.
3. See UFC 4-010-02, DoD Minimum Standoff Distance for Buildings, for the specific explosive weights (pounds / kg of TNT) associated with explosive weights I and II. UFC 4-010-02 is For Official Use Only (FOUO).
4. PG –Primary Gathering Building; BIL – Billeting; INHAB – Inhabited Building, LOP - Level of Protection, PEB - Pre-Engineered Building.
5. Refer to UFC 4-010-01 for exempted building types, which include; low occupancy family housing (family housing with 12 units or less), town center buildings (mixed-use of low occupancy family housing and small scale retail, health, or community services operations), parking structures; gas stations and car care centers, transitional and temporary buildings; military protective construction; stand-alone franchised food operations, shoppettes, mini-marts, similarly sized commissaries, and other small standalone commercial facilities.
6. Applicable Explosive Weight I for load bearing walls.
7. Applicable Explosive Weight II for load bearing walls.
8. Girts and metal panels are not considered primary structural (load bearing) members.

Minimum standoff distance refers to the smallest allowable setback from the building perimeter for newly constructed facilities irrespective of hardening evaluations. Additional hardening may be needed for existing buildings where this minimum distance cannot be achieved. Distances are measured from the installation boundary as there are no applicable internal roads at MBW. Exceptions include unoccupied buildings and structured parking facilities, both above- and below-ground. These setbacks serve as a guide for planning purposes and must be considered in the context of construction method, level of protection, cost, and visual impact, to achieve the maximum effect (Table 4-3). While minimum setbacks may be the desired result for multiple reasons, there are instances where it is difficult, costly, or otherwise impractical to meet these requirements and additional setback or hardening will be necessary.

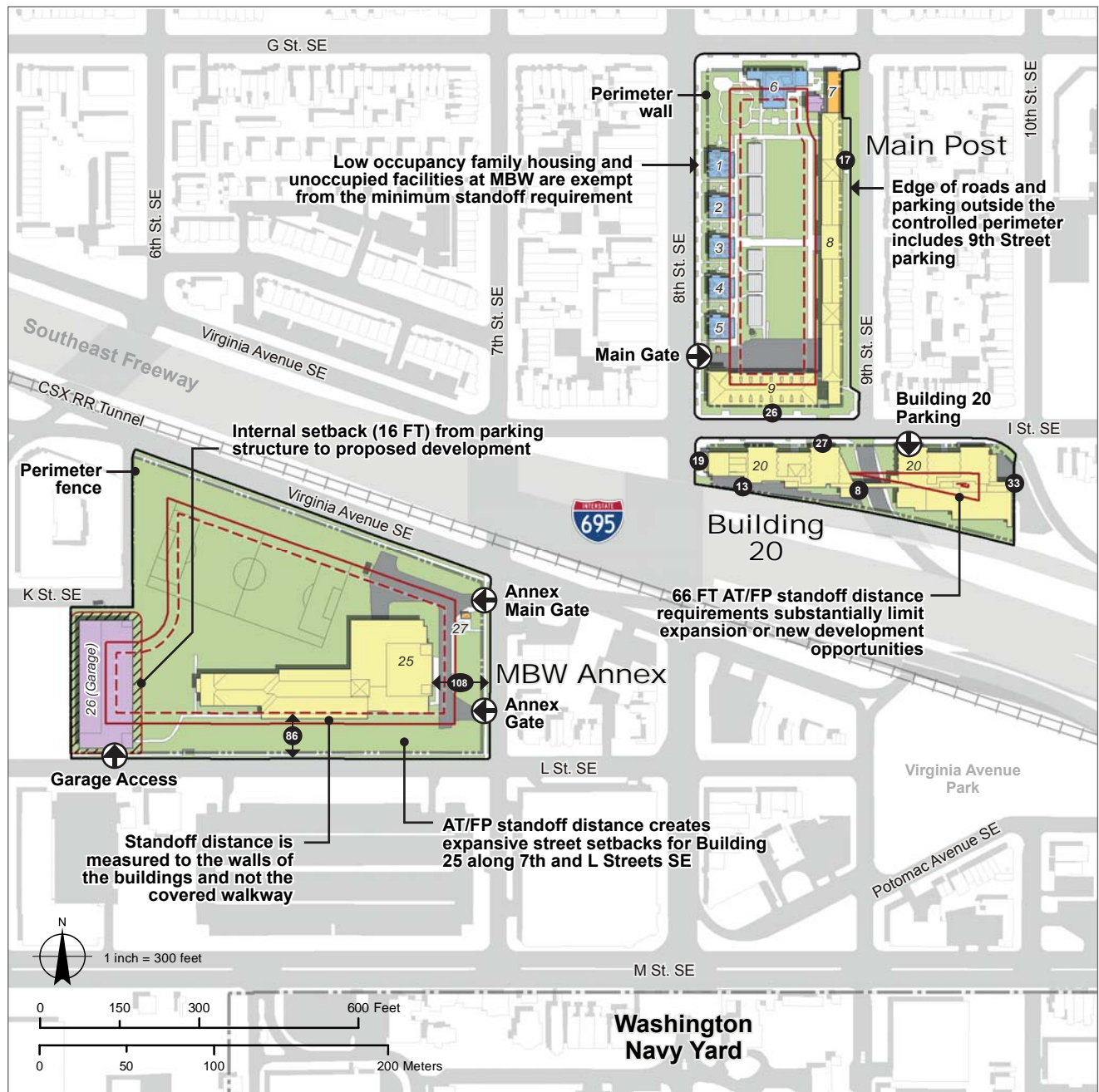
Table 4-3 Minimum Standoff Distances for New and Existing Buildings

DISTANCE TO	BUILDING TYPE	MINIMUM STANDOFF DISTANCE
Controlled Perimeter or Parking and Roadways without a Controlled Perimeter ⁽¹⁾	Primary Gathering and Billeting ⁽³⁾	20 FT (6 M)
	Inhabited Building ⁽⁴⁾	20 FT (6 M)
Parking and Roadways within a Controlled Perimeter ⁽²⁾	Primary Gathering and Billeting ⁽³⁾	13 FT (4 M)
	Inhabited Building	13 FT (4 M)
Trash Containers ⁽²⁾	Primary Gathering and Billeting ⁽³⁾	13 FT (4 M)
	Inhabited Building ⁽⁴⁾	13 FT (4 M)

Source: UFC 4-010-01, 09 February 2012, Change 1 October 2013.

1. Applicable Explosive Weight I.
2. Applicable Explosive Weight II.
3. Applicable level of protection for primary gathering and billeting structures: Low.

Figure 4-6 AT/FP Perimeter Analysis



Legend

Building Occupancy Level

- Primary Gathering/Billeting
- Low Occupancy Family Housing
- Low Occupancy
- Not Routinely Occupied

- Installation Boundary
- Edge of Roads/Parking
- AT/FP CCSD 66 FT/20 M
- AT/FP CCSD 86 FT/26 M
- AT/FP CCSD 16 FT/5 M
- Primary Vehicle Access Control Point
- Distance (FT) from inhabited facility to edge of road/parking

Note:

AT/FP standoff distance requirements shown pertain to new or expanded DoD or Federal-owned buildings with primary gathering or billeting occupancy levels. Requirements are not applicable to private development.



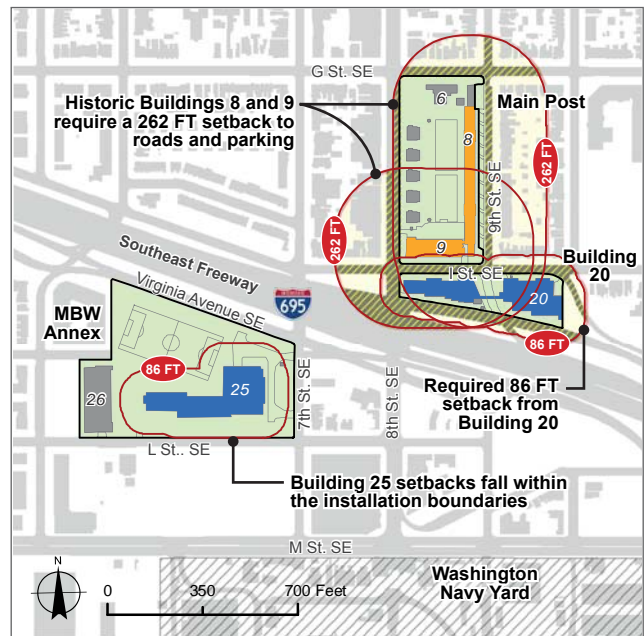
The south façade of Building 20 lies within 13 feet of the Southeast Freeway.

Unobstructed space requirements are also considered in planning for new and existing facilities. This requirement addresses the issue of concealment of devices (with Explosive Weight II) within a specified distance from the building perimeter. The determining factor is evaluated on whether or not a person could see a concealed object, and assumes that explosives would not be placed where it is believed they might be noticed. The setback distance extends to the same distance provided to parking, roadways, and trash containers within a controlled perimeter. This distance may not be closer (to inhabited buildings) than the minimum standoff distance shown in Table 4-3. Requirements are intended to avoid concealment of objects six inches or less.

Analysis of AT/FP setbacks for heavy construction on potential future development at MBW sites is illustrated in Figure 4-6. Analysis shows the required setbacks for proposed conventional construction types (66 feet and 86 feet) from adjacent off-site roads and parking (edge of pavement). This diagram exposes the limited development opportunities at both the Main Post and Building 20 sites due to these space consuming requirements.

Figure 4-7 identifies the required AT/FP setbacks and compliance with surrounding roads and parking based on the current building use and construction type. This analysis reflects the required standoff distances for existing primary gathering structures. Currently Buildings 8, 9, and 20 are not compliant with AT/FP setback requirements. The historic Buildings 8 and 9

Figure 4-7 AT/FP Analysis of Existing Buildings



Legend

- | | |
|--------------------------------|--------------------------------|
| Conventional Construction Type | Building Setback Requirements |
| Unreinforced Masonry | Non-Complaint Roads (Off-Site) |
| Reinforced Masonry | Edge of Roads/Parking |
| No Setback Requirement | MBW Installation |

Note: Only inhabited buildings 8, 9, 20, and 25 have required standoff distances to roads and parking under UFC 4-010-01.

are unreinforced masonry construction and require a 262-foot standoff distance to roads and parking outside a controlled perimeter. This is significantly greater than the CCSD of 86 feet for reinforced masonry construction (Building 20 and 25). Given the constrained site boundaries, mitigation measures are needed to address blast protection deficiencies in these buildings.

Building 20 is an older, inefficient facility constructed in 1975 primarily as a BEQ. Under its current use as a billeting facility, the building also does not comply with current AT/FP criteria due primarily to the lack of adequate standoff distance from roads and parking (estimated at 86 feet for current construction type and occupancy).

Perimeter Studies for Buildings 8 (July 2014) and 20 (September 2013) evaluated these facilities for compliance with the applicable minimum AT/FP standards (UFC 4-010-01) for existing buildings. These reports assess the 21 AT/FP standard criteria and provide recommendations to bring these facilities into compliance. Building 9 has not been recently evaluated for AT/FP compliance, although analysis is recommended as part of a facility reuse plan following the relocation of D&B functions to the MBW Annex.

Air Quality

Air quality for DC and surrounding areas is monitored daily and linked to air quality reports, forecasts, and alerts through the Metropolitan Washington Air Quality Committee and other governmental and non-profit organizations. Elevated concentrations of certain pollutants, such as ozone (O3), can directly affect overall health and QOL. Ground level O3 and particle pollution (PM2.5) are of particular concern for the NCR and factor into the overall Air Quality Index in regional forecasts. O3 and PM2.5 levels become of greater concern in warmer months and on days forecasted for unhealthy air quality.

An Environmental Compliance Evaluation (ECE) was conducted for MBW in July 2015. The ECE serves to ensure that the environmental program at MBW is proactive and effective, protects the military mission, and provides a snapshot compliance profile based on representative data and sampling. Stationary sources of air emissions at MBW include several natural gas-fired boilers and hot water heaters, a paint booth, and dust collection system. MBW maintains three air quality permits with the DC Department of the Environment to construct and operate three 8.37 million British Thermal Unit (MMBTU)/hour natural gas-fired water tube boilers in Building 20. Current Air Quality Permits include permit numbers 6321, 6322, and 6323. Additional regulations and EOs relating to the reduction of GHGs from motor vehicles are included in the TMP.

Hazardous Materials Storage

MBW currently does not maintain quantities of listed hazardous chemicals that meet or exceed the reporting thresholds under the requirements of the Emergency Planning and Community Right-to-Know Act for hazardous chemical storage, usage, and releases. No discharges of pollutants or releases of toxic chemicals have occurred at MBW and a listing of hazardous chemicals stored on site is provided to the Washington Navy Fire Department yearly for emergency planning purposes.

Installation Restoration Sites

There are not installation restoration sites identified at MBW.

NATURAL FEATURES

Natural conditions at MBW do not present significant constraints to development overall. A summary of natural conditions found at MBW is included below and summarized in Figure 4-8 on the following page.

Figure 4-9 Soil Classifications



Source: United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey (WSS). Date September 2014.

Legend

Soil Classifications at MBW

- (U10) Udothents, clayey, smoothed
- (Ub) Urban land
- (UxB) Urban land-Sassafras complex, 0 to 8 percent slopes

Geology

There are three general soil classifications found at MBW (Figure 4-9) that correspond with each of the three sites; U10 Udothents, clayey smoothed (Main Post), Urban Land (MBW Annex), and Urban Land-Sassafras complex, 0 to 8 percent slopes (Building 20). The primary soil type in the vicinity of MBW is urban land: UxB (70 percent) and Ub (100 percent). Accurate data for urban soils is limited due to their highly disturbed nature from previous development and infill activities. Site specific soil borings and detailed analysis is needed to establish accurate physical and chemical properties of these soils, including soil composition, erosive qualities, depth to water table, corrosive attributes, and other development suitability factors and limitations. Brief soil survey information for individual map units is provided in Appendix E.

Flood Hazard

MBW does not fall within the 100- or 500-year flood hazard areas. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Mapping (FIRM) (updated 27 September 2010), the nearest flood hazard areas occur to the south of MBW

Figure 4-8 Natural Conditions Map

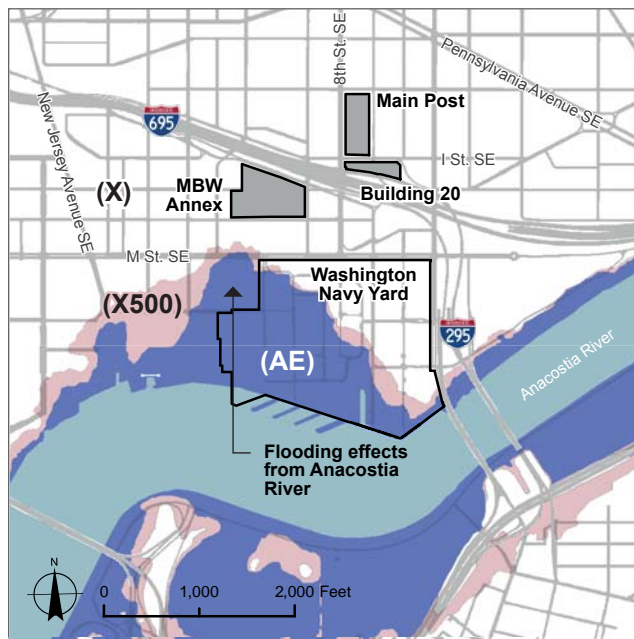


Legend

- Installation Boundary
- Turf Area
- Ceremonial/Recreation
- Steep Slopes >15%
- 2-FT Elevation Contour
- DC Street Trees
- MBW Tree (owned or adjacent)

Note: Mean Sea Level (MSL)

Figure 4-10 Local Flood Hazard Areas



Legend

- Flood Hazard Areas**
- (X) Outside 0.2% Chance of Flood Hazard
 - (AE) 1.0% Chance of Flood Hazard
 - (X500) 0.2% Chance of Flood Hazard
 - MBW Installation
 - Anacostia River

Source: FEMA Flood Insurance Rate Map # 100010038C, Revised 27 September 2010

Annex extending from the Anacostia River along M Street SE (see Figure 4-10).

Topography

MBW is generally unconstrained by steep topography. The sites are all relatively flat with average slopes of less than 4 percent in most areas, with the overall slope direction occurring from north to south. Steeper grade changes (equal or greater than 15 percent) at the MBW Annex are limited to the northern border of the multi-purpose recreation field along Virginia Avenue SE and along L Street SE at the transition between the Band wing and BEQ wing of Building 25 (Table 4-4). The highest elevation at MBW is along the northern boundary of the Main Post (approximately 70 feet above mean sea level [MSL]) and the lowest point is located at the southwest corner of the Annex (approximately 22 feet above MSL).

Table 4-4 MBW General Site Slopes

SITE	PERCENT SLOPE
Main Post	1.0
Building 20	1.4
MBW Annex	3.2



The formal gardens at the Commandant's Home provides limited shelter and habitat that is attractive to urban wildlife.

Flora & Fauna

MBW lies entirely within urban surroundings and is essentially void of most native vegetation and wildlife species, viable ecosystems, or corridors that support native flora and fauna. While vegetation (primarily trees and shrubs) has been established throughout the installation and adjacent streets, its primary function is to serve as an aesthetic purpose, provide shade for pedestrians, and consists of primarily non-native species. Wildlife found on and around MBW includes typical "urban wildlife" species that can adapt, live, and in some cases thrive in an urban setting, including the ability to tolerate sparse vegetation and constant human presence. Species may include squirrels, chipmunks, raccoons, opossums, rodents, birds, and bats, along with feral cats and other stray domestic animals.

Threatened & Endangered Species

There are no threatened or endangered species found at MBW. There is also no habitat for threatened or endangered species, and no water sources or habitats to attract migratory birds at MBW.

Wetlands

There are no classified wetlands at MBW.



MBW is located in a temperate region of the US with four distinct seasons, including an average annual snowfall of 17 inches.

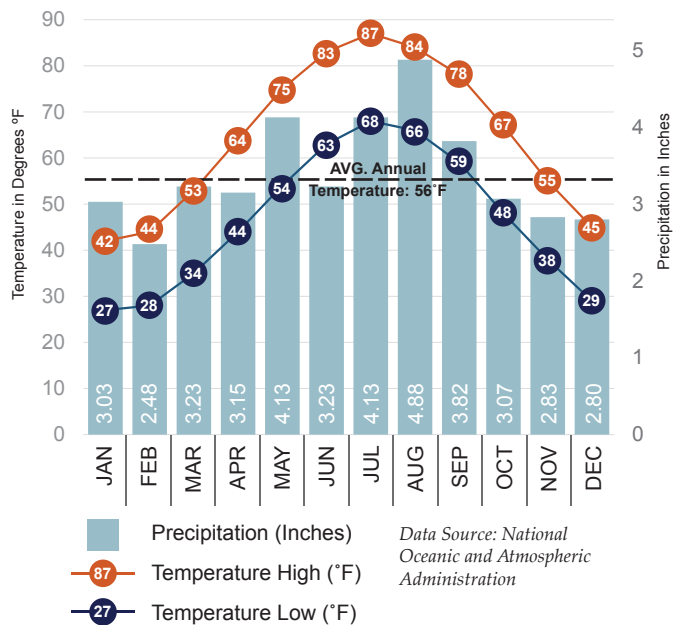
Water Table

Soil borings taken in previous studies at the Annex indicate groundwater levels at 10 to 15 feet in some areas. Groundwater at such a depth presents geotechnical and cost constraints in particular for underground construction, such as parking structures. Excavation below grade would likely require additional shoring to retain the soils, and facility design would need to take into consideration the increased lateral loads associated with the water table. Based on the Natural Resource Conservation Service (NRCS) Web Soil Survey (Appendix E), the soil classification description for the Main Post (UxB) indicates a depth to water table of no more than 80 inches. No water table depth information is available for the Building 20 site, and additional soil borings and analysis would be required to establish this distance.

DC Climate

DC is located in the temperate region of the US, having four distinct seasons: spring, summer, fall, and winter. While temperatures don't reach extreme hot or cold, average temperatures can fluctuate 60 degrees Fahrenheit or more between winter lows and summer highs (Figure 4-11). Climate conditions play a key role in planning and development in the region and influence such factors as construction methods, materials selection, scheduling, building massing, solar orientation, fenestration, landscape solutions, and others.

Figure 4-11 DC Area Climate Summary



DC Area Climate Data

- » **Latitude/Longitude:** 38°53'N 77°02'W
- » **Climate Zone:** Humid Subtropical, Köppen climate classification Cfa or Cwa
- » **USDA Plant Hardiness Zone:** Zone 7a to 7b
- » **Average Annual Rainfall:** Approximately 40 inches
- » **Average Annual Snowfall:** Approximately 17 inches



Strict development limitations from historic designations and AT/FP requirements render the Main Post fully constrained to new development.

4.3.2 Summary of Constraints

Composite constraints analysis shows that the majority of land at MBW (approximately 91 percent) has either been fully developed or is substantially constrained from future development by various physical and regulatory means (Table 4-5 and Figure 4-12).

Table 4-5 Developable Area Analysis	EXISTING SITE (AC)	CONSTRAINED AREA (AC)	UNCONSTRAINED AREA (AC)
Main Post	3.56	3.56	0.00
MBW Annex	7.46	6.37	1.09
Building 20	1.56	1.56	0.00
Total (AC)	12.58	11.49	1.09
Percent	100	91	9

At the Main Post, there is essentially no unconstrained land available for future development. The Main Post is home to two NRHP-listed properties and 10 contributing resources to the underlying historic districts. The historic designation subjects the site and facilities to specific guidelines for avoiding, minimizing, or mitigating adverse effects of any undertakings on historic properties. AT/FP setback requirements compound the issue and further preclude future development of inhabited (primary gathering or billeting) facilities without encroaching on the historic parade field.

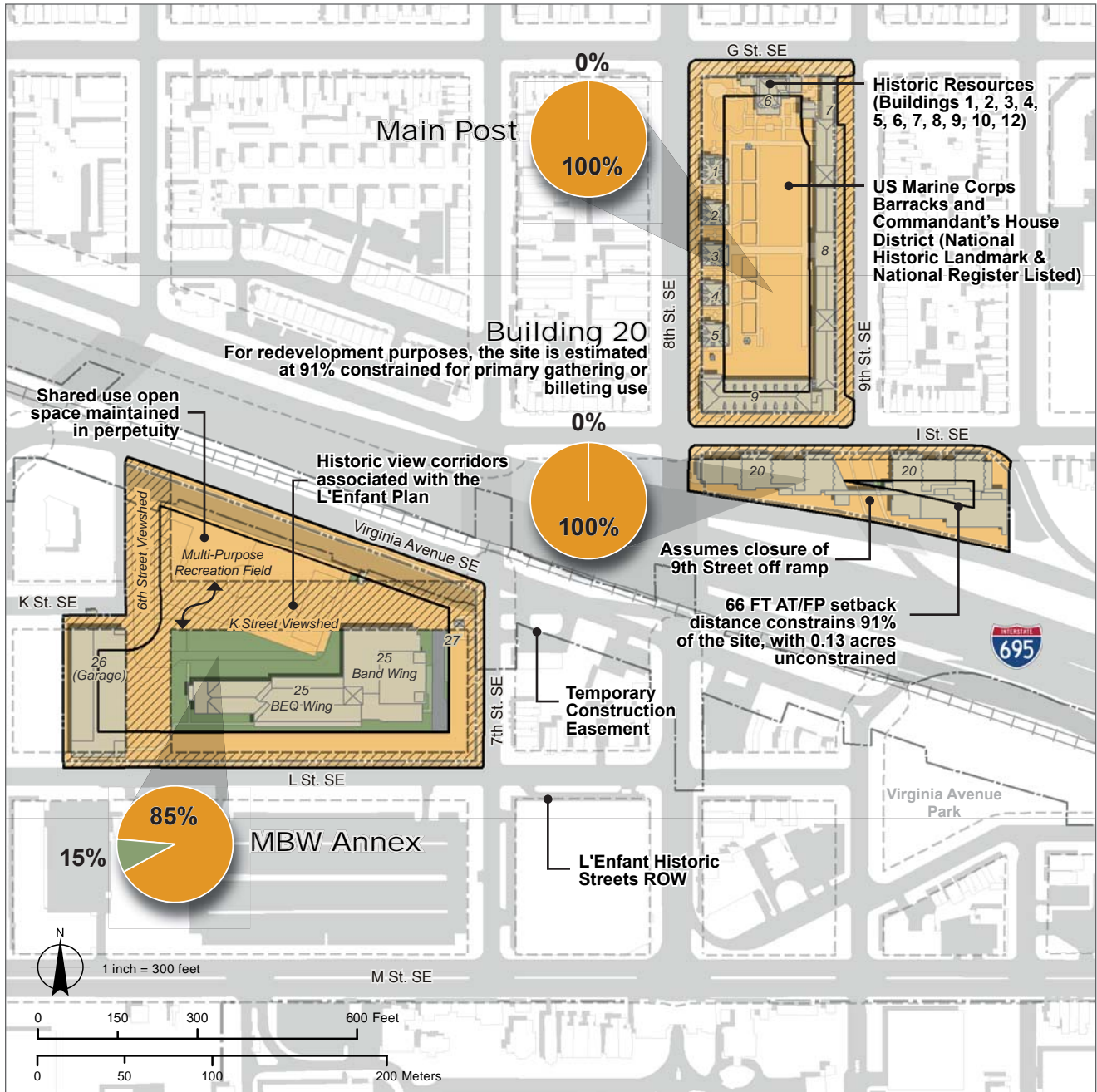
The Building 20 site is considered fully (100 percent) constrained for purposes of the Master Plan. The current footprint fully maximizes the extents of the site including an underpass from the Southeast Freeway. As a result, there is no available land to be considered for future development or horizontal expansion of the existing facility. The complex has also been evaluated in connection with the concurrent EIS which includes the proposed replacement and potential reuse of Building 20. Multiple scenarios are being considered including redevelopment of the existing site. Under a scenario where the existing structure would be demolished and replaced, analysis shows that the resulting site would be prohibitively constrained (91 percent) by applicable DoD AT/FP setback requirements (66 feet) for billeting or primary gathering uses (Figure 4-12).

The Annex is the largest site at MBW at 7.46 acres; however, a large portion of the existing site is significantly constrained (85 percent) from future development. Its most imposing constraints include AT/FP setback requirements, maintaining unobstructed 6th and K Street viewsheds as established in the L’Enfant Plan, and maintaining the availability in perpetuity of the multi-purpose recreation field (formerly Lincoln Playground) to the community for organized and scheduled events.

Constraints to vertical expansion at MBW sites vary from site to site and should be assessed accordingly. The ability to construct above existing structures requires specific analysis to evaluate structural capacity, seismic loads, progressive collapse and compliance with the Height Act, potential impacts to the adjacent historic character and surrounding land uses, as well as other possible development limitations. For purposes of the Master Plan, the Main Post and Building 20 site would be eliminated from consideration for vertical expansion to existing facilities. The Main Post is a NHL and not suitable for external modifications to existing historic structures. Anticipated construction costs associated with reinforcing Building 20 to meet seismic loads and AT/FP progressive collapse requirements would be prohibitive. Additional reinforcement of the current facility would also likely disrupt the existing BEQ room layouts.

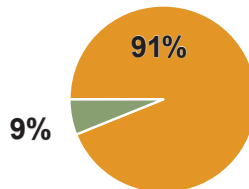
Additionally, MBW has a uniquely high perimeter-to-interior (distance-to-area) ratio, as compared to many larger installations due to its dislocated campus and relatively small sites. As a result, the installation’s 360 degree public visibility and adjacency with the surrounding community creates additional safety, security, and historic impact challenges. Notably, the compressed nature of MBW sites greatly increases the impact of perimeter AT/FP setback regulations.

Figure 4-12 Summary Constraints Map



Legend

- Installation Boundary
- AT/FP CCSD (66 FT/ 20 M)
- Historic Streets View Corridor
- CSX Limits of Construction
- CSX Easement (Approx.)
- Unconstrained Sites
- Existing Facilities



Overall, existing land assets at MBW are constrained by approximately 91 percent.

4.3.3 Development Opportunities Summary

As illustrated in the previous section, MBW is significantly constrained overall to new development by approximately 91 percent. However, opportunities exist to accommodate limited new growth and future requirements through a range of new construction, redevelopment, and renovation means. MBW's ability to accommodate major new construction was evaluated in the EIS, and determined to be suitable at MBW Annex (Alternative 5) and discussed in Appendix J. Redevelopment potential exists for the Building 20 site; however, extensive analysis is required to identify and evaluate a range of plausible options. Opportunities to accommodate future growth within the existing facility footprint can be realized primarily through space optimization efforts, primarily within Buildings 8 and 9 at the Main Post.

The following sections summarize potential development and growth opportunities at MBW that are consistent with the installation's planning vision, goals, and objectives. Opportunities for new construction, redevelopment, and renovation at MBW are identified in Figure 4-13 on the following page.

CAPACITY AND CAPACITY AND DEVELOPMENT POTENTIAL

Capacity is the difference between the existing condition and the future build-out.

New Construction

New construction opportunities and alternatives for siting the replacement BEQ and support facility were analyzed through the EIS, and summarized in Appendix J. The preferred alternative site for new construction was identified at the MBW Annex. The proposed Annex site is the only location on the installation that could accommodate major new development without the need for demolition or alteration of historic structures. Below highlights potential development capacity scenarios for the MBW Annex; however, specific planning proposals are subject to acceptable height limits for the site based on scale, use, historic significance and other factors that may impact adjacent uses.

The area for future development lies between Buildings 25 and 26 and the multi-purpose recreation field. In order to maximize development potential of the site and to support compact mixed-use development opportunities, development within the 6th Street historic street



The replacement BEQ Complex and support facilities are proposed to be sited between the existing BEQ and parking garage.

viewshed would be required (Site 1/Figure 4-13). Within the unconstrained portions of the site, proposed development would accommodate a footprint of approximately 23,000 to 27,000 GSF per floor. The maximum allowable height (by right) granted by the Height Act for the Annex is determined to be 90 feet. Within these limits, the notional capacity of the site is calculated to be between 140,000 and 200,000 GSF in a 6- to 8-story building, depending on the proposed use and construction type (see Figure 4-14).

Figure 4-14 MBW Annex Development Capacity Diagram (perspective)

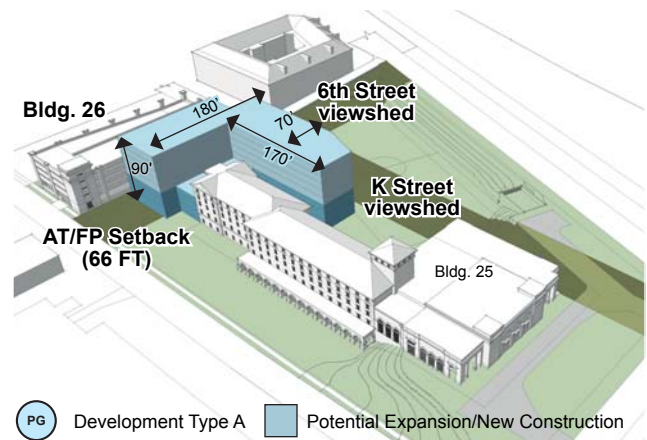
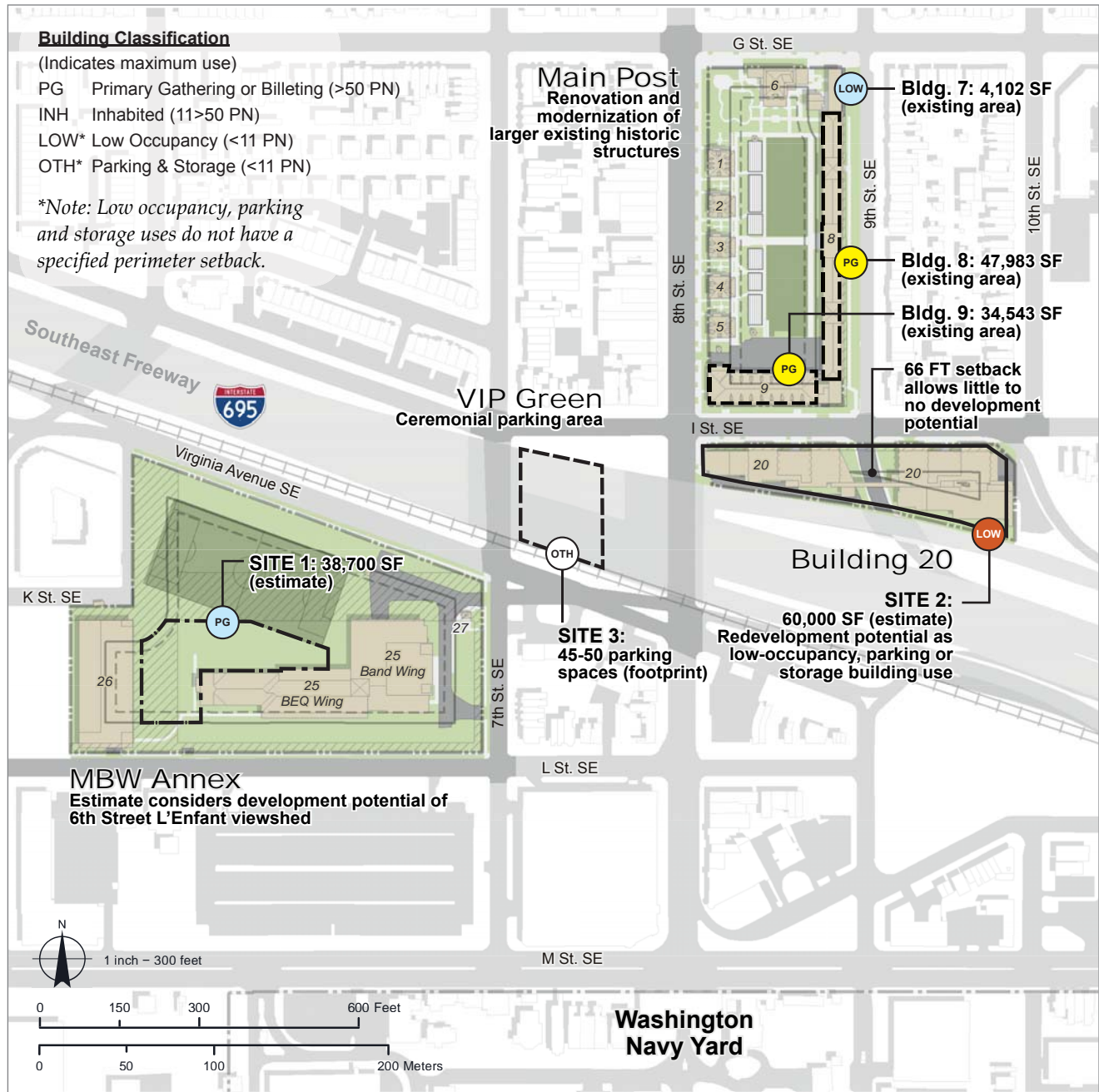


Figure 4-13 Developable Areas Map



Legend

- | | | | | |
|--|--------------------------------|--|--------|---|
| | Installation Boundary | | Type A | Land or facilities that can be improved immediately or with minimal preparation, relocation, or demolition. |
| | Historic Streets View Corridor | | Type B | Land or facilities that can be improved with some alteration, relocation or demolition. |
| | AT/FP CCSD (86 FT/26 M) | | Type C | Land or facilities that require extensive alteration, demolition or relocation to be accomplished. |
| | AT/FP CCSD (66 FT/20 M) | | Type D | Land or facilities leased by MBW or otherwise utilized through formal or informal agreements. |
| | New Construction | | | |
| | Redevelopment | | | |
| | Renovation | | | |

As noted in the Height Act, under certain instances a maximum height up to 110 feet may be allowed with Congressional approval (Figure 4-15). Using a maximum building height of 110 feet, an estimated 8- to 10-story mixed-use facility on this site would yield a notional development capacity of approximately 200,000 to 245,000 GSF, depending upon the proposed use and construction type.

Redevelopment

The only near- to mid-term opportunity for redevelopment at MBW has been identified at the Building 20 site, including the demolition of all existing facilities. The potential redevelopment of the Building 20 site depends largely on the proposed use and applicable development requirements. However, analysis indicates that given the more stringent AT/FP standoff requirement for higher density DoD uses (above 50 persons) such as administrative or berthing, the resulting development capacity of the site would yield just 0.13 acres (Figure 4-12 Site 2). Given the limited size and configuration of the unconstrained buildable footprint under this scenario, development for the purpose of higher density DoD uses is considered impractical.

Redevelopment of the Building 20 site for federal or DoD use would be limited to low occupancy uses (less than 11 persons) or unoccupied facilities which have less restrictive AT/FP setback restrictions. Independent of existing or planned requirements, uses for the site that are compatible with the MBW mission would include structured parking, family housing, warehouse, recreation and open space, or other low occupancy or appropriate unoccupied uses. Given the layout of the Building 20 site, and the assumption that the 9th Street exit ramp would remain, the eastern portion of the site

is more compatible for larger contiguous construction such as a parking garage or larger warehouse uses. The western portion of the site overall is narrower and more suitable for uses such as family housing, a park, or outdoor recreation purposes. Notional estimates indicate the redeveloped site under this scenario could accommodate approximately 20 to 25 attached or duplex-style single family housing units, or 300 to 480 structured parking spaces, with a footprint of up to 35,500 SF for warehouse or other low occupancy use (Figures 4-15 through 4-18).

Figure 4-15 Maximum Height Planning Scenarios

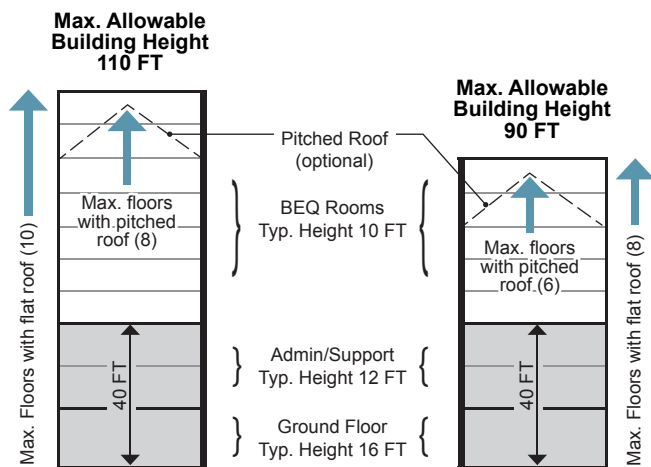


Figure 4-16 Building 20 Redevelopment Capacity Diagram (garage)

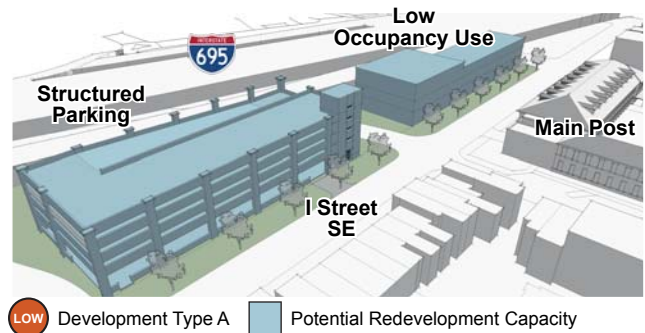


Figure 4-17 Building 20 Redevelopment Capacity Diagram (housing/townhome)



Figure 4-18 Building 20 Redevelopment Capacity Diagram (housing/duplex)





Following the proposed relocation of the D&B, Building 9 will likely need to be repurposed to meet future requirements.

The historic significance of the Main Post and the relatively new construction at the Annex precludes consideration of any redevelopment (demolition and replacement) potential at these sites.

Renovation

While many of the existing facilities at MBW have been either recently constructed or renovated to accommodate their current use during the past 10 years, there are specific opportunities where the benefits of renovation can be effectively realized.

The greatest potential to accommodate future growth within the current footprint can be realized through the repair and modernization of existing historic facilities at the Main Post.

Annex facilities are generally new, have been right-sized for their intended use, and are not candidates for renovation in the short- to mid-term future.

Buildings 7, 8 and 9 at the Main Post offer the greatest opportunity for expanding their capacity and capabilities through interior renovation to achieve greater and more appropriate use of the existing footprint. The facilities have a combined floor area of 86,630 GSF. Anticipated compatible use for these facilities would likely accommodate administrative and related functions, and is addressed in Chapter 7 Installation Development Plan. Due to the historic nature of these buildings, any proposed renovations would require

consultations with the DC HPO and NPS early in the project development process to consider potential effects of the renovations on the characteristics and features of the historic structures that qualify them for listing in the NRHP and designation as an NHL.

Building 7 (4,102 SF) offers potential to be re-purposed on the second floor for more appropriate administrative or related functions which would align with adjacent uses in Building 8 (Command Post).

Building 8 on the Main Post has not undergone a major renovation in over 50 years since its previous use as enlisted quarters. The 47,983 SF facility offers significant potential to maximize the current floor plan to better address the administrative and other mission and support needs as the installation Command Post.

Building 9 (34,543 SF), following the proposed relocation of the D&B, will most likely require renovation to re-purpose itself as an administrative and complementary support facility. While further evaluation is needed to establish the proposed use, notional estimates for Building 9 show a capacity of roughly 150 administrative personnel (based on UFC requirement for administrative use, 165 GSF/PN), while retaining the existing performance hall functions.

Other non-facility improvements are focused on enhancing the Marines’ image, including the Annex’s main pedestrian entry located along 7th Street. Proposed upgrades also include improvements to the VIP Green parking area to address safety, access, capacity, and enhance the overall campus appearance and identity.



The greatest opportunity for maximizing the existing space at MBW includes the repair and renovation of historic facilities at the Main Post (Building 8 shown above).

4.4 SUMMARY FUTURE DEVELOPMENT

4.4.1 Key Projects

Several key projects have been identified in the Master Plan to support the installation’s long-term facility requirements, address outstanding deficiencies, and enhance the appearance at MBW sites. Figure 4-19 illustrates key future project types and locations being proposed. Additional information regarding all planned and proposed projects is described in Chapter 7, Installation Development Program.

At the Main Post, three projects are identified to address the majority of inefficient space utilization issues through repair and modernization of existing older facilities (Buildings 7, 8, and 9). Proposed projects would revitalize and re-purpose existing facilities to reinforce the Main Post’s core administrative role, including repurposing Building 9 following the relocation of D&B to the Annex. No new construction or demolition is proposed at the Main Post.

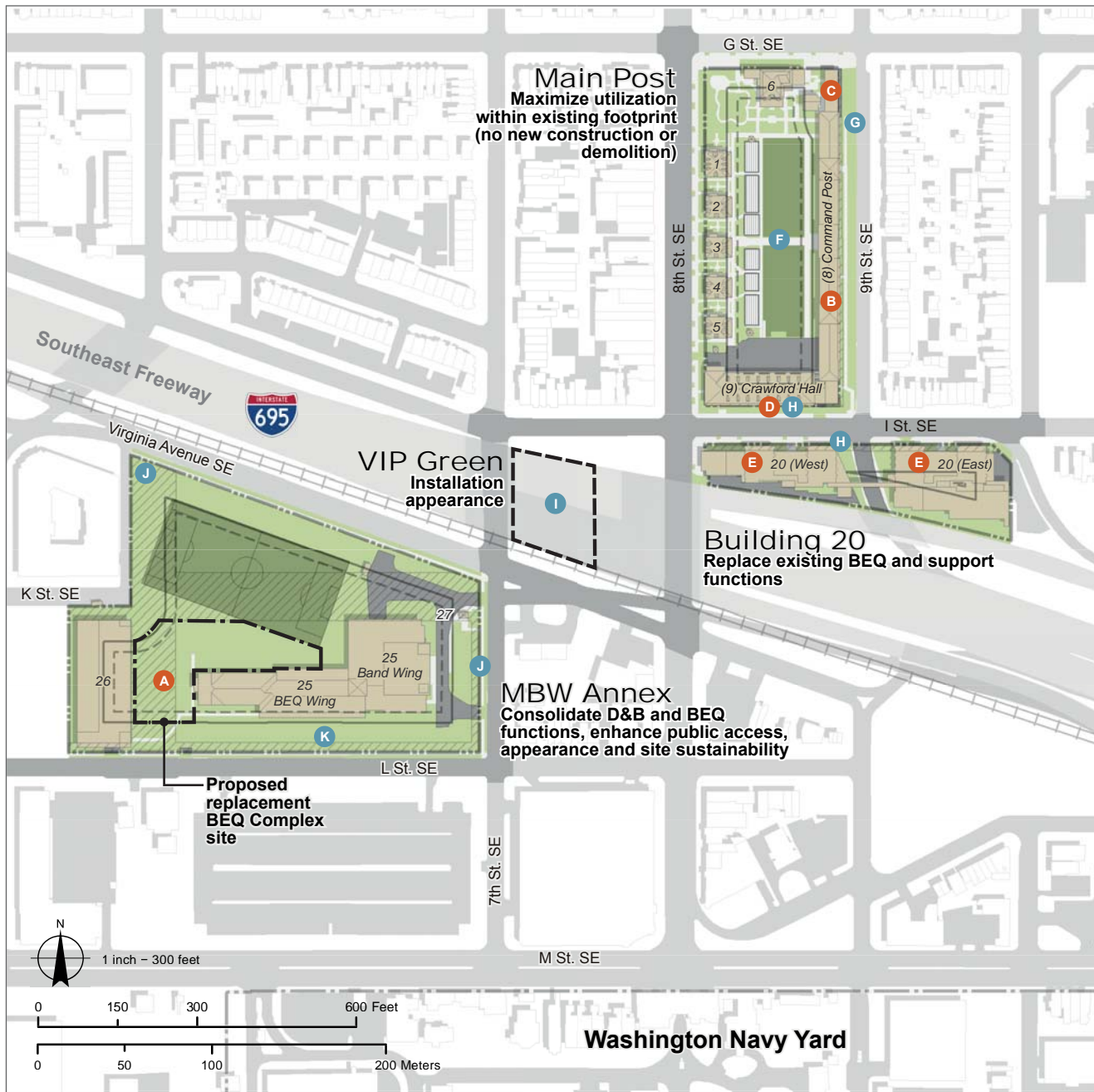
Uses within Building 20 are being planned for relocation to a replacement complex proposed at the Annex. The future use of the existing Building 20 or the Building 20 site following construction of the replacement BEQ Complex requires further evaluation to establish the best reuse. Installation appearance upgrades are proposed for the near-term along the I Street façade to enhance the building entry and streetscape.



The proposed replacement BEQ will relocate function within Building 20 (above) and Building 9 at the Main Post.

The replacement BEQ Complex and Support Facility represents the only major new construction project at MBW, and is to be sited at the Annex. The facility would provide infill development making a visual connection between Building 25 and the adjacent parking structure along L Street. The proposed development would combine functions currently in Buildings 20 (BEQ and support) and 9 (D&B) into a modern, right-sized mixed-use complex that maximizes development capacity at MBW while consolidating shared functions.

Figure 4-19 Future Development



Legend

- Installation Boundary
- Historic Streets View Corridor
- AT/FP CCSD (86 FT/26 M)
- AT/FP CCSD (66 FT/20 M)
- Key Project Location
- Installation Appearance Project Location

Key Projects

- A. Replacement BEQ and Support Facilities
- B. Building 8 Repair & Modernization
- C. Building 7 Renovation & Modernization, GOQ Garage
- D. Building 9 Renovation & Modernization
- E. Replacement BEQ and Support Facilities (Proposed replacement site under consideration)
- F. Multiple Upgrades to Parade Ground/Viewing Stands
- G. Multiple Upgrades to 9th Street
- H. Multiple Upgrades to Bldg. 20 and I Street
- I. Multiple Upgrades to Ceremonial Parking Area/VIP Green
- J. Multiple Upgrades to Pedestrian Entry, 7th Street and Virginia Avenue.
- K. Multiple Upgrades to Annex Site

Projects shown do not represent all proposed actions and are not in order of priority. Refer to Chapter 7 for additional project programming and implementation.

5.0

Installation Development Plan



5.1 FUTURE LAND USE

The Regulating Plan builds on the traditional land use plan and replaces it with a form-based tool that relates compatible uses with appropriate form. Land uses at MBW have been shaped over the years by a combination of the Post's established history and its current operational and space requirements. The multiple dislocated sites and smaller scale of the installation creates functional and logistical challenges for efficiently utilizing the available resources and maintaining a connected campus. This condition emphasizes the need for flexibility in future planning efforts in order to maximize land use and infrastructure efficiencies.

Future land use recommendations go beyond the traditional one-dimensional land use designations to incorporate form-based planning directives including horizontal and vertical mixed-uses as well as shared circulation and open space networks which carry over to the Regulating Plan. Proposed land uses must accommodate current mission requirements as well as anticipate long range capacity planning. Figure 5-1 illustrates the proposed land use designations for MBW.

Land Use Guidelines

- » **Minimize conflicts with future development**
- » **Provide flexibility for future growth and unknown requirements**
- » **Promote compatible uses and encourage functional relationships**
- » **Optimize space utilization**
- » **Support sustainable development strategies**
- » **Encourage cost-effective development and maximize land value**
- » **Minimize parking requirements and maximize transit opportunities**

Proposed land uses provide flexibility for growth and serve to promote development in a manner that is consistent with the long-term vision and the 10 master planning strategies discussed in Chapter 2. Land use designations reflect impacts from, and changes to, operational and environmental constraints and should be applied in conjunction with the most recent constraints data for MBW. The following summarizes typical land uses at MBW, as supported in UFC 2-000-05N.

Administrative

Administrative land uses are provided to support facility types which primarily house executive and staff functions for the installation or individual departments, and which perform primarily logistical and personnel management tasks. Facility types include headquarters and office buildings accommodating administrative and professional activities, business and data-processing machines, records, files, and administrative supplies for everyday operations. While administrative uses are often found as ancillary to multiple installation functions, uses within this classification are predominately administrative in nature. The primary administrative land use at MBW occurs at the Main Post.

Mixed-Use

Mixed-use land uses allow for the collocation of similar or compatible uses in close proximity or in the same facility (horizontal or vertical mixed-use). Approved compatible uses at MBW may include enlisted housing, community support (fitness, dining, and exchange), applied instruction, and supporting administrative uses. Structured parking may also be a compatible use, either above or below grade. This use classification promotes compact development, maximizes land use, and allows for increased efficiency and flexibility of proposed building uses. Mixed-use development is particularly beneficial in more dense urban environments such as MBW. An example of mixed-use land use at MBW is found at the Annex where Building 25 combines multiple uses in a horizontal mixed-use development.

Family Housing

Family housing land uses provide designated areas for government-owned or controlled housing for eligible commissioned officers and qualified dependents. All family housing at MBW occurs at the Main Post, which consists of five GOQs and the Commandant's Home. No future expansion of family housing is proposed.

Training

Training land uses at MBW are designated to accommodate applied instruction and operational training



The Main Post serves primarily as the administrative hub, anchored by the Installation Command Post (Building 8).

activities which include the use of classroom, practice space, rehearsal drill space, and equipment or functional systems primarily for the US Marine Band and D&B. Training or applied instruction uses are considered within the mixed-use classification in future land use plan.

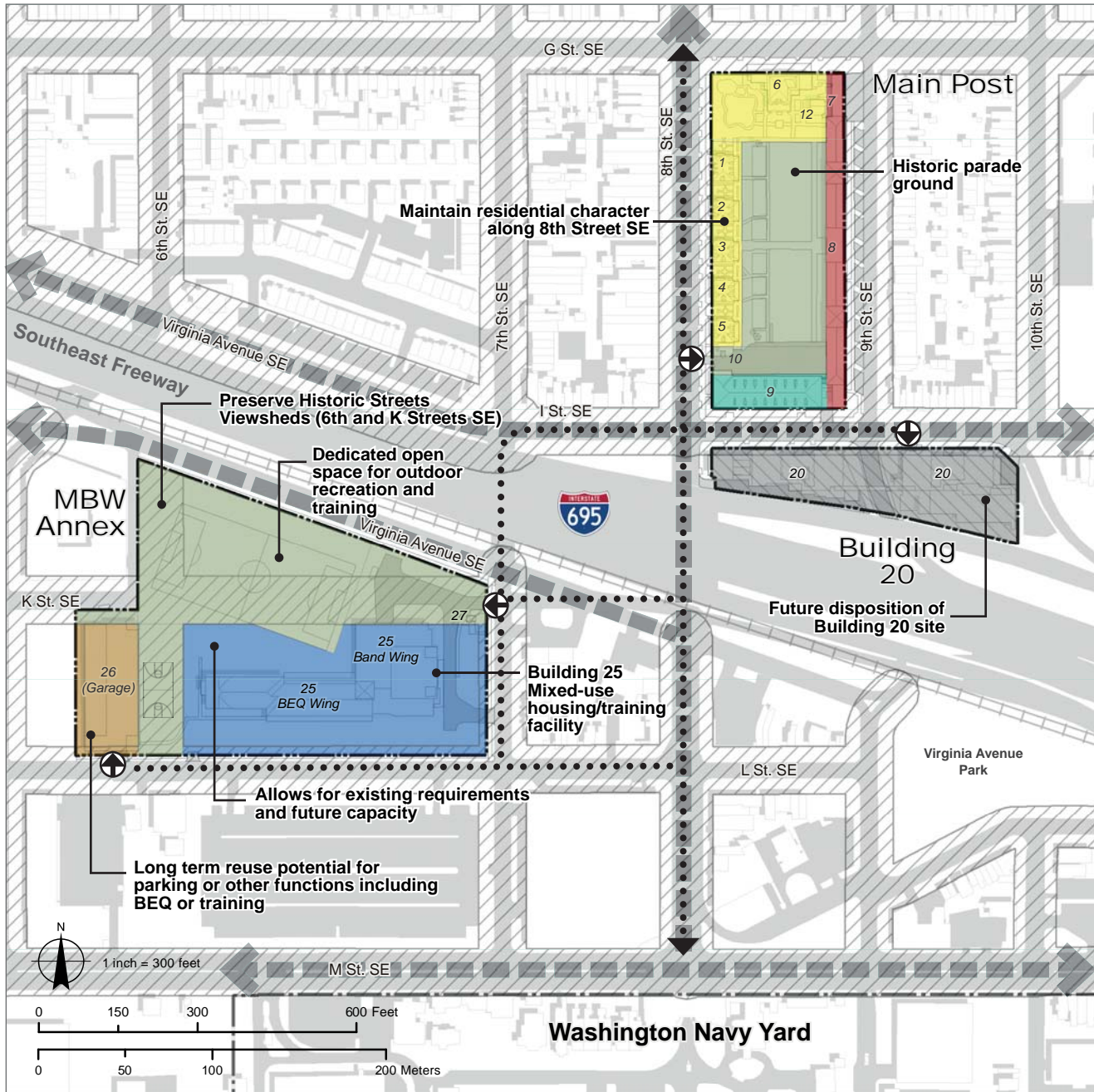
Bachelor Housing

Bachelor or enlisted housing land uses accommodate unaccompanied apartment or dormitory-style berthing quarters and associated grounds for military personnel (E1-E5) at MBW. The installation maintains two prominent bachelor housing use areas at Building 20 and the Annex, which house approximately 500 Marines between them. Related outdoor uses include the adjacent multi-purpose recreation field at the Annex. Bachelor housing uses are recommended within the mixed-use classification in the future land use plan, rather than as a single use classification. Ancillary uses include associated support functions such as dining halls, recreation facilities, exchanges, and parking as well as training. These functions may be collocated with bachelor housing in specified mixed-use areas.

Community Support and Open Space

Community support and open space land uses include facilities and support services to meet the individual physical fitness, coordination, skills development, training, and recreation needs of military personnel. At MBW, outdoor recreation uses include the multi-purpose recreation field at the Annex, which is a shared-

Figure 5-1 Future Land Use Map



Legend

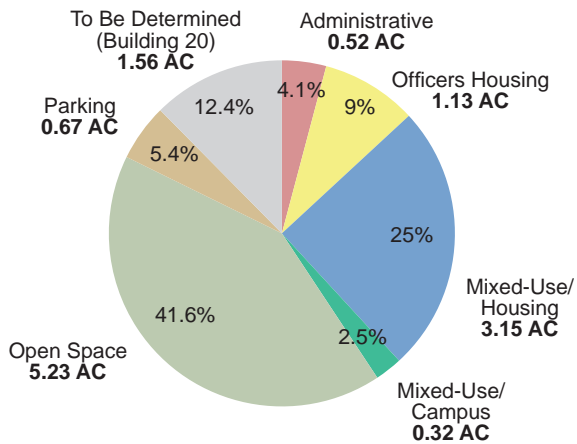
- | | |
|---------------------------------------|--------------------------------|
| Future Land Use Classification | Installation Boundary |
| Administrative | Historic Streets View Corridor |
| Mixed-Use/Campus | Primary Transit Corridors |
| Mixed-Use/Housing | Primary Pedestrian Routes |
| Officer Housing | Controlled Access |
| Open Space | |
| Parking | |
| To Be Determined | |

use facility with the community. This use also includes the central parade ground at the Main Post which is the location for the weekly evening parades and other outdoor ceremonies. These two primary open space designations are protected from future development. Community support uses have been integrated within the mixed-use classification in future land use plan.

Summary

The primary future land uses (by area) at MBW are mixed-use and open space, including the multi-purpose recreation field and parade ground. Approved mixed uses include training, enlisted housing, support functions, and structured parking. Collectively, these land uses account for roughly 70 percent of the total land area (Figure 5-1 and 5-2). Administrative uses and officer housing account for the majority of facility use at the Main Post, but occupy less than 18 percent of the total land area.

Figure 5-2 Summary Future Land Use



Major administrative functions will continue to be centralized at the Main Post, primarily the Command Headquarters (Building 8). Enlisted housing and training for the D&B and US Marine Band are proposed within the mixed-use/housing designation at the MBW Annex. Family housing is a low intensity use, yet a prominent defining character of the Main Post including the historic Home of the Commandant. Community support functions will continue to be combined with the enlisted housing uses at the Annex. Primary open space uses will remain at the parade ground at the Main Post and the multi-purpose recreation field at the Annex.



The Regulating Plan provides the framework for the form-based code that reinforces the character and scale of development at MBW.

5.2 REGULATING PLAN

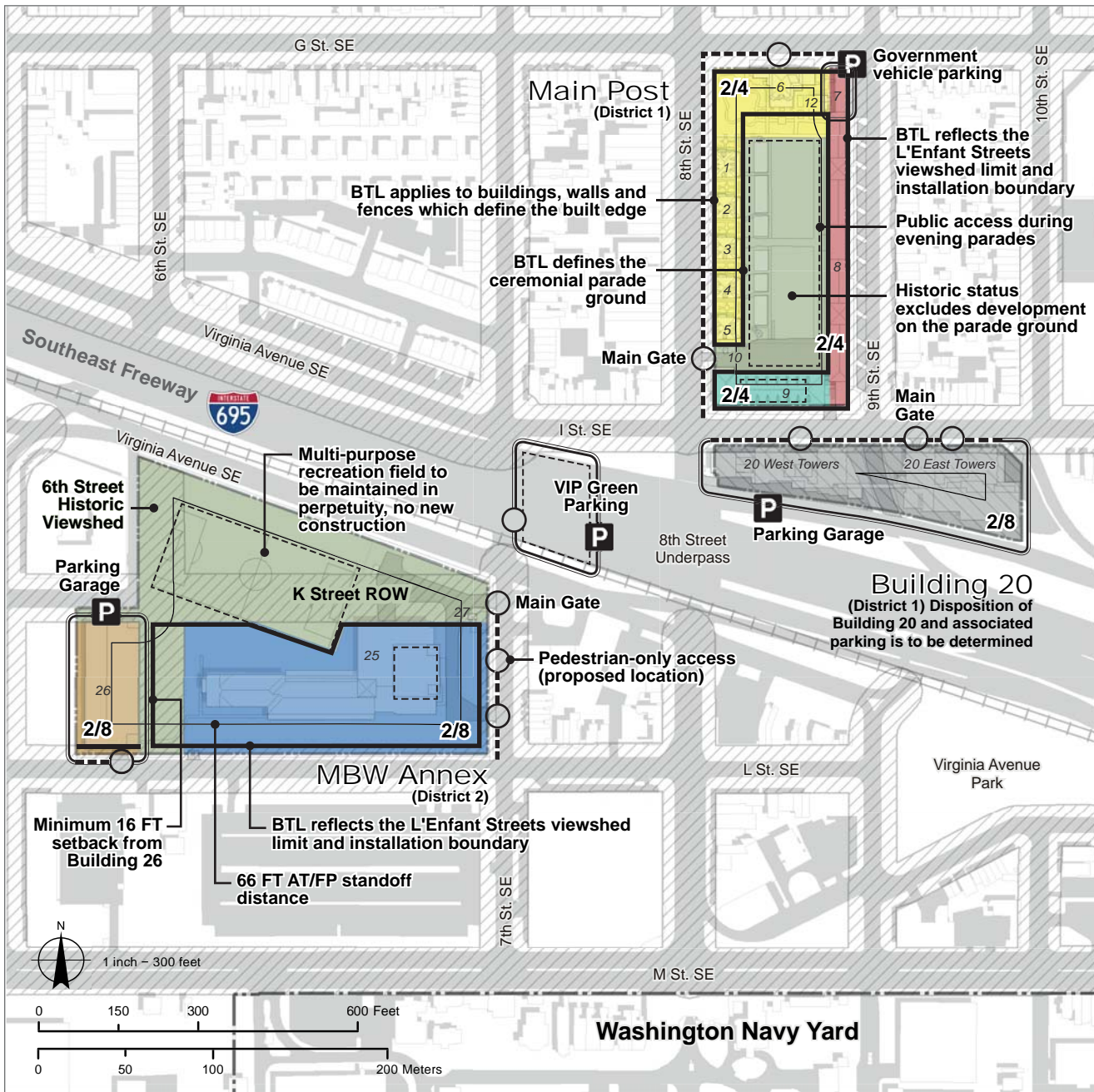
The Regulating Plan (Figure 5-3) provides broad level guidance on future development for each MBW planning district. Its purpose is to guide the planning and design process at MBW, and establish the fundamental framework for the form-based code that ensures future development plans are consistent with the overall planning vision goals and objectives. It identifies primary building uses and open space areas that respect and respond to historic development patterns at the installation and within the adjacent Capitol Hill community. Regulations are intended to govern building form and placement by defining essential building parameters and guidance including building use, build-to-lines, building height (minimum and maximum), entry locations, roads, parking and other major form-giving factors.

The Regulating Plan corresponds with the IPS outlined in Chapter 6 to provide the overall form-based code for installation development. Specific architectural and landscape architectural standards are covered in detail in the accompanying IAP for MBW.

5.3 DEVELOPMENT PARCELS

A breakdown of parcels at MBW (Figure 5-4) reflects major underlying uses and establishes a deliberate development direction supported by the Regulating Plan. Development parcels are not intended to reflect original parcel or ownership designations as discussed in Chapter 3, rather depict a logical breakdown of estab-

Figure 5-3 Regulating Plan

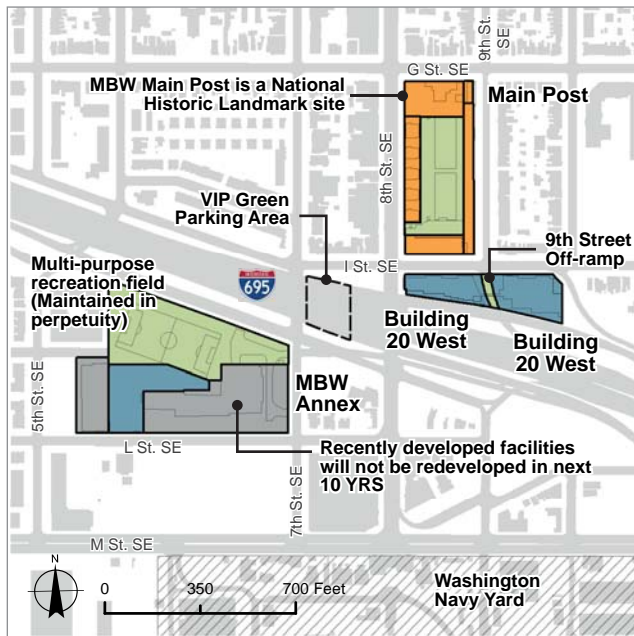


Legend

- | | | | |
|--|---|---|---|
| Future Building Use | Officer Housing | AT/FP CCSD 66 FT/20 M | Required Entry Zone |
| Administrative | Open Space | Installation Boundary | Required Entry Location |
| Mixed-Use/Campus | Parking | Historic Streets View Corridor | Public Access Zone |
| Mixed-Use/Housing | To Be Determined | 2/4 Minimum/Maximum recommended building height (Stories)* | Parking Zone |
| | | Build to Line (BTL) | |

Note: * Building height limits established by the DC Height Act
 50 FT: Main Post
 90 FT: Building 20, MBW Annex

Figure 5-4 Development Parcels



Legend

- Developed-2004
- Developed-Historic
- Development Potential
- Open Space
- VIP Green Parking

lished and potential development patterns including structured open space.

Parcels at the Main Post consist of the central parade ground, administrative, and family housing areas. The NRHP-listed parade ground has been in existence since 1805 and will be protected for its historic significance and intrinsic value as a community resource.

Development parcels at Building 20 consist of two distinct sites (east and west parcels), separated by the 9th Street off-ramp easement. Both sites are fully built-out today; however, functions in Building 20 will be relocated to the MBW Annex as part of the replacement BEQ Complex. The future disposition of this site has not been confirmed at this time, and will require further analysis of potential alternatives.

There are three identified development parcels at the MBW Annex, including the Building 25 site, Building 26 site, and an undeveloped parcel adjacent to the existing BEQ. The multi-purpose recreation field at the Annex falls under a deed restriction to preserve the area in perpetuity as a shared-use facility.



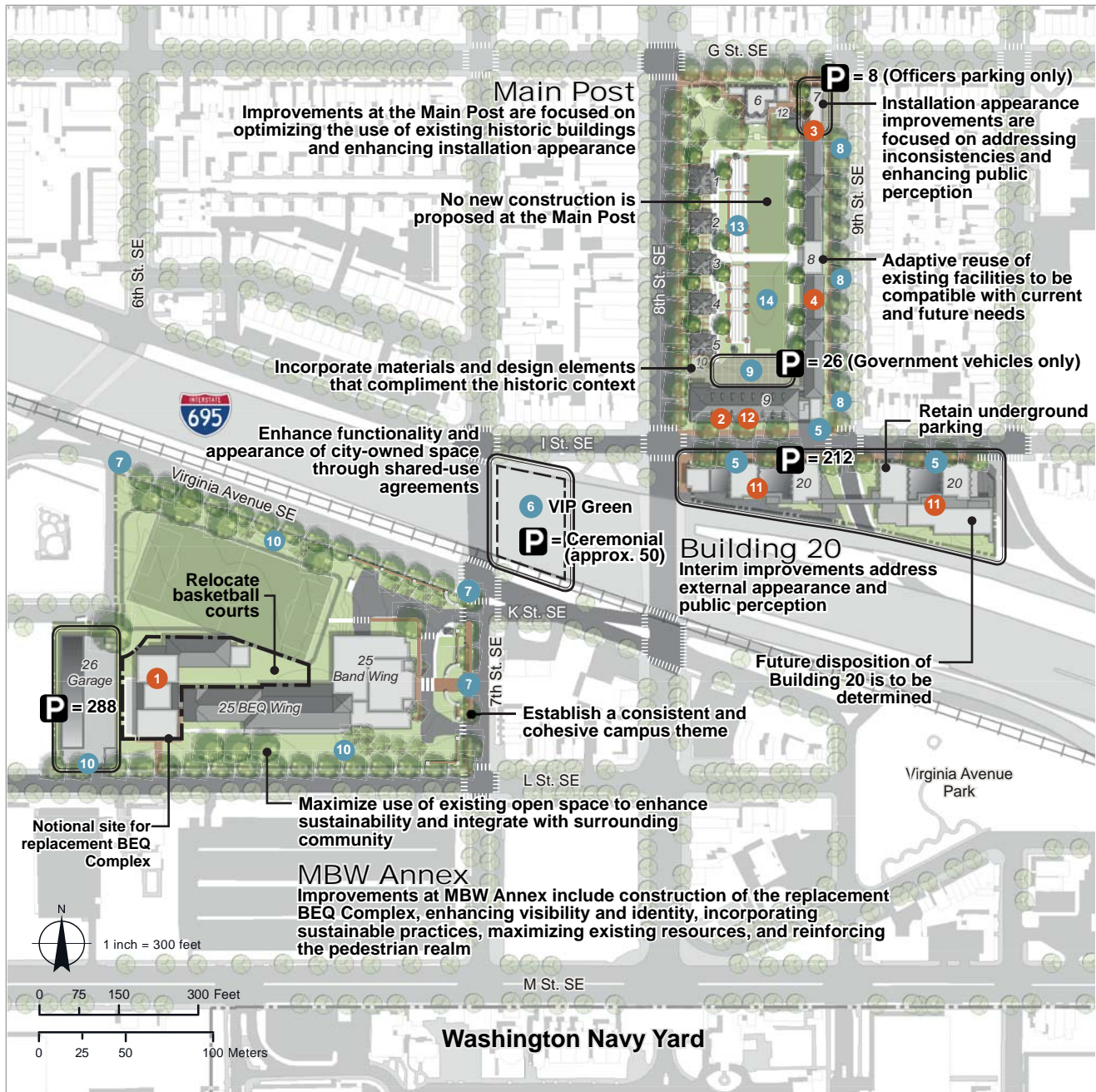
The proposed replacement BEQ Complex will incorporate a welcoming pedestrian-scaled entrance facing L Street SE, and project a positive USMC image.

5.4 ILLUSTRATIVE PLAN

The Illustrative Plan (Figures 5-5 through 5-11) graphically represents one possible scenario that portrays proposed development concepts supported in the Master Plan. Illustrations depict development that conforms to the Regulating Plan, helps visualize opportunities for future growth, fulfils the installation goals and objectives and meets projected mission and facility requirements. Proposed solutions incorporate a range of applicable form-based planning principles that ensure development is compatible and context appropriate within the historic Capitol Hill neighborhood (Chapter 2).

Relevant information presented in the Illustrative Plan includes planned project siting, notional building footprints, open space, existing and proposed roads, sidewalks, and bicycle networks. Recommended actions include a combination of new construction, renovation, and demolition, as described in further detail in Chapter 7. Proposed building footprints are conceptual and depict a plausible development scenario for addressing long-term requirements and enhanced capability, and not intended for construction purposes. Additional detailed siting information for specific projects is found in the IAP. Alternate planning solutions that similarly address facility requirements and adhere to the applicable planning principles and policies presented in this Master Plan may also be considered.

Figure 5-5 Illustrative Plan



Legend

- # Proposed Construction or Renovation Projects
- # Proposed Installation Appearance Projects
- P = ### Parking Zone and Quantity

Planned Projects

1. Replacement BEQ Complex
2. Move Communications Hub from Building 8 to Building 9
3. Building 7 Repair and Modernization
4. Building 8 Repair and Modernization (PN EI1503 M)
5. Upgrades to Building 20 and I Street

6. Various Upgrades to VIP Green
7. Multiple Upgrades to Pedestrian Entry, 7th Street and Virginia Avenue
8. Multiple Upgrades to 9th Street
9. Multiple Upgrades to Main Post Entry and Parking Area
10. Multiple Upgrades to Annex Site
11. Building 20 Demolition or Reuse
12. Building 9 Renovation
13. Upgrades to Main Post Viewing Stands
14. Replace Parade Ground Turf

Renovate Building 8 interior to serve as the installation Command Post and administrative headquarters building

Explore alternatives that could reduce water use and maintenance of the parade ground

Replace existing asphalt with a lighter colored pervious pavement or pavers that are consistent with the surrounding context and reduce heat island effect

Figure 5-6 Illustrative Concept/ Main Post District (View A)



Resurface special pavement areas to improve safety and reduce maintenance

Replace temporary bleachers with permanent integrated structures that reflect the historic surroundings

Repurpose Building 9 to accommodate administrative or other appropriate uses following the relocation of D&B

Figure 5-7 Illustrative Concept/ Main Post District (View B)



Main Post
VIEW B

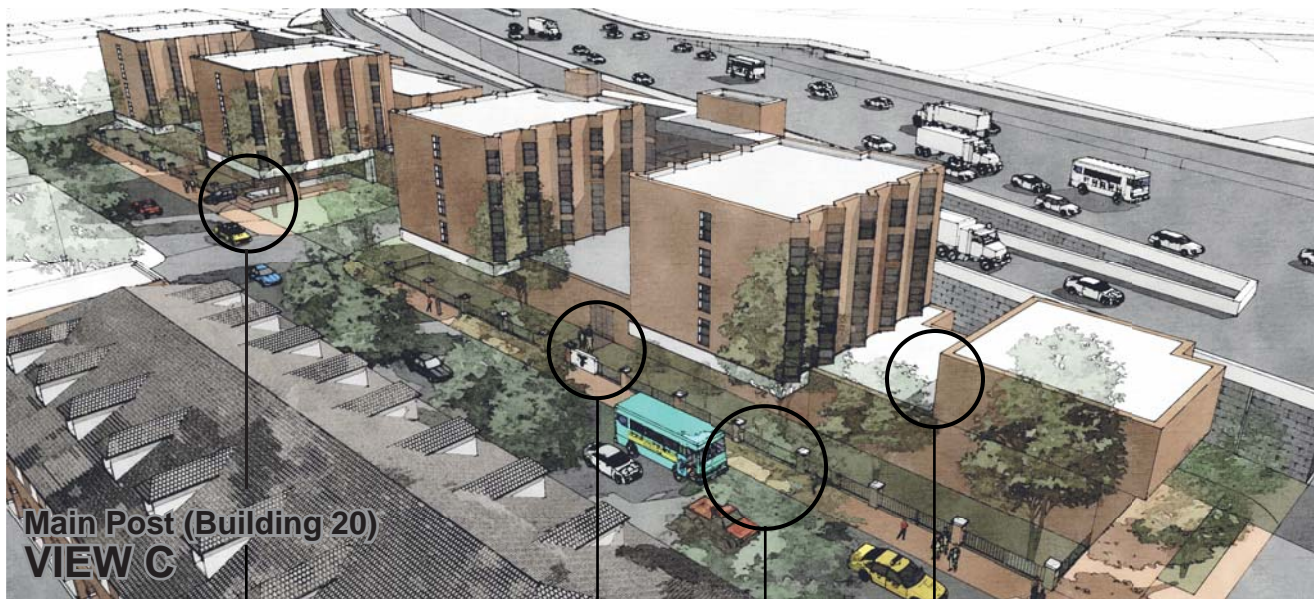
Renovate Building 8 exterior to include window and door replacement that meet historic and AT/FP standards

Renovate Building 7 interior/upper floor to accommodate compatible administrative functions

Resurface special pavement areas to reflect and reinforce the historic context

Replace Building 7 garage doors to be consistent with the architectural style and historic context

Figure 5-8 Illustrative Concept/ Main Post District (View C)



Main Post (Building 20)
VIEW C

Retain existing underground parking for USMC use

Replace/relocate existing BEQ and support functions to MBW Annex

Incorporate USMC identity elements including signage that create a consistent and coordinated campus theme

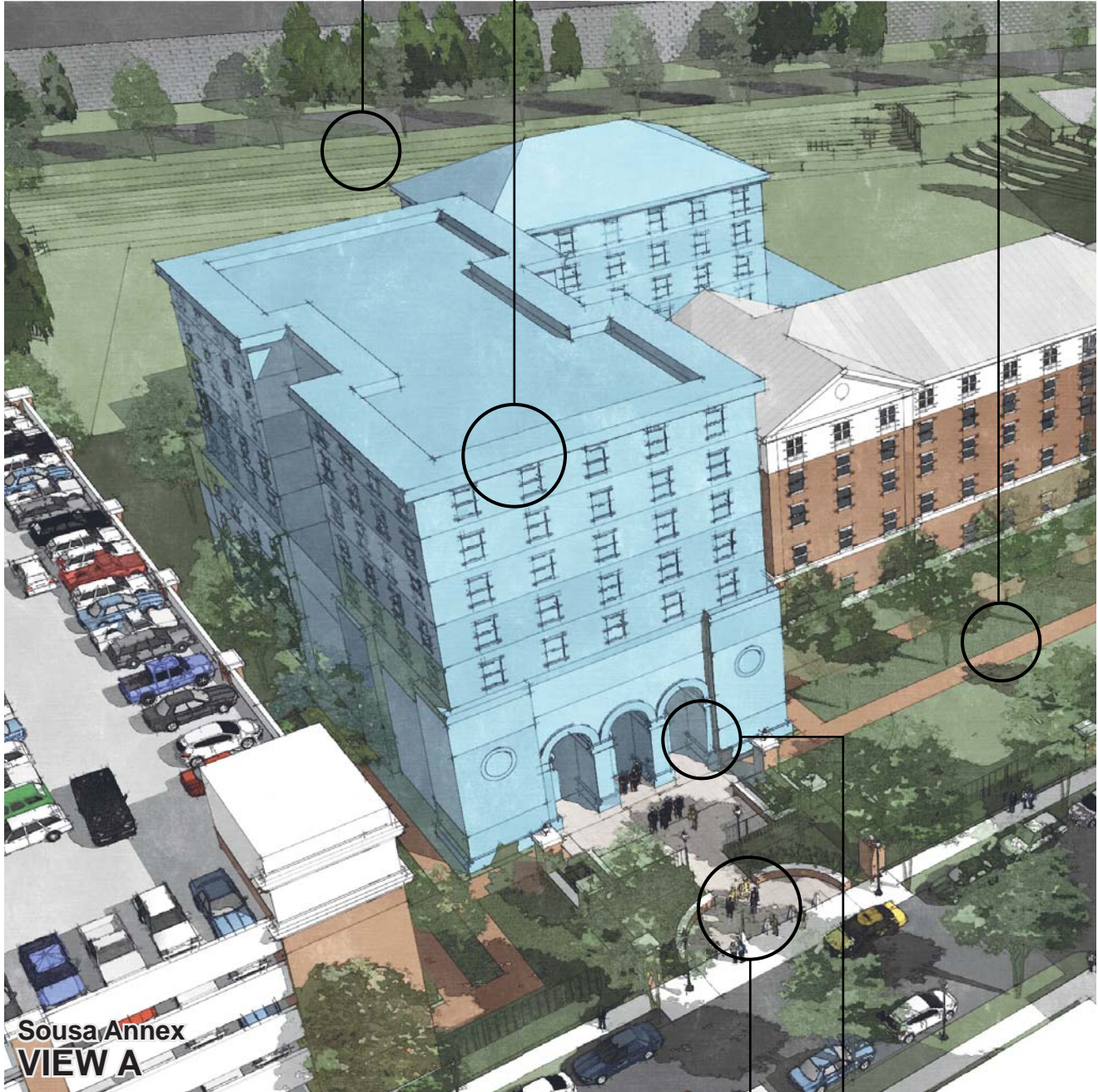
Enhance streetscape using street furniture, street trees, fencing and other urban design elements (Near-term)

Reduce lawn areas with landscape solutions that reduce maintenance and increase runoff infiltration

Construct 7/8-Story mixed-use BEQ Complex as compact infill development using massing and architectural elements that reinforce and unify campus character

Figure 5-9 Illustrative Concept/
District 2 (Sousa Annex/ View A)

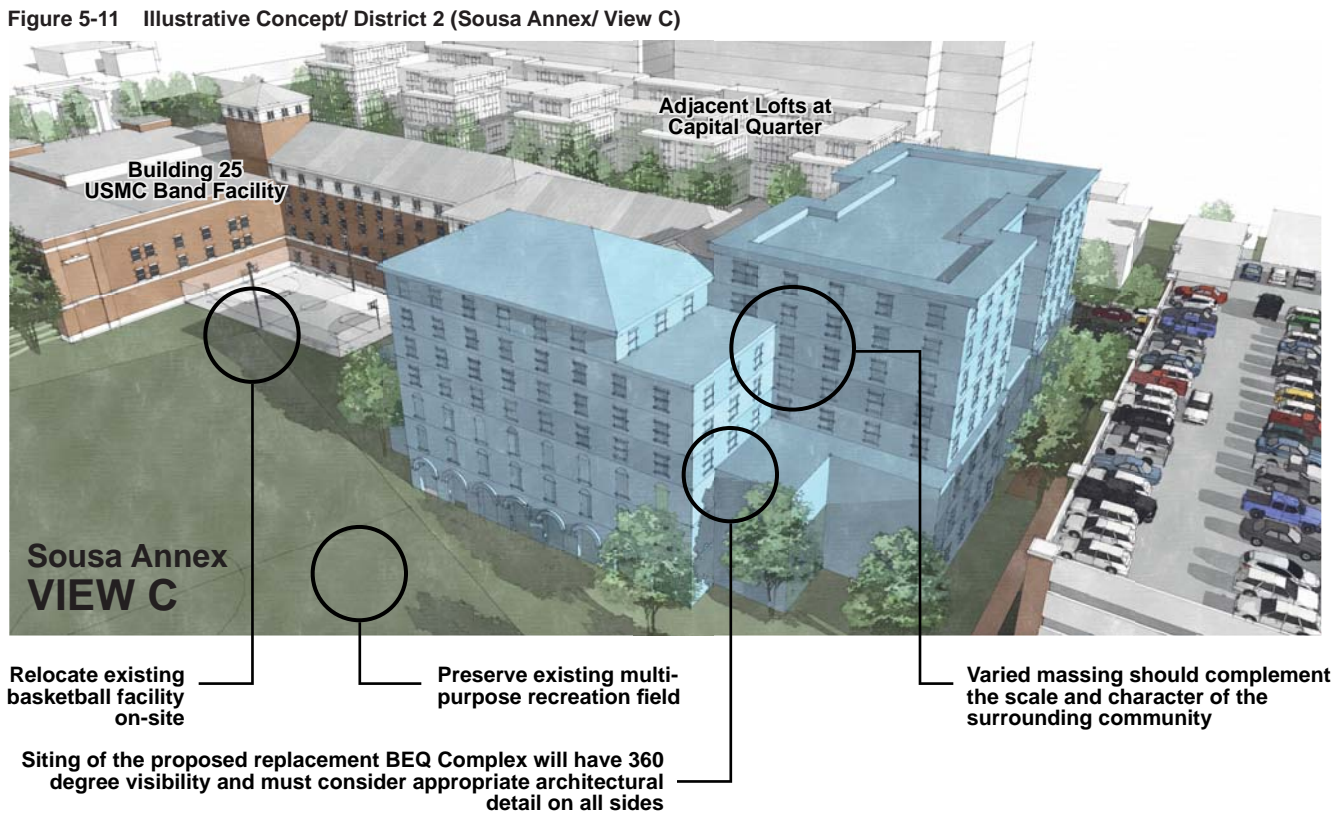
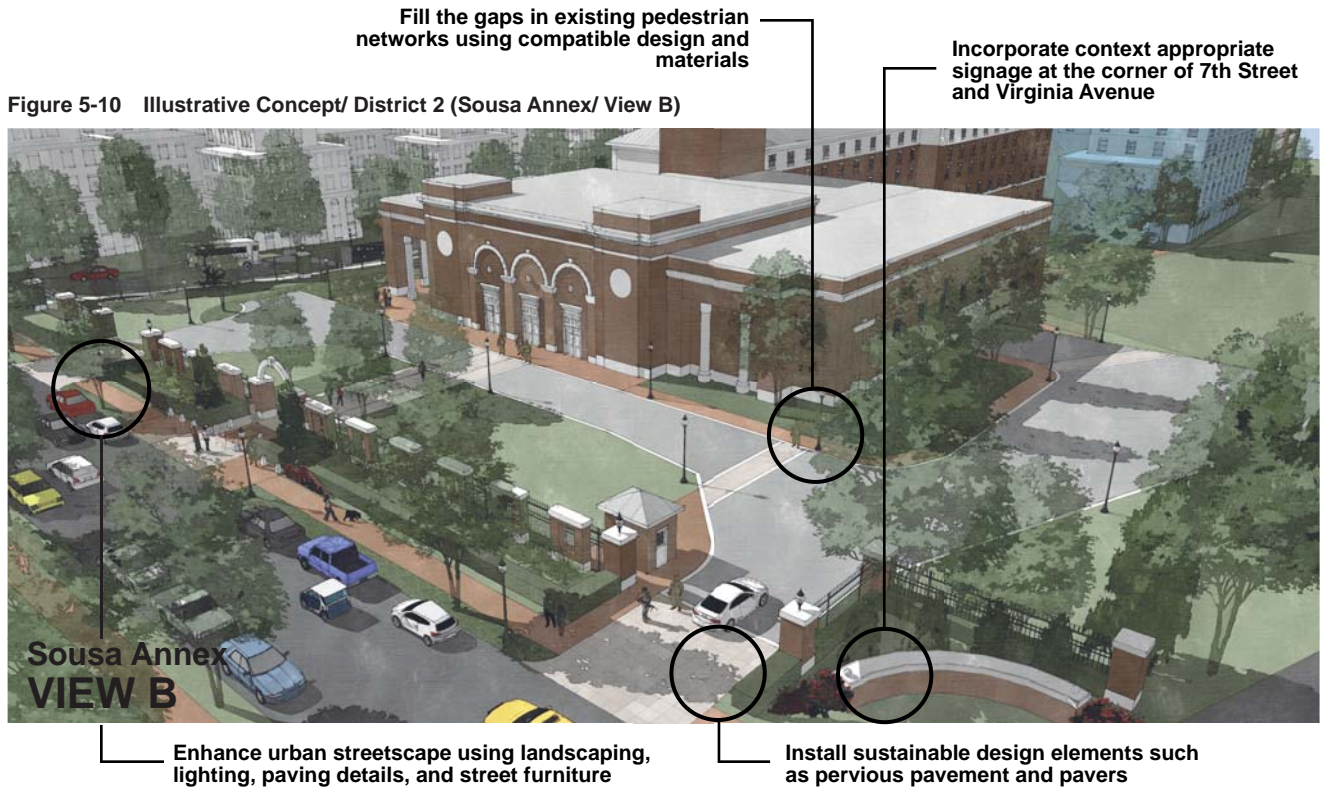
Make logical pedestrian connections to adjacent facilities and surrounding uses



Sousa Annex
VIEW A

Create a welcoming pedestrian-scaled entrance that is integrated with the community and establishes a sense of entry and meets installation security needs

Orient main entrance along L Street SE



5.5 EXISTING PLANS & STUDIES

5.5.1 Community Integrated Master Plan Process

The CIMP process, which took place between 2010 and 2013, was a key resource for the development of the Master Plan’s vision, existing conditions, and siting analysis. The purpose of the CIMP process was to integrate elements, tools, techniques, and lessons learned of traditional DoD development processes with constructive input from community stakeholders. An important aspect of the process was to evaluate opportunities and garner community involvement for locating the proposed replacement BEQ Complex in the vicinity of MBW.

MBW has historically fostered a strong community relationship, which was instrumental in carrying out a transparent and collaborative planning process that thoroughly considered both the needs of the local community as well as the Marine Corps. A broad range of stakeholder input was sought throughout the CIMP process that included area residents, concerned citizens, local businesses, and developers, as well as various involved government agencies.

One of the outcomes of this effort, in addition to exploring a wide range of development scenarios, was the establishment of concise goals and objectives that represent the community’s priorities with regard to future development, including the replacement BEQ and support facilities. CIMP process goals and objectives results were confirmed through a community workshop, combined with the two-session public/agency CIMP process forum, and utilized in the development of the Master Plan’s planning vision and objectives (Chapter 2).

CIMP PROCESS GOALS & OBJECTIVES

Goal: *Guide development, as appropriate, to preserve and enhance surrounding neighborhood character and historic landmarks.*

Objectives

1. **Ensure there are common/open spaces and provide balanced mixed-use that serves all members of community.**
2. **Ensure smart growth is consistent with neighborhood urban design goals, and preservation of historic buildings and façades.**

3. **Creatively satisfy physical security requirements while maximizing opportunities for compatible shared-use of facilities and setback areas, particularly for residents.**
4. **Adhere to the Comprehensive Plan of the National Capital (District Elements and NCPC Federal Elements) and conform to the requirements imposed by the DC’s Zoning Regulations and Zoning Map or seek relief before the appropriate bodies.**
5. **Incorporate transit-oriented development to encourage non-automobile transportation (such as ample side-walks for pedestrians, path networks for cyclists, and concentration of high density development near Metro stations).**

Goal: *Encourage wise investment and development that addresses both economic health and social vitality for people who live in the area, as well as those who work in or visit the area.*

Objectives

1. **Incorporate positive public attractions, inviting and pedestrian-friendly settings, and green spaces into project development.**
2. **Develop creative solutions that prioritize livability for residents, respond to existing market conditions, increase retail opportunities, incorporate job creation, and stimulate and shape the market in a manner that provides long-term stability.**
3. **Mix public and private use (i.e., live/work) functions, personnel, and programs.**

5.5.2 Integrated Cultural Resources Management Plan

The 2013 ICRMP serves as the planning and decision-making reference manual for cultural resources management and compliance and is used to inform planners about the status and treatment of cultural resources at MBW. The ICRMP establishes SOPs for the management and treatment of historic properties in compliance with federal regulations and DoD directives relative to cultural resources.

One of the ICRMP’s stated goals is to maintain the contributing resources of the US Marine Corps Barracks and Commandant’s House District in accordance with the Secretary of the Interior’s Standards for the Treatment of Historic Properties. The Standards provide recommendations on how to repair, replace, alter, or add-on to historic architectural resources while still protecting their significant building materials and features. Another goal is the protection of other historic architectural resources at the installation or on lands

acquired by MBW that may be identified and determined to meet the NRHP criteria for eligibility.

STANDARD OPERATING PROCEDURES

The MBW ICRMP includes SOPs as guidance for planning undertakings that involve NHLs, such as the US Marine Corps Barracks and Commandant’s House District. Specifically, project planning by federal agencies such as the Marine Corps must, to the maximum extent possible, undertake measures to minimize harm to NHLs that may be affected by a federal action. The following summarizes the SOPs for the treatment of historic architectural and archaeological resources.

No. 1 | National Historic Preservation Act

Under the NHPA, MBW shall conduct periodic review of historic architectural and archaeological resources to consider their eligibility for the NRHP per Section 110 of NHPA. Additionally, a review of routine activities, maintenance, construction, and demolition shall be conducted to determine the effects of these actions on historic properties. The Marine Corps shall also assume responsibility for the preservation of its historic properties in accordance with Section 110 of NHPA.

No. 2 | National Historic Preservation Act, Section 106 Compliance

Upon the proposal to undertake actions with the potential to affect historic properties, USMC will complete Section 106 compliance prior to commencing proposed actions. Review shall continue until one of the following criteria is met: (1) it is determined that the undertaking will not affect historic properties, (2) when effects have been identified and taken into account in project development and/or execution, or (3) when adverse effects have been identified and mitigated as agreed to by the Marine Corps, Advisory Council on Historic Preservation (ACHP), the Secretary of the Interior, and all outside consulting parties.

No. 2a | Section 106 Compliance for Building and Structures

Compliance with Section 106 of NHPA provides DC HPO documentation requirements (work plan) for known affects to historic architectural resources at MBW that are to be provided at initial consultation.

No. 3 | Section 110 Compliance

Compliance with Section 110 of NHPA overall includes the identification and management of NRHP historic properties to preserve the integrity of information they represent. Additional recommendations include the



Historic MBW Main Post at 8th and I.

identification and evaluation of buildings reaching 50 years of age as well as previously documented and undocumented and/or unidentified resources within described archaeologically sensitive areas. Consideration should be given to both the Main Post and Building 20 sites.

No. 3a | Section 110 Compliance: Archaeological Resource Evaluations

Compliance with Section 110 of NHPA includes the evaluation of known archaeological resources to determine eligibility for NRHP listing.

No. 3b | Section 110 Compliance: Building Conditions Assessment

Compliance with Section 110 of NHPA concerned with building assessments includes the development of a comprehensive building maintenance manage-

ment program, including a standard list of questions to ensure consistency, as well as the development of a prioritized list of work requirements based on Building Condition Assessment results.

No. 3c | Section 110 Compliance: Historic Landscape Conditions Assessments

Compliance with Section 110 of NHPA is concerned with the identification of potential effects on historic landscapes within the MBW Main Post, including the Parade Ground, Commandant’s Garden, and Landscape Perimeter.

No. 3d | Section 110 Compliance: National Historic Landmarks

Compliance with Section 110 of NHPA Standard 4 includes factors to be considered when planning undertakings that involve NHLs, such as the NHL US Marine Corps Barracks and Commandant’s House District.

No. 4 | General Maintenance Practices

Maintenance management recommendations include the continued care of historic buildings in accordance with the Secretary of Interior’s Standards for the Treatment of Historic Properties.

No. 5 | Emergency Discovery of Archaeological Resources

In the event of the discovery of previously unidentified or unknown archaeological resources at MBW sites that are NRHP-eligible, specific steps are necessary to protect these resources under Archaeological Resources Protection Act (ARPA), Native American Graves Protection and Repatriation Act (NAGPRA) and Section 106 guidelines.

No. 6 | Archaeological Resource Protection Act Compliance

SOP No. 6 incorporates required procedures for the protection of archaeological resources over 100 years old, including ARPA review and compliance with other federal statutes.

No. 7 | Native American Graves Protection and Repatriation Act Compliance

Although none have been identified to date, SOP No. 7 provides guidance for the treatment of traditional Native American cultural properties or sacred sites at MBW in accordance with NAGPRA.

The 2013 ICRMP indicates that the Cultural Resources Manager must be included in the planning process to ensure compliance with Section 106 and NEPA;

however, there is no Cultural Resources Manager assigned to MBW at this time. This function is performed as collateral duty by the MBW Facilities Manager and the Cultural Resources Specialist at HQMC.

5.5.3 Integrated Natural Resources Management Plan

Given the urban location of MBW and the lack of protected lands, species, or water resources at the installation, MBW has no requirement under the Sikes Act to develop or implement an INRMP.

5.5.4 Command Post (Building 8) Space Optimization Plan

A Space Optimization Plan was completed in March 2013 to guide the renovation and modernization of the Command Post facility (Building 8) at MBW’s Main Post. Building 8 has not undergone a comprehensive renovation in over 50 years, since it was initially converted from an open bay barracks to an administrative facility. Following decades of incremental improvements, the facility suffers from numerous safety, operational and space deficiencies.

The purpose of the Space Optimization Plan was to identify opportunities to maximize the efficient use of the existing historic facility by providing a road map for a state-of-the-art administrative headquarters. The Plan outlines four key goals to address significant deficiencies.



Building 8 is long overdue for interior renovations to address multiple deficiencies in major building systems and space utilization.



The IAP identifies several key projects that would contribute to the overall installation appearance and integration with the surrounding community, including the main entry to the Annex facilities.

cies, meet future mission requirements, and reinforce the overall vision for the Command Post facility.

Command Post Space Optimization Goals

1. **Create a positive and collaborative working environment that significantly improves communication, flow, and quality in the workplace**
2. **Maximize the existing footprint to become a flexible, efficient, and modern administrative space capable of meeting the future needs of the Command Post**
3. **Address functional space deficiencies and provide a high-performance, sustainable, and safe working environment for the next 50 years**
4. **Recapture and celebrate the historical value of the facility and the Main Post**

Recommendations in the Plan address a range of operational, code, and quality of workplace deficiencies to bring the facility current in all aspects. Space optimization recommendations are reflected in the proposed Building 8 Repair and Modernization (EI 1503M) project discussed in Chapter 7.

5.5.5 Installation Appearance Plan

The IAP was developed in conjunction with the Master Plan and serves as the official direction for designing, developing, and reviewing all exterior construction and renovation projects at MBW. The IAP recognizes the unique character of the existing natural and built environment and provides flexible, aesthetic, and functional direction for all future projects. Recommendations in

the IAP support the planning vision, goals, and objectives identified in the Master Plan and include steps to preserve and enhance the architectural style and protect the installation's numerous cultural and historic resources. The Plan also establishes unifying design guidance for wayfinding, signage, lighting, landscape, fencing, walls, and other elements that serve to establish and reinforce a cohesive identifiable theme across the installation. Recommended projects in the IAP include improvements to the Main Post, Building 20 site, and the Annex, and are reflected in the Master Plan's Illustrative Plan and Installation Development Program.

5.5.6 Transportation Management Program

An update to the MBW TMP was prepared in coordination with the Master Plan. The TMP and Master Plan were developed to work in conjunction with one another and should be reviewed regularly to ensure consistency.

The goals of the TMP are to reduce traffic congestion, conserve energy, and improve air quality.

The TMP incorporates survey results from both residents and commuters at MBW that include responses to: mode choice, commuting distance, parking, commuting times, subsidy and rideshare awareness, and teleworking. The TMP also reinforces the 1:4 NCPCC-recommended parking ratio for MBW for any proposed actions. In summary, there are no anticipated



Eastern Market Metro Station is approximately a 10-minute walk north of MBW along 8th Street.

increases to MBW's population and, therefore, no identifiable increases in SOV use or other transportation needs. However, recommendations include several strategies aimed at reducing the future dependency on automobiles and managing transportation activities including the following:

Proposed TMP Strategies

- » **Implement an employee transportation coordinator (ETC)**
- » **Continued parking supply and control measures**
- » **Increase awareness of transit subsidies**
- » **Promote telecommuting opportunities for those who qualify**
- » **Enhance shuttle service options in coordination with WNY**
- » **Develop and promote a ridesharing (carpools and vanpools) program along with guaranteed ride home opportunities and flexible work hours**
- » **Encourage expansion of alternative work scheduling**

5.5.7 Environmental Impact Statement for Multiple Projects in Support of Marine Barracks Washington, DC

The EIS, prepared in conjunction with the Master Plan (Preliminary Final 20 July 2015), evaluates the potential environmental impacts of implementing repair, renovation, and construction projects at MBW anticipated to occur within an approximately five-year planning horizon. Resources analyzed in the EIS include land use, transportation and circulation, cultural resources, socioeconomics, environmental justice and protection of children, public health and safety, utilities and infrastructure, public services, noise, natural resources, and air quality. The principal project analyzed in the EIS is the replacement of the BEQ Complex (including supporting facilities and parking) currently housed in

Building 20. The EIS identifies five alternate sites for the proposed development of the replacement BEQ and support facilities complex. Summary information regarding each of the siting alternatives analyzed in the EIS can be found in Appendix J. Three of the sites required land acquisition and two of the sites were located on DoD-owned land. The EIS also addressed several projects that are common to all alternatives, including renovation and improvement projects to Building 7 at the Main Post; improvements to the MBW Annex gate at 7th and K Streets; and improvements to building façades, fencing, infrastructure, pedestrian amenities, and landscaping throughout the installation. The EIS also takes a programmatic look at the potential effects of several additional projects anticipated to occur beyond the five-year planning horizon. Principal among these projects is the potential reuse of Building 20 or the Building 20 site. Other projects include renovation of Building 9 to accommodate the consolidation of various administrative functions, as well as some additional landscaping and maintenance projects.

Following the Draft EIS comment period, the Marine Corps identified Alternative 5 (Site E) as the preferred alternative for the replacement BEQ Complex based on agency and public input, as well as its proximity to the MBW Main Post and Annex, the elimination of the need for land acquisition, and the mitigatable environmental impacts of locating the replacement BEQ Complex at this site.

Under Alternative 5, the replacement BEQ Complex and support facilities would be constructed at the MBW Annex and the associated parking requirement would be met by retaining the existing below-grade parking at Building 20. A 7- to 8-story mixed-use facility containing the replacement BEQ Complex (i.e., 125 standard Marine Corps 2+0 berthing rooms, company administration space, classroom training space, and the armory) and support facilities (D&B training facility, enlisted dining facility, and the fitness facility) would be constructed on a 0.89-acre site between Buildings 25 (MBW Annex BEQ) and 26 (MBW Annex parking garage) and south of the multi-purpose recreation field (Figure 5-5/Illustrative Plan). The new facility would be sited as close to Building 25 as possible and would connect via a breezeway between the replacement BEQ Complex and the western end of Building 25. The site currently contains a basketball court that would be relocated to the north of Building 25. According to the 1910 Height of Buildings Act, the maximum building height for the BEQ at the MBW Annex is 90 feet.



Successful network planning at MBW is supported heavily by efficient and effective connectivity to the City's surrounding streets, transit, pedestrian, bike, open space, and utility networks.

5.6 NETWORK PLANS

Network plans provide the interconnected framework for supporting broad-level infrastructure goals across MBW sites. These plans serve to document existing infrastructure as well as to identify potential areas for improvement that support the installation's vision and capital improvement strategy (Chapter 7). There are four major network plans provided in the Master Plan, including: Street & Transit Networks, Sidewalk and Bikeway Networks, Green Infrastructure Networks, and Primary Utility Networks.

MBW is unique from many larger contiguous installations in several ways, and particularly with regards to network planning. Due to the dislocated nature of the three smaller MBW sites, the majority of these essential infrastructure networks is located off-site and is owned and governed by various public and private entities/providers. As a result, the portion of these networks that fall within the installation boundaries and under control of MBW's planning and development process is proportionately small, including primarily isolated connection points to the broader external networks.

While the following network plans consider a holistic approach that emphasizes improved quality, continuity, and connectivity of these networks, recommendations on MBW sites are relatively specific in nature and focused on identifying existing gaps and opportunities to address them. In addition to meeting on-site needs, installation planners should be familiar with ongoing and proposed plans and development within the surrounding community. Planners should identify needs beyond the installation to ensure the long-term effectiveness of shared network infrastructure such as sidewalks, bikeways, transit, and utilities.

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STREET & TRANSIT NETWORKS



5.6.1 Street & Transit Network Plan

Street and transit networks surrounding MBW provide infrastructure necessary for the continued growth and mobility needs for the local and regional community. The Street & Transit Network Plan identifies existing and proposed facilities and infrastructure, including connections that serve the surrounding community and MBW. Additionally, a TMP for MBW was updated in conjunction with the Master Plan that identifies recommendations to reduce traffic congestion, conserve energy, and improve air quality through reductions to SOV use for MBW commuters.

It's important to note that MBW is unique from many Marine and other DoD installations in that it does not have an interior or on-site street network. The network of external streets and available transit services that support MBW are owned and operated by public (local government) agencies as well as public/private organizations. A key purpose of this plan is to ensure that critical access to these external facilities and services is planned for and/or enhanced within the framework of future development at MBW.

In addition to analyzing existing street networks, this plan identifies current and proposed transit routes and stops adjacent or in close proximity to MBW. Additional summary information of existing transportation and transit facilities is provided in Chapter 3.

BENEFITS OF ENHANCED STREET & TRANSIT NETWORKS

- » **Creates diversified land use patterns and mobility options**
- » **Encourages increased densities around transit hubs and corridors**
- » **Balances safety and convenience for all users**
- » **Improves street efficiency & capacity**
- » **Boosts land values and promotes economic development**
- » **Reduces reliance on automobiles and reduces congestion**

- » **Reduces parking demand**
- » **Encourages health benefits of walking & bicycling**
- » **Creates safe, convenient, and attractive communities**
- » **Increases overall productivity of transit facilities**
- » **Improves air quality by reducing impacts of automobile emissions**

STREET TYPES

MBW is located in a moderately dense mixed-use area in close proximity to multiple surrounding local, collector, and regional arterial roadways. The following describes the dominant typologies of adjacent streets including the key characteristics that contribute to urban design, transit effectiveness, walkability, and safety. Street types and other elements identified are keyed to the Installation Planning Standards in Chapter 6.

Commercial Street Type

The only commercial street type adjacent to the installation is 8th Street SE between G and I Streets SE. This highly used multi-modal corridor runs north-south establishing the western boundary of the Main Post and connects the Eastern Market area with WNY and M Street SE. Commercial uses along 8th Street SE include the Barracks Row businesses comprised largely of a mix of restaurants and retail establishments.

With a speed limit along 8th Street SE of 25 miles per hour (MPH), 8th Street SE exhibits several characteristics of an urban commercial streetscape, including multiple transit stops, signalized intersections, street lighting, wide sidewalks and crosswalks, and pedestrian signals (Figure 5-12). Common building uses include moderate density commercial and numerous smaller restaurants of which many utilize outdoor seating facing the street. The roadway is a two-lane undivided facility with a ROW width of 100 feet and a street width of 50 feet (curb to curb). Brick-lined sidewalks are located on both sides of the street, with the wider



A view looking south along 8th Street SE illustrating the key characteristics of a typical commercial street type near MBW.

sections along the west side (approximately 20 feet) that accommodates the commercial uses across from the Main Post. Sidewalks facing the Main Post are generally narrower (approximately 12 feet wide). Street trees are spaced every 35 to 40 feet along both sides. Metered on-street parking is provided on both sides, with parallel parking along the west side and angled parking along the east.

Residential Street Type

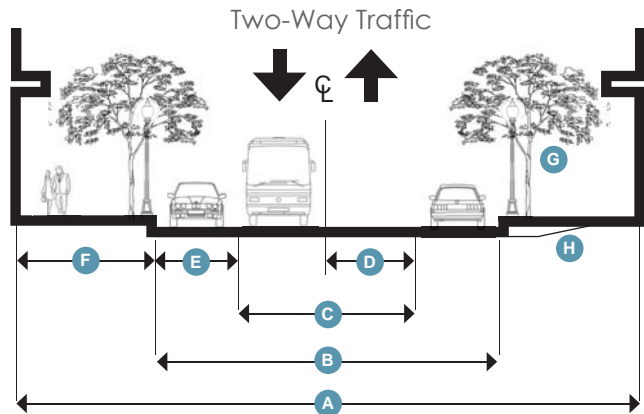
The majority of uses surrounding MBW are residential, having corresponding street types with consistent and context-sensitive characteristics. Residential uses include primarily 2- to 3-story townhomes with alleyway access. The associated street network follows a formal grid pattern of north/south (numbered) and east/west (letters) directions. The speed limit throughout adjacent residential neighborhood streets is typically 25 MPH.

The dominant residential street typology surrounding MBW exhibits multiple characteristics of an urban residential streetscape, including four-way stop signs, narrow crosswalks, pedestrian scale street lighting, and parallel on-street parking (Figure 5-13). Street parking is provided on both sides and is typically by city permit only, with some short-term or metered parking closer to commercial routes. The local roadway is typically a two-way or single-lane yield street with a ROW width of 90 to 100 feet, and a road width of 32 to 35 feet (Table 5-1). Sidewalks are located on both sides of the street and typically brick construction extending from the back of curb to the front yard setback. Street trees are spaced every 35 to 40 feet along both sides with narrow planting strips running parallel to the street and located between tree centers.



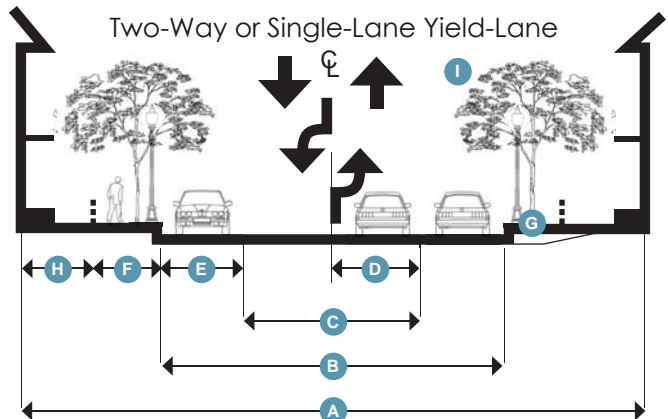
9th Street SE is a typical residential street type bordering the east of Building 9 at the Main Post.

Figure 5-12 Typical Commercial Street Typology



A) Street ROW, B) Street width, C&D) Travel lanes, E) On-street parking/parallel or angled, F) Pedestrian zone, G) Street trees, H) Handicap access

Figure 5-13 Typical Residential Street Typology



A) Street ROW, B) Street width, C&D) Travel lanes, E) On-street parking/parallel or angled, F) Pedestrian zone, G) Handicap access, H) Building setback, I) Street trees.



7th Street SE underpass (View facing north).



8th Street SE underpass (View facing south).

Table 5-1 Existing Street Data

STREET NAME	LANES & TYPE	ROAD CLASS	SPEED LIMIT (MPH)	ROW WIDTH (FT)	ROAD WIDTH (FT)	STREET PARKING
5th St. SE	2/U	L	25	100	32	P
7th St. SE	2/U	L	25	90	32	P
8th St. SE	2/U	MA	25	100	50	P&D
9th St. SE	2/U	L	25	90	25	P&D
G St. SE	2/U	L	25	100	35	P
I St. SE*	3/U	L	25	90	35	VAR
L St. SE	2/U	L	25	90	35	P
K St. SE	2/U	L	25	85	35	P
6th St. SE	2/U	L	25	90	32	P
M St. SE	6/D	MA	25	90	70	P

Notes:

- *I Street SE has no on-street parking east of 8th Street SE. There is parallel parking on both sides west of 8th Street SE.
- Descriptions of streets are observed adjacent to MBW and within a two block radius.
- Lane Type: (U) Undivided, (D) Divided
- Road Class: (L) Local, (MA) Minor Arterial
- Street Parking: (P) Parallel, (D) Diagonal, (VAR) Varied

Interstate Over/Underpass

In addition to providing immediate access to regional road networks, the Southeast Freeway also creates a significant physical and visual barrier between MBW sites. The overpass where it crosses over 8th Street SE is approximately 225 feet wide and approximately 165 feet wide where it crosses over 7th Street SE. These overpasses are used frequently by installation personnel and visitors traveling between the Main Post and MBW Annex sites. Both underpasses have a clearance of approximately 21 feet. Streetscapes vary between the two segments, but include continuous design elements such as street lighting and sidewalks along both sides of the street. The 7th Street SE underpass has parallel metered parking on both sides of the street

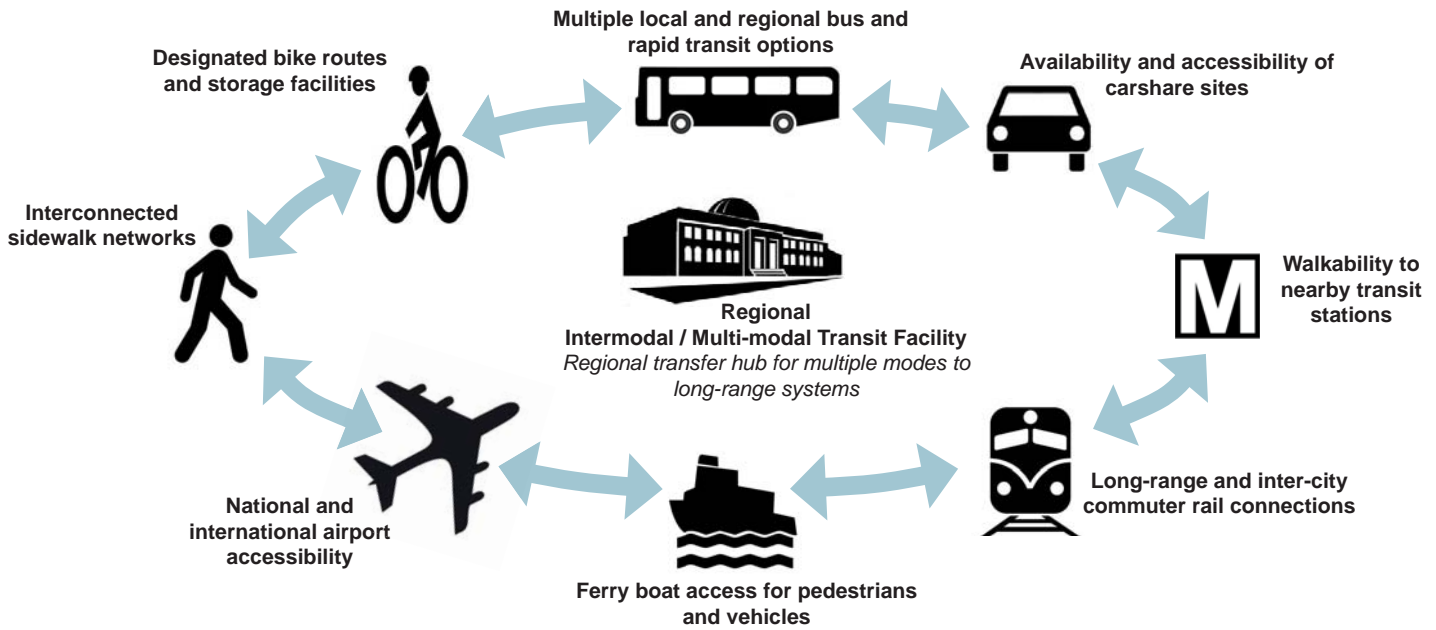


Aerial view Southeast Freeway and underpass connectors (7th & 8th Streets).



8th Street SE underpass (east wall) community art project.

and provides access to the VIP Green parking area used by MBW, a controlled event parking lot within close walking distance to the Main Post. The 8th Street SE underpass has street parking only on the northbound lane, and there is community artwork that celebrates the history of the local Barracks Row and Capitol Hill area along the east wall.



MULTI-MODAL NETWORKS

Multi-modal planning accounts for the ability of a community to accommodate multiple alternative transportation modes through combined facilities or corridors that promote sustainable development, reduce dependency on the automobile, curb effects of air pollution, and create livable communities.

Due to its urban nature, constrained land resources, and limited parking availability, MBW is well-positioned to benefit from efficient and effective access to nearby street networks and multiple mobility options.

According to TMP survey results, for those who commute to work at MBW, mass transit is the predominant mode for those who reside between 3.0 and 9.9 miles from MBW. However, few of MBW civilian employees live in or near downtown DC, likely due to higher costs of living. Beyond that, the automobile is the predominant mode choice. Additionally, 42 percent responded that they either drive alone or use Metrorail at least one day a week. For more results of the transportation survey, refer to the TMP.

The installation is readily accessible to multiple modes of transportation, including existing and proposed transit facilities and services that connect residents and commuters to local and regional neighborhoods, commercial destinations, recreational facilities, and broader transportation hubs (Figure 5-14). MBW is

directly served by several local and regional bus routes (Metrobus, DC Circulator, and other commuter routes in Maryland [MTA] and Virginia [PRTC]), Metrorail (Orange, Blue, Green, and Silver lines), as well as inter-city and regional rail lines accessible from one of the City’s two intermodal and multi-modal transit centers, Union Station, located about 1.7 miles to the north (approximately 23 minutes by bus). Notably, the nearby 8th Street SE and M Street SE corridors provide valuable transit choices and increased mobility options for MBW residents and visitors.

Additionally, future plans include development of a DC Streetcar route that is proposed to run along both 8th and M Streets SE near MBW. The proposed system will provide additional transit options and increase connectivity throughout the District. Streetcar stops have not yet been identified.

A DoD shuttle service provided by Washington Headquarters Services is accessible to DoD personnel for official use only; however, the service is not for commuting purposes. The route operates hourly between WNY and the Pentagon, and between WNY and JBAB.

Carsharing provides still another mobility option for residents and commuters looking for the occasional use of a vehicle. Nearby carshare locations include the WNY, Potomac Avenue Metro Station, Eastern Market Metro Station, New Jersey Avenue, and other various locations within walking distance of the Main Post.

Ongoing and planned expansions to the Metrorail and DC Streetcar systems will open up new travel options

Figure 5-14 Street and Transit Networks Analysis



Legend

- Installation Boundary
 - Existing Roads and Parking
 - Proposed DC Streetcar Route
 - DC Circulator Route Bus Stop
 - Metrobus Route Bus Stop
 - MTA Route Bus Stop
 - PRTC Route Bus Stop
 - Loudoun Co. Circulator Route Bus Stop
 - Pedestrian Route
 - Metrorail Station
 - Installation Point of Access
 - Carshare location
 - Parking Structure
 - One Way Street
 - Two Way Street
 - Signalized Intersection
- Notes:*
 Transit stop locations are approximate. DC Streetcar stops have not been established at this time. Pedestrian conflict points identified in the TMP, Existing Conditions Traffic Analysis.



Five Silver Line Metrorail stations opened to the public in July 2014 connecting Tysons Corner and Reston, Virginia to Downtown DC and MBW via the Eastern Market Station.

and destinations including Dulles International Airport in Loudoun County, Virginia (Silver Line) and multiple connections across Montgomery and Prince George's counties in Maryland located north and east of the City (Purple Line). As growth and transit opportunities continue to increase, ridership throughout the region and future development surrounding many transit stations will likely follow, including the M and 8th Street SE corridors.

Pedestrian and bicycle facilities and routes are critical and integral components of multi-modal planning should be considered in conjunction with the Street and Transit Plan. Bicycle and pedestrian facilities are covered in the Sidewalk and Bikeway Plan later in this Chapter.

The nearest ferry service to MBW is the American River Taxi that provides water-taxi service along the Anacostia and Potomac Rivers. The service currently has limited stops including the Washington Harbor in Georgetown, Gangplank Marina, and Ballpark Boathouse at Diamond Teague Park.

The nearest airport is Ronald Reagan Washington National Airport located in Arlington, Virginia, which is accessible from MBW by the Metrorail Blue and Yellow lines, as well as local bus routes. Upon its completion, the Metrorail Silver line will connect to Dulles International Airport in Loudoun County, Virginia.

Alternative work scheduling (AWS) provides an additional option to reduce commuting to and from MBW. As noted in the TMP, approximately 19 percent of civilian employees work on AWS. Of these employees, half work their 40 hours in four days, and 16.7 percent work either 80 hours in nine days or 36 hours in three days. Due to specific work requirements for military personnel, AWS is not currently a viable option for most enlisted personnel and officers assigned to MBW.

PLANNING APPROACH

The following planning strategies promote the use and integration of multi-modal transit facilities and services into future planning and development. Where possible and appropriate, installation planners and engineers should consider and apply a combination of tools and techniques from these nationally recognized and locally adopted approaches that reflect current and proven best practices, and support or enhance accessibility to adjacent streets and transit facilities.

Complete Streets

Through thoughtful design and planning, the Complete Streets initiative promotes safe, livable, and functional streets for all users regardless of mode choice (motorized and non-motorized), including pedestrians of all ages and abilities, automobiles, public transportation riders, and bicyclists.

Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. The Complete Streets initiative includes a range of approaches including connected sidewalks, safe pedestrian crossings, dedicated bike lanes, accessible public transportation stops, medians, curb extensions and bumpouts, narrower travel lanes, and other infrastructure improvements that benefit transit use. Handicap accessibility is also factored into site-specific approaches to improve pedestrian safety at intersections.

DDOT adopted a Complete Streets Policy in 2010, which directs funding for the consistent planning, design, and construction as well as operation and maintenance of local streets within the District, including those serving MBW. The Policy requires that the Level of Service (LOS) measurements for pedestrians, bicycles, and transit be used to ensure that adequate accommodation for all users is met in specified DDOT projects, as well as the consideration of certain environmental enhancements including stormwater runoff (SWR), landscaping, paving, and other streetscape improvements. The intent of these standards is to support the Complete Streets initiative that greatly benefits communities throughout the District including MBW, where a high percentage of residents and commuters rely heavily on walking, biking, and transit.

Additionally, the Metropolitan Washington Council of Governments (MWCOG) adopted its own Complete

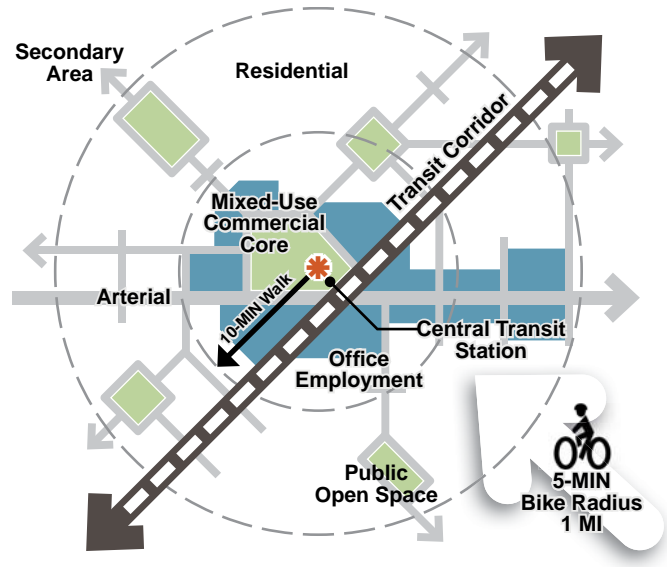
Streets Policy in 2012 that encompasses the larger metropolitan area including DC.

The National Complete Streets Coalition developed the following elements that provide a model of best practices to guide a community’s Complete Streets policy.

1. **Vision:** *The policy establishes a motivating vision for why the community wants Complete Streets: for improved safety, better health, increased efficiency, convenience of choices, or other reasons.*
2. **All users and modes:** *The policy specifies that “all modes” includes walking, bicycling, riding public transportation, driving trucks, buses, and automobiles and “all users” includes people of all ages and abilities.*
3. **All projects and phases:** *All types of transportation projects are subject to the policy, including design, planning, construction, maintenance, and operations of new and existing streets and facilities.*
4. **Clear, accountable exceptions:** *Any exceptions to the policy are specified and approved by a high-level official.*
5. **Network:** *The policy recognizes the need to create a comprehensive, integrated, and connected network for all modes and encourages street connectivity.*
6. **Jurisdiction:** *All other agencies that govern transportation activities can clearly understand the policy’s application and may be involved in the process as appropriate.*
7. **Design:** *The policy recommends use of the latest and best design criteria and guidelines, while recognizing the need for flexibility to balance user needs.*
8. **Context sensitivity:** *The current and planned context - buildings, land use, and transportation needs - is considered in planning and design solutions for transportation projects.*
9. **Performance measures:** *The policy includes performance standards with measurable outcomes.*
10. **Implementation steps:** *Specific next steps for implementing the policy are described.*

Despite the absence of any on-site streets or transit facilities at MBW, the District’s policies and procedures supporting Complete Streets should be considered and incorporated into future planning by installation planners and engineers where applicable to ensure compatibility with and integration of the City’s efforts. The District’s Complete Streets Policy can be found at <https://comp.ddot.dc.gov>. The MWCOG policy can be found at <http://www.mwco.org>.

Figure 5-15 TOD Concept Diagram



Transit Oriented Development (TOD)

T*OD strategies integrate context appropriate land uses including housing, commercial, employment, and transportation options within an easy walking distance radiating from a local transit station.*

According to MWCOG, TOD is a development approach that “leverages the unique opportunities provided by access to high-quality public transportation.” The Transit Cooperative Research Program describes TOD as “a pattern of dense, diverse, pedestrian-friendly land uses near transit nodes that, under the right conditions, translate into higher patronage” (Figure 5-15).

Re-introduced by Peter Calthorpe in the early 1990s, TOD is a concept that, at its core, promotes traditional planning practices that create attractive, sustainable, compact, and walkable communities with an emphasis on transit-oriented functionality and diversity. Applications of TOD consider the consistent design and operation of the entire roadway in a manner that is context-sensitive and respects the surrounding community. Fundamentally, the aim is to capture and capitalize on the value of transit to increase density, create diversity, and enhance mobility, safety, and livability for all user types. DDOT TOD practices are well supported and integrated throughout the City’s various regulatory zoning, planning, and transportation policies including NCPC’s Comprehensive Plan Transportation Element. The MWCOG adapted a TOD Policy in 2013.



Access to an interconnected network of walkable streets increases opportunities for transit use for commuters to MBW.

Commonly Accepted Characteristics of TOD

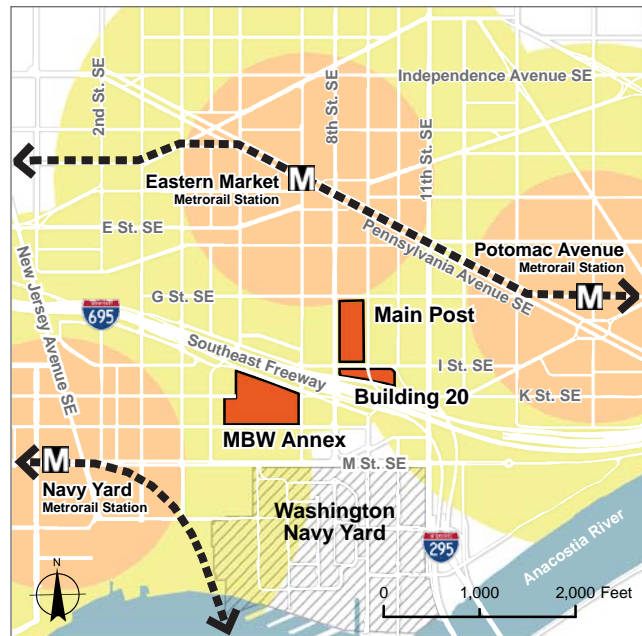
- » **A high-quality walking environment**
- » **A mix of land uses**
- » **High-density development within a designated area surrounding a transit station or stop**

(National Cooperative Highway Research Program, Transportation Research Board).

In traditional TOD planning, a station hub radiates from a central transit station covering approximately a 5-minute walking distance. A station neighborhood radiates from the transit station for about a 10-minute walk. In some instances a broader area of influence may be considered up to a 1-mile radius or a 20-minute walk. MBW is located in a compact mixed-use urban community among an established network of walkable streets with abundant access to transit within a 5- to 10-minute walk. As such, MBW meets the characteristics of a typical TOD station neighborhood (Figure 5-16). Transportation and other installation planning and development decisions should be made with this in mind. Consideration should be given to development that is oriented towards transit and is consistent with the District’s TOD practices and policies.

Implementation of TOD strategies at MBW is limited and largely influenced by various setback requirements and mission needs; however, the surrounding community has been identified for future growth and expansion to take advantage of established and proposed transit infrastructure. Future development at MBW should recognize the nature of adjacent development patterns including TOD that informs local planning decisions, is compatible with its surroundings, contributes to the local community, and maximizes transit benefits.

Figure 5-16 Transit Oriented Development Hubs



Legend

- M** Transit Station
- Station Hub (within 0.25 mile or 5-min walk)
- Station Neighborhood (within 0.50 mile or 10-min walk)
- MBW Installation
- Metrorail Route

PARKING

Parking is an integral component of street and transit planning. Parking resources and requirements must be considered in the planning process in order to accommodate various user types and accessibility, and to meet UFC and NCPC requirements. As noted in Chapter 3, MBW provides 508 structured parking spaces for commuters and residents, and 26 surface parking spaces for government-only vehicles, for a total of 534 spaces. Future parking facility requirements are discussed further in Chapter 7. There is no anticipated change in the number of parking spaces at MBW at this time.

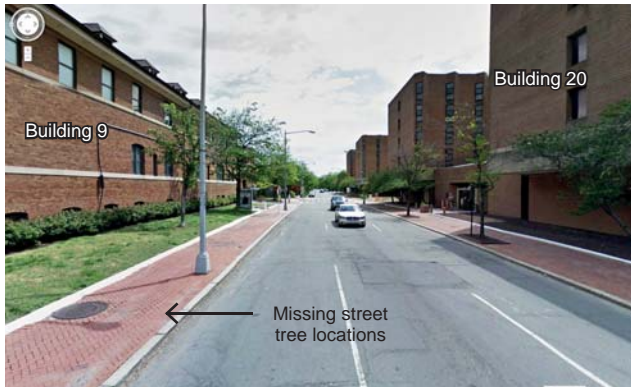
ANALYSIS

Surrounding Streets Summary

The following section briefly summarizes the primary street networks surrounding and connecting MBW sites. Existing streets and adjacent sidewalks provide a well-connected circulation network for residents and commuters to the installation. Analysis of existing traffic conditions, volumes, LOS, and safety (bicycle, pedestrian, commuting patterns, and vehicle accident rates) are discussed in further detail in the MBW TMP.



G Street SE (Residential character, view facing east).



I Street SE (Residential character, view facing east).



L Street SE (Residential character, view facing east).



Virginia Avenue SE (Residential character, view facing east).

G Street SE

The Home of the Commandant marks the northern-most focal point at MBW with a residential landmark that fronts along G Street SE. This segment exhibits many of the typical characteristics of the residential street type. For security purposes, street parking is not permitted along the south side adjacent to the installation.

I Street SE

I Street SE passes between the Main Post (Building 9) and Building 20. While generally residential in character, I Street SE is unique in its one-way (westbound) configuration and lack of on-street parking in vicinity of MBW. There is little definition to the street edge due to the lack of parking and the absence of consistent street tree placement along the north (Building 9) side. Overall, the corridor lacks enclosure, visual consistency, and pedestrian scale.

L Street SE

L Street borders the south end of the MBW Annex and transitions between residential (north) and commercial (south) context. The character of this street lacks the spatial definition typical of surrounding neighborhood streets due largely to the prominent AT/FP setbacks from Building 25.

Virginia Avenue SE

Virginia Avenue SE serves primarily as an access road running parallel (east-west) to the Southeast Freeway, and creates the northern boundary to the MBW Annex. The street section is missing many of the characteristics of either a residential or commercial street and gets little pedestrian use. Virginia Avenue SE will be redeveloped as part of the CSX Virginia Avenue Tunnel Reconstruction project.

5th Street SE

5th Street SE runs north-south parallel to the western boundary of the MBW Annex. While the street section doesn't directly border the installation, it is representative of the consistent character of the neighboring areas (Capper Carrollsburg Housing) and exhibits the typical human scaled elements of a residential street.



5th Street SE (Residential character, view facing north).

7th Street SE

The short segment of 7th Street SE that defines the east boundary of the MBW Annex transitions between the commercial character on the west, and the mixed-use residential character of adjacent uses on the east (currently under construction). The street segment lacks the similar spatial definition as L Street SE as a result of large AT/FP setback requirements. 7th Street SE also serves as the main access point to the Annex and currently lacks an identifiable sense of entry and pedestrian scale.



7th Street SE (Residential character, view facing north).

8th Street SE

Considered the only true commercial street type associated with MBW, 8th Street SE serves as the main north-south axis joining Barracks Row with the Main Post. 8th Street SE includes the installation's primary public access point (Main Gate). The streetscape is generally more residential in character along the east side with narrower (12-foot) sidewalks and angled street parking. The west (public) side is low to moderate density commercial in nature with larger (20-foot) sidewalks, zero building setbacks, and parallel parking.



8th Street SE (Commercial character, view facing north).

9th Street SE

9th Street SE marks the east boundary of the Main Post. The section represents most of the characteristics of a typical residential street type including: narrow sidewalks, street trees, and street parking. Additionally, the streetscape depicts a pedestrian-scaled sense of enclosure due to consistent building setbacks.



9th Street SE (Residential character, view facing north).



Navy Yard Metrorail Station exiting onto M Street SE is roughly an 8- to 10-minute walk from MBW.

Transit Summary

A review of street networks and transit facilities surrounding MBW shows a range of transit resources available within close walking distance (5 to 10 minutes or one quarter to a half mile). As indicated in Figure 5-16, there are three Metrorail stations surrounding MBW with the Eastern Market Station being the closest (approximately 8- to 9-minute walk). MBW is considered to be well supported by local street networks and public transit facilities that are sufficient to meet its current and projected needs (refer to the TMP). Accessibility to existing transit facilities and services from the installation is adequately accommodated through the orientation of MBW’s existing access points and the layout of interconnected pedestrian networks.

Transit use at MBW is consistent with the average use throughout the District. According to the DDOT Pedestrian Master Plan and the MBW Commuter Survey (TMP), transit use at MBW is the same as the average use throughout the District, with both being 42 percent of workers commuting by motor vehicle. District workers commute by public transportation 39 percent of the time (DDOT), while MBW users take Metrorail approximately 42 percent of the time.

PLANNING GUIDELINES

Given that there are no formal streets or transit facilities located or planned on MBW property, there are no specific physical improvements identified at this time. The following guidance is directed towards assisting

planners and maintenance personnel to monitor and support future and ongoing efforts to enhance the use and access of surrounding street and transit facilities.

General Street & Transit Strategies

- Coordinate all future development with local agencies and planning initiatives**
- Support recommendations in the TMP**
- Establish and/or maintain accessibility to existing transit stops within ROW adjacent to MBW sites**
- Establish and/or maintain adequate lighting and signage along perimeter streets and highly used access points**
- Ensure future development at MBW responds to the existing and proposed adjacent road networks, access points, and transit facilities**
- Maintain comfortable and convenient access to adjacent streets and transit facilities**
- Utilize maximum parking ratios rather than minimum requirements where applicable to encourage transit use**
- Maintain quality and context appropriate streetscapes that encourage walkability and promote a user friendly environment**
- Coordinate all street and transit initiatives with the pedestrian and bikeway network plan**
- Monitor future development and its proposed impacts to existing or proposed streets and transit networks**

While it is not yet known if MBW will have the future ability to maintain or undertake minor improvements to areas and infrastructure beyond its boundaries (specifically within the surrounding ROW areas between the installation boundary and curb or edge of street), effort should nonetheless be taken to understand and adapt to DC’s current circulation and transit trends, and initiatives that are likely to impact the installation and the effectiveness of its nearby street and transit resources.

Beyond the installation boundaries, there are additional opportunities for improvement that may enhance the transit experience for MBW users, offer aesthetic benefits to the installation, and potentially encourage the use of alternative commuting modes. Although currently beyond the ability for MBW to address improvements directly, installation planners should communicate to DDOT or other appropriate agency deficiencies or foreseeable needs that may impact MBW. Examples would include improvements to amenities such as bus shelters and street lights along I Street SE that reinforce the pedestrian scale and provide a context-sensitive solution.

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SIDEWALK & BIKEWAY NETWORKS



5.6.2 Sidewalk and Bikeway Network Plan

The L’Enfant Plan was based largely on circulation and the notion of a walkable city through its gridded streets and modest block sizes. After more than 200 years of progress, DC’s reputation as a pedestrian-friendly place has remained largely intact. Being located within an established well-connected pedestrian-centered DC neighborhood, MBW benefits greatly from the existing network of connected streets, sidewalks, and bike routes as well as nearby housing, commercial, and transit destinations. MBW sites are located within a 5- to 10-minute walking distance to nearby transit, housing, and other key business, entertainment, and recreational destinations. The Sidewalk and Bikeway Network Plan supports the installation’s planning vision, goals, and objectives for improving walkability and promoting a pedestrian-friendly campus (Goal 5). The Sidewalk and Bikeway Network Plan also identifies existing and proposed sidewalk and bikeway facilities across the installation and within the adjacent community that form the current network.

Washington, DC will be a city where any trip can be taken on foot safely and comfortably, and where roadways equally serve pedestrians, bicyclists, transit users and motorists.

Vision of the District’s 2009 Pedestrian Master Plan (DDOT)

The vision statement for the District’s Pedestrian Master Plan reinforces the City’s commitment to improving pedestrian and bicycle safety, and emphasizes the function of roadways as multimodal pedestrian lanes. This includes a dedicated bicycle network that is integrated with other pedestrian circulation routes and effectively connects residential neighborhoods, commercial districts, recreational areas, parks, schools, and other key activity destinations. This Sidewalk and Bikeway Network Plan promotes infrastructure improvements that support this vision and integrates any new on-site improvements with the broader off-site networks in mind.

BENEFITS OF WALKING AND BIKING

Walking and biking for commuting and recreational purposes offers a number of benefits to both the individual and the community. The health benefits of regular walking and biking also referred to as “active transportation,” have been well studied. Moderate exercise (30 to 60 minutes per day) associated with walking and biking has been shown to have a multitude of positive effects including reduced stress, fighting obesity, increased energy, and the ability to ward off some diseases such as diabetes, cancer, high blood pressure, and depression. Additionally, an active pedestrian lifestyle promotes social interaction and contributes to an enhanced overall QOL. Providing safe, comfortable, and well-planned facilities has been shown to encourage biking and walking on a regular basis and increase their benefits.

Benefits of Walking and Biking

- » **Improved health and QOL**
- » **Increased transit opportunities**
- » **Reduced vehicle miles travelled (VMT), fuel consumption, emissions, and vehicle maintenance costs**
- » **Reduced traffic and congestion**
- » **Positive economic impact on local communities and businesses**
- » **A quicker means of travel in more urbanized areas**

PLANNING CONSIDERATIONS

Effective pedestrian circulation requires a combination of various design elements and approaches that respond to the surrounding context as well as appeal to a range of different users. Successful pedestrian circulation often follows the path of least resistance, depending on the purpose of the trip. People tend to choose to walk or bike in a comfortable and interesting environment that does not take them too far out of the way, and provides a positive experience. Ensuring the connectivity, comfort, safety, and convenience of sidewalks,

walkways, and bike paths both at MBW and within the surrounding community is a key to promoting pedestrian activity. Incorporating a range of pedestrian- and bike-friendly elements along sidewalks and walkways enhances the overall experience, attracts a diversity of users, and creates a safer environment for multiple modes of transportation. The following elements should be considered in pedestrian and bikeway planning and design:

Pedestrian-Friendly Design Elements

- » **Street trees**
- » **Seating options including benches and walls**
- » **Adequate sidewalk and pathway width (Varies with use, but 6 to 15 feet is typical)**
- » **Positive views**
- » **Marked bikeways; signage and pavement**
- » **Well-sited bicycle racks, boxes, and other parking facilities**

Safety

- » **Safe crossing, signalized, and marked crosswalks**
- » **Separation/buffer from traffic (street parking, trees, landscape strips, seating walls, and street furniture)**
- » **Appropriate size, type, and spacing of lighting**
- » **Smooth transitions including curb ramps reduce trip hazards and support handicap accessibility and pedestrians with restricted mobility**

Connectivity

- » **Interconnectedness and coordination of context-sensitive walkways and paths that offer a variety of walking and biking options**
- » **Connectivity to transit destinations is essential**

Distance

- » **Minimized travel distance or perceived travel distance**
- » **Direct travel routes when biking for other than exercise or recreation purposes**
- » **Varied Experience**
- » **Mixed land uses**
- » **Visual interest at destination and en route**

Comfort

- » **Protection from elements: trees, buildings, awnings, and urban design elements**
- » **Street furniture: benches, trash receptacles, potted landscaping**

Bicycle Parking and Storage

- » **Preferably covered**
- » **Convenient well-lit locations in plain view**
- » **Out of the way of pedestrians or motor vehicles**
- » **Bicycle racks, corrals, and lockers should be incorporated at various key destinations**

ANALYSIS

According to the American Community Survey conducted by the US Census Bureau, in 2006 50 percent of District workers either commute by public transportation or walk to work. The District’s Pedestrian Master Plan indicates that 11.8 percent of District workers walk, and 2 percent of District workers bike to work. For MBW, walking is considered the primary travel mode for employees residing less than 3 miles from work (TMP). Unfortunately, few MBW commuters reside within walking distance due to higher housing costs in the area. The majority of pedestrian activity is associated with work-related trips between MBW sites. Biking accounts for approximately 1.4 percent of MBW commuters and is used by those living between 3 and 10 miles from the installation (TMP).

Existing Facilities

Pedestrian facilities at MBW and within the local community are generally complete, well-connected, and in good condition. Primary pedestrian circulation routes between MBW sites are focused along 8th, 7th, I, and L Streets SE. On-site deficiencies include a discontinuous dedicated pedestrian circulation route at the Annex, including sidewalks and marked street/parking crossings. Extended sidewalk networks provide access to multiple bus stops, three nearby Metro Stations and a range of mixed-use communities within a 10-minute walk from MBW (Figure 5-17 and Table 5-2). Off-site areas for improvement that have a direct impact to MBW personnel and guests include minor deficiencies at the intersection of 7th Street SE and Virginia Avenue and sporadic inconsistencies in sidewalk surfaces between sites. Additionally, adequate public access is lacking at the Annex main entrance. Portions of these areas are currently under construction and/or pending improvements through the proposed Virginia Avenue Tunnel project.

Figure 5-17 Walking Distances (Direct Routes)

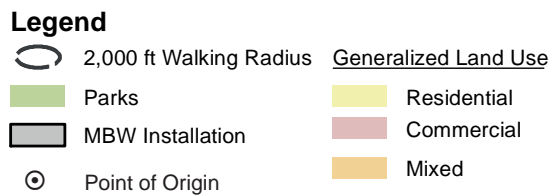


Table 5-2 Distance and Walking Times to Nearby Metrorail Stations

METRO STATION	MAIN POST (MI)	BLDG. 20 (MI)	ANNEX (MI)	WALK TIMES
Navy Yard	0.76	0.81	0.42	11-22 MIN
Eastern Market	0.38	0.48	0.44	10-12 MIN
Potomac Ave	0.63	0.52	0.74	14-20 MIN

Note: Estimated walking times are based on an average walking speed of 2.27 MPH, equivalent to 2,000 feet (or 0.38 mile) in 10 minutes.

Existing bike lanes and signed routes within a 3-mile radius (or 15-minute continuous travel time) of MBW encompass a broad area, particularly to the north and west of the installation (Figures 5-18 and 5-19). Dedicated bike lanes in the immediate vicinity of MBW sites are limited. The nearest routes are located at 6th Street SE to the east and 11th Street SE to the west of the installation, and run in a north-south direction. Proposed east-west connectors are planned along M Street SE and Virginia Avenue SE which will provide future improved connectivity to the broader networks for MBW commuters and recreational users (Figures 5-19 and 5-20). Currently, bicycle storage or racks with

Figure 5-18 Existing & Proposed Bike Lanes

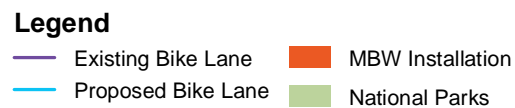
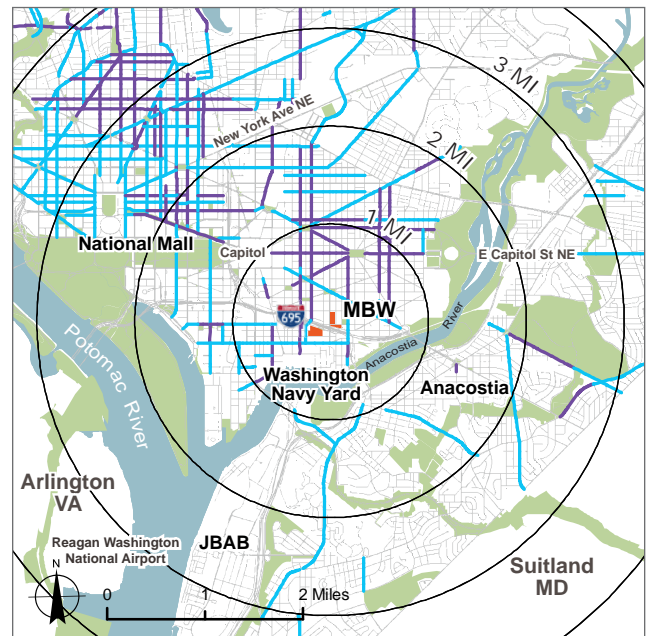


Figure 5-19 Signed Bike Routes



Figure 5-20 Analysis of Pedestrian & Bikeway Facilities



Legend

- Installation Boundary
- Primary Circulation Routes
- Bike Lanes**
- Existing Bike Lane
- Proposed Bike Lane
- Capital Bikeshare Location
- Public Pedestrian Point of Entry
- Bike Storage/Racks (Qty.)
- Existing Sidewalk or Walkway
- Combined Walkway/Jogging Path
- Existing Jogging Path
- Gap or Deficiency in Sidewalk or Bikeway Facility
- Gap or Deficiency in Crosswalks
- Existing Crosswalk
- Pedestrian-Vehicle accident Location*
- Bicycle-Vehicle accident Location*

Notes:
 *Pedestrian and Bicycle-Vehicle conflict points identified in the TMP, Existing Conditions Traffic Analysis.
 *Additional information on pedestrian and bicycle accident incidents can be found in the draft MBW TMP (2015).

capacity of approximately 20 bicycles each are available at the Annex garage and Building 20 garage, but are lacking at the Main Post.

Safety

Given the current level of pedestrian and bicycle activity in the District, and the push to increase their use in the future, safety is a key focus for promoting a walkable and bikeable environment. A review of DDOT's pedestrian and bicycle crash data from 2005 to 2006 shows an average of 674 pedestrians and 323 cyclists were involved in vehicle collisions during this time. Data shows that 97 percent of pedestrians and nearly 80 percent of cyclists were injured in these incidents, resulting in 17 pedestrian fatalities and one bicycle fatality per year. Furthermore, both pedestrian and bicycle crash recordings have been on the rise in recent years. Pedestrian accidents rose over 30 percent between 2008 and 2010, and bicycle crashes rose nearly 63 percent between 2005 and 2010. According to the Traffic Safety Report Statistics - Pedestrian and Bicycle (2008-2010) for ANC 6B and 6D (DDOT), there were 86 pedestrian collisions between 2008 and 2010, with 11 occurring in the immediate vicinity of MBW. The intersection of 8th and I Streets SE was noted as being significant for incidents in this timeframe in relation to MBW. Incident locations have been identified in Figure 5-20, and covered in more detail in the TMP.

PLANNING APPROACH

Planning for sidewalk and bikeway networks should be coordinated with the street and transit networks (discussed in Section 5.6.1).

Interconnected Facilities

MBW is a campus of three isolated sites embedded into an established community of mixed residential and commercial uses with a robust network of sidewalks and bicycle facilities. Successful planning of pedestrian and bicycle resources on MBW must be done with consideration of the surrounding context including access to transit stops, alignment with existing infrastructure, sensitive to the historic context, and provisions for safety, comfort, and convenience that align with DDOT criteria.

Complete Streets

As discussed in the Street and Transit Plan, Complete Streets strategies ensure a process that specifically considers the needs of motorists, pedestrians, and cyclists when planning and designing streets. Strategies seek to design and operate within the entire ROW and enable safe access for users of all ages and abilities.



Context-sensitive solutions include appropriate size placement and material selection to integrate with surrounding historic streetscape of the Capitol Hill neighborhood.

Pedestrian access and safety is improved through the use of deliberate design elements including sidewalks, raised medians, traffic calming measures, bike lanes, bus stop placement, and handicap access. Complete Streets policies utilize the latest design criteria to develop context-sensitive solutions, including historic districts such as MBW.

PLANNING GUIDELINES

By improving non-motorized transportation networks, more people will choose to walk and bike for transportation.

Similar to the streets and transit facilities, pedestrian and bicycle circulation infrastructure occurs largely beyond the installation boundary under city ownership, and is to some degree beyond the scope of MBW's capital improvements efforts. However, this Plan looks at the sidewalk and bikeway system as a whole to ensure continuity of these networks both on and off the installation to promote their overall success. The following guidelines for planning pedestrian and bikeway facilities at MBW serve to reinforce the network of infrastructure that is based on connectivity, safety, and comfort for all users.

- ☑ Ensure connectivity and continuity of bicycle and pedestrian routes ("fill the gaps") through new construction or retrofitting of missing elements
- ☑ Prioritize walkway and bikeway connections in all new construction (including the replacement BEQ complex), renovated facilities, road projects, and parking improvements
- ☑ Create and enhance pedestrian safety, with an emphasis at intersections, driveways, and other points of potential vehicle conflict

- Ensure paths are well-lit throughout high traffic routes and at key destinations and gathering areas**
- Promote an orderly streetscape so as not to impede pedestrian flow**
- Prioritize improvements to higher traffic areas and routes**
- Coordinate and align future pedestrian and bikeway improvements with existing off-site facilities to ensure connectivity**
- Future pedestrian and bicycle infrastructure should adhere to local codes and maintain the same look and feel for consistency with the surrounding context**

Future coordination with DDOT is recommended to address deficiencies or needed improvements to sidewalks or bicycle routes between MBW sites. Secondly, installation planners should continue to engage in the planning and design process for adjacent streetscape restoration related to the ongoing Virginia Avenue Tunnel reconstruction project.

GREEN INFRASTRUCTURE NETWORKS



5.6.3 Green Infrastructure Network Plan

WHAT IS GREEN INFRASTRUCTURE?

GI means many things to various agencies, institutions, and individuals. For purposes of the Master Plan, GI can be described as follows:

***G**I refers to the interconnected network of protected lands and practices that provide a range of economic, environmental, and social benefits to MBW and the surrounding community.*

Essentially, GI refers to the ecological framework that fosters environmental, social, and economic sustainability in an area. Although it has diverse beneficial outcomes in a landscape, GI at the installation level is primarily engineered around stormwater management principles. The US Environmental Protection Agency (EPA) defines GI as “systems and practices that use or mimic natural processes to infiltrate, evapotranspire, or reuse stormwater or runoff on the site where it is generated.” The GI process is a proactive approach that systematically and collectively considers impacts to broader landscape networks and incorporates a range of natural and man-made solutions to enhance the livability, productivity, and sustainability of a community.

Well planned GI provides numerous benefits at multiple levels, directly contributes to the community’s QOL, helps to reconnect a fragmented landscape, and improves environmental quality. Thus, GI can affect stormwater, habitat, recreation, air quality management, energy and water use, transportation networks, and strengthen sociocultural ties in a neighborhood. From the installation perspective, enhancing the GI for MBW and the surrounding community means the creation, preservation, and management of critical open space for the incorporation and expansion of natural SWR reduction strategies, and the multitude of interconnected ancillary benefits that follow.

BENEFITS OF GI

- » **Contributes to improved public health and QOL through more effective use of urban open space for passive activity and recreational uses**
- » **Reinforces an interconnected system of parks and open space**
- » **Improves air and water quality for the installation and surrounding community**
- » **Maintains natural ecological resources and enhances ecosystems and habitat for native species and migrating wildlife**
- » **Increases energy efficiency, lowers energy costs, and mitigates urban heat island effects**
- » **Improves aesthetics through focused landscaping improvements and increases property values**
- » **Reduces infrastructure costs (capital, maintenance, and land consumption) related to stormwater management**
- » **Reduces flooding through stormwater volume control and improved infiltration**

GI FOCUS AREAS

Parks and Open Space

DC is based largely on a system of organized hierarchical streets, walkable city blocks, prominent public parks, and a wide range of open spaces that contribute to regional GI networks. Open space planning is a fundamental element of urban design in DC, serves a multitude of functions, and provides valuable aesthetic, ecological, and social benefits. GI strategies across DC seek to promote efficient and sustainable land use and development patterns, including the creation and preservation of interconnected parks and open space, as well as the protection of natural ecosystems.

Larger networks within the District and surrounding communities provide the framework for smaller contributing networks, including nodes and corridors. Figure 5-21 illustrates nearby open space and park resources within walking distance of MBW. The larger

Figure 5-21 Surrounding GI Network



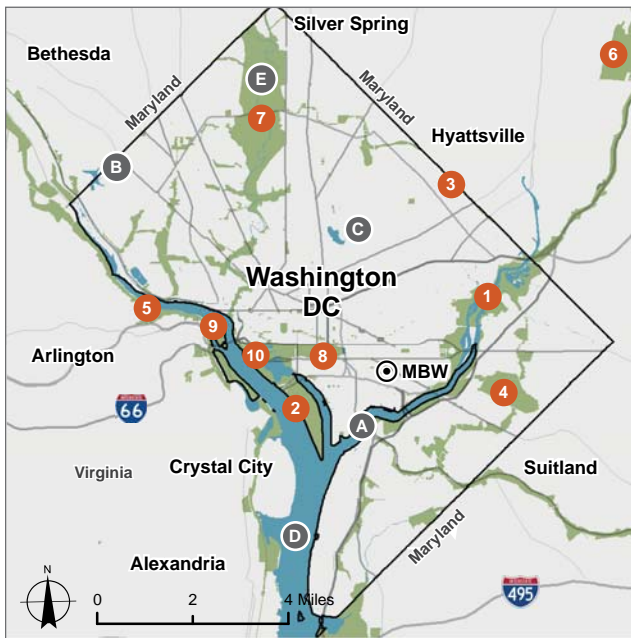
Legend

- Installation Boundary
- MBW Open Space
- Surrounding Parks and Open Space
- Surface Water
- Pedestrian Connection
- Origin (Walking Radius)

Green Sites

- Community Gardens
- Green Roofs
- Park
- Energy Star Buildings
- Boating Facilities

Figure 5-22 Regional GI Resources



Parks #

- 1) Anacostia Park
- 2) East Potomac Park
- 3) Fort Circle Park
- 4) Fort Dupont Park
- 5) George Washington Mem. Pkwy.
- 6) Greenbelt Park
- 7) Rock Creek Park
- 8) National Mall
- 9) Theodore Roosevelt Island
- 10) West Potomac Park

Water Bodies X

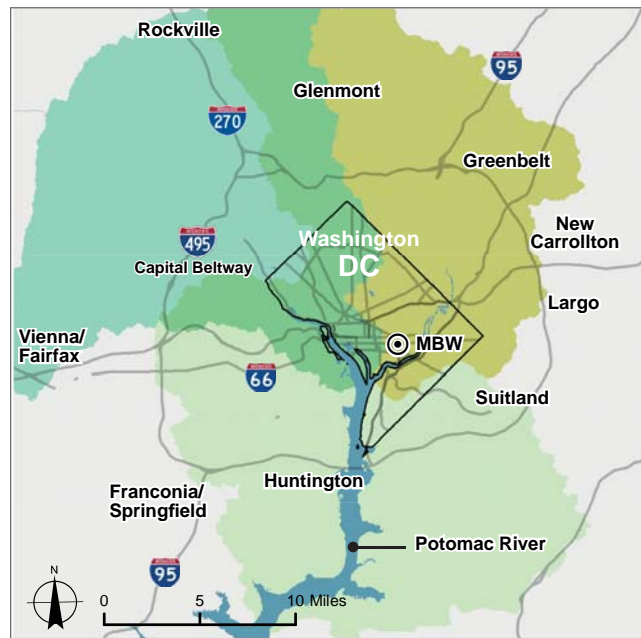
- A) Anacostia River
- B) Dalecarlia Reservoir
- C) McMillan Reservoir
- D) Potomac River
- E) Rock Creek

network can be further broken down into manageable ecosystems, habitats, smaller parks, and open spaces for which site-specific strategies tie in to local policies and initiatives (Figure 5-22). There are currently eight notable parks and structured open areas within a 10-minute (one-half mile) walk of the Main Post, including Dahlgren Park and Admiral Leutze Park at WNY, and Virginia Avenue Park.

MBW sites are inherently an integrated component of the District’s system of parks and open space. MBW open space is a critical component of the installation’s history, supports mission readiness, ceremonial function, and accommodates regular public use. These structured open spaces include the formal parade ground, multi-purpose recreation field, and private gardens (refer to Framework Plan). It is MBW Environmental Policy to protect, maintain, and enhance these open space resources whenever possible.

Nearby parks and open space are also valuable assets to the local community and those who live and work at MBW. The eight GI nodes at and surrounding MBW

Figure 5-23 DC Metropolitan Region Watersheds



Legend

- Cameron Run-Potomac River
- Difficult Run-Potomac River
- Rock Creek-Potomac River
- Washington Metropolitan
- Surface Water

Source Dept. of Energy, 2007

accommodate a multitude of beneficial functions including recreational amenities, passive destinations, historic landmarks, gardens, and natural ecosystems such as wildlife corridors and drainage basins. Connectivity and accessibility of these parks and open spaces is critical to their success from both a social and environmental perspective.

Stormwater Runoff (SWR)

MBW lies within the Washington metropolitan watershed, which encompasses nearly 173 SQ MI and collects runoff from adjacent Montgomery and Prince Georges counties in Maryland, as well as large portions of DC (NE and SE) leading into Rock Creek and the Anacostia and Potomac Rivers (Figure 5-23). This in turn feeds into the Chesapeake Bay. MBW also falls within the Anacostia Waterfront Development Zone (AWDZ) boundaries, in which enhanced stormwater treatment is required. Projects in the AWDZ are subject to more stringent requirements for stormwater quality than projects outside the AWDZ, thus reducing impacts of flooding.

DC regulates stormwater runoff through the District Department of the Environment’s, Stormwater Management Guidebook (July 2013). The Guidebook contains a description of the stormwater permitting

process for construction projects located in the District of Columbia. The Guidebook also contains typical practices for stormwater quality and quantity. Typical practices include the use of green roofs, rainwater harvesting, impervious surface disconnection, permeable pavements, bioretention, filtering systems, infiltration, open channel systems, ponds, wetlands, and storage.

A key focus of GI is to manage SWR through a system of interconnected natural systems (land and water) designed to serve as urban stormwater management infrastructure and reduce the negative impacts. During rainfall-free and low-rainfall days, the existing stormwater collection system captures all of the sanitary sewage and the small amount of stormwater and routes it for processing at the treatment plant. Due to the excessively built nature of the metropolitan DC watershed and the impervious nature of urban areas, bigger rain events tend to cause flooding. Flooding can result in significant property damage as well as wash pollutants that otherwise collect on urban surfaces directly into local waterways. Likewise, DC operates a combined sewer system, which quickly becomes overwhelmed during periods of excessive rainfall – meaning greywater may be released without treatment. DC Water has a program to gradually replace the combined sewer areas with separate storm and sanitary sewers.

Improving water quality is important in altering the degraded condition of the adjacent river systems. Changes to site hydrology can improve water quality through the use of practices prescribed by the District. Runoff from impervious surfaces, in this case predominantly buildings, should be managed as close as possible to the rainfall location. Water quality can be managed through the use of dry swales, bioretention areas and other means. A minimum of the first 1.2 inches of rainfall must be managed for water quality for all rainfall events in the ADWZ. If a slightly higher number of 1.5 inches of rainfall can be managed, it may be possible to obtain LEED credit 6.1 by managing more than 90% of the average annual rainfall.

As part of a broader approach, GI serves to capture or substantially slow and treat rainwater at its source. This practice promotes infiltration and utilizes the ground as a filter preventing runoff from carrying pollutants downstream. Likewise, GI helps attenuate flooding events and thus reduces SWR from entering DC's combined sewer systems during peak events ultimately reducing the incidence of greywater overflow. While MBW and the surrounding community offer limited open space, undeveloped areas at the Annex, as well as the formal parade ground at the Main Post, provide



Historic Barracks Parade Ground at the Main Post functions as the ceremonial center for the installation along with serving as an effective pervious surface for SWM.

valuable pervious surface area to counteract the intensely built (impervious) surroundings.

Other GI Resources

Additional GI resources throughout DC and within walking distance to MBW contribute to the system's overall effectiveness, including Community Gardens, Green Roofs, a Schoolyard Conservation Area, and Energy Star Buildings (Figure 5-21).

GI TOOLS AND INTEGRATED MANAGEMENT PRACTICES (IMP)

GI applications and benefits can be recognized at all scales, from the individual building and site level, to the larger regional landscape level. At the largest scale, the protection, preservation, and restoration of existing and established natural landscapes (parks, woodlands, floodplains, and wetlands) is critical to the broader success of GI. The collective contribution of GI elements at all levels contributes to the network as a whole, and connectivity between green features ensures its maximum functionality and longevity.

At the site level, there are a number of proven practices for implementing and improving GI effectiveness. With proper planning and construction, many of these technologies and practices can, alone or collectively, significantly reduce or even eliminate the need for conventional, costly, and space-consuming underground sewer systems, retention and detention faci-



Low profile green roofs provide multiple benefits without visual impacts (shown: DDOT Headquarters).



Example of a bioswale incorporated into a parking area.

ties. The following proven GI practices are applicable to planning and development at MBW and also support both LEED® and LID strategies. Application of these and other practices may be specific to a given site, and should be evaluated on a project-by-project basis.

Open Space

Open space refers to a range of interconnected and undeveloped land areas that can provide multiple designated functions in an urban landscape. Well planned open spaces help to shape urban form, are preferably interconnected for maximum effect, and can be used for a myriad of designations such as passive activities, recreation, natural habitats, or for energy conservation or generation technologies such as geothermal fields and wind or solar farms.

Urban Wetlands

Urban wetlands, including intermittent and permanent systems, act as sponges and filters to store and treat runoff from adjacent impervious surfaces. Specific to SWR control and flood protection, wetlands enhance infiltration, trap sediments, and retain excess nutrients and other pollutants while providing open space opportunities and habitat for urban wildlife.

Tree Canopy & Green Streets

Tree canopy and street tree networks increase infiltration and decrease erosion potential of stormwater events by reducing impervious surface, evapotrans-

piring collected water, and binding the soil where they stand. Trees likewise improve the aesthetic quality of communities, provide habitat for wildlife, and improve air quality.

Green street networks refer to roadways bordered by vegetation and generally accompanied by an adjacent sidewalk. Green streets enhance walkability in urban areas by providing safety buffers between roadways and walkways as well as continuous shade for pedestrians, commuters, and exercisers in warmer climates.

Green Roofs

Green roofs, also known as living or vegetated roofs, incorporate a system of natural and structural components that partially or completely cover a building's roof. Green roof systems increase rain infiltration through the use of plant and soil mediums, and can be incorporated into new or existing building designs. In urban environments, green roofs reduce the impacts of heat island effects, SWR, flooding, and pollution (i.e., nitrogen).

Community Gardens

In addition to contributing to SWR management through the reduction of impervious surfaces, community gardens improve overall QOL by providing opportunities that promote social interaction and recreation, as well as generating revenues and reducing crime and vandalism if implemented and integrated appropriately. The shared resources of a community



Pervious pavement comes in many forms and applications designed to reduce SWR and increase infiltration rates while providing stability and low maintenance.



Vegetated strips slow runoff and increase infiltration as well as enhance the aesthetics of the urban streetscape.

garden draw visitors and recreational gardeners, are often self-sustaining, create educational outlets, and can enhance otherwise underutilized or unattractive areas. Community gardens also contribute to cleaner air and create places for wildlife, especially pollinators to live and migrate.

Rain Gardens

Rain gardens are shallow, planted depressions populated with deeply rooted native plants to capture rainwater runoff and increase infiltration before stormwater reaches the sewer system. Properly planted rain gardens can absorb rainwater runoff more efficiently, up to 30 to 40 percent more than a similar sized lawn area.

Bioswales

Bioswales are vegetated depressed landscapes, similar to rain gardens, which also serve to capture, treat, and infiltrate SWR. Bioswales are designed as channels to promote the slow transport of water from one area to another and will often terminate in a rain garden.

Rainwater Cisterns and Rain Barrels

Rainwater cisterns and rain barrels are rainwater harvesting methods that collect and store runoff typically from building roofs through a system of downspouts. Collected water commonly supplements or even replaces the need for traditional landscape irrigation. Cisterns may be located below grade, and may require additional screening or concealment measures in historic areas.

Pervious Pavement and Pavers

Pervious pavement is a continuous porous pavement substrate, such as asphalt or concrete that facilitates stormwater infiltration over a road, path, or lot. Systems may also include permeable underlying base materials, which further increase infiltration and retention capabilities. Porous pavers are individual paver components that serve a similar function for both vehicular and pedestrian applications.

Vegetated Strips

Vegetated strips are linear grassed or planted strips designed to treat sheet flow from adjacent surfaces by slowing runoff velocity and filtering sediment and associated pollutants. Planted strips may not provide consistent protection from large rain events and associated surge runoff and are best used in conjunction with other stormwater control means.

Native plants

Native plants and xeriscaping (drought tolerant landscapes) provide lower maintenance landscape solutions that are adapted to the local climate and therefore do not require extensive traditional irrigation. Refer to the MBW IAP for a list of locally applicable native plant materials.

SUPPORTING POLICIES & INITIATIVES

As the benefits of GI resources are realized, efforts to retrofit and implement these principles and technologies are growing in popularity. A large coalition of public and private organizations continues to advance understanding of GI, as well as create and refine GI solutions nationwide. The following discussion provides background and general direction pertaining to some of the relevant federal guidelines, policies, and statutes, as well as local policies, and initiatives supporting, guiding, or requiring GI implementation. Some of these requirements must be considered in the planning process, but implementation often can be tailored to the individual size and scope of the goal being pursued.

LEED® Rating Systems

The USGBC establishes the LEED® Rating Systems to provide groups of requirements (or credit categories) for measuring a project's level of sustainability. LEED® Neighborhood Development (LEED®-ND), jointly developed by the USGBC, Natural Resources Defense Council, and the Congress for the New Urbanism, is a more recent addition to the LEED® Rating Systems and particularly applicable to installation master planning. LEED®-ND was created to reflect the key aspects of neighborhood sustainability and offers planners and designers the greatest opportunity within the LEED® Rating Systems for incorporating GI strategies into the planning and development process. There are additional areas within the LEED® Rating Systems to coordinate and combine the benefits of sustainability with those of GI, including LEED® Building Design and Construction (BD+C). The LEED® Rating Systems are established to provide structured categories applicable to the building and site. Within these categories are specific prerequisites, credits, and optional credits that have the potential to contribute to the development and maintenance of GI. Below is a list of some of the specific categories and credits that promote the use and integration of GI strategies. These should serve as a basis for considering GI strategies in the planning process. Other credits may apply depending on specific project characteristics and goals. Reviewing the applicable rating systems will assist in the identification of all opportunities for supporting GI as well as other sustainability goals.

While the LEED® Rating Systems support the evaluation of a range of sustainability and GI approaches, some strategies may conflict with specific AT/FP requirements. The LEED® DoD Anti-terrorism Standards Tool provides multiple strategies to address potential security implications that may arise with conflicts with the LEED® Rating Systems. The process relates common LEED® credits and AT/FP requirements to assist planners and designers apply a coordinated approach with maximum benefits. The approach utilizes an interrelated color-coded matrix tool which is cross referenced with the LEED®-NC V2.1 and the UFC 4-010-01 DoD Minimum Anti-terrorism Standards for Buildings requirements. A sample of the LEED®-DoD Anti-terrorism Standards Tool is provided in Appendix H.

Potential LEED® Credit Categories

- » **Sustainable Sites Credits** *encourage strategies that minimize the impact on ecosystems and water resources. A key aspect of this category that relates to GI is the focus on open space conservation, stormwater management, and multi-modal accessibility.*

- » **Water Efficiency Credits** *promote smarter use of water, indoors and out, to reduce potable water consumption. A key aspect of this category that relates to GI is the focus on outdoor water use reduction, including water-efficient or native landscaping and the use of cistern systems*

Potential LEED®-ND Credit Categories

- » **Smart Location & Linkage Credits** *promote walkable neighborhoods with efficient transportation options and open space. Key features of this category with strong links to GI include site design strategies, habitat or wetlands and water body restoration, and multi-modal accessibility.*
- » **Neighborhood Pattern & Design Credits** *emphasize compact, walkable, vibrant, mixed-use neighborhoods with good connections to nearby communities. Key sections of this category related to GI strategies include: walkability, connectivity, mixed-use development, access to public space and recreation, tree-lined/green streets, tree canopy and gardens, and desirability.*
- » **Green Infrastructure & Buildings Credits** *reduce the environmental consequences of the construction and operation of buildings and infrastructure. This category provides perhaps the greatest and broadest relationship and support of GI strategies including outdoor water use reduction, heat island reduction, historic resource preservation and adaptive reuse, infrastructure energy efficiency, and minimized site disturbance.*

Potential Bonus Credit Categories

- » **Innovation in Design or Innovation in Operations Credits** *address sustainable building expertise as well as design measures not covered under the five LEED® credit categories. Six bonus points are available in this category. Depending on project-specific needs, there may be multiple opportunities for incorporating innovative GI strategies that merit credit under this category, including the principal participation of a LEED® Accredited Professional.*
- » **Regional Priority Credits** *address regional environmental priorities for buildings in different geographic regions. Four bonus points are available in this category. Credits are subject to a project's geographic applicability. A database of available credits is located on the USGBC website.*

Potential LEED® Credits

- » **Rainwater Management**
- » **Open Space**
- » **Sensitive Land Protection**
- » **Heat Island Reduction**
- » **Outdoor Water Use Reduction**
- » **Walkable Project Site**

- » **Minimized Site Disturbance**
- » **Tree-lined and Shaded Streetscapes**
- » **Connected and Open Community**
- » **Compact Development**
- » **Wetlands and Water Body Conservation**

Federal Policies, Criteria, and Executive Orders

There are multiple resources that provide guidance and support for GI at DoD installations. The following lists some of these resources.

- » **Clean Water Act (1972)**
- » **EO 13123 Greening the Government Through Efficient Energy Management (1999)**
- » **UFC 3-210-10 Design: Low Impact Development Manual (October 2004)**
- » **EO 13148 Greening the Government Through Leadership in Environmental Management (April 2000)**
- » **Energy Independence and Security Act (2007)**
- » **NAVFAC Guidelines for Sustainable Reconstruction of Navy Facilities (July 2009)**
- » **USMC Sustainability Plan (January 2011)**
- » **EPA GI Strategic Agenda (2013)**
- » **DDoE 2013 Rule on Stormwater Management and Soil Erosion and Sediment Control (2013)**
- » **UFC 1-200-02 High Performance and Sustainable Building Requirements (2013)**
- » **DDoE Stormwater Management Guidebook (2013)**
- » **DoD Strategic Sustainability Performance Plan (2014)**
- » **EO 13693 Planning for Federal Sustainability in the Next Decade (March 2015)**

Additionally, the EPA promotes the use of GI approaches to control SWR and integration of techniques into existing systems. For additional information, refer to <http://water.epa.gov>.

Local Initiatives

DC has adopted a number of initiatives in recent years to encourage, support, and in some instances mandate specific GI strategies specifically aimed at preserving parks and open space, enhancing QOL, and reducing SWR and flooding. Locally-supported approaches and strategies are incorporated by planners and designers as they align MBW GI goals with those of the greater community, DC, and the region. Some of the local initiatives or groups that support and promote local and regional GI efforts include:

- » **RiverSmart Washington**
- » **District Urban Tree Canopy Goal (Casey Trees)**
- » **MWCOG**
- » **Rooftop to Rivers Program**
- » **Capital Space, A Park System for the Nation's Capital**

The following additional documents are prepared by DDOT (in conjunction with DDOE) and provide a collective and consistent reference to the District's guidelines and mandates promoting LID, GI, and sustainable development practices.

- » **LID Action Plan (2010)**
- » **DDOT Action Agenda (2010)**
- » **Complete Streets Policy (2010)**
- » **DDOT Sustainability Plan (2010)**
- » **Public Realm Design Handbook (2008)**
- » **Anacostia Waterfront Initiative Transportation Architecture Design Standards (2005)**
- » **Great Streets Program (2005)**

GI PLANNING APPROACH

GI is most effective when coordinated with local and regional efforts to create an integrated system geared to accomplishing a shared set of goals and guiding principles. Foremost, GI resources must be identified and protected prior to any development activity. Through careful land use planning, the long-term effectiveness of the investment in the community network can be protected. Successful implementation of GI includes the linkage of single projects to the network of GI in the landscape. GI systems are most successful when they function at different scales (site, local, and regional), cross political and geographic boundaries, and include diverse multi-purpose landscapes.

Successful implementation of GI at MBW should employ a broad range of input from various organizations involved in the GI initiative throughout the District and NCR, including representatives from multiple professions and interests. GI elements should be integrated with local and regional municipal plans, where applicable, and prioritize environmentally, historically, and functionally sensitive areas.

ANALYSIS

At the site level, MBW GI includes primarily two key open spaces that provide critical mission, cultural, social, and ecological benefits to the installation and surrounding community (Figure 5-24). The formal parade ground at the Main Post serves primarily as a

Figure 5-24 Analysis of Existing GI



Legend








-  Installation Boundary
-  Formal Ceremonial/Recreation
-  Formal Private Gardens
-  Buffer Zone
-  Undesignated
-  Public
-  Public Point of Entry

Table 5-3 Impervious Surface Analysis

SURFACE TYPE	MAIN POST		ANNEX		BLDG 20		TOTAL IMP SURF	% OF ALL SITES
	AREA (SF)	% OF SITE	AREA (SF)	% OF SITE	AREA (SF)	% OF SITE		
Buildings	52,425	33.8	73,983	22.8	42,672	62.8	169,080	30.8
Roads & Parking	11,242	7.3	19,434	6.0	9,780	14.4	40,456	7.4
Sidewalks	25,492	16.4	11,575	3.5	1,739	2.5	38,806	7.1
Total Impervious Surface	89,159	57.5	104,992	32.3	54,191	79.7	248,342	45.3

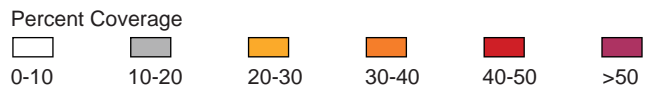
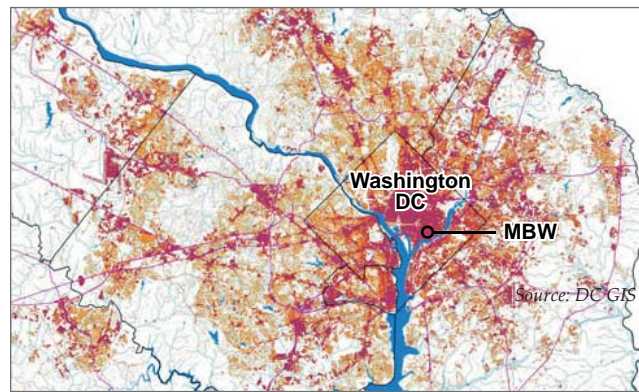
ceremonial destination for private functions as well as weekly evening parades open to the public. The multi-purpose recreation field at the Annex is an active open space and recreational resource accessible to the public. Although these large lawn areas require additional maintenance such as additional fertilizer and pest control, and contribute to increased nutrient loading and other pollution effects, these and other highly pervious areas such as AT/FP buffer areas also play a big role in the capture and treatment of SWR.

Due to its relatively small footprint and compact urban context, MBW does not currently have any designated parks or natural open spaces. A narrow strip of City-owned and maintained public land surrounds the majority of the MBW sites. These areas are visually perceived as part of the installation and offer further opportunities to be integrated aesthetically as well as functionally through GI.

The percentage of impervious surface across DC, including paved, developed, or otherwise covered areas (e.g., rooftops, roads, sidewalks, patios, recreation courts, and concrete pads) varies significantly across the city. According to the MWCOG, impervious surface coverage in the vicinity of MBW ranges from 30 to over 50 percent (Figure 5-25). MBW is approximately 45 percent impervious surface; the greatest contributor is buildings, which comprise over 30 percent of the total land area. Building 20 has the highest percentage (80 percent) of impervious coverage, followed by the Main Post (approximately 57 percent), and the Annex (just over 32 percent) (Table 5-3).

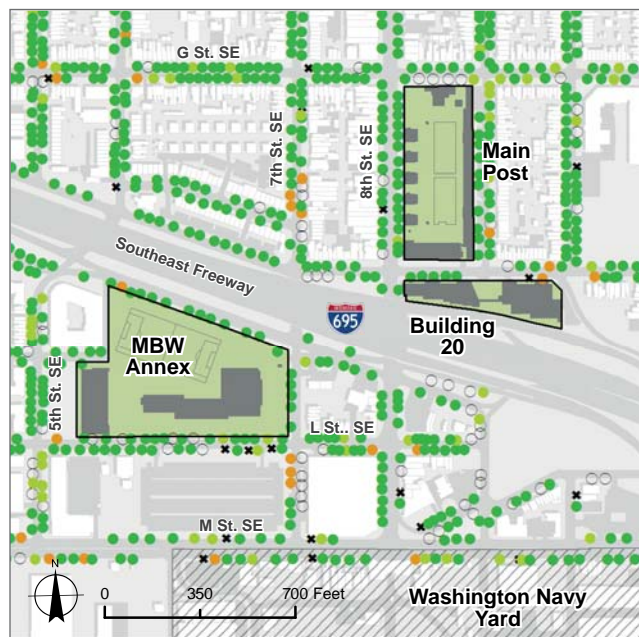
Urban tree cover is an important measure of GI, particularly in urban areas like DC. Although MBW does not have any naturally wooded areas, it is surrounded by established tree-lined streets. Overall street trees are in good to excellent condition and provide a continuous edge for MBW sites (Figure 5-26).

Figure 5-25 Green Infrastructure/Urban Forest (DC)



Source: Impervious Surfaces within the Metropolitan Washington Region: 1999-2000. Washington Metropolitan COG.

Figure 5-26 Green Infrastructure/Urban Forest (Vicinity)



Legend

- DC Street Tree (Condition)**
- Excellent and Good
 - Fair
 - Poor
 - No Data
 - ✱ Dead
 - Installation



Vast underutilized AT/FP setbacks at the Annex provide opportunities for reduced maintenance, structured open space, and improved stormwater runoff.

PLANNING GUIDELINES

The following strategies are recommended to ensure the integration of successful GI strategies at MBW:

- Integrate GI at the community, city, and even regional level. Strategies and policies should complement or replicate those of the surrounding municipality wherever possible and appropriate to ensure compatibility and overall long-term success.
- Engage diverse people, organizations, and agencies as much as possible throughout the GI process. Open participation, collective input, and broad-based consensus from representatives of various disciplines, including private and public sectors, will ensure long-term success.
- Incorporate a variety of disciplines, strategies, and solutions designed to serve a collective and larger scale goal (at the installation, community, or District level). Systems should connect with regional GI networks, and be designed to function strategically at different scales, to connect across urban and suburban landscapes within the local community, and incorporate green space elements and functions consistent with installation and community needs.
- Identify and protect GI resources and opportunities during the planning process.
- Identify opportunities to educate installation personnel, guests, and the public about the goals and benefits of GI whenever possible through literature, interpretive signage, and other techniques.
- Avoid visually or functionally impacting historic resources at or around the installation.
- Provide public access to GI wherever feasible, including parks, open space, gardens, and other landscaped areas. Access must consider safety and security requirements.
- Link open spaces with pedestrian corridors, multi-modal circulation networks, and greenways to the greatest extent possible. The desired outcome should be the creation of a network of integrated green spaces or activity nodes and corridors that maintain essential ecosystem functions and pedestrian movement and activity.
- Emphasize walkability and connectivity. Usable open spaces should be pedestrian-oriented to the greatest extent possible and within easy and enjoyable walking distance of each other. Align open space and pedestrian networks with multi-modal circulation networks. Promote access to Anacostia Riverwalk.
- Design open space to support ecological and stormwater management wherever possible.
- Establish, maintain, and preserve ample amount of open green spaces of various scale designed to promote consistent active and passive use for installation personnel and the surrounding community. All new development planning should incorporate the appropriate level and type of open space to meet facility requirements while also serving multiple functions and users.
- Utilize buffer space, including required AT/FP standoff margins, to integrate a variety of GI strategies. These areas should be used to the greatest extent possible to serve multiple functions, including usable and accessible open space, habitat enhancement, tree canopy, and stormwater control functions.



Future development at MBW must integrate connectivity of buildings and open space, and incorporate a variety of ecological and stormwater management practices including pervious pavers, green roofs, and rain gardens.

- ☑ **Align GI strategies and techniques to be consistent with LEED® and LID principles (as indicated above and applicable to federal and District policy and guidance). With any new project, proposed actions should represent current and proven practices.**
- ☑ **Integrate GIS strategies with current local and regional data.**

Through the integration of sustainability principles and GI practices, MBW will fulfill the intent of USMC Sustainability Goals 1 and 3. In particular Objective 1.1 (Reduce Uses of Fossil Fuels), Objective 1.2 (Improve Water Resources Management), Objective 1.3 (Reduce GHGs), Objective 3.1 (Sustainable Buildings), and Objective 3.3 (Integrated Regional Planning). USMC Sustainability Goals are summarized in Chapter 2, Planning Strategies.

Barriers to incorporating GI into existing urban areas may include existing land use, zoning, plans, or other stipulations; real and perceived cost of construction or implementation; and the challenge of retrofitting GI systems into previously developed and space-constrained areas such as found in DC.

GI OPPORTUNITIES AT MBW

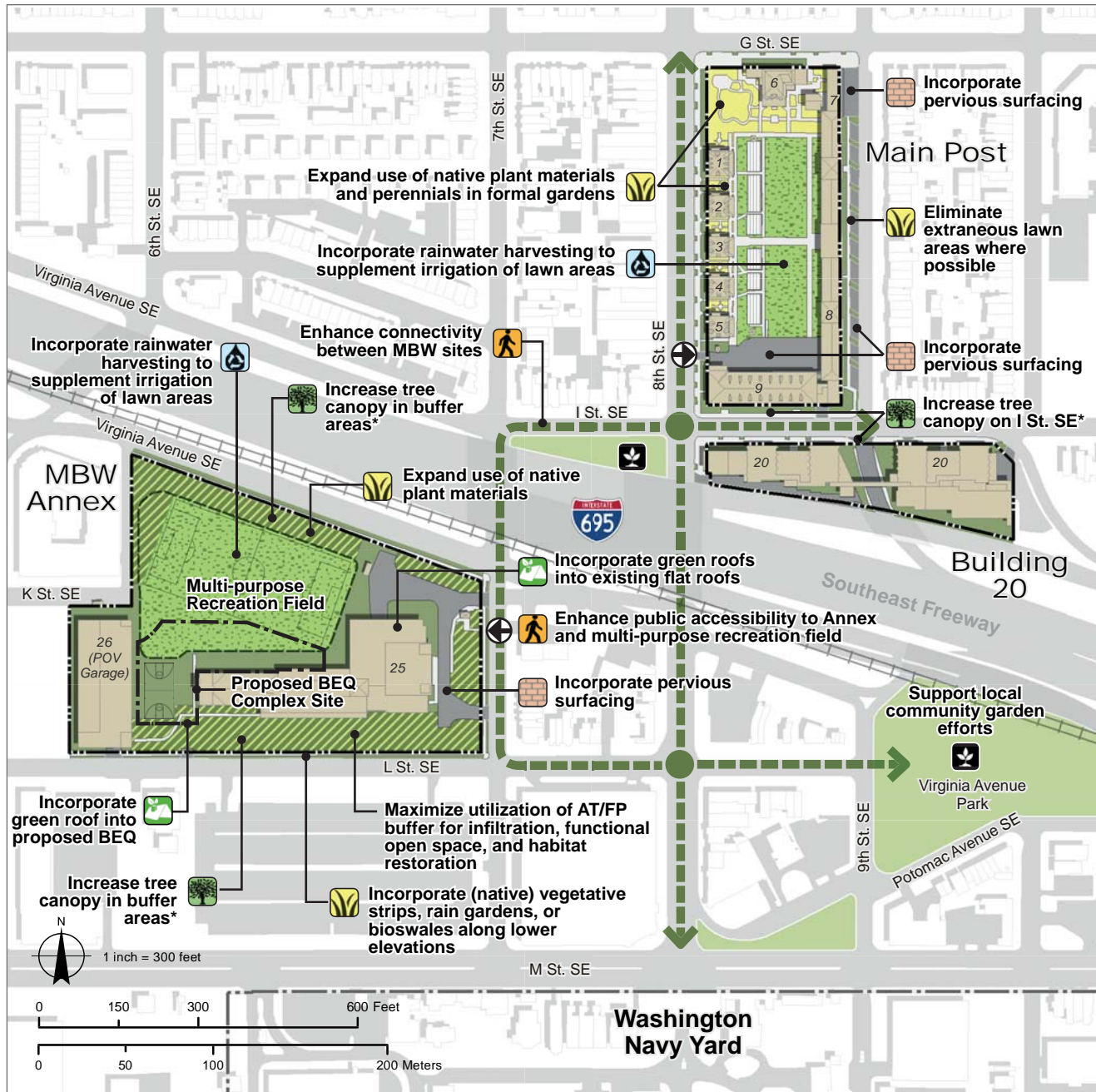
MBW has multiple opportunities to implement a range of strategies that promote GI and contribute to the overall positive impacts in the community. Strategies should be considered in conjunction with any new construction or retrofit of existing facilities.

Although compact in nature, the Main Post offers areas for reducing the impacts of SWR. Figure 5-27 illustrates some of the areas that could support the implementation of GI techniques, such as rainwater harvesting, pervious pavement, and the introduction of native plant materials to reduce irrigation needs.

The Annex offers larger areas for a range of strategies including increased tree canopy, installation of pervious pavement, improved pedestrian access and walkability, and increased infiltration methods (i.e., biofiltration, rainwater harvesting, green roofs, and planting strips).

Building 20 is planned for replacement in the Master Plan; however, near-term strategies to enhance the area’s connectivity to green networks may include improved circulation, native plantings, and street tree plantings.

Figure 5-27 Green Infrastructure Opportunities



Legend

- Installation Boundary
- Formal/Public Open space
- Formal/Private Gardens
- Buffer Zone
- Unclassified Areas
- Public Point of Entry
- Existing Community Garden

Green Opportunities

- Tree Canopy*
- Pervious Surfacing
- Rainwater Recycling
- Native and Perennial Plant Material
- Pedestrian Connection
- Green Roof

*Note: *Increased tree canopies should be planted strategically so as not to impede with physical security including line of sight and clear zone requirements in accordance with MCO. 5530.14A. **Rainwater harvesting and irrigation should be considered as a GI alternative to the replacement of the parade ground with artificial turf.*

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PRIMARY UTILITY NETWORKS



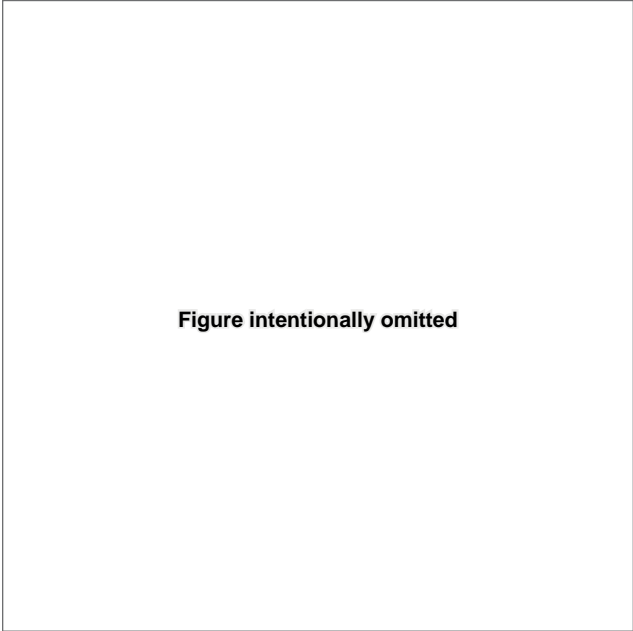
5.6.4 Primary Utility Network Plan

Primary utility networks at MBW include electric, wastewater, stormwater, potable water, telecommunications, natural gas, and to a lesser extent HVAC. The utilities serving the installation are owned and operated by other entities with the exception of portions of the stormwater system and limited remaining high temperature hot water (HTHW) piping, which is owned and maintained by MBW.

As a general reference for all major utility corridors servicing MBW, the majority of infrastructure occurs off the installation and does not fall under the responsibility of the Marines to operate or maintain. Typically, utility infrastructure beyond (internal) the meter box is the responsibility of MBW.

Figures illustrate general utility network corridor segments at MBW and within close proximity to the installation, and are intended to depict major routing locations and potential connection points only. Additional information is provided in the MBW Utilities Survey (January 2014). Up-to-date information regarding specific infrastructure locations, size, capacity, and other planning or design data should be requested from DCOP or individual providers on a case-by-case basis.

Figure 5-28 Electric Utility Network Corridors



ELECTRIC NETWORKS

Content intentionally omitted.

WASTEWATER NETWORKS

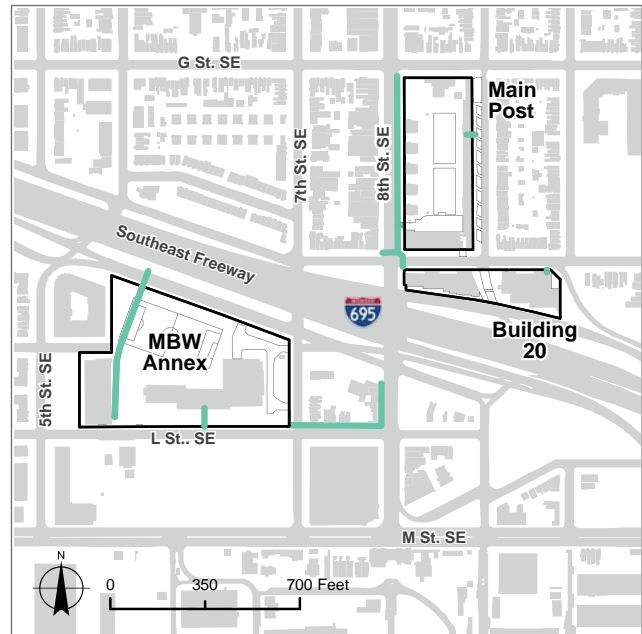
Sanitary sewer collection service for the installation is provided by DC Water. Each building appears to have a separate sewage connection to the DC Water system, although Buildings 7 and 8 may have a combined discharge to the public system. There appears to be no significant MBW-owned sanitary sewer collection system on the installation except for the short services between the building exits and the public collection system (Figure 5-29).

MBW is located in a sewer collection service area which utilizes a combined sewer system. These types of systems are older and capture both stormwater and sanitary sewage in the same collection system. During rainfall-free and low-rainfall days, the system captures all of the sanitary sewage and the small amount of stormwater and routes it for processing at the treatment plant. During higher rainfall events, the combined sanitary sewage and stormwater flows without treatment to the Potomac or Anacostia River. DC Water has a program to gradually replace the combined sewer areas with separate storm and sanitary sewers. There are no specific replacement plans for the combined sewer outfall concerning the area of the Main Post and Annex.

The roadways around the Main Post and Building 20 have combined sewer system piping on each road. Due to the combined sewer system in use in the area, sewer discharges cannot always be clearly identified as either sanitary or stormwater discharges. The Annex has one sanitary sewer piping stub, which provides the main sanitary sewer service for the Annex building. This sanitary sewer service is connected to an existing combined sewer owned by DC Water.

DC Water operates the sanitary sewer collection system for the greater DC area including the installation. DC Water operates the Blue Plains Wastewater Treatment Plant, which provides wastewater treatment services to the DC area, including MBW. The wastewater treatment plant provides, primary, secondary, and tertiary treatment that includes grit removal, trickling filters, clarifiers, nitrification/denitrification, chlorination, and dechlorination. The plant can operate at a treatment capacity of 370 million gallons per day (MGD), with a peak capacity of 1,076 MGD. The wastewater treatment plant discharges to the Potomac River.

Figure 5-29 Wastewater Utility Network Corridors



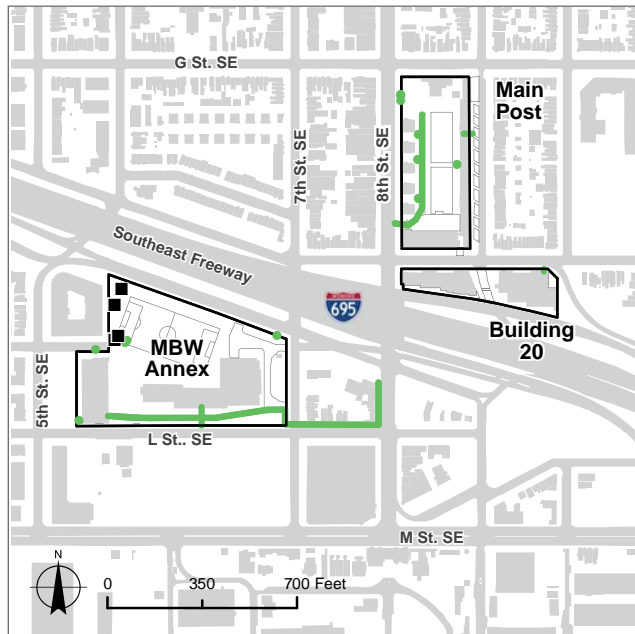
Legend

— Wastewater Line (existing)



Trench drains along the Building arcade help to control stormwater runoff at the Main Post.

Figure 5-30 Stormwater Utility Network Corridors



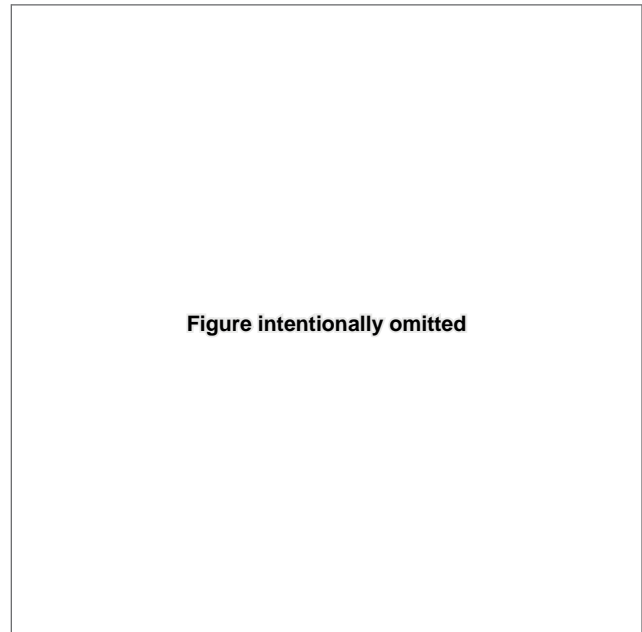
Legend

- Stormwater Line (existing)
- Storm Drain (existing)
- Storm Sewer Junction (existing)

STORMWATER NETWORKS

SWR from MBW, which overflows the diverters in the combined sewer system, ultimately enters the Anacostia River. As described in the GI Plan, DC Water has a combined sanitary/stormwater sewer system in the area of the Barracks. The SWR from Buildings 1 through 9 and Building 20 is collected through downspouts and roof drains and discharged underground or overland into the DC Water combined system (Figure 5-30). Drainage from the perimeter area exterior to the buildings discharges overland into the roadway catch basins. Each building has a discharge to the combined sewer system. The area on the interior side of the buildings on the Main Post is mostly occupied by the parade ground, sidewalks, and bleachers. Stormwater on the parade ground is collected through a series of under-drains and discharged into pipe. This pipe then discharges into the public combined sewer on 8th Street SE between Building 5 and Building 9. The Annex is drained through newly constructed storm drains and discharged into several locations along Virginia Avenue SE, 7th Street SE, and L Street SE.

Figure 5-31 Potable Water Utility Network Corridors



POTABLE WATER NETWORKS

Content intentionally omitted.

TELECOMMUNICATIONS NETWORKS

Content intentionally omitted.

NATURAL GAS NETWORKS

Content intentionally omitted.

STEAM/HVAC NETWORKS

Content intentionally omitted.

ENERGY REDUCTION

Multiple Federal, DoD, DoN, and Marine Corps mandates require reduced energy consumption. In particular, EO 13693 (19 March 2015) sets new goals and timelines for use of renewable electrical energy, water consumption, and GHG reduction by federal agencies. These requirements are captured in the Marine Corps Sustainability Plan as objectives for energy management, and are further detailed in the Marine Corps Expeditionary Energy Strategy and Implementation Planning Guidance and specifically tailored to MBW activities in the MBW Pollution Prevention Plan. Additionally, the DoN goal for renewable sourced energy use is for all facilities to procure approximately 50 percent of their energy demand from green energy sources by 2025, which supports the DoD Energy Policy, EAct 2005, and EISA 2007. DoN has an initiative of having half of all shore-based installations reach Net Zero Energy by 2020 (DoN 2012).

Net Zero refers to the installations efforts to produce as much energy from renewable sources on or near the installation as they consume in buildings and facilities.

Per the requirements set forth in the EAct and previous EO 13514, MBW has reduced the intensity of its energy consumption by 56 percent (measured in thousand British Thermal Unit [MBTU] per SF of facility space), thus exceeding the mandated reduction goal. These reductions were largely the result of the construction of the Annex Facility (Buildings 25 and 26) in 2004 and the installation of energy efficient HVAC equipment at this location. A preliminary energy audit offered four recommended Energy Curtailment measures, to include the installation of:

Figure 5-32 Telecommunications Utility Network Corridors

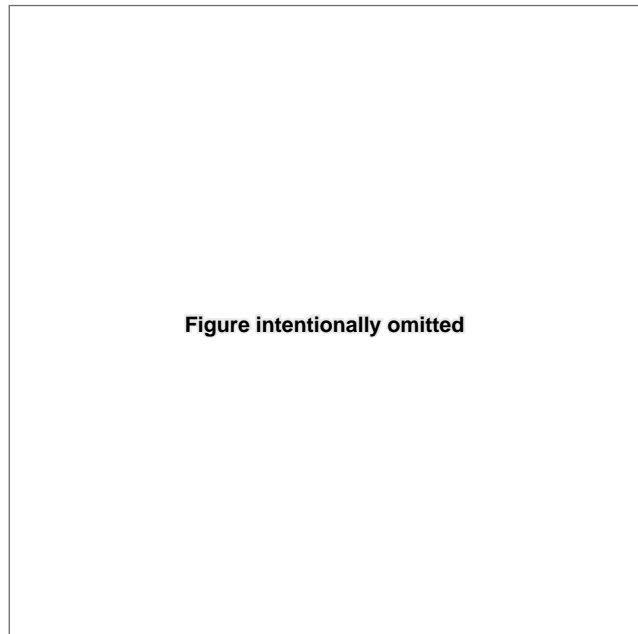
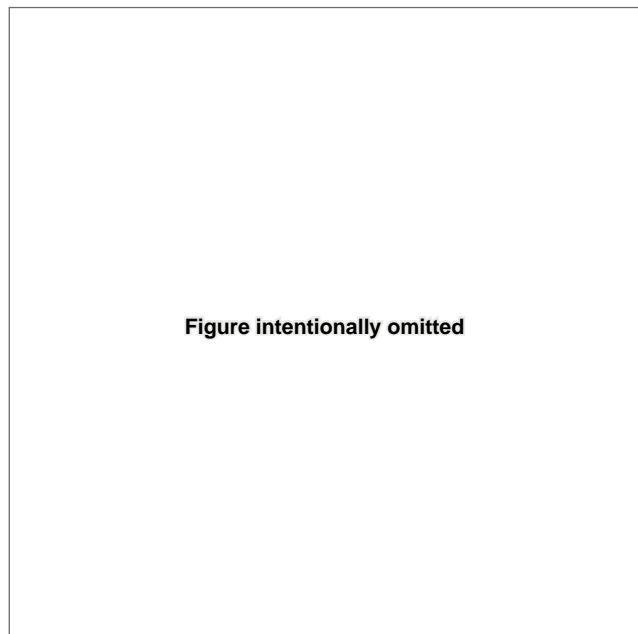


Figure 5-33 Natural Gas Utility Network Corridors





Flat roofs, such as Building 25, offer the greatest opportunity for incorporating solar panels at MBW with the least visual impact.

Energy Audit Recommendations

1. Vending misers on all vending machines
2. Solar panels on Building 20 to preheat domestic water
3. Solar panels on Building 25 to offset electrical load at that location
4. Energy efficient lighting

All vending machines have been retrofitted, and various light-emitting diode (LED) lighting upgrades have occurred in Building 26, Building 25, and Building 9. Likewise, MBW is in the process of further Direct Digital Control (DDC) System/HVAC efficiency upgrades across all enduring buildings on the installation, also including the installation of visible meters at each location. Finally, per Marine Corps directive, all new and renovated buildings will be constructed to meet LEED® Silver certification standards. Other recommended energy reduction strategies to be considered by MBW as buildings are renovated or constructed are listed below.

Additional Energy Reduction Strategies

- » **Further lighting upgrades, such as LED street and parking lights, practice, and ceremonial spaces; motion sensors in buildings; and daylight harvesting (the use of lighting control systems that automatically dim electric lighting in response to changing daylight availability within interior facility spaces)**
- » **An updated building energy audits/implementation**
- » **Further building retro-commissioning, including HVAC and insulation upgrades**

- » **Building automation/energy management**
- » **Implementation of various building management practices such as heating or cooling only mission-required spaces**

Although to date no renewable energy technologies are established at MBW, there are several potential technologies that could be located at the installation. Neighboring WNY has successfully installed solar photovoltaic and wind renewable energy technologies on flat rooftops across the installation (including Building 386, parking garage). Listing in the NRHP does not preclude the opportunity for renewable energy technologies, and solar has been successfully implemented on such buildings across the nation. Likewise, the MBW parade ground and Annex multi-purpose recreation field offer ample space for the Marine Corps to broadcast its dedication to energy independence by establishing a geothermal field in this location. Other, site-specific and smaller scale technologies that would be economically available on a per-building or activity basis include the installation of solar photovoltaic systems at gate houses and other buildings, solar hot water heaters, and geothermal heat pumps.

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6.0

Installation Planning Standards

The IPS serves as the form-based code for MBW and guides future development at MBW to be in accordance with the installation's planning vision, goals and objectives described in Chapter 2. The physical environment serves to reflect the role MBW plays as the ceremonial center of the Marine Corps, and to represent its unique heritage and proud traditions for all who pass through its gates. The intent of these standards is to ensure that development accomplishes the following goals regardless of future changes in mission or requirements, as established in UFC 2-100-01:

Key IPS Goals

1. Meet sustainability and energy efficiency requirements
2. Promote visual order and architectural consistency
3. Enhance the natural and man-made environments through consistent architectural themes and standards
4. Improve the functional aspects of the installation

6.1 PLANNING STANDARDS

Future development at MBW should reflect the highest standards of the Marine Corps. This is accomplished through thoughtful planning and design that enhances mission capabilities, promotes sustainable growth, and integrates with the community while preserving the history and tradition of the installation. Only the most important aspects of the Master Plan are regulated in the IPS, and are keyed to the Regulating Plan in Chapter 5. These aspects include building placement, minimum and maximum building height, entry and parking zones, and others are tied to these standards. The IPS includes standards for building, streets, and landscape, and are intended to promote variety and distinction in architectural and site development while maintaining compatibility and harmony with its surroundings.



Main Post buildings and site are the benchmark for establishing installation planning standards that are compatible and consistent with existing facilities and the surrounding context.

The following planning standards provide planners with general policy direction to guide facility planning and preliminary design. They are intended to be used in conjunction with the more specific guidance provided in the IAP. The IAP is the official aesthetic and functional direction for all development and renovation design and review at MBW while protecting natural and historic resources. The IAP provides a thorough analysis of existing conditions and recommended

actions for building and road construction, landscaping, signage, lighting, and other design schemes including color and material schemes specific to MBW. Concepts and recommendations in this Section are applicable to all construction, renovation, and repair projects at MBW regardless of funding source and may be used in the development of requirements and programming (1391s) and general cost estimates involving exterior visual considerations.

BUILDING ENVELOPE STANDARDS



6.1.1 Building Envelope Standards

The following standards for buildings sets the minimum level of controls necessary for shaping the built environment at MBW that is consistent with the installation’s planning vision and goals. Standards for buildings apply to facility use, placement, orientation, height, massing, fenestration (arrangement of windows and doors), and materials. The intent of these standards is to guide development in a manner that contributes to and enhances the function, sustainability comfort, safety and overall image of MBW, including the preservation of numerous historically and culturally significant resources. By establishing certain character-defining criteria for building form and relationships, including public spaces, Building Envelope Standards (BES) criteria provide a platform for form-based planning and development that supports mission readiness and meets facility requirements. Application of these standards must also comply with overriding criteria such as AT/FP, safety and security requirements and other applicable UFCs, and the Secretary of Interior’s Standards for the Treatment of Historic Properties, where appropriate.

Although the aim of these standards is to provide a level of uniformity that is compatible with the recognized historical character of the Main Post, consistency does and should not specify “cookie cutter” duplication of styles and forms. A certain degree of uniqueness is actually preferred, and in some cases necessary to avoid over-duplication. Rather than mimic the existing building style, a unification of basic architectural elements such as scale, massing, and harmony is desired. This complements and reinforces the existing and adjacent environment through controlled variety.

Proposed facilities should reflect the general look and feel of existing and proposed adjacent building forms (i.e., building exterior skin, roof lines, delineation of entrances, fenestration, shade and shadow effects, materials, textures, exterior color schemes, and organizational layout).

Below is a summary of BES elements to consider when planning and designing buildings at MBW, including building use, placement, form, entry, and floor height. Other important criteria such as roofing, building materials, fenestration, and architectural detail provide essential direction to support the BES and are covered in greater depth in the IAP.

BUILDING TYPE

Building type expands on the traditional land use designation and provides a zoning equivalent to guide building form and placement as well as maintains the ability of the installation to prohibit undesirable or incompatible uses. This method is generally more flexible than traditional land use planning alone and allows for multiple or mixed uses to be incorporated where best suited. The BES work in conjunction with the Regulating Plan and relate to existing conditions and constraints as described in Chapter 4. In addition, the Regulating Plan identifies the location of appropriate building types for the installation. Table 6-1 identifies the proposed building types for MBW.

Table 6-1 Summary of Building Types

BLDG. TYPE	BRIEF DESCRIPTION
Administrative	General office uses which serve a primarily administrative or headquarters function
Mixed-Use/ Campus	Incorporates administrative, training, and related facility support functions on any floor
Mixed Use/ Housing	Incorporates administrative, training, recreation, clubs, and stand-alone retail, commercial uses on the first floor, and enlisted housing and support functions only on upper floors
Residential (Officer Housing)	Includes officers’ quarters
Parking	Aboveground parking structures



Build to lines provide the framework for consistency and spatial definition by directing the placement of building façades from the prominent street frontage.

BUILDING PLACEMENT

Placement of buildings is governed through the use of established Build-to-Lines (BTLs) and setbacks in the Regulating Plan which conform to applicable AT/FP criteria for various building occupancy levels (i.e., primary gathering and billeting or inhabited buildings). Setbacks are established from the building's exterior wall to the installation perimeter and roads and parking, with and without a controlled perimeter, and to other buildings.

Build-To-Lines

The BTL establishes the ideal distance from the street at which a building's façade (or portion) would be placed to achieve a desired result. It is used to describe the distance from the front property line or primary street frontage where the building façade should occur in order to achieve an overall design strategy. The BTL supports form-based planning and development practices by using positive building placement and orientation to define the spatial character and continuity with adjacent development patterns. The goal is to bring the buildings closer to the street and provide a sense of enclosure at a pedestrian-scale. One premise of this tool is that buildings should be oriented to face the street, or otherwise have a perceived "street frontage" that closely addresses adjacent roadways and the pedestrian realm. For MBW, the strategy is to promote compatible development which integrates future facilities and other improvements at MBW with the surrounding commu-

nity while maximizing utilization and minimizing footprint. The application of the BTL has an inherent degree of flexibility or articulation to account for certain site or other prevailing regulatory constraints, such as AT/FP or easements.

Addressing Off-Site Streets

For purposes of the Master Plan, the preferred BTL for MBW is defined as the L'Enfant Streets ROW for establishing the preferred building setback from surrounding off-site streets. This definition promotes maximum compatibility of future development with the surrounding community, and is consistent with the District's Comprehensive Plan and Zoning Regulations. It is important to note that this is the preferred or "ideal" condition for the BTL that provides the highest degree of integration and consistency with the existing built environment. Actual building placement would be subject to the applicable setbacks provided under current AT/FP criteria to ensure the safety of inhabitants. In many instances, current AT/FP setbacks will dictate a different condition from this ideal, which is often a greater distance from the street and must be followed. However, whenever possible and cost-effective, and to promote compatible development practices, measures should be taken to mitigate these greater setbacks to approach the BTL. Building placement facing streets outside the installation should be established at the greatest required distance between the L'Enfant Streets ROW and the minimum allowable

AT/FP setback, but in no case less than the BTL shown in the Regulating Plan (Figures 5-3). In cases where no AT/FP or other setback applies, such as with unoccupied buildings, the preferred BTL described here should be used.

Addressing On-Site Streets

Within the installation's boundary, the BTL applies to a building's primary street frontage only. Where the L'Enfant Streets ROW and corresponding road exists within the installation boundary, it shall represent the preferred BTL, particularly if it represents the primary street frontage. This condition respects the established L'Enfant Streets ROW throughout, and ensures development that is consistent with these protected ROWs. While MBW does not currently have any on-site or interior streets, for future consideration, the preferred BTL is defined as the lesser of the building setbacks between the L'Enfant Streets ROW and minimum allowable and cost effective AT/FP standoff distance to be established for the appropriate construction type.

Building Setback Requirement

While BTLs establish the ideal condition for promoting consistent urban design, building setback requirements regulate specifically how close a façade may be built from adjacent roads, parking, or the installation boundary based on Minimum Anti-terrorism Standards for Buildings (UFC 4-010-01, 9 February 2012). These requirements provide the overriding regulatory policy for building setbacks on DoD installations. Requirements are established based on criteria such as threat level, perimeter conditions, building use, construction type, and occupancy level. While a mandatory regulation for planning at DoD installations, AT/FP regulations have a significant and often adverse impact on compatible urban design and walkability, and do not readily support form-based codes or other urban planning strategies discussed in Chapter 2.

Actual building placement in many cases may not conform to the designated BTLs reflected in the Regulating Plan due to more restrictive criteria or constraints. The "maximum" or "required" setback for building façades conversely is guided by the applicable AT/FP standoff criteria. Typical standoff distances for inhabited buildings and/or billeting structures range from 66 to 86 feet for planning purposes. This refers to the distance from the curb or installation boundary and applies to existing roadways, varies by street, and needs to be considered on a case-by-case basis. Lesser (minimum) requirements may be achievable through additional analysis and hardening where applicable and cost effective.



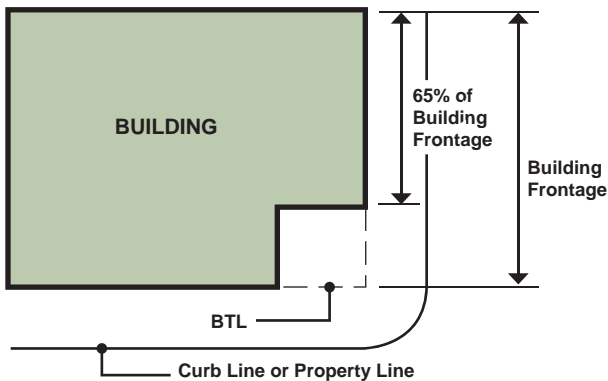
Large AT/FP standoff distances shown here at the MBW Annex (Bldg. 25) is a stark contrast to its urban context and the historic Main Post.

Building Placement Guidelines

The following guidelines provide considerations regarding building placement:

- ☑ **Buildings should be sited to be efficient and functional, incorporate sustainable design elements (compact development, infill, multi-story and mixed-use construction) and consistent with the Regulating Plan**
- ☑ **Building placement should be as close to the BTL as possible given applicable AT/FP criteria and other development constraints**
- ☑ **Whenever possible and to promote context-sensitive development at MBW, perimeter building placement should be as close to the BTL as possible when facing local streets**
- ☑ **Building orientation should respect existing (including historic) buildings and avoid obscure or unusable adjacencies that are inconsistent with the surrounding context**
- ☑ **Where appropriate building placement and orientation should take advantage of environmental factors including daylight penetration and seasonal factors such as heat and cold**
- ☑ **As building orientation often impacts walkability, placement should promote accessibility and circulation between buildings and sites**
- ☑ **Site buildings to preserve or enhance views into and out of the site**

Figure 6-1 Minimum Building Frontage



- ✓ No less than 65 percent of a building’s primary façade should front the street or BTL (Figure 6-1)
- ✓ Entry plazas and outdoor areas created by building placement should respond to seasonal conditions as well as allow for maximum sun exposure
- ✓ Minimize the visual impact of service areas and trash collection areas of buildings by locating behind buildings or away from highly visible areas to the greatest extent possible

MASSING & SCALE

Massing for buildings refers to the organization of a building’s volume including its overall size and shape, and is a critical space defining element to consider at the master planning stage. Massing significantly influences the visual character of development, may have considerable environmental impacts, and contributes to sustainability and walkability at the installation. For example, taller massing improves effectiveness of daylight penetration, and long narrow building massing improves energy efficiency, daylighting and thermal comfort. Massing and scale are also used to designate importance in the surrounding context. The following guidelines provide considerations regarding building massing:

Massing & Scale Guidelines

- ✓ Place a majority of the building mass closer to the street to help define the street edge
- ✓ New and modified buildings should complement the geometry, massing, and scale of existing buildings to reinforce the established character of the installation, promote architectural continuity, and respect surrounding historic resources
- ✓ Where possible design and orient building massing to maximize solar orientation of equator-facing vertical surfaces and roofs to meet LEED® credit requirements



The modest overall height of facilities at the Main Post allows it to relate well to the surrounding moderate density residential community.

- ✓ Where practical, new buildings and additions to existing buildings (primarily administrative, support facilities, and housing), should be designed with a recommended width of 45 to 65 feet (50 feet preferred) for up to 90 percent of total floor area, to maximize occupancy and reduce energy costs (through increased natural lighting and ventilation)
- ✓ Massing alternatives should be analyzed during the design phase for maximum daylighting potential, energy consumption, and thermal comfort
- ✓ Building modulation, graduated design, and massing setbacks should be considered when taller buildings are proposed adjacent to historic or lower density residential uses
- ✓ A building’s massing should contribute positively to the public realm to promote a pedestrian friendly environment
- ✓ Buildings should address the pedestrian scale, particularly at the ground level by providing visual interest and rhythmic patterns (using windows, doors, or articulated façade) along expansive uninterrupted exterior walls
- ✓ Prominent buildings are typically larger and taller than adjacent construction and should be respected and emphasized by their surroundings through the use of scale, height, and spacing of new facilities
- ✓ Avoid abrupt changes in scale to reduce negative impacts such as blocked views and solar exposure
- ✓ Transition building heights between adjacent buildings
- ✓ Buildings should utilize central courtyards or building cutouts where appropriate to allow daylight into more spaces

BUILDING HEIGHT

Minimum and Maximum Number of Floors

Minimum and maximum number of floors relates directly to building height and contributes significantly to the space-defining character of MBW and the surrounding public realm, and is a key component of form-based planning. The preferred number of floors is associated closely to surrounding uses and may be stepped or offset to be compatible and transition to adjacent uses. While existing buildings at MBW are comparatively low (2- to 5-stories) for an urban condition, future development both within and outside of MBW may likely reflect a need and desire for taller structures to support more compact development patterns, increased densities, and vertical mixed-uses (for further information, refer to Regulating Plan).

Building Floor Heights

The building floor height requirement refers to specified minimum and maximum heights for individual floors and builds on the minimum and maximum number of floors established in the Regulating Plan. Minimum floor heights are based on established standards and aligned to be consistent with existing facilities at MBW and adjacent uses. Furthermore, the appropriate overall building height and relationship to surrounding uses is determined and approved by the DC BZA and guided by the Height Act. The following provides guidance to consider regarding building floor height:

Building Height Guidelines

- ☑ **Current master planning guidance (UFC) calls for multi-story buildings wherever possible**
- ☑ **In most instances, the minimum height for new occupied facilities at MBW should be two stories**
- ☑ **Finished ground floor should be 18 inches above finished grade at a minimum, particularly along street frontage**
- ☑ **For planning purposes, first floor building heights should be proposed between 16 and 20 feet depending on proposed use and adjacent conditions**
- ☑ **Upper floor building floor heights range between a minimum of 10 feet for residential and a maximum of 14 feet finished floor-to-floor height for commercial, training, or support uses**

BUILDING ENTRY ZONES & LOCATIONS

Building entry placement is an essential aspect of defining the facility's primary or street-facing edge and contributes to the building's character and function as well. Location and placement of building entries is a key factor in defining pedestrian orientation and



The Home of the Commandant is a good example of a primary entry facing the street.

circulation and helps to direct and reinforce pedestrian activity. Uses surrounding MBW are primarily oriented to the street, and proposed entrances should mimic this pattern to address the street wherever possible. This helps promote integration with the surrounding community. The number and location of primary access points to the installation will, in many instances, be influenced by physical security requirements. Otherwise, placement and quantities of entry points should actively support pedestrian circulation and activity at the ground or street level. The following provides general guidance to consider regarding building entrances:

Building Entry Guidelines

- ☑ **Primary building entrances should be easily identifiable and accessible**
- ☑ **Primary building entrances should be located along the building front (facing the street) whenever possible**
- ☑ **A minimum of one building entrance, should be located along the length of each block, or at a minimum of every 400 feet to avoid extended uninterrupted and visibly inaccessible building façades at the street level**
- ☑ **A combination of architectural and landscaping elements should be used to identify or enhance a building's primary entrance**
- ☑ **An entryway's shape must be distinct, protruding from the main body of the building, or changing the height of the building around the entrance**



Building 8 at the Main Post exemplifies the historic use of fenestration at MBW, illustrating the range of scale, style, and placement that is consistent across the installation.

- ☑ Facility entries should be readily accessible from parking or site entrances
- ☑ Primary building entries should be clearly visible, identifiable, and proportionate with the size and scale of the facility
- ☑ Entries should be an integral design element that reflects the building’s architectural theme, and avoid the appearance of an “add-on”
- ☑ Align visible entries on buildings to create a well-defined and inviting main entrance that creates safe and easy pedestrian access
- ☑ Buildings should have both a primary façade and a primary entry that is easily identifiable and in proportion to the size and prominence of the facility
- ☑ Buffer major building entries from potential environmental impacts such as prevailing winds or rain
- ☑ Primary building entry should face the street whenever possible
- ☑ Where functionally appropriate, the building entry may face a central courtyard or open space and should consider relationships to other adjacent buildings or entries

FENESTRATION

Fenestration is a fundamental aspect of architectural design and a key component of the form-based code. Appropriate use of fenestration principles can have significant impacts to a building’s aesthetics, daylighting and solar penetration, ventilation, energy use, and even walkability at the street level. A building’s fenestration ratio (or window to wall ratio) refers to the degree of its exterior that is covered with windows, doors, or other openings as a percentage of their respective wall area. Typical fenestration ratios range from 20 to 90 percent, and ground floors generally have a higher ratio than upper floors. Commercial uses typically have a higher ratio than residential uses.

Fenestration considers how openings are arranged, their height-to-width ratio, transparency, and harmony with its surrounding context, particularly in historic settings such as MBW. Historically fenestration didn’t take up a large percentage of walls compared to more modern applications, including glass curtain walls or horizontal ribbon windows. Fenestration also serves an essential security function at installations, including eyes on the street, particularly along street primary frontage and around building entrances. Size, placement, and material application for building openings significantly contributes to their effectiveness and should be considered early during the planning and design phases to maximize this benefit. Fenestration is covered in further detail in the IAP.

Fenestration Guidelines

- ☑ Pattern, coverage, and proportion for windows and doors should reflect existing MBW buildings of similar use and scale
- ☑ Fenestrations must incorporate a horizontally and vertically aligned pattern that provides architectural consistency throughout the structure
- ☑ Upper floors should reflect a more solid façade of individual windows that provide variety of scale, style, and materials that complement building design, form, and massing
- ☑ Lower floors should have a more open façade that ensures visibility, safety, and reinforces the human scale, particularly along pedestrian routes or street frontage
- ☑ Expansive visually impenetrable walls should be avoided particularly when facing highly visible façades, or should be reserved for the side or rear of the building where applicable
- ☑ Where large areas of blank walls are necessary, façade articulations that maintain architectural rhythm and repetition should be used to help reduce the overall visual scale
- ☑ Openings should visually tie together the built environment through consistency between buildings to enhance the sense of identity
- ☑ Fenestration must comply with UFC 4-010-01 DoD Minimum Anti-terrorism Standards for Buildings

PHYSICAL SECURITY

Security and AT/FP requirements, including perimeter and area security, are designed to protect vulnerable points, assets, and critical infrastructure. Requirements are maintained through the Installation Security Plan (ISP) and are the responsibility of the Installation Commander. Physical security is an integral step in all site planning and design efforts at the installation and can be a driver for new requirements or projects under certain situations, including Physical Security Upgrade Projects (PSUP). Reviews of security measures, including fencing, lighting, buildings, access, visibility standards, and other security and AT/FP aspects shall be included as part of all of construction, military construction (MILCON), and Facilities Sustainment Restoration and Maintenance (FSRM) projects including all phases of project development and site approval.

All plans should be consistent with the following guidance as applicable:

- ☑ MCO 5530.14A Physical Security Program Manual
- ☑ DoD Instruction 5200.08 Security of DoD Installations and Resources

- ☑ UFC 4-022-01 Security Engineering: Entry Control Facilities/ Access Control Points
- ☑ UFC 4-022-02 Selection and Application of Vehicle Barriers
- ☑ UFC 4-022-03 Security Fences and Gates
- ☑ UFC 4-010-01, DoD Minimum Anti-terrorism Standards for Buildings and other applicable guidance

The following physical security principles are key considerations in the planning and design development process and are supported by CPTED. It's important to note that the successful implementation of these physical security principles is predicated on routine and effective maintenance.

Physical Security Principles

1. **Natural Surveillance:** *The principle of natural surveillance, "or eyes on the street," is accomplished in the siting, layout, and orientation of buildings and site elements in order to promote visibility throughout the site from both inside and outside the installation. Increasing the opportunities for visibility is the key. Thoughtful placement of building elements such as window openings and entrance ways can promote opportunities for increased visibility from adjacent occupied spaces. Exceptions to this rule include special purpose buildings that require limited or focused window placement such as performance halls, recreation centers, or warehouse facilities.*
2. **Territorial Reinforcement:** *This principle incorporates deliberate design strategies to clearly establish identifiable and defensible space through the delineation of public vs. private space. Territorial reinforcement improves physical security through compressed development and reduction of vulnerable perimeters and controlled access points resulting in more effective and efficient surveillance and security. Strategies focus on the purposeful arrangement of buildings and barriers to create compact defensible spaces or "spheres of influence" with strongly delineated boundaries.*
3. **Natural Access Control:** *Natural access control includes further distinction of public and private realms through the distinction of circulation and access facilities. This approach aims to reduce opportunities for crime by channeling personnel and vehicular access naturally through the strategic design and placement of buildings, barriers, and other site elements. Barriers are just one of the methods used to control, deny, impede, delay, and discourage unauthorized access to controlled and uncontrolled areas on the installation (Table 6-2). Effective and aesthetic implementation of security and crime prevention measures can be enhanced through the effective combination of multiple design elements such as walkways, signage, fences, electronic security systems, access control points, clear zones, lighting, and landscaping.*

Table 6-2 Security Barriers and Functionality

BARRIER FUNCTION	MAN-MADE BARRIERS*
Established boundary	Walls, fences, hedges
Isolated activity or discourage visitors	Walls, fences, berms, canals, moats
Aid detection of unauthorized entry or intrusion	Electronic detection devices mounted on boundary, sand strips at boundary or areas to be isolated, electronic devices
Impede vehicle passage	Berms, earthworks, walls, solid fences, masonry block screens, translucent glass blocks, electric or mechanical pop-up or concrete barriers
Minimize ballistic material protection	High berms, earthworks, steel reinforced concrete or solid fill masonry walls, blast shields fabricated from steel-plate materials, ballistic resistant glazing

*Source: MCO 5530.14A Table 5-1. *Table does not include natural barriers that are not applicable at MBW. Natural barriers are discussed in Chapter 6.*

Given the compact urban environment, achieving adequate setback distance is not always feasible and threats must be mitigated through a range of means. In addition to hardening or other costly measures, specific and more cost effective approaches may include partnerships or agreements with the city and community to achieve mutually beneficial solutions that meet physical security needs at MBW.

HISTORIC BUILDINGS

All projects which encompass significant changes or alterations to eligible or listed historic structures at MBW are guided by the Secretary of the Interior’s Standards for the Treatment of Historic Properties. These Standards (and associated guidelines) provide the recommended procedures for the treatment of NRHP-listed properties including preservation, rehabilitation, restoration, and reconstruction. The MBW ICRMP is the planner’s reference manual and decision making tool and provides an accurate record and procedures for the treatment of historic properties at the installation.

Choosing the most appropriate building treatment must reflect a building’s historical significance, as well as other critical considerations, such as relative importance in history, physical condition, proposed use, and code requirements. The Secretary of the Interior’s Standards alone are not used to determine which features of the historic building should be protected, but provide a philosophical consistency test to proposed actions once a proposed treatment is selected.

Working with MBW’s historic properties, including NRHP-listed buildings and districts requires consultation with the DC HPO and other consulting parties such



Building 26 at the MBW Annex illustrates the consistent use of materials, massing, and fenestration applicable for structured parking on the installation.

as ACHP, CFA, NCPC, and NPS to coordinate plans and approaches and identify potential mitigation measures if necessary. Consultation with DC HPO and consulting parties should begin early in the project development process to avoid future delays. A summary of guidance for the handling of historic buildings through the Secretary of the Interior’s Standards for the Treatment of Historic Properties is located in Appendix D.

STRUCTURED PARKING

Structured parking is the recommended solution to meet residential and commuter parking requirements, although limited smaller surface parking areas may be considered on a case-by-case basis. Multi-story above- and below-grade shared-use parking is preferred. When planning below-grade structures, parking is not permitted within the footprint of high occupancy uses including enlisted housing, administrative, applied instruction, and community support building uses at MBW. When using above-grade structures, primary (visible) façades should adopt materials and other architectural details identified for that district (refer to IAP). Where appropriate, additional design consideration should be given to street or pedestrian level façades to mitigate the visual impacts along sidewalks or primary street frontages. The recommended parking ratio for commuting populations (such as administrative and training uses) is 1:4, consistent with NCPC standards. Residential uses, such as BEQs, should plan to accommodate 70 percent, per UFC guidance. However, planners should look for ways to reduce SOV trips.

Figure 6-2 Administrative BES

CATEGORY		STANDARD	
BUILDING USE			
Ground Floor	Administrative and related Support or commercial uses		
Upper Floor(s)	Primarily Administrative Uses		
PLACEMENT		From Interior Streets & Parking	From Off-Site Streets & Parking
A	BTL	Minimum achievable AT/FP setback	Refer to L'Enfant Streets ROW
B	Setback from roads and parking (AT/FP)	16 FT/ 5 M	66 FT/ 20 M
C	Setback from adjacent buildings	33 FT/ 10 M	
PARKING			
D	Setback from street	BTL (Preferred), AT/FP (Max.)	
MASS			
E	Building width	45-65 FT (50 FT preferred)	
HEIGHT			
F	Minimum number of floors	Refer to Regulating Plan	
G	Maximum number of floors	Refer to Regulating Plan	
H	Finished ground floor level	18 IN above finished grade at sidewalk (Preferred)	
I	First floor ceiling height	16 FT (Min.), 20 FT (Max.)	
J	Floor to floor height	10 FT (Min.), 14 FT (Max.)	
FENESTRATION			
K	Range as a ratio of windows to walls	Upper Floors 20 - 40% (Typical) Lower Floor 50 - 70% (Typical)	
K	Window and door area, style, placement	Refer to IAP	
ROOF			
L	Roof style (options)	Gable, Hip, Flat	
MATERIAL			
M	Material Selection	Refer to IAP	

Notes:

- Administrative building uses are presumed to be primary gathering facilities for establishing AT/FP setbacks.
- Primary street frontage should be located as close to the L'Enfant ROW as possible while meeting AT/FP requirement.
- New buildings, and additions to existing buildings (primarily administrative, support facilities, and housing), should be designed with a recommended width of 50 feet where possible.
- Surface parking, where necessary, should be located to the side or rear (preferable) of the primary building and not along the primary street frontage.
- Structured (above or below grade) parking is the recommended practice for large parking requirements.
- The recommended parking ratio for administrative uses 1:4, consistent with DC Comprehensive Plan parking requirements.
- Incorporate at-grade pedestrian arcade elements within and between facilities where appropriate.

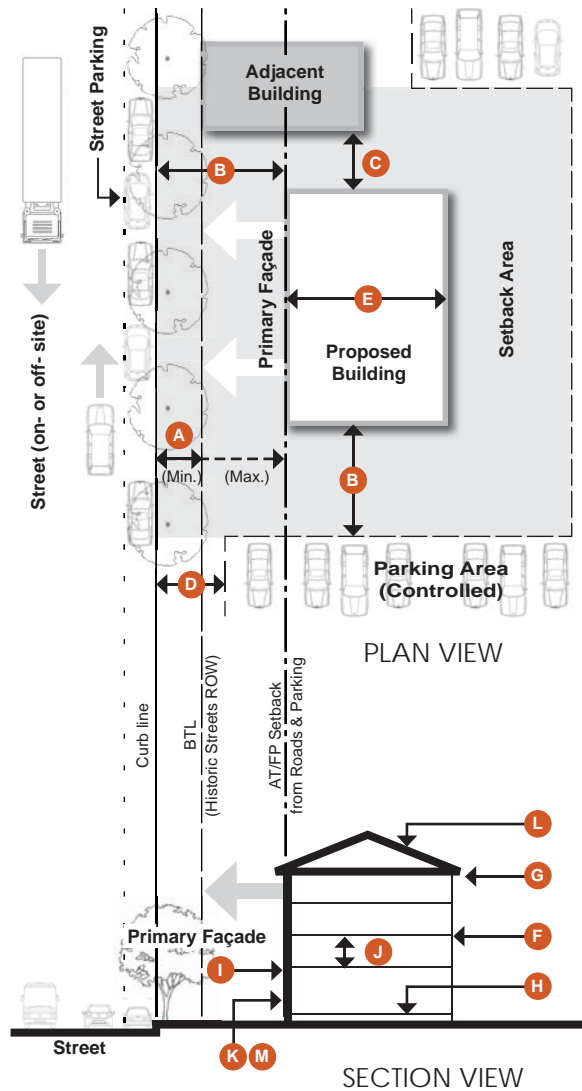


Figure 6-3 Mixed-Use Housing BES

CATEGORY		STANDARD	
BUILDING USE			
Ground Floor	Administrative, training, and related support or commercial Uses		
Upper Floor(s)	Enlisted housing uses (Primarily)		
PLACEMENT		From Interior Streets & Parking	From Off-Site Streets & Parking
A	BTL	Minimum achievable AT/FP setback	Refer to L'Enfant Streets ROW
B	Setback from roads and parking (AT/FP)*	16 FT / 5 M	66 FT / 20 M
C	Setback from adjacent buildings	33 FT / 10 M	
PARKING			
D	Setback from street	BTL (Preferred), AT/FP (Max.)	
MASS			
E	Building width	Specific to training function (50 FT recommended for housing and administrative uses)	
HEIGHT			
F	Minimum number of floors	Refer to Regulating Plan	
G	Maximum number of floors	Refer to Regulating Plan	
H	Finished ground floor level	18 IN above finished grade at sidewalk (Preferred)	
I	First floor ceiling height	16 FT (Min.), 20 FT (Max.)	
J	Floor to floor height	10 FT (Min.), 14 FT (Max.)	
FENESTRATION			
K	Range as a ratio of windows to walls	Upper Floors 20 - 40% (Typical) Lower Floor 50 - 70% (Typical)	
K	Window and door area, style, placement	Refer to IAP	
ROOF			
L	Roof style (options)	Gable, Hip, Flat	
MATERIAL			
M	Material Selection	Refer to IAP	

Notes:

- Community support building uses are presumed to be primary gathering facilities for establishing AT/FP setbacks.
- Primary street frontage should be located as close to the L'Enfant ROW as possible while meeting AT/FP requirement.
- New buildings, and additions to existing buildings (primarily administrative, support facilities, and housing), should be designed with a recommended width of 50 feet where possible.
- Building width varies for larger gym or other open-room fitness facilities
- Surface parking, where necessary, should be located to the side or rear (preferable) of the primary building and not along the primary street frontage.
- The recommended parking ratio for administrative uses is 1:4, consistent with DC Comprehensive Plan parking requirements.
- Incorporate at-grade pedestrian arcade elements within and between facilities where appropriate.

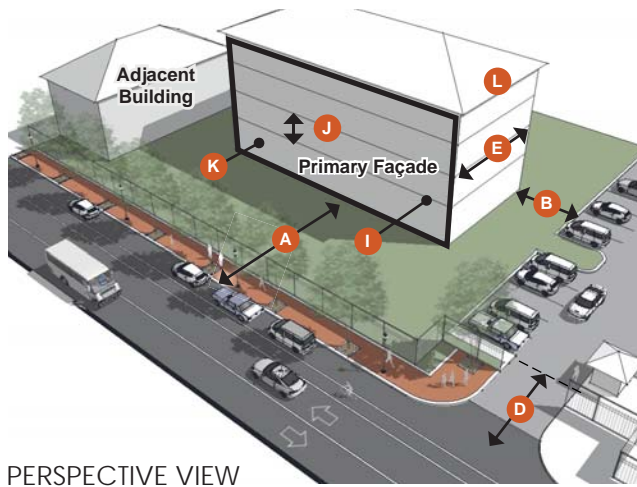
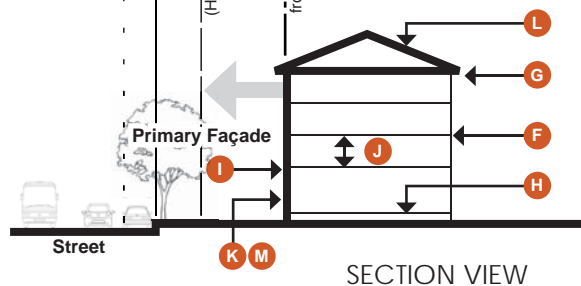
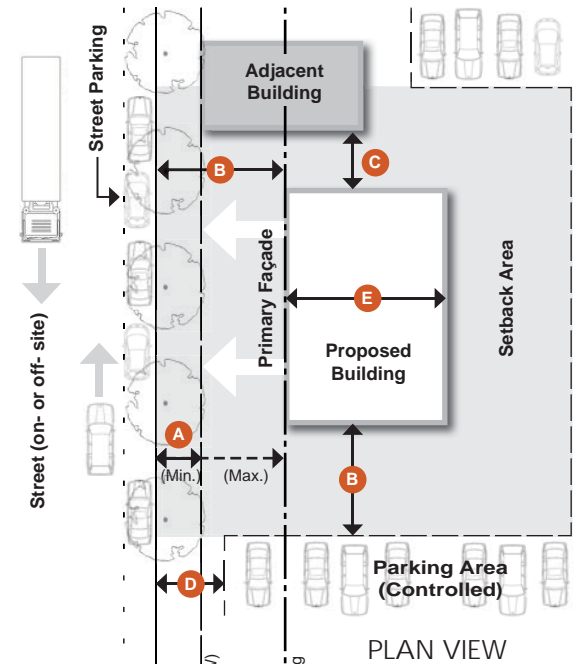


Figure 6-4 Mixed-Use Campus BES

CATEGORY		STANDARD	
BUILDING USE			
Ground Floor		Administrative, training, and related support or commercial uses	
Upper Floor(s)		Training and administrative Uses	
PLACEMENT		From Interior Streets & Parking	From Off-Site Streets & Parking
A	BTL	Minimum achievable AT/FP setback	Refer to L'Enfant Streets ROW
B	Setback from roads and parking (AT/FP)*	16 FT/ 5 M	66 FT/ 20 M
C	Setback from adjacent buildings	33 FT/10 M	
PARKING			
D	Setback from street	BTL (Preferred), AT/FP (Max.)	
MASS			
E	Building width	Specific to training function (50 FT recommended for administrative uses)	
HEIGHT			
F	Minimum number of floors	Refer to Regulating Plan	
G	Maximum number of floors	Refer to Regulating Plan	
H	Finished ground floor level	18 IN above finished grade at sidewalk (Preferred)	
I	First floor ceiling height	16 FT (Min.), 20 FT (Max.)	
J	Floor to floor height	10 FT (Min.), 14 FT (Max.)	
FENESTRATION			
K	Range as a ratio of windows to walls	Upper Floors 20 - 40% (Typical) Lower Floor 50 - 70% (Typical)	
K	Window and door area, style, placement	Refer to IAP	
ROOF			
L	Roof style (options)	Gable, Hip, Flat	
MATERIAL			
M	Material Selection	Refer to IAP	

Notes:

- Flex-Use building uses are presumed to be primary gathering facilities for establishing AT/FP setbacks.
- Primary street frontage should be located as close to the L'Enfant ROW as possible while meeting AT/FP requirement.
- New buildings, and additions to existing buildings (primarily administrative, support facilities, and housing), should be designed with a recommended width of 50 feet where possible.
- Surface parking, where necessary, should be located to the side or rear (preferable) of the primary building and not along the primary street frontage.
- Structured (above or below grade) parking is the recommended practice for large parking requirements.
- The recommended parking ratio for administrative uses is 1:4, consistent with DC Comprehensive Plan parking requirements. BEQ portions of the building should be 70 percent, per UFC guidance.
- Incorporate at-grade pedestrian arcade elements within and between facilities where appropriate.

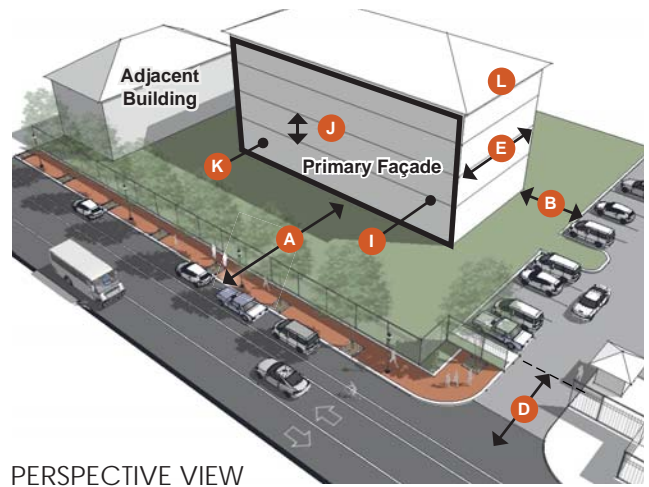
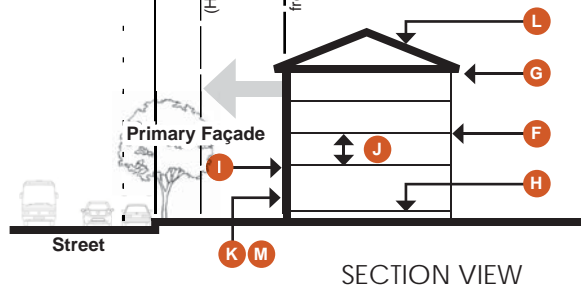
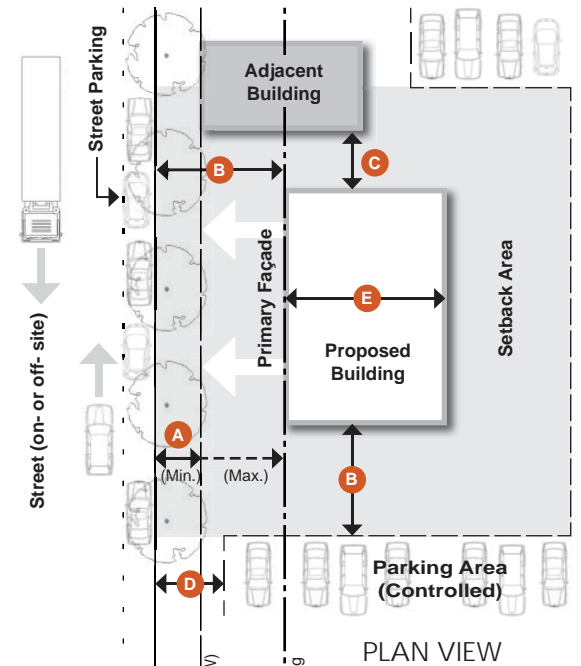
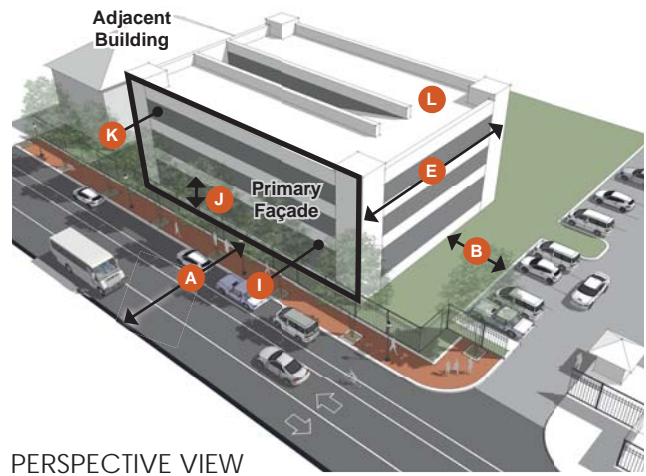
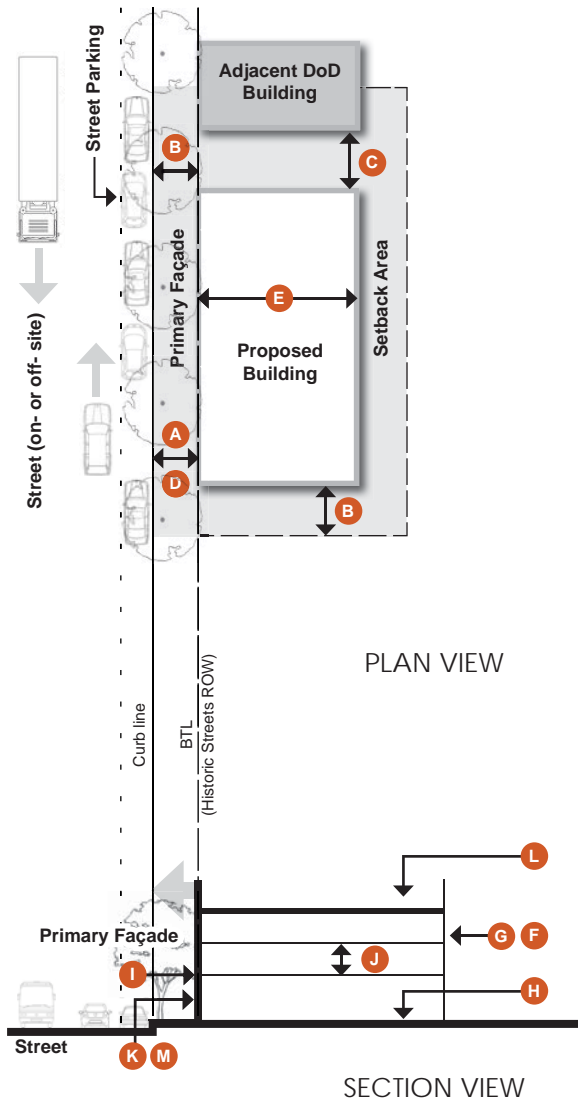


Figure 6-5 Structured Parking BES

CATEGORY		STANDARD	
BUILDING USE			
Ground Floor	Parking uses and sentry post		
Upper Floor(s)	Parking uses		
PLACEMENT		From Interior Streets & Parking	From Off-Site Streets & Parking
A	BTL	Minimum achievable AT/FP setback	Refer to L'Enfant Streets ROW
B	Setback from roads and parking (AT/FP)*	16 FT/ 5 M	Refer to L'Enfant Streets ROW
C	Setback from adjacent buildings	16 FT/ 5 M (Min.)	
PARKING ⁽⁶⁾⁽⁷⁾			
D	Setback from street ⁽⁴⁾	BTL (Preferred)	
MASS			
E	Building width	Specific to function or site	
HEIGHT			
F	Minimum number of floors	Refer to Regulating Plan	
G	Maximum number of floors	Refer to Regulating Plan	
H	Finished ground floor level	At grade entry	
I	First floor ceiling height	16 FT (Min.), 20 FT (Max.)	
J	Floor to floor height	10 FT (Min.), 12 FT (Max.)	
FENESTRATION			
K	Range as a ratio of openings to walls	Refer to IAP	
K	Window and door area, style, placement	Refer to IAP	
ROOF			
L	Roof style (options)	Flat (Primarily)	
MATERIAL			
M	Material Selection	Refer to IAP	

Notes:

- Primary street frontage should be located as close to the L'Enfant ROW as possible.
- Material selection, fenestration, and articulation of primary street frontage should respond to surrounding context, on or off site.
- The recommended parking ratio for administrative uses is 1:4, consistent with DC Comprehensive Plan parking requirements. BEQ portions of the building should be 70 percent, per UFC guidance.



STREET ENVELOPE STANDARDS



6.1.2 Street Envelope Standards

Streetscapes play an important role in framing the public realm, while enhancing walkability, parking, and safety surrounding the installation. The following street envelope standards (SES) summarize the minimum level of controls necessary for maintaining and establishing the key character defining elements for existing or proposed street types at MBW.

As noted in previous chapters, predominant street types surrounding the installation are local residential streets, with the exception of 8th Street SE which is classified as a minor arterial commercial street within proximity of the Main Post. These standards provide general guidance for laying out functionally attractive streetscapes that contribute to the overall image and function of the installation in support of MBW’s planning vision and goals. Essential elements of the SES include guidelines for developing roads and medians, on-street parking, sidewalks, bike lanes, planting strips, and other related features which form the basis for streetscape design and planning.

Context-sensitive solutions refer to the planning and design of streets and streetscape elements that balance the needs and safety of all users, are flexible, promote walkability, and are responsive to the surroundings.

MBW sites are defined by the surrounding block geometry and street infrastructure owned and maintained by the District. The intent of the SES is to provide context-sensitive direction that is consistent with DC’s guidelines for the surrounding streets at a minimum, so as to promote uniformity and continuity between the installation and the surrounding community. While there are currently no true interior streets or noteworthy on-street parking areas at MBW, future development may include planning for new streets, street segments, pedestrian streets, or larger parking areas for which

these standards would apply. As MBW pursues formal agreements for the ongoing maintenance and minor improvements for the areas between their boundaries and the adjacent curb line, future application of these standards may also be appropriate where consistent with those agreements.

The criteria below summarize key SES elements to consider when planning and designing streets and on-street parking areas at MBW. This section provides general planning and design direction for the predominant street types and should be used in conjunction with more detailed design criteria provided in the IAP, along with consideration and application to local zoning and the District’s design guidelines.

References for these standards are in accordance with the DDOT Design and Engineering Manual, which incorporates recommendations from the American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Streets (Green Book), the Highway Capacity Manual, and the Institute of Transportation Engineers, Designing Walkable Urban Thoroughfares: A Context Sensitive Approach.

OVERALL ROW WIDTH

The street ROW refers to the overall designated public space which includes the roadway, utility runs, street parking, bike lanes, planting strips, and sidewalks and encompasses the interconnected network of pedestrian, vehicular, and transit corridors linking MBW to local and regional destinations. For existing roads, ROW widths and distribution are well established by the L’Enfant Plan and preserve viewsheds throughout the District and represent the maximum BTL for most residential and commercial development. The established L’Enfant Streets ROW and road widths have historic significance, frame the building envelope (street frontage), and help define the unique urban character of the surrounding community. ROWs in and around MBW generally range between 90 and 100 feet and establish a consistent edge for the built environment.



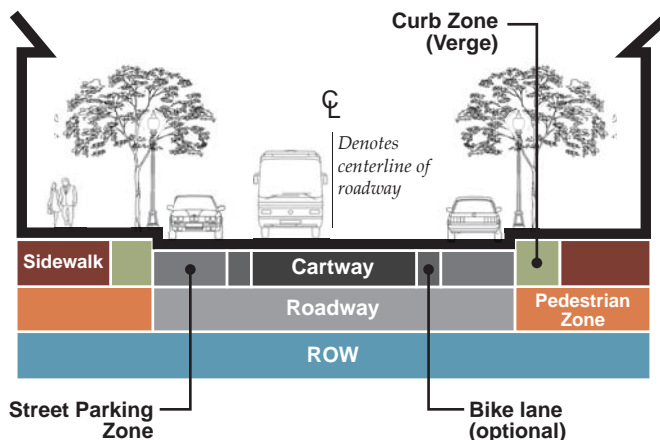
Urban ROWs must accommodate multiple uses for vehicles and pedestrians in a compact area.

The two ROWs within the installation boundary (6th Street SE and K Street SE) act as preserved undeveloped visual corridors and are not functioning streetscapes. As noted earlier, there are no streets or ROWs interior to the installation, and there are none proposed at this time.

ROADWAYS

Roadway lanes refer to the directional paved surfaces designated for transit, personal vehicles (including street parking), and bicycles. In the vicinity of MBW, these uses exist between the curb lines. As the number and dimensions for uses varies depending on the class, location, length, use, accessibility, and other factors associated with the particular road segment also change. Roadways are largely defined by their edges. Edges refer to those facilities and street-associated elements which border the lanes such as the curb zone (also referred to as the verge or planting strip) and sidewalks, which comprise the pedestrian zone (Figure 6-6). Edge areas help to define the structured roadway,

Figure 6-6 ROW and Edge Components



typically serve as the buffer between vehicles and pedestrians, and are critical for establishing streetscape character.

Table 6-3 provides a summary of recommended standard roadway dimensions as described in the DDOT Design and Engineering Manual.

Table 6-3 Standard Roadway Dimensions

FACILITY FUNCTION		RECOMMENDED STANDARD DIMENSION (FT)
ROW	Min. ROW for one-way travel road	55 (plus 10-FT setback on both sides) = 75
	Min. ROW for two-way travel road	75 (plus 10-FT setback on both sides) = 95
Roads and Parking	Two-way street, one-lane each (with parking on both sides)	36 PSW (Preferred 38)
	Two-way street, one-lane each (with parking on one side)	32 PSW (Preferred 34)
	One-way street, one-lane (with parking on both sides)	30 PSW
	One-way street, one-lane (with parking on one-side)	22 PSW
	Driving lane (one-way)	10 to 12 PSW
	Driving lane, with buses	11 PSW
	Driving lane, with parking	18 PSW
	Driving lane, with parking and busses	19 PSW
	Parking lane	8 PSW

Paved Surface Width (PSW).

Design Speed

There are no posted speed limits on MBW. The posted speed limit for local streets, collectors, and minor arterials surrounding MBW is predominately 25 MPH, with 15 MPH when children present, unless otherwise posted. With the exception of the Southeast Freeway, the nearest street with a higher speed limit is Pennsylvania Avenue SE, with a speed limit of 30 MPH. It is expected that any proposed interior street at MBW would likely reflect the speed limit of surrounding or connecting streets, with a speed limit of 25 MPH or less, as appropriate. Per DDOT Design Policy, the minimum design speed for local streets is 20 MPH (Table 6-4).

Table 6-4 Minimum Design Speed

ROAD TYPE	MINIMUM DESIGN SPEED (MPH)
Local streets	20
Collector streets	30
Minor arterials	35
Principal arterials	40
Freeways	55

Curb Radius

The DDOT Design Policy provides for establishing the minimum corner radius based on the minimum turning path for the selected vehicle. Variations from the minimum are accepted based on other factors such as road type, location, traffic volume, vehicle size, and frequency of use. Table 6-5 provides the minimum radii for basic intersection types.

Table 6-5 Minimum Curb Radius

INTERSECTION TYPE	MINIMUM CURB RADIUS (FT)
Street Intersection	15
Alley Intersection	10
Driveway Intersection	6

Driveways

Driveways are inherently low-volume connections that serve as access points to adjacent roads and ROWs. A key planning criteria for driveways, other than width and turning radii is sight distance and driveway spacing (from one another and the nearest intersection). Table 6-6 provides a summary of recommended driveway widths for residential and commercial types.

Table 6-6 Recommended Driveway Width

DRIVEWAY TYPE	ONE WAY (FT)	TWO WAY (FT)
Residential Driveway	8 (Min.) 12 (Max.)	N/A
Commercial Driveway	12 (Min.) 14 (Max.)	20 (Min.) 24 (Max.)

While no new ROWs or roadways are currently proposed at MBW, the following provides guidelines for planning future facilities that are compatible and consistent with surrounding networks. Generally, the size and location of proposed ROWs and road widths should consider its projected volume (vehicle and pedestrian), transit use, parking needs, surrounding land use, and other applicable characteristics and requirements.

Roadway Guidelines

- Proposed streets should maintain the aesthetic and functional quality and continuity established by the existing street grid network
- All designs for roadways shall conform to ADA requirements
- Recommended road ROW and road travel lane widths should be consistent with the DDOT Guidelines (Table 6-3)
- Proposed (on-site) streets should be physically and visually connected into the existing networks



Driveway crossings should be at grade, of compatible material and design, and not obstruct public access.

- Emphasis should be placed on preserving L'Enfant historic street ROWs, including where roads are proposed to be closed
- Typical travel lane width should be between 10 and 12 feet
- Proposed curb radii should be consistent with the DDOT Guidelines (Table 6-5)
- Turning radii should be as compact as possible for the proposed design vehicle
- Driveway access points should be perpendicular to the centerline of the adjoining road and remain perpendicular to the property line
- Driveways should not interfere or obstruct with abutting sidewalks or roadway elements
- Driveways should allow optimum visible sight lines to adjacent sidewalks and intersecting roads
- Driveways and parking pads must permit vehicle parking that does not interfere with public space

PARKING ZONES

The majority of parking provided at MBW for residents and commuters occurs within two parking garages (Buildings 20 and 26) with a total of 500 spaces. Similarly, these are the two of four identified structured parking zones at MBW. Surface parking accounts for 26 of the total 534 spaces, and is located at the Main Post adjacent to Building 9. The eight spaces for general officers are located in Building 7 (first floor). Parking zones are designated on the Regulating Plan. Additionally, future parking requirements are designated within

specified flex-use building types. The preferred parking solution for future development at MBW is structured parking, above or below grade. Table 6-7 provides a summary of applicable parking dimensions for on-street parking at MBW and surrounding streets.

Table 6-7 On-Street Parking Allowances

DEGREE	STALL WIDTH (FT-IN)	STALL DEPTH (FT-IN)	AISLE WIDTH (FT-IN)
90	9-0	18-0	23-0* 27-0**
60	9-0	17-0	17-0*
45	9-0	19-10	11-0*
Parallel	8-0	N/A	12-0*
	8-6	N/A	11-6*
	8-0	N/A	11-0*
	7-0	N/A	5-0* (bike lane)

* Minimum distance. ** Maximum distance.

Parking Guidelines

- ☑ Centralized and shared parking facilities are recommended at MBW to conserve space and promote compact development practices
- ☑ Structured parking should be planned at 430 square feet (33 square meters) per passenger vehicle space (UFC 2-000-05N, CCN 85310)
- ☑ The minimum recommended parking ratio for commuting populations is 1:4, or one space for every four commuters, consistent with NCPC standards
- ☑ Residential uses such as BEQs should plan parking to accommodate 70 percent of residents, per UFC guidance
- ☑ Surface parking should be planned at 35 square yards per UFC 2-000-05N, CCN 85210
- ☑ Parking is desired on all local streets to serve abutting land uses and to shield and separate pedestrians from passing traffic
- ☑ The preferred on-street parking standard is parallel configuration with the travel lanes
- ☑ Angled parking may be appropriate at 45 and 60 degrees under certain conditions, but is not the preferred layout
- ☑ All on-street parking must be approved by DDOT
- ☑ On-street parking dimensions should be 8 feet wide for parallel parking spaces, and 9 feet wide for angled parking spaces
- ☑ Minimum off-street parking space (lot) dimensions should be 9 feet in width and 19 feet in length
- ☑ Dimensions for compact car spaces should be 8 feet in width and 16 feet in length (excludes access drives, aisles, ramps, columns, etc.)



Sidewalk construction or restoration within designated historic districts must be constructed to be as consistent and compatible with the existing context as possible.

- ☑ If surface parking is required, new spaces or lots should be located to the rear or sides of building whenever possible
- ☑ Parking should comply with the requirements of the District of Columbia Architectural Barriers Act of 1980

SIDEWALKS & BIKE LANES

Pedestrian facilities include sidewalks, bike lanes, shared-use paths, and other primary pedestrian-use routes on or connected to MBW sites. Generally, sidewalk dimensions and locations should provide a clear continuous, direct, and unobstructed pedestrian route free of any above grade obstructions including buildings, trees, utilities, and street furniture. Bike routes are signed streets within the District and identified in the Bicycle Master Plan. Bike lanes refer to on-street designated lanes located to the right of the vehicle travel lane. Shared-use paths are used by pedestrians, bicycles, and other non-motorized modes, and are typically separated from the roadway. Table 6-8 provides a summary of recommended pedestrian facility widths that are consistent with DDOT standards.

Table 6-8 Recommended Pedestrian Facility Width

FACILITY FUNCTION	RECOMMENDED STANDARD DIMENSION (FT)
Sidewalk pavement	6 PSW
Sidewalk, including 4-FT tree space	10 Surface width
Bicycle lane (one-way)	5 PSW
Shared-Use Path (two-way)	10 to 12 PSW (14 if heavily used)
<i>Paved Surface Width (PSW).</i>	

For additional issues regarding pedestrian and bicycle related issues, planners should consult with the DDOT Transportation Planning and Policy Administration and Infrastructure Project Management Administration Traffic Engineers.

Sidewalk and Bike Lane Guidelines

- ☑ All sidewalks must be ADA-compliant, including a minimum sidewalk width of 6 feet (Table 6-8)
- ☑ ADA-compliant minimum sidewalk width at bus stops shall be 8 feet
- ☑ ADA-compliant curb ramps shall be installed at all intersections, must connect to crosswalks and sidewalks, and may be installed at mid-block locations where blocks exceed 600 feet in length
- ☑ Marked Crosswalks will be required at all signalized and high use intersections (10 feet for local streets, 15 feet for collectors) to be aligned perpendicular to the roadway being crossed
- ☑ Where both sides of a street or roadway are developed, a sidewalk must be on both sides
- ☑ Sidewalks within the ROW should be a minimum of 6 feet in low-use residential area, 8 feet in high-use residential areas, or 10 feet for commercial uses, or where adjacent to a bus stop
- ☑ Minimum sidewalk widths are in addition to planting strips or tree grates which typically require 6 feet
- ☑ Sidewalks must be set back a minimum of 6 feet from the curb of adjacent roadway
- ☑ The final approved sidewalk width may require additional study for higher pedestrian traffic areas
- ☑ Bike lanes should be planned at a minimum width of 5 feet to include a gutter pan if adjacent to curb, unless otherwise specified by DDOT
- ☑ A minimum of 4 feet is required for a paved shoulder bike lane (measured from edge of curb)
- ☑ Bike lanes should be located to the right of the outermost travel lane, and to the left of street parking (where present)
- ☑ Bike lanes should be planned at a minimum width of 5 feet (including curb gutter, if applicable)
- ☑ A paved shoulder bike lane requires a minimum of 4 feet
- ☑ Shared-use paths should be located off-street and a minimum of 5 feet from an adjacent roadway

STREET LIGHTING

Street lighting is an integral component of streetscape design and planning. In addition to enhancing safety, security and wayfinding throughout and surrounding the installation, street lighting contributes to the overall character of MBW. Currently, existing street lights surrounding MBW are located within the street ROW and are owned and operated by DC. On-site planning of street and other lighting fixtures should be coordinated with the District’s street lighting requirements. The following guidelines should be considered, at a



Washington globe lights (left) are the approved street light in historic districts throughout DC. MBW has established a standard used at the Main Post (right).

minimum, when planning street lighting at MBW. Specific design standards including fixture styles, post heights, accessories, and light levels are covered in the IAP.

Additional resources for street lighting reference include District of Columbia Streetlight Grand Plan Standards and Guidelines, AASHTO standards, and the Illuminating Engineering Society (IES) Lighting Handbook.

Street Lighting Guidelines

- ☑ Street lighting should be coordinated with an installation-wide lighting scheme rather than a piecemeal approach
- ☑ Street lighting design and layout should be coordinated and integrated with the surrounding community
- ☑ Implementation should address overall nighttime safety, security, and circulation needs with an emphasis on intersections and gate entrances where pedestrian and vehicle interactions are typically higher
- ☑ Street lighting layout and design should be coordinated with proposed or existing street trees to ensure optimal effectiveness and safety and avoid potential conflicts
- ☑ Lighting fixtures must not interfere with pedestrian circulation
- ☑ Lighting fixtures should be placed a minimum of 3 feet from the edge of curb, and away from building doors



Planning future development within the Capitol Hill Historic District that is context sensitive is critical to preserving the neighborhood character and ensuring integration within the surrounding community.

- ✓ **When facing adjacent residential uses, spacing should be between a minimum of 60 feet and a maximum of 150 feet, and fixture height is not to exceed 15 feet, 1 inch**
- ✓ **Light fixtures should be placed so as to minimize negative effects on adjacent uses**
- ✓ **Placement of street light fixtures should be as uniform as possible**
- ✓ **Lighting placement and style shall conform to the requirements of the DC HPO for designated historic districts (Capitol Hill)**
- ✓ **Fixture style and placement should complement and highlight adjacent buildings, entrances, signing, prominent views, and other special features**
- ✓ **Street or pedestrian-scale lighting should follow the designated style for the District, Acorn fixture (or Washington Globe)**

STREET TREES

Street tree placement guidelines are discussed in the Landscape Standards.

HISTORIC DISTRICT GUIDELINES

MBW Main Post and Building 20 are located within the Capitol Hill Historic District (Chapter 3). DDOT has identified various elements for special consideration within listed historic districts intended to preserve and enhance the streetscape consistent with their historic context. Specific treatment for streetscapes (new and restored) is outlined in the DDOT Design and Engineering Manual, Section 31.6. Construction and

renovation of transportation infrastructure within the Capitol Hill Historic District (MBW Main Post) must follow the DDOT Standard Specifications for Highways and Structures. Where applicable, transportation infrastructure improvements should reference the DDOT Downtown Streetscape Regulations. Below are some of the special considerations for streetscape projects within the Capitol Hill District.

Historic District Streetscape Guidelines

- ✓ **Sidewalks should be constructed or replaced with brick in a running bond pattern (new) or to match the predominant existing style (replacement)**
- ✓ **Stone curbs should be used wherever possible, including preserving and reusing existing bluestone curbing in the Capitol Hill District**
- ✓ **Acorn (Washington Globe) lights are to be used in historic districts**
- ✓ **Gutters should be constructed of brick in historic districts**

SES SUMMARIES

Figure 6-7 provides summary information for the primary existing and proposed street type around MBW.

Figure 6-7 Two-Lane Undivided Roadway SES

CATEGORY	STANDARD	
OVERALL WIDTH	Min. (FT)	Max. (FT)
A Right-of-Way Width	75	No limit
B Curb to Curb Width (not incl. bike lanes)	36	50
LANES & EDGES		
C Travel Lane Width (one way)	10	12
Travel Lane Width (one way with bus)	11	12
D Travel Lane Width (both ways)	20	24
E Bike Lane (on street)	5 (standard)	
F Planting Strip (wide)	4	10 (preferred)
Planting Strip (deep)	6 (standard)	
G Sidewalks (in addition to planting strip or tree box, typ. 6 FT)	6	10
H Pedestrian Zone	12	16
STREET PARKING		
I Parallel Parking	8	13 (with bike lane)
STREET TREES		
J Tree Spacing	30	50
STREET LIGHTING		
K Light Spacing	60	150

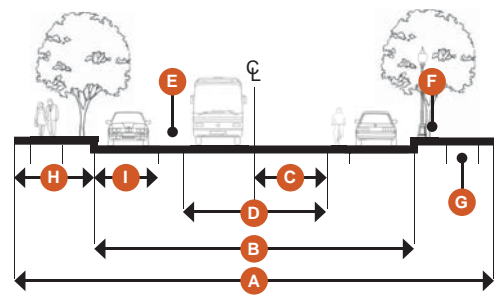
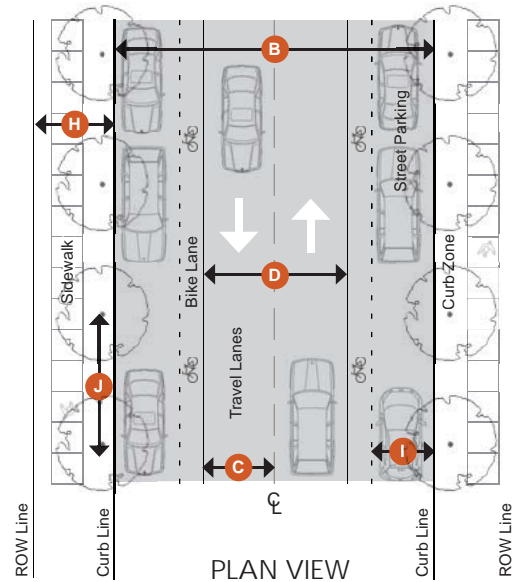
Notes:

- Sidewalks must be separated from the roadway by a minimum of 6 feet
- Minimum lane width (one way) should be 11 feet where busses are to be considered.
- 10-foot road widths are acceptable for speed limits below 35 mph.
- Building setbacks should be the minimum allowable AT/FP standard.
- Average street tree spacing is 30 to 40 feet.
- Curb zone includes the planting strip, tree boxes, and paved segments between planters. Recommended width is 6 feet.

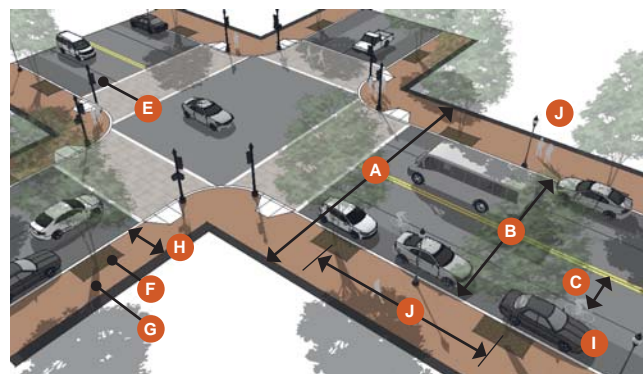
CATEGORY	STANDARD	
DESIGN SPEED & LANE WIDTH (FT)		
25 mph or below	10	
25 mph or below (with bus)	11	
26-35 mph	11	

Notes:

- The predominant posted speed limit for roads surrounding the Marine Barracks is 25 mph.



SECTION VIEW



PERSPECTIVE VIEW

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LANDSCAPE STANDARDS



6.1.3 Landscape Standards

The deliberate and organized application of landscape materials serves to complement the architecture, provide a sense of place, define open space, and improve the environmental quality for installation personnel and visitors.

The following standards provide support for the appropriate selection and placement of trees, shrubs, and ground covers that contribute to the overall image and defining character of the installation. Landscape elements serve to enhance the human scale, improve walkability and orientation, provide shade, and buffer negative views. Landscape standards provide guidance for the selection, placement and function of natural landscape materials (plantings and plant selection) and man-made features (lighting, signage, and furniture) to reinforce the visual integrity and usability of the site. Specific recommendations for landscape design and landscape architectural elements should be an integral component of site plans for all new development. Additional details are referenced in the IAP.

LEVEL OF SERVICE

Not all areas of the installation require or necessitate the same LOS. Certain areas have been identified as having priority for higher or lower degrees of routine care as described in the Grounds Maintenance Service Schedule. Areas are classified by their Common Output Level (COL) which provides a hierarchy for the frequency and degree that plants, beds, and lawn areas should be planted, mowed, fertilized, watered, trimmed, edged, dethatched, aerated, pruned, mulched, weeded, cultivated, and otherwise seasonally maintained.

Due to its degree of public visibility and access, certain areas of MBW merit a higher LOS, such as the Main

Post. Formal plantings such as those surrounding and defining ceremonial space or primary entryways typically have a higher LOS and should be limited to prioritized locations deserving maximum impact. Simple and geometric pedestrian-scaled walkways and selected formal landscaped areas also enhance overall organization and reinforce the Marine Corps image and help integrate with the community. Informal areas typically require less maintenance and exhibit a more natural, irregular and diverse selection and placement of plant material. LOS should be considered during the planning and design of new or restored landscaped areas to be consistent with the Installation's appearance goals (refer to IAP) and budget requirements.

PLANT MATERIAL

Plant materials serve a multitude of functions at the installation including shade, wildlife habitat, screening, noise buffer, heat reduction, safety, spatial definition, and aesthetics. In conjunction with the architecture, circulation, and site organization, landscape elements are integral in defining the character of the installation and should be considered at all levels of planning and design.

Lawn Areas & Open Space

While lawns serve a valuable and irreplaceable function in areas such as the parade ground (Main Post) and multi-purpose recreation field (Annex), they also have some of the highest ongoing maintenance requirements including water use, fertilizers, and trimming. Where appropriate and compliant with AT/FP criteria for unobstructed space, large expanses of lawn should be avoided and low maintenance alternatives considered. Where lawns are not functionally or aesthetically necessary, alternatives should be considered including low growing native shrubs or ground covers to achieve a similar effect.

Formal open spaces are integral to the history and function of MBW. The Main Post and 1.41-acre parade ground contribute significantly to the public's image

of MBW and the Marine Corps, most notably through the thousands of visitors annually. The parade ground and its surrounding context exhibit the quality and professionalism consistent with the oldest active post in the Marine Corps. In addition to hosting weekly ceremonies throughout the year, the parade ground is also a contributing resource of the US Marine Corps Barracks and Commandant’s House Historic District and a significant asset to the Barracks. As a center for ceremonial excellence, the continued preservation and maintenance of this formal open space is a high priority at MBW.

The multi-purpose recreation field located at the Annex is used primarily by the Marines for physical training, marching and performance rehearsal, and recreation. The field is also a shared-use facility available to the community for recreational purposes during specified times including most weeknights. The 2.68-acre playing field and running track are part of a mutual agreement between the Navy, Marine Corps, NPS, and DC HPO which realigns the previous location of Lincoln Playground and provides a recreational amenity in perpetuity for the DC community.

In addition to the parade and multi-purpose recreation field, other formal open spaces at MBW include the Commandant’s garden or family garden (approximately one-quarter acre) and the five private gardens associated with each of the officers’ quarters located along 8th Street SE (roughly 1,600 square feet each). These and other existing formal open spaces at MBW should be preserved and protected.

These resources present a prominent public image for MBW and should be treated accordingly, receiving adequate maintenance and improvements as necessary. All new development should consider the impact to open space and offer a variety and scale of formal and informal spaces. Open spaces should be inviting, accessible, and scaled for their proposed use. The IAP identifies multiple recommendations for the ongoing treatment enhancements for these prominent open spaces including lighting, hardscape treatment, turf replacement, and accessibility.

Native Plants

While there are a variety of definitions for native plants, a broad description is provided by the Federal Native Plant Committee: “a native plant species is one that occurs naturally in a particular region, state, ecosystem, and habitat without direct or indirect human actions.” Native plant materials have lower water and fertilizer



Leyland cypress at the Annex create a dense evergreen buffer from neighboring Virginia Avenue and the Southeast Freeway.

requirements, support local wildlife needs, require less maintenance (LOS), and are generally hardier and more disease resistant choices for the landscape. Designers should strive to use native plant materials wherever appropriate and cost effective. Native species also help to avoid the proliferation of invasive species. The IAP provides specific native or indigenous plant materials which may be selected for a variety of applications and sun/shade requirements, shown in Table 6-9.

Screening & Buffers

Plant materials provide a cost effective and attractive solution (over walls and fences) for buffering or screening the negative visual impact of refuse collection areas, loading docks, high winds, service areas, noise, and utilities. Appropriate plant selections should include dense evergreen shrubs and trees. For large screening areas, a variety of plant types, heights, and spacing should be used to avoid monoculture effects. Large trees and shrubs also provide protection from wind and sun and should be used appropriately to enhance walkability and protect gathering spaces and parking areas.

Diversity

Plant diversity should be utilized where appropriate to create hierarchy and visual interest around the installation. While there are valid purposes for repeating plant materials to establish consistency and organization of the site and to emphasize formal spaces, caution should be used to avoid monoculture plantings. Monocultures utilize a single species over a large area. Overuse or misuse of this strategy can overwhelm the design and may be vulnerable to risk of disease or infestation with larger impacts.

Plant Selection

The following is a list of recommended plant species appropriate for future new or replacement plantings at MBW (Table 6-9). Additional information regarding recommended plant material, native selections, use, spacing, and size (diameter and caliper) can be found in the MBW IAP. This list should be used whenever possible; however, substitutions may be appropriate under the guidance of a landscape architect under certain conditions.

Table 6-9 Recommended Plant List

BOTANICAL NAME	COMMON NAME	AVERAGE HEIGHT/SPREAD (FT)	RECOMMENDED LOCATIONS		
			SUN/SHADE	WET AREAS	HOT & DRY AREAS
SHADE TREES (Medium to Large Trees)					
<i>Acer x freemanii</i>	Freeman Maple	50-70/10-20	*	✓	
<i>Acer rubrum</i> 'October Glory'	Red Maple	40-50/25-35	*		
<i>Acer saccharum</i>	Sugar Maple	40-80/30-60	*	✓	
<i>Gleditsia triacaunthos inermis</i>	Thornless Honeylocust	50-75/35-50	*		
<i>Liquidambar styraciflua</i> 'Rotundiloba' (seedless)	Sweetgum	60-80/40-60	*		
<i>Magnolia acuminata</i>	Cucumber Tree	40-70/20-35	*		
<i>Platanus occidentalis</i>	American Sycamore	75-100/75-100	*	✓	
<i>Ostrya virginiana</i>	Eastern Hop Hornbeam	25-40/20-30	*		
<i>Quercus acustissima</i>	Sawtooth Oak	35-45/35-50	*		
<i>Quercus coccinea</i>	Scarlet Oak	60-75/45-60	*		
<i>Quercus palustris</i>	Pin Oak	50-70/40-60	*	✓	
<i>Quercus phellos</i>	Willow Oak	40-75/25-50	*	✓	
<i>Tilia americana</i>	American Linden	50-80/30-50	*		
<i>Ulmus americana</i> 'Princeton' or 'Valley Forge'	American Elm	60-80/40-70	*	✓	
<i>Ulmus parvifolia</i>	Chinese Elm	40-50/25-40	*		
<i>Zelkova serrata</i> 'Village Green'	Village Green Zelkova	50-60/50-60	*		
ORNAMENTAL TREES (Small to Medium Trees)					
<i>Acer pensylvanicum</i>	Striped Maple	15-25/15-20	○		
<i>Amelanchier arborea</i>	Downy Serviceberry	15-25/15-25	○		
<i>Amelanchier canadensis</i>	Serviceberry	25-30/15-20	●		
<i>Carpinus caroliniana</i>	American Hornbeam	20-35/20-35	●		
<i>Cornus florida</i>	Flowering Dogwood	15-30/15-30	●		
<i>Cornus kousa</i>	Kousa Dogwood	15-30/15-30	○		
<i>Cotinus obovatus</i>	American Smoketree	20-30/20-30	○		
<i>Cercis canadensis</i>	American Redbud	20/30/25-35	○		
<i>Chionanthus virginicus</i>	Fringetree	20-25/20-25	○		

<i>Crataegus spp. inermis</i>	Thornless Hawthorn	20-35/20-35	*		
<i>Franklinia alatamaha</i>	Franklin Tree	10-20/6/15	*		
<i>Halesia carolina</i>	Carolina Silverbell	30-40/20-35	○		
<i>Magnolia stellate</i>	Star Magnolia	15-20/10/15	○		
<i>Magnolia virginiana</i>	Sweetbay Magnolia	20-35/20-35	○	✓	
<i>Prunus virginiana</i>	Chokecherry	15-20/15-20	○		
<i>Malus spp.</i>	Crabapple	10-20/10-20	*		
<i>Prunus serrulata 'Kwanzan'</i>	Kwanzan Cherry	15-25/15-25	*		
<i>Oxydendrum arboreum</i>	Sourwood	20-50/10-25	* ○		
SCREENING & EVERGREEN TREES					
<i>Abies balsamea</i>	Balsam Fir	50-70/15-25	*		
<i>Cedrus deodara</i>	Deodara Cedar	30-50/30-40	*		
<i>Chamaecyparis thyoides</i>	Atlantic White Cedar	40-50/25-45	*	✓	
<i>Euonymus kiautschovicus 'Manhattan'</i>	Manhattan Euonymus	8-10/8-10	*		
<i>Ilex glabra</i>	Inkberry	5-8/5-8	* ○	✓	
<i>Ilex opaca</i>	American Holly	15-30/10-20	* ○		
<i>Ilex 'Nellie R. Stevens'</i>	Nellie R. Stevens Holly	15-20/8-12	* ○		
<i>Juniperus virginiana</i>	Eastern Red Cedar	30-60/10-25	*		
<i>Taxus canadensis</i>	Canada Yew	5-6/5-6	○ ●		
<i>Taxus x media cultivars</i>	Yew	2-20/2-12	○ ●		
<i>Tsuga canadensis</i>	Canadian Hemlock	40-70/25-35	○ ●		
SHRUBS					
<i>Amelanchier stolonifera</i>	Running Serviceberry	3-5/3-5	○		
<i>Callicarpa americana</i>	American Beautyberry	6-8/6-8	○		
<i>Calycanthus floridus</i>	Sweetshrub	6-8/6-8	○		
<i>Ceanothus americanus</i>	New Jersey Tea	2-3/2-3	*		
<i>Cephalanthus occidentalis</i>	Buttonbush	7-9/7-9	*	✓	
<i>Clethra anifolia</i>	Summersweet Clethra	4-6/4-6	○	✓	
<i>Cornus sericea</i>	Red-Osier Dogwood	8-10/8-10	○	✓	
<i>Fothergilla spp.</i>	Fothergilla	6-10/6-10	○		
<i>Hamamelis virginiana</i>	Witchhazel	10-20/10-20	○	✓	
<i>Hydrangea arborescens</i>	Smooth Hydrangea	4-6/4-6	○	✓	
<i>Hydrangea quercifolia</i>	Oakleaf Hydrangea	8-10/8-10	○		
<i>Hypericum spp.</i>	St. John's Wort	2-4/4-6	*		✓
<i>Itea verticillata</i>	Winterberry	8-10/8-10	○	✓	

<i>Itea virginica</i>	Virginia Sweetspire	6-8/6-8	●	✓	
<i>Leucothoe fontanesiana</i>	Leucothoe	2-3/2-3	●		
<i>Lindera benzoin</i>	Spicebush	6-12/6-12	●	✓	
<i>Mahonia aquifolium</i>	Oregon Grape Holly	3-6/2-5	●		
<i>Myrica pensylvanica</i>	Northern Bayberry	6-8/6-8	●	✓	
<i>Physocarpus opulifolius</i>	Eastern Ninebark	6-8/6-8	●		✓
<i>Potentilla fruticosa</i>	Cinquefoil	3-4/3-4	●		
<i>Rhododendron spp.</i>	Azalea, Rhododendron	variable	●		
<i>Rhus aromatic</i>	Fragrant sumac	6-8/6-8	*		✓
<i>Rosa palustris</i>	Swamp Rose	3-6/3-6	*	✓	
<i>Rosa virginiana</i>	Virginia Rose	4-6/4-6	*		
<i>Vaccinium corymbosum</i>	Highbush Blueberry	6-10/6-10	*	✓	
<i>Viburnum carlesii</i>	Spicebush	4-6/4-7	●		
<i>Viburnum dentatum</i>	Arrowwood	6-10/6-10	●		
<i>Viburnum lentago</i>	Nannyberry	14-16/6-12	●		
<i>Viburnum plicatum f. tomentosum</i>	Doublefile Viburnum	10-12/12/15	●		
<i>Viburnum prunifolium</i>	Blackhaw Viburnum	12-15/6/12	●		
VINES					
<i>Bignonia capreolata</i>	Crossvine	35-50/6-9	*	●	
<i>Campsis radicans</i>	Trumpet Creeper	25-40/5-10	*	●	
<i>Celastrus scandens</i>	American Bittersweet	15-20/3-6	*		
<i>Clematis spp.</i>	Clematis	6-10/4-10	*	●	
<i>Clematis virginiana</i>	Virgin's Bower, Woodbine	12-20/3-6	*	●	✓
<i>Hydrangea anomala subsp. petiolaris</i>	Climbing Hydrangea	30-50/5-6	*		
<i>Lonicera sempervirens</i>	Coral Honeysuckle	8-15/3-6	*		
<i>Parthenocissus quinquefolia</i>	Virginia Creeper	30-50/5-10	*	●	
<i>Passiflora incarnata</i>	Passion Flower	6-8/3-6	*	●	

*Sun, ●●Partial Sun, ●Shade



Landscape features play an important role in defining the character and function of the installation.

Planting and Open Space Guidelines

- ✓ **Plant selection must be in compliance with current AT/FP design criteria**
- ✓ **Design should contribute to the installation’s overall consistency, identity, and visual character**
- ✓ **Integrate with, and enhance the surrounding context**
- ✓ **Avoid noxious, exotic, and invasive plant species**
- ✓ **Plants should serve multiple functions including aesthetics, organization, shade, screening, climate control, and safety**
- ✓ **Create a visual edge for open space, walkways, courtyards, and streetscapes**
- ✓ **Complement historic buildings and viewsheds with appropriately-sized and maintained plant selections**
- ✓ **Implement LID and GI strategies including the reduction of maintenance and irrigation needs**
- ✓ **New buildings and building complexes should incorporate formal and informal open spaces to serve as transition zones from other uses (parking lots, streets, and undeveloped areas)**

STREET TREES

Street tree plantings offer multiple benefits to the community and the installation as well as enhance the natural and built environment, provide a continuous street edge, reduce heat island effects, reduce air pollution, facilitate stormwater filtration, increase property value, improve walkability, reduce traffic speed, and pedestrian safety. In order to have the maximum impact, plantings should consider a wide range of factors, including; street use, tree type, adjacent structures and vegetation, utilities placement, and other considerations. The Urban Forestry Administration is responsible for providing information related to tree planting and should be included in all levels of streetscape design and planning including street tree installation (Per DDOT Design and Engineering



Acer rubrum (Red Maple) is a common deciduous street tree selection that provides shade as well as fall color.

Manual). The following general guidelines serve to promote effective street tree use. Table 6-10 provides a summary of standard tree placement and spacing requirements to consider when planning streetscapes.

Table 6-10 Recommended Tree Spacing

SPACING (FT)	ADJACENCY
30 to 40	Typical spacing
50 (Max.)	Spacing
40 (Min.)	Distance from corner (point of intersection)
10 (Min.)	Distance from driveway or alley
12 (Min.)	Spread distance from adjacent building façade
10 (Min.)	Distance from fire hydrant
15 (Min.)	Distance from light pole (20 FT preferred)

Street Tree Guidelines

- ✓ **Street tree placement should be in accordance with DDOT Design and Engineering Manual Section 47**
- ✓ **Tree selection, placement, and management should respond to adjacent uses, consider the available space, and account for other functional and aesthetic factors specific to the street and site. Adjacent uses may include buildings, fences or walls, lighting (street and security), circulation routes, utilities, clear zones, and other potentially points of conflict**



Cercis canadensis (Eastern Redbud) is a popular small to medium flowering tree that is also a native and blooms in early spring.

- ☑ **Street trees should be placed in a straight line and a consistent distance from the street**
- ☑ **Refer to the IAP for a list of suitable street tree types, grate selection, tree protection, and planting guidelines**
- ☑ **Tree placement should be no less than 4 feet from the curb or protective barrier to be consistent with DDOT criteria**
- ☑ **Generally a 30- to 40-foot tree spacing is recommended where overhead utilities are not present, but not to exceed 50 feet under normal circumstances**
- ☑ **In the case of overhead utilities, a closer spacing is recommended, typically 20 to 25 feet**
- ☑ **Along residential streets, trees should be located between the sidewalk and the curb, or within specified planting areas, such as lawns or planting boxes**

GREEN ROOFS

Green roofs require careful planning and plant selection to be effective, cost efficient, and sustainable. Potential locations for green roofs are identified in the GI Plan and current energy audits, but final determination requires additional assessment of the roof structure, building orientation, as well as visual impacts to historic structures among other factors. Green roofs are encouraged and should be considered and evaluated on a case-by-case basis.

HARDSCAPE

Hardscape refers to the horizontal and vertical inanimate elements of landscape, including masonry, wood, and other man-made elements. Conversely, the softscape refers to the natural elements of the landscape, including plants, water, soil, and stone. Hardscape elements are used to reinforce the landscape, enhance outdoor use, create visual interest, and provide effective safety and security to a site or building.

Pavement & Pavers

Pavement or pavers should be applied to specified areas for a desired effect including walkways, crosswalks, courtyards, patios, and driveway aprons or other special hard surfaces. Placement and selection of these surfaces should reinforce the existing context and consider impacts to runoff, safety, security, circulation, and maintenance. Specific hardscape recommendations are identified in the IAP to enhance and restore the function and aesthetics of the installation, specifically in historic areas like the Main Post.

Walls & Fences

Walls and fences at MBW are an important element of the hardscape. As a vertical screen and boundary, these elements can be varied to provide a secured perimeter as well as contribute to the urban edge and reinforce the historic context. Proposed walls and fences should be located and sized for their particular function and incorporate higher quality materials and construction, particularly in high visibility areas such as main entrances, the installation boundary or areas in close proximity to neighboring residential uses. Hardscape elements such as walls and fences, when appropriately hardened, can provide a range of aesthetically pleasing and functional alternatives to support AT/FP requirements across the installation including access control points.

Arbors & Covered Walkways

Arbors and covered walkways serve as visual and functional hardscape elements. Arbors can be used to help define outdoor spaces and may serve as a landmark or other directional or design component. Covered walkways enhance the walkability of the site and can make architectural connections between major buildings and parking facilities. Other hardscape elements that contribute to the character and functionality of the landscape include fountains, monuments, seating and retaining walls, and bollards.

Hardscape Guidelines

- ☑ **Planning and design of hardscape should be in accordance with the IAP guidelines**
- ☑ **Hardscape solutions should enhance physical security whenever possible, including CPTED principles**
- ☑ **Where applicable, design of hardscape should comply with appropriate security standards, including MCO 5530.14A Physical Security Program Manual and UFC 4-022-01 Security Engineering: Entry Control Facilities/ Access Control Points**

- ✓ **Hardscape elements should be varied and contribute to the overall campus character through unifying and compatible use of concepts and materials**
- ✓ **Design should consider overall functionality, integration with existing features, open space use, hydrology, topography, prominent views, and historic and architecturally significant buildings**
- ✓ **Planning and design should be done in conjunction with the collective landscape (including softscape) by a qualified landscape architect**

PARKING & CIRCULATION

Trees used in parking areas, streetscapes, and pedestrian circulation design should be selected specifically to provide shade, promote safety, and offer low maintenance. Selected tree species should have deep root systems for stability and a high branching structure to accommodate circulation and avoid root interruption of streets, sidewalks, and other hard surfaces. Trees should provide adequate shade to reduce heat island effects and promote comfort and walkability. Avoid tree selections prone to limb breakage or excessive debris. Opportunities for introducing vegetation also occur in streetscape planning through planting strips, bioswales, medians or islands, curb extensions or bumpouts, and other design elements supported by Complete Streets. Tree placement and spacing recommendations are covered in the SES (Section 6.1.2).

AT/FP AND SECURITY CONSIDERATIONS

All site and landscape improvements must to adhere to the AT/FP Standards, and planners and designers should incorporate AT/FP design with other design elements throughout the site layout and landscape design process to ensure the required level of protection is both functional and attractive. The appropriate selection and application of various landscape components (including softscape and hardscape) can effectively mitigate the aesthetic impacts of force protection and security requirements in a natural or less obtrusive manner (see IAP). In many instances the varied and appropriate use of alternative barriers such as curbs, reinforced bollards, embedded concrete planters, decorative fencing, furniture, large trees, and dense plantings can be used to create a safe and attractive perimeter or access control point. The use of recycled and locally acquired materials may contribute to specific LEED® sustainable sites credits. Approaches must be implemented to meet specific construction standards, but should also be designed to adhere to the existing character of the installation and be compatible with the adjacent streetscapes and surrounding community.



Reinforced planters can provide aesthetic solution to site security.



Removable bollards provide flexibility for intermittent uses such as access points.

Landscape AT/FP and Security Guidelines

- ✓ **Site and landscape design solutions, including perimeter and points of access improvements, shall be designed to accommodate AT/FP and security requirements including applicable protection, visibility, and accessibility criteria, while also promoting a positive image to the surrounding communities**
- ✓ **Landscape elements, including walls and fences, should be incorporated as a deliberate and integral design element to achieve the installation’s security objectives and simultaneously establish a cohesive architectural identity for the USMC**
- ✓ **Standoff buffers should incorporate a variety of site and landscape treatments to help reduce maintenance and water use, as well as provide visual interest that helps integrate the installation within the surrounding community**
- ✓ **Landscape design should be incorporated as passive perimeter barriers where appropriate (such as reinforced fences and heavily reinforced retaining walls or bollards) to complement the installation character and mitigate the appearance of a “fortress”**
- ✓ **Placement of site furnishings or plantings should be done in a manner that enhances pedestrian and vehicular circulation and access while maintaining the observable unobstructed space around buildings**



7.0

Installation Development Program

7.1 PROGRAM SUMMARY

The proposed IDP for MBW includes a combination of new construction, renovation, and demolition projects that aim to address facility deficiencies and meet current and future mission requirements. Proposed actions include near-term (1 to 5 years) and long-term (up to 10 years) improvements. Projects have been developed to support MBW's vision statement, goals, and objectives for establishing functional, sustainable, and integrated facility solutions; address major planning issues; and meet known facility, infrastructure, and mission needs.

7.2 PROGRAM ELEMENTS

7.2.1 Key Planning Issues

Several key planning issues have been identified at MBW that are addressed in the following IDP. Table 7-1 aligns key facility planning issues with major facilities on the installation. The following is a summary of major installation planning issues and deficiencies.

Force Protection and Physical Security Compliance

MBW has multiple existing buildings that do not meet current AT/FP and security requirements, including site planning, architectural and structural design, and electrical and mechanical design criteria. Notable buildings impacted by AT/FP and security compliance are Buildings 8 and 9 at the Main Post and Building 20. Building perimeter studies have been prepared for Buildings 8 and 20 that provide an overall AT/FP compliance assessment and recommended measures to mitigate specific threats and vulnerabilities.

Life Safety Concerns

Life safety facility issues impacting MBW include insufficient fire protection systems, safe roof access, adequate ventilation, along with force protection and hazardous materials issues. Key impacted facilities include Buildings 7, 8, and 20.

Table 7-1 Key Issues and Facilities Matrix

AREA/ FACILITY	FORCE PROTECTION	LIFE SAFETY	BUILDING SYSTEMS	HAZARDOUS MATERIALS	SPACE OPTIMIZATION	INSTALLATION APPEARANCE
Main Post						
Building 7	No	X	X	X	X	X
Building 8	X	X	X	X	X	X
Building 9 ⁽²⁾	X	No	No	No	X	X
Officers Quarters	No	No	No	No	No	No
Building 20						
Building 20 ⁽¹⁾	X	X	X	TBD ¹	X	X
Annex						
Building 25	No	No	No	No	No	X
Building 26	No	No	No	No	No	X
WNY						
MCI	No	No	No	No	X	No
JBAB						
Transportation	No	No	No	No	No	No

Notes:

1. Building 20 has not had a comprehensive hazardous materials survey conducted on record. It is noted that material samples tested during recent renovations indicate that levels of asbestos and lead-based paint are within acceptable levels and do not require abatement or mitigation.
2. There is no Perimeter Study to evaluate AT/FP compliance of this facility. Based on its occupancy, location, and construction type, it is estimated the facility would have similar compliance issues as Building 8.

Building Systems Condition

Buildings 7, 8, and 20 have not been fully renovated in the last 35 to 50 years, resulting in most essential building systems being out of date, obsolete, and in need of full replacement. Primary systems impacted include electrical, plumbing, mechanical, security, communications, and security.

Hazardous Materials Presence

Given the age of some of the installation’s most prominent facilities, the presence of hazardous materials is both known and presumed likely in some cases. A Hazardous Building Materials Survey was developed for Building 8 (January 2013) in conjunction with the proposed renovation and modernization effort which identified the presence of hazardous materials in Buildings 7 and 8. Buildings 9 and 20 have not been evaluated for the presence of hazardous materials.

Space Optimization

More than 41 percent of the building footprint at MBW is over 100 years old and must be fully utilized to meet long-term needs. These larger structures (primarily Buildings 8 and 9) have had to evolve over the years to accommodate changes in mission, capacity shortfalls, and operational efficiency issues. These prominent structures will need continued attention in order to

adapt and retain their maximum utilization and meet changing needs.

Installation Appearance

As a smaller installation with 360 degree visibility to the general public and neighboring communities, maintaining a high quality appearance is a top priority for MBW planners. Areas which require visual improvements to enhance the overall appearance and bolster consistency across the installation have been identified in the IAP and are incorporated into the Master Plan. Specific areas of concern include MBW Annex (7th Street), Main Post entrance, 9th Street SE streetscape, Building 20 site and façade, and VIP Green.

KEY DEFICIENCIES

Building 8 (Command Post)

Constructed in 1902, Building 8 serves as the administrative headquarters for MBW and has not seen a major renovation since 1954. The facility is not compliant with current AT/FP requirements and, through years of miscellaneous adaptations, is no longer configured for optimal use as the installation Command Post. The existing structure and its support systems are obsolete and in need of full replacement and modernization to meet mission needs for no less than the next 50 years.



Years of modifications to Building 8 have led to compartmentalized, isolated, and inflexible use of the space.

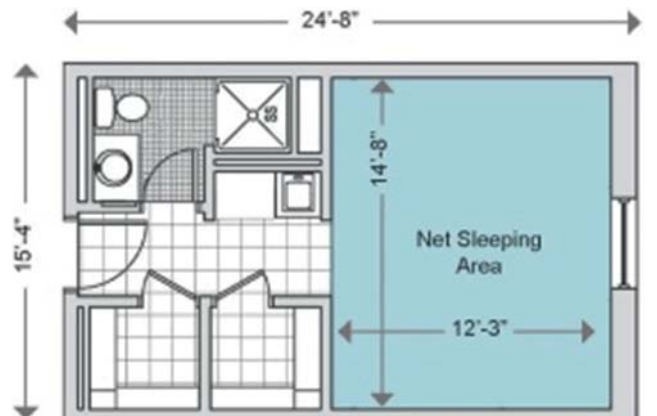
- » **Building 8 does not meet AT/FP requirements for progressive collapse, minimum standoff distance, unobstructed space, structural isolation, and air distribution**
- » **The existing windows are wood frame construction and do not meet current blast protection or safety requirements**
- » **Building 8 infrastructure and life safety systems do not meet current building code requirements**
- » **Building 8 lacks a fully functional fire suppression system**
- » **The facility does not provide spaces of adequate condition and configuration**
- » **Existing office spaces provide little to no flexibility or compatibility with modern administrative workspace functions**
- » **Narrow corridors and multiple partitions significantly limit organizational opportunities, flow, and flexibility throughout the facility**
- » **The facility is not ADA compliant**

Specific information on Building 8 deficiencies can be found in the following resources: Building 8 Space Optimization Plan, DD1391 for the Renovation and Modernization of Building 8 at MBW, and the MBW Building 8 Perimeter Study.

Building 20

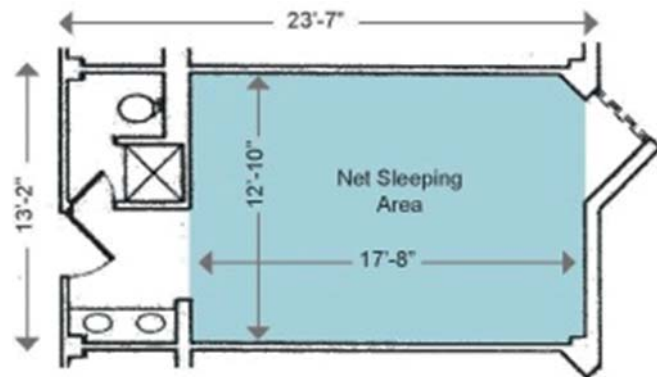
Building 20 serves as a combined BEQ, training, and support facility and has not undergone a comprehensive renovation since it was constructed in 1974. The facility

Figure 7-1 Existing vs. Standard 2+0 BEQ Module Comparison



Standard 2+0 BEQ Unit (388 GSF)

(Source: FC 4-721-10N)



Typical (Bldg. 20) 2+0 BEQ Unit (310 GSF)

(Source: Bldg 20 Asbuilt drawings)

Building 20 housing units are 25 percent smaller than the current standard.

requires multiple repairs, is out of date, and costly to maintain. It exhibits multiple deficiencies relating to force protection, minimum space requirements, QOL, life safety, sustainability, and energy efficiency and no longer meets the current needs of a BEQ. Additionally, existing BEQ rooms do not meet the Marine Corps standard room requirement. The typical BEQ room in Building 20 is 25 percent smaller than the standard BEQ 2+0 E1-E4 room layout (Figure 7-1). The new standard layout includes larger bathrooms, laundry accommodations, kitchenettes, and private closets. Furthermore, the existing site does not permit the cost-effective renovation or replacement-in-place of the same functions. Continued use would require extensive structural mitigation and blast protection (hardening); however, these measures would reduce the usable space on the interior of Building 20, resulting in either a reduced number of rooms to house Marines, or displacement of other functions to provide additional quarters in the building. To maintain its functions, Building 20 will



Building 20 is located just 13 feet from the adjacent Southeast Freeway on-ramp.

need to be replaced in proximity (walking distance) to the Main Post and MBW Annex facilities (see Appendix J). Some of the major deficiencies associated with Building 20 include:

- » **The existing facility does not meet minimum AT/FP CCSD and unobstructed space requirements to the surrounding roads and parking**
- » **Parking beneath the building is not compliant with AT/FP progressive collapse avoidance standards**
- » **Existing windows (and supporting structures) and exterior doors do not meet the standard air-blast loading requirement**
- » **Existing BEQ room configurations do not meet minimum berthing space requirements and are not readily adaptable for its continued use under the revised UFC for Navy and Marine Corps Unaccompanied Housing (FC 4-721-10N, 1 November 2012, Change 6, 20 May 2015)**
- » **The existing BEQ layout lacks residential quality bathrooms, lavatories, laundry facilities, and other QOL accommodations**
- » **The building lacks adequate fire protection systems, air intake, and other life safety requirements**
- » **The existing armory is undersized and non-compliant with current AT/FP requirements**
- » **Community service QOL deficiencies affect the gymnasium, basketball court, clubs, retail store, chaplain, and family readiness services**
- » **The existing facility lacks adequate rehearsal and training space for D&B**

Following the construction of the proposed BEQ Complex, and the relocation of the existing uses

in Building 20, optimal reuse of Building 20 or the Building 20 site is needed. Opportunities for DoD reuse of the site are limited due to the restrictive AT/FP setbacks for any primary gathering use. Additional analysis is needed to evaluate the best long-term reuse of either Building 20 or the Building 20 site (DoD, government, or otherwise).

Building 7

Building 7 was constructed in 1934 for personal vehicle storage to accommodate on-site Officers' quarters. The facility has not undergone a comprehensive renovation since its construction. While the garage function will remain, the current use of Building 7 represents a requirement misallocation due to the incompatible use of the second floor as a warehouse. The proposed Building 8 renovation includes the relocation of the current warehouse functions in Building 7 into Building 8. The future use for this space is to be administrative, which would consolidate the Marine Aide Program into a single location adjacent to Building 12 (kitchen). This would require reconfiguration of the space to accommodate the proposed use. Additionally, the existing space requires life safety and structural upgrades for conversion into a usable administrative space. Notable facility deficiencies include:

- » **Upper floor space is not configured or finished appropriately to serve proposed administrative functions**
- » **The facility contains obsolete electrical and communication systems**
- » **The facility lacks a fully functional fire suppression system**

Building 9

The future reuse of Building 9 will be significantly impacted by the relocation of D&B functions to the replacement BEQ Complex at the Annex. While the facility was renovated in 2006, Building 9 is a century old facility and specific deficiencies and potential reuse alternatives have not yet been sufficiently evaluated. Recommended follow-on actions pertaining to Building 9 have been identified in Section 7.3.1 (Project Implementation) later in this Chapter to provide relevant information necessary to evaluate future reuse alternatives and potential facility repairs improvements, including AT/FP, security, space planning, and hazardous materials abatement.

Annex

Annex facilities and site improvements were completed in 2006, and they are in good condition and comply with AT/FP requirements. However, multiple appear-



Main pedestrian entrance at the Annex lacks character and branding.

ance upgrades are needed to the grounds to provide the Annex site a similar level of quality and consistency with that of the Main Post. Pending reconstruction of the Virginia Avenue Tunnel will further displace existing perimeter facilities requiring their replacement. This provides an opportunity for MBW to make needed changes to the main entry sequence along 7th Street SE. The following are some of the key site and appearance-related deficiencies at the MBW Annex main entry:

- » **There is a lack of positive public image (branding) and adequate signage at the northwest and northeast corners**
- » **Pedestrian access is undistinguished, misaligned, and does not provide welcoming public accessibility to Building 25 during special events**
- » **Continuous perimeter fencing and large open AT/FP setbacks isolate the existing buildings and lend to the appearance of a secured compound in contrast to the surrounding urban development pattern**
- » **Public access to the multi-purpose recreation field is inconsistent and indirect**

VIP Green Parking Area

The VIP Green parking area is located within the Southeast Freeway underpass at 7th Street SE, between the MBW Annex and Main Post sites. The DC-owned site serves as additional parking for special events (approximately 50 spaces), and as a surplus storage site. The location is envisioned as an integrated campus element, and is currently lacking essential character-defining design and required maintenance. Key deficiencies at VIP Green include:

- » **Dilapidated chain link fencing that is inconsistent with the quality and character of the overall installation**
- » **The site lacks minimal landscaping and grounds treatment**
- » **Concrete curbing is dilapidated and needs replacement**



Special pavement at Building 8 lacks consistency with surrounding uses.

- » **Paved areas are in need of resurfacing and marking**
- » **Directional wayfinding and branding signage is insufficient or lacking between the Main Post and VIP Green**
- » **Lighting is both inadequate and un-welcoming for evening use**

Multiple Installation Appearance Deficiencies

Various aspects of the installation require specific attention to be brought up to standards identified in the IAP, and to address other safety or security purposes. The following deficiencies should be addressed as time and funding permit:

- » **The parking area north of Building 9 is visible from the street, inconsistent with the established quality and character of the Main Post, and contributes to heat retention**
- » **The Main Post entrance pavement is aesthetically compatible, but presents an uneven surface and potential tripping hazard requiring work-arounds during public events**
- » **Viewing stands at the Main Post are semi-permanent, unsightly, and require relocation twice a year to avoid negative visual impacts**
- » **Building 7 façade (including garage doors) and adjacent hardscape (apron) do not exhibit the historic character of the Main Post**
- » **Special asphalt sidewalk pavement at the intersection of 9th and I Streets SE is not consistent with the surrounding context**
- » **Landscaping around Buildings 8 and 9 is within the unobstructed space for AT/FP purposes**
- » **There is a general lack of coordinated signage to identify building entrances and direct public circulation during special events**
- » **I Street streetscape lacks consistency, wayfinding elements, and adequate street furnishing**

Table 7-2 Current Assets Versus Requirements (GSF)

CCN	DESCRIPTION	BFR	FACILITY CONDITION			CURRENT ASSETS	CURRENT SURPLUS/ DEFICIT	
			ADEQ	IADQ	SUBST			
14345	Armory	3,525	0	2,772	0	2,772	-753	Deficit
17120	Applied Instruction	78,621	97,105	0	0	97,105	18,484	Surplus
21910	Public Works Shop	10,051	9,201	0	0	9,201	-850	Deficit
42135	Ready Magazine	1,160	1,160	0	0	1,160	0	NA
44110	General Warehouse	1,475	2,086	0	0	2,086	611	Surplus
61010	Administrative	33,588	32,384	26,203	0	58,587	24,999	Surplus
71143	Married Officers Qtrs. (O6 pre 1950)	0	6,140	0	0	6,140	6,140	Surplus
71144	Married Officers Qtrs. (O7-O10 pre 1950)	0	35,261	0	0	35,261	35,261	Surplus
71477	Detached Housing Storage (Qtrs. 6 shed)	0	144	0	0	144	144	Surplus
72112	BEQ E5/E6 (MC E5 Only)	0	0	1,968	0	1,968	1,968	Surplus
72124	BEQ - Marine E1-E4	151,233	82,264	60,582	0	142,846	-8,387	Deficit
72210	Enlisted Dining Facility	14,520	0	5,034	0	5,034	-6,486	Deficit
72241	Dining Facility Detached - Commissioned Personnel (Bldg 12)	0	816	0	0	816	816	Surplus
72340	Garage, Detached (Bldg 7/lower level)	0	2,016	0	0	2,016	2,016	Surplus
72412	BOQ Transient W3-W5 & O3	2,893	2,900	0	0	2,900	7	Surplus
73020	Security Building	600	543	0	0	543	-57	Deficit
73025	Gate/Sentry House	348	348	0	0	348	0	NA
73035	Locker Room	1,415	2,240	0	0	2,240	825	Surplus
74002	Location Exchange	3,700	3,700	0	0	3,700	0	NA
74009	Exchange Service Outlet	310	310	0	0	310	0	NA
74044	Indoor Physical Fitness Center	14,350	12,350	16,455	0	28,805	14,455	Surplus
74054	Military Recreation Center	2,000	1,932	0	0	1,932	-68	Deficit
74064	Enlisted Club	0	0	7,556	0	7,556	7,556	Surplus
74060	Commissioned Officers Club	1,790	1,790	0	0	1,790	0	NA
74067	Non-Commissioned Officers Club	0	0	0	0	0	0	NA
74078	Recreation Pavilion	1,222	1,222	0	0	1,222	0	NA
82610	Refrigeration/AC Plant Building	0	1,650	0	0	1,650	1,650	Surplus
85310	Parking Building	177,605	87,812	102,027	0	189,839	12,234	Surplus
	Totals	500,407	385,374	222,597	0	607,971	107,564	Surplus

Current Analysis

Requirement does not exist at MBW, facility will remain	Less Adjustment	46,027
Requirement will be removed from BFR	Less Adjustment	9,524
Major Surplus	Net (Current) Surplus	52,013
Major Deficit		
Proposed Development Action		

Notes: Requirements (BFR) data provided for Type 2 facilities at MBW and does not include off-Post functions or facilities (MCI and MBW Transportation Element). Adequate (ADEQ), Inadequate (IADQ), Substandard (SUBST).

Table 7-3 Future Surplus and Deficit Analysis (GSF)

CCN	DEMO BLDG 20	REPLACE BEQ	FUTURE ASSETS	FUTURE SURPLUS/ DEFICIT	
14345	-2,772	3,500	3,500	-25	Deficit
17120		19,106	116,213	37,590	Surplus
21910			9,201	-850	Deficit
42135			1,160	0	NA
44110			2,086	611	Surplus
61010	-26,203	9,700	42,084	8,496	Surplus
71143			6,140	6,140	Surplus
71144			35,261	35,261	Surplus
71477			144	144	Surplus
72112	-1,968	No future requirement			
72124	-60,582	67,274	149,538	-1,695	Deficit
72210	-5,034	14,521	14,521	0	NA
72241			816	816	Surplus
72340			2,016	2,016	Surplus
72412			2,900	7	Surplus
73020			543	-57	Deficit
73025			348	0	NA
73035			2,240	825	Surplus
74002			3,700	0	NA
74009			310	0	NA
74044	-16,455	2,000	14,350	0	NA
74054			1,932	-68	Deficit
74064	-7,556	No future requirement			
74060			1,790	0	NA
74067		No future requirement			
74078			1,222	0	NA
82610			1,650	1,650	Surplus
85310	-102,027	75,304	163,116	-14,489	Deficit
	-222,597	191,405		76,372	Surplus

Future Analysis

Less Adjustment	46,027
Less Adjustment	0
Net (Future) Surplus	30,345

- » **The Building 20 façade lacks both welcoming and visible signage as well as an engaging streetscape**
- » **The parade ground requires extensive maintenance, including trimming, fertilizer, herbicides, and watering**
- » **The MBW Annex garage (Building 26) massing is inconsistent with the scale and massing of the neighboring uses**
- » **Paved surfaces (entrances) at the Annex lack distinction and contribute to the impervious surface and stormwater runoff**
- » **Sidewalks and pedestrian hardscape surfaces are disconnected and lack organization and a cohesive sense of direction**
- » **Landscaping at the Annex lacks a coordinated and consistent approach that defines entrance points, enhances appearance, and contributes to the overall sustainability**

7.2.2 Requirements Analysis

FACILITY SUMMARY

A description of requirements prior to proposed actions compares current assets to future requirements based on updated AE and BFR data (prepared by NAVFAC Washington; Appendix G), and is summarized in Table 7-2. The current net surplus is 52,013 square feet. When arriving at this condition, it's important to note that there are six facility classifications (assets) which do not have a requirement at MBW (CCNs 71143, 71144, 71477, 72241, 72340, and 82610). These assets are shown in light blue in Table 7-2, and are deducted from the net surplus/deficit calculation to get a clear picture of assets versus deficits. There are also two assets whose requirement will no longer be assigned to MBW following the demolition of Building 20. These assets (CCNs 72112 and 74064) have no corresponding future requirement and have also been deducted from the net surplus/deficit calculation.

Table 7-3 is a continuation of requirement analysis and shows the future assets against the future requirements and identifies key surplus and deficit areas. This analysis considers the proposed actions, including construction of the replacement BEQ Complex (191,406 SF), and demolition of Building 20 (222,597 SF). The total future MBW assets are projected to be 576,780 SF, which is an overall reduction of 31,191 SF (an approximate 5 percent decrease) from current assets of 607,971 SF. Subtracting those assets without a requirement at MBW yields a true net change. The result is a future net surplus of 30,345 SF. An explanation of major surplus and deficit amounts is provided below.



Building 9 is proposed to have the greatest future surplus space and will need to be repurposed following the relocation of D&B.

PARKING FACILITY REQUIREMENTS

Structured vehicle parking space requirements are summarized at the bottom of Tables 7-2 and 7-3 (CCN 85310). The facility requirement (GSF) for a structured parking area is developed from the number of spaces required and shown in Table 7-4. The number of spaces is derived from the total population (Chapter 3), and considers both residential and commuter loading. Parking allowances for each category are based on their respective criteria (Enlisted housing, administrative, etc.). Residential space allowances are based on UFC 4-721-10 (1 November 2012, Change 6, 20 May 2015) for BEQs and provide for 70 percent of residents to be permitted a space, accounting for the majority of required parking at MBW. Criteria for commuter space requirements are based on the NCPC allowance ratio of one space per four employees (1:4 ratio).

KEY SPACE SURPLUSES

Requirement analysis identifies four key categories with notable surpluses, Applied Instruction (CCN 17120), Administration (CCN 61010), Locker Rooms (CCN 73035), and General Warehouse space (CCN 44110).

The projected future surplus for Applied Instruction is 37,590 square feet. This result is primarily due to the D&B relocation from Building 9 to a new facility. The approximate space currently occupied by D&B in Building 9 is 34,000 square feet, including the large performance/rehearsal hall and lobby area. A space utilization study has not been developed for Building 9 to establish the best long-term reuse for the facility; however, future administrative uses are one likely consideration.

Table 7-4 Structured Parking Space Requirements

PARKING TYPE	POPULATION	MAXIMUM REQUIREMENT	MAXIMUM PARKING SPACE ALLOCATION	FUTURE ASSETS*	PERCENT/RATIO ACHIEVED
Residential	500	70%	350	350	70%
Residential (SOQ)***	5	100%	10**	8	80%
Commuter (MBW)	641	1:4	160	150	1:4.27 ratio
Commuter (Other)	140	N/A	0	0	N/A
Total	1,286		520	508	

*Future parking assets do not include the government vehicle lot (26 spaces) at Main Post north of Building 9. Future assets match existing (8) detached spaces in Bldg. 7.

**Assumption of 2 PN per SOQs (1,2,3,4 and 6) including dependents, for a total allocation of 10 spaces.

***Parking requirement for SOQs is calculated at 100%. 80% is achieved through current assets (8 spaces) available in Bldg. 7.

DC Comprehensive Plan maximum ratio of one parking space to be met for every four employees (1:4) within the historic boundaries of DC.

Commuter (other) population refers to MBW assigned personnel (estimated 140 PN) who report to other locations and do not have a parking requirement at MBW.



Public Works shop located in the basement of Building 8 does not meet projected requirements.

Administrative surplus is projected at 8,496 square feet. The majority of existing administrative space (beyond the replacement BEQ) lies within Building 8 (32,143 square feet). The facility is an older, inefficient structure and the surplus space is most likely a result of poor space utilization of this facility. The proposed renovation and modernization of Building 8 will address a major portion of this surplus in the future.

The Locker Rooms show a surplus of 825 square feet. This surplus is relatively small, but significant as a percentage of the requirement (1,415 square feet). The surplus is likely due to the larger separate shower facilities reflected in the current assets, but not included in the future requirements.

General Warehouse space shows a surplus of 611 square feet. This is determined to be an accurate reflection of the proposed condition. The existing function is located in Building 7 and utilizes the full space. The renovation of Building 8 is proposed to relocate this function adjacent to compatible S4 Logistics space in the neighboring Command Post building. This move would correct this surplus.

KEY SPACE DEFICITS

Requirement analysis identifies two key categories with notable deficits, Public Works Shop (CCN 21910), and Parking Building (CCN 85310).

The projected deficit for the Public Works Shop is 850 square feet. This is seen as an accurate reflection



Building 20 parking garage.

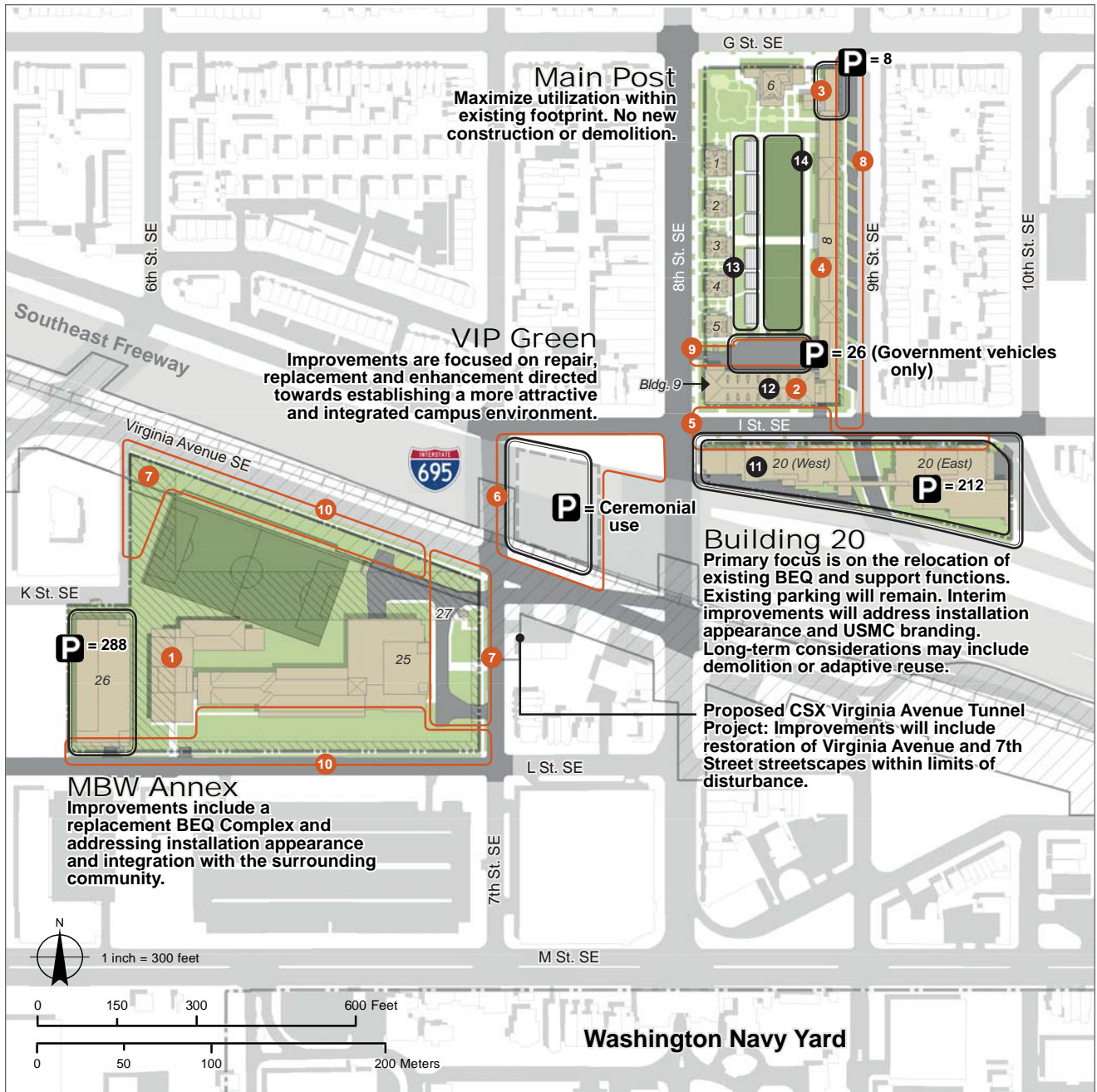
of the lack of adequate shop space for Public Works, and is due largely to the lack of available space in the basement of Building 8, where the shops are located. Previous analysis evaluated the option to increase the depth of the basement to provide vertical storage and accommodate for a portion of the shortfall in floor space. There are no current projects to address this deficit.

The Parking Building is shown to have a deficit of 14,489 square feet. The appearance of a deficit in available parking does not accurately reflect the current or proposed condition. Further analysis shows inefficient use of space in the parking garage in Building 20. This is partially due to some spaces being diverted for other uses (i.e., storage) and an overall inefficient layout. Analysis also shows an average of 480 square feet per parking space in Building 20. This is significantly higher than the 355 square feet required by UFC. More importantly, the number of structured parking spaces at MBW is not proposed to increase or decrease from the existing 500 spaces. The proposed assets are consistent with the NCPIC recommended parking standard for a 1:4 ratio of spaces for commuting personnel (Table 7-4).

7.3 PROGRAM DEVELOPMENT

Projected near and long-term development and improvements for MBW have been identified to address key planning issues such as AT/FP, life safety, building systems, hazardous materials, space optimization, and appearance. Proposed actions are identified in Table 7-5 and keyed to approximate locations in Figure 7-2. Projects have been developed to guide future development through MILCON; FSRM; and other means. Proposed actions collectively reinforce the preferred future end state consistent with the installation's planning vision and goals. Table 7-6 illustrates the relationship of proposed projects with the installation planning goals identified in Chapter 2. Improvements also support the 10 comprehensive planning strategies

Figure 7-2 Project Development



Legend

- Installation Boundary
- Historic Streets ROW
- CSX Limits of Disturbance
- Near-Term Project
- Long-Term Project
- Parking Zone /Quantity

Table 7-5 Projects List

PROJ NO.	MAP ID	PROJ NAME	BRIEF DESCRIPTION	DATE	FUND SOURCE	COST (\$000)
NEAR-TERM PROJECTS (1-5 YEARS)						
P516-B	1	MBW BEQ and Support Facility	Construct new BEQ Complex/ Bldg. 20 replacement	FY19**	MILCON	Content Intentionally omitted
TBD	2	Move Communications Hub from Bldg. 8 to Bldg. 9	Construct deliberate space for current and future communications needs in a secure space for long term use	FY15 Design, FY16 Construction	FSRM	Content Intentionally omitted
TBD	3	Bldg. 7 Repair and Modernization	Convert 2nd floor warehouse to administrative use to consolidate MAP, includes life-safety and structural upgrades	TBD	FSRM	TBD
TBD	4	Bldg. 8 Repair and Modernization	Repair & Modernization Of MBW Command Post, Bldg. 8, Washington DC	FY16-18	FSRM	Content Intentionally omitted
TBD	5	(IAP) Various Upgrades to Bldg. 20 and I St.	Incorporate various streetscape and signage improvements at Bldg. 20 and along I St.	TBD	FSRM	TBD
TBD	6	(IAP) Multiple Upgrades to VIP Green	Improve overall appearance and function of VIP Green to be consistent with installation standards	TBD	FSRM	TBD
TBD	7	(IAP) Multiple Upgrades to Pedestrian Entry, 7th St. and Virginia Avenue	Upgrade Annex main gate, 7th St. and Virginia Avenue signage, pavement, and fencing	FY16	FSRM & OTHER*	Content Intentionally omitted
TBD	8	(IAP) Multiple Upgrades to 9th St.	Address incompatible, unsightly pavement and landscape	TBD	FSRM	TBD
TBD	9	(IAP) Multiple Main Post Entry and Parking Area	Enhance appearance and safety of existing hardscape areas at Main Post	TBD	FSRM	TBD
TBD	10	(IAP) Multiple Upgrades to Annex Site	Upgrades to address limited landscaping, lack of USMC branding, and AT/FP features at Annex	TBD	FSRM	TBD
LONG-TERM PROJECTS (6-10 YEARS)						
TBD	11	Bldg. 20 Demolition or Reuse	TBD	FY20 or later	FSRM & MILCON	TBD
TBD	12	Bldg. 9 Renovation	Renovation to support repurpose of facility following relocation of D&B	FY20 or later	FSRM & MILCON	TBD
TBD	13	(IAP) Upgrades to Main Post Viewing Stands	Construct permanent viewing stands at Main Post to replace unsightly relocatable units	FY20 or later	FSRM	TBD
TBD	14	(IAP) Replace Parade Ground Turf	Replace parade ground lawn with artificial turf (requires further study)	FY20 or later	FSRM	TBD

Notes: *Project to be funded through a joint agreement with USMC and CSX in conjunction with Virginia Avenue Tunnel Improvements. Dates, funding source, and cost are estimated and should be validated with current project information.

Table 7-6 Near-Term Project Phasing

PROJECT NUMBER	MAP ID	PROJECT NAME	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
			Q-1	Q-2	Q-3	Q-4	Q-1	Q-2	Q-3	Q-4	Q-1	Q-2	Q-3	Q-4	Q-1	Q-2	Q-3	Q-4	Q-1	Q-2	Q-3	Q-4
MILCON																						
P516-B	1	MBW BEQ and Support Facility																				
Renovation & Modernization																						
TBD	2	Move Communications Hub from Bldg. 8 to Bldg. 9																				
TBD	3	Bldg. 7 Repair and Modernization																				
TBD	4	Bldg. 8 Repair and Modernization																				
Various Projects	5	Miscellaneous Space Optimization																				
Installation Appearance																						
TBD	6	(IAP) Various Upgrades to Bldg. 20 and I St.																				
TBD	7	(IAP) Multiple Upgrades to VIP Green																				
TBD	8	(IAP) Multiple Upgrades to Pedestrian Entry, 7th St. and Virginia Avenue*																				
TBD	9	(IAP) Multiple Upgrades to 9th St.																				
TBD	10	(IAP) Multiple Main Post Entry and Parking Area																				
TBD	11	(IAP) Multiple Upgrades to Annex Site																				

Notes: *Project to be funded through a joint agreement with USMC and CSX in conjunction with Virginia Avenue Tunnel Improvements. Dates are estimated and should be validated with current project information. Project phasing only includes near-term programmed projects (1-5 years).

(Chapter 2), encourage sustainable development, and promote overall mission readiness.

The EIS analyzed the impacts of the proposed new construction project to relocate the inadequate BEQ and support facilities currently residing in Building 20. The project also consolidates D&B functions currently at Building 9. The resulting disposition of Building 20 has not been confirmed, and may include demolition or repurposing for low occupancy DoD uses or other private or public uses. The primary objective for major renovations is focused on recapitalizing on existing facilities (Buildings 7, 8, and 9) by improving space utilization and correcting multiple life-safety and force protection issues. Several key projects are targeted at enhancing overall installation appearance and ensuring continuity across the multiple sites and integration with the surrounding community.

7.3.1 Project Implementation

Near-Term projects

The following section provides summary descriptions of near-term projects and an accompanying implementation timeline (Table 7-6) that reflects proposed phasing over a five-year period. Table 7-8 illustrates the relationship between proposed actions and the installation planning goals.

MBW BEQ and Support Facility, P516-B

The existing BEQ at Building 20 does not meet current AT/FP standards (UFC 4-010-01, 9 February 2012) or the required minimum Marine Corps 2+0 standard room sizes (FC-4-721-10N, 1 November 2012, Change 6, 20 May 2015) and will be replaced through new construction at the MBW Annex. P516-B will construct a replacement BEQ Complex to include enlisted housing and other support functions including a dining hall and fitness center for MBW's active-duty military population (Table 7-7). The project will address key require-



Concept rendering illustrating the maximum 90 foot height of the of the proposed replacement BEQ Complex at the MBW Annex (view from L Street SE).



Notional siting for the replacement BEQ Complex at the MBW Annex provides infill development between the existing BEQ and parking structure.

ments including safe and adequate facilities to house approximately 250 unaccompanied enlisted Marines of Companies Alpha and Bravo serving at MBW. In addition, rehearsal and applied training facilities are required for the D&B currently located at the Main Post (Building 9). New construction will be located at the MBW Annex and retain the existing below-grade parking at Building 20.

Table 7-7 Replacement BEQ Complex Facility Requirements

CCN	FUNCTION	AREA (SF)	AREA (SM)
14345	Armory	3,500	325
17120	Applied Instruction	19,106	1,775
61010	Administrative	9,700	901
72124	BEQ - Marine E1-E4	67,274	6,250
72210	Enlisted Dining Facility	14,521	1,349
74044	Indoor Physical Fitness Center	2,000	186
85310	Parking Building	75,304	6,996
Total Building Area		191,405	17,782

Proposed development includes a 7- to 8-story mixed-use infill complex with its main entrance along L Street SE sited between the existing USMC Band/BEQ facility and the parking garage. Building placement and height will be consistent with the Regulating Plan, local zoning, and meet all current AT/FP and security requirements as proposed. Massing and architectural style of the planned facility should reflect the scale and character of the surrounding community and contribute to the consistency of the installation’s well-established campus identity.

The proposed development will also create logical and integrated pedestrian connections including an enclosed connector to the adjacent BEQ (Building 25) and a welcoming public entrance facing L Street. Development will not interfere with the multi-purpose recreation field and will relocate the existing basketball facilities to an alternate location at the MBW Annex. In response to the compact nature of the proposed development and the limited retention space, SWM techniques such as green roofs and permeable pavement



Concept rendering showing the proposed infill development of the replacement BEQ Complex (P516-B) at the MBW Annex.

are deemed to be most appropriate. Actual systems used in design and construction may vary depending on a range of factors identified during the detailed design phase of the project.

The proposed Annex site cannot support the parking requirement of 212 spaces, which will remain at Building 20. Additional follow-on analysis is needed to evaluate the best long-term use of Building 20 and associated site, beyond retained parking.

Move Communications Hub from Building 8 to Building 9

The relocation of the communications hub from Building 8 to space in Building 9 promotes the optimal sizing and placement of this function to support long-term operations. The project needs to be completed prior to the commencement of the Building 8 Repair and Modernization project.

Building 7 Repair and Modernization

This project renovates the second floor of the privately owned vehicle (POV) garage/warehouse (Building 7). Improvements will convert the current S4 Logistics warehouse space to accommodate administrative use for the relocation of the Marine Aide Program from Building 8, which is a more appropriate use for this space. The project provides needed structural as well as building system improvements, including fire suppression, electric, HVAC, communication, and AT/FP window and door upgrades. The space also requires



Renovation of Building 7 (upper floor) will include the conversion of the existing warehouse space to administrative use.

access improvements and a full interior renovation compatible with modern administrative functions.

Building 8 Repair and Modernization

The repair and modernization of the Command Post (Building 8) at MBW provides a complete overhaul of the facility's interior and addresses a multitude of much needed functional and operational deficiencies. No exterior modifications are proposed.

The project replaces all essential building infrastructure systems as they are obsolete, inefficient, and have reached or exceeded their useful life. This includes the removal and replacement of all essential building systems, including plumbing, electric, communications, mechanical, and security, as well as all fire detection and suppression systems. The project disconnects Building 8 from the existing heating and cooling plant in Building 20 and incorporates a self-contained high-efficiency HVAC system. Upgrades include AT/FP improvements to be compliant with Design of Buildings to Resist Progressive Collapse (UFC 4-023-03) and stand-off distance requirements. Other improvements include bringing the facility into ADA compliance, including a centrally located four-stop elevator and at grade access improvements.

Proposed efforts will preserve existing historic building aspects, including historic stairwells, glazed brick wainscoting, three fireplaces (non-functional), and original tile flooring on the first floor. The renovation also provides improved efficiencies to accommodate future tenants: S6 Communications, medical, and S4 warehouse functions. Structurally, the renovation removes and replaces all non-original and non-load bearing walls, and replaces all windows with blast-rated period specific components, including doors facing 9th Street SE. Additionally, improvements include the restoration of the second floor breezeway connector to Building 9.

(IAP) Various Upgrades to Building 20 and I Street Streetscape

Upgrades to Building 20 and surrounding grounds include primarily signage and streetscape improvements to provide a public edge that is coordinated and consistent with the surrounding context. Improvements will incorporate a compatible signage theme that ties in with the MBW campus as a whole, implement a consistent USMC branding image, and provide context-sensitive solutions to AT/FP barriers that replace the existing concrete planter solution. Refer to the IAP for detailed project description.

(IAP) Multiple Upgrades to Ceremonial Parking Area/VIP Green

VIP Green serves an integral function to MBW's ceremonial mission as it provides an essential parking resource for frequent events held at the Main Post, including the Friday Evening Parades. It is a visual extension of the MBW campus and functional stepping stone connecting the Main Post with the Annex. Improvements will include enhancements to the appearance of the existing parking area and associated fencing, sidewalks, signage, and lighting to help integrate the site into the overall



Building 20's barren streetscape is the focus of a near-term installation improvement project to introduce pedestrian scale design elements and signage.



IAP improvements include consistent treatment of fencing, pavement, signage, landscape, and other design elements at the VIP Green that enhance campus continuity.

MBW campus. Improvements will require an agreement with DC Department of Public Works Parking Enforcement to formally permit the continued care and improvement of this non-Marine Corps-owned site. Refer to the IAP for detailed project description.



Installation appearance upgrades to Building 7 and 9th Street includes upgraded windows and doors along with context sensitive site improvements.

(IAP) Multiple Upgrades to Pedestrian Entry, 7th Street, and Virginia Avenue

Upgrades to the Annex main gate facilities are designed to enhance the “sense of arrival” and overall “public perception” for installation personnel and guests. Upgrades include a new central pedestrian gateway experience that incorporates an appropriately scaled and located main entrance that is welcoming, utilizes Marine Corps branding, and is responsive both functionally and aesthetically to the surrounding uses. Other improvements include special fencing and improved landscaping that incorporates sustainable and AT/FP-compliant strategies that reinforce the urban edge. Signage improvements will introduce an identifiable image and a welcoming approach from the Southeast Freeway (I-695), Virginia Avenue, and 7th Street that echo the character and branding of the Main Post, and helps create a cohesive visual campus connection. Proposed signage locations include the northeast and northwest corners of the Annex. Project funding and execution is proposed to be completed through an agreement for services in-kind associated with the CSX Virginia Avenue Tunnel Expansion Project. Refer to the IAP for detailed project description.

(IAP) Multiple Upgrades to 9th Street Streetscape

Proposed improvements include hardscape restoration of two key areas along 9th Street SE. The existing concrete apron fronting Building 7, and asphalt sidewalk area at the intersection of I Street, will be replaced



Near-term improvements at MBW Annex include much needed identifying signage and landscaping at the northwest corner of the Annex along Virginia Avenue for travelers exiting the Southeast Freeway.

with a context sensitive (residential) streetscape solution that incorporates common materials and design elements. Refer to the IAP for detailed project description.

(IAP) Upgrades to Main Post Entry and Parking Area

The Main Post entrance hardscape will be replaced with compatible materials that are both visually cohesive and address ADA standards. This project also addresses the interior parking area north of Building 9, including the replacement of the existing asphalt pavement with a paver surface that is both consistent with the main entry, and also complements the historic context in both color and design. Refer to the IAP for detailed project description.

(IAP) Multiple Upgrades to Annex Site

A number of improvements are proposed at the Annex to enhance the appearance, sustainability, and functionality of the main entry, circulation, open space, and hardscape. Upgrades will include enhancements to the existing sidewalk systems and address current gaps and misaligned routes. Lighting will be improved to reinforce a consistent standard and appropriate style, size, and location of lighting components that enhances safety, circulation, and public perception. Landscaping improvements include sustainable solutions that minimize maintenance, add scale and diversity, provide site organization and structure, and enhance pedestrian circulation. Additionally, hardscape improvements

Table 7-8 Project/Goal Relationship Matrix

	ENHANCE MISSION CAPABILITY	FOSTER INTEGRATED COMMUNITIES	DEVELOP SUSTAINABLE FACILITIES	OPTIMIZE FUNCTIONALITY	PROMOTE PEDESTRIAN-FRIENDLY CAMPUS
PROJECT	GOAL-1	GOAL-2	GOAL-3	GOAL-4	GOAL-5
MBW BEQ and Support Facility	X	X	X	X	X
Move Communications Hub from Bldg 8 to Bldg. 9	X			X	
Bldg. 7 Repair and Modernization	X		X	X	
Bldg. 8 Repair and Modernization	X		X	X	
Misc. Space Optimization	X		X	X	
(IAP) Various Upgrades to Bldg. 20 and I St.		X	X	X	X
(IAP) Multiple Upgrades to VIP Green	X	X	X	X	X
(IAP) Multiple Upgrades to Pedestrian Entry, 7th St. and Virginia Avenue	X	X		X	X
(IAP) Multiple Upgrades to 9th St.		X	X		X
(IAP) Multiple Main Post Entry and Parking Area		X	X	X	X
(IAP) Multiple Upgrades to Annex Site	X		X		X
Bldg. 20 Demolition or Reuse	TBD	TBD	TBD	TBD	TBD
Bldg. 9 Renovation	X		X	X	
(IAP) Upgrades to Main Post Viewing Stands		X	X	X	X
(IAP) Replace Parade Ground Turf	X		X	X	

Note: Future disposition of Building 20 (demolition or reuse) is to be determined (TBD).

are proposed at the Annex to address large, relatively low-use paved areas that will enhance overall appearance, reduce stormwater runoff, and lower heat island affects. Refer to the IAP for detailed project description.

LONG-TERM PROJECTS

Building 20 Demolition or Reuse

The final disposition for Building 20 has not been fully evaluated at this time. A follow-on study is needed to identify alternatives for Building 20 reuse and to inform the selection of the best course of action. It is determined that full reuse of the site by the Marine Corps as an inhabited building is not practical or cost effective due to limiting AT/FP setback requirements and the space needed for structural reinforcement and hardening. Additionally, alternatives must accommodate the continued long-term use of the existing below-grade parking at Building 20 by USMC. Options under consideration include partial reuse of the existing facility by DoD for non-occupied uses; use by another government agency or public/private group that is not constrained by DoD AT/FP setback requirements; and demolition

and redevelopment of the site for potential reuse, including limited DoD uses, public or private uses, as well as shared-use opportunities. As referenced in the EIS, the following would be compatible future land use options for the Building 20 site: commercial along 8th Street, high-density residential, public services, and open space.

Building 9 Repair and Modernization

Consistent with MBW’s long-term goal and objective to optimize functionality and collocate functions, Building 9 will be converted to primarily administrative use to reinforce the Main Post as the installation’s administrative core. Although the proposed uses have not yet been fully evaluated, it is anticipated that all future options will retain the original Band Hall (Crawford Hall) on the ground level for continued ceremonial and training purposes. In order to fully evaluate reuse alternatives for Building 9, a perimeter study is needed to assess compliance with current AT/FP and security criteria and to identify potential or necessary structural improvements such as building hardening. Additional follow-on studies are recommended to evaluate the facility’s reuse



Multiple planning efforts are needed for Building 9 going forward including AT/FP compliance, space optimization, and potential of hazardous materials.

potential, including a hazardous building materials survey and space optimization study.

(IAP) Upgrades to Main Post Viewing Stands

The existing bleacher structures at the Main Post will be replaced with a more permanent and sustainable option that requires less maintenance and reinforces the historic fabric of the highly visible parade ground. The project will incorporate an integrated design concept that complements its surroundings and is visually appealing from all sides. The proposed solution will also have a seating capacity comparable to the existing structures and fit within the current footprint. Refer to the IAP for detailed project description.

(IAP) Replace Parade Ground Turf

Replacement of the existing parade ground natural turf with high-quality, realistic-looking artificial turf would have the benefit of reducing maintenance while ensuring year round consistency of this surface during ceremonial events, including the weekly (seasonal) Friday evening parades. Additionally, the use of artificial turf would support the potential future use of this area (below the parade ground) as a geothermal heating site for adjacent buildings, and as a means of incorporating long-term sustainable energy and cost reduction strategies. The added benefit of artificial turf would provide improved access to geothermal infrastructure for system installation and maintenance. It should be noted that further study is needed regarding specific synthetic turf solutions prior to project development,



Recent improvements to Center House (Building 5) were made to improve life safety conditions.

to address any potential increases in heat island effects related to its application.

RECENT IMPROVEMENTS

The following key projects have been recently funded, initiated, or are complete and were not considered for purposes of evaluating future installation needs.

Building 20 QOL Improvements

The BEQ portion of Building 20 recently underwent targeted renovations to address a multitude of QOL issues and non-structural interior deficiencies. Repairs took place between fall 2013 and spring 2014, including patch and paint on all interior walls, upgrades to bathroom areas, and replacement of carpets and window treatments in BEQ rooms. Repairs served to improve living conditions through the construction of the replacement BEQ and Support Facility (P516-B).

Building 5 Repair

Needed life safety improvements and repairs to Center House, including renovations to berthing quarters, egress improvements, and fire suppression upgrades were recently completed.

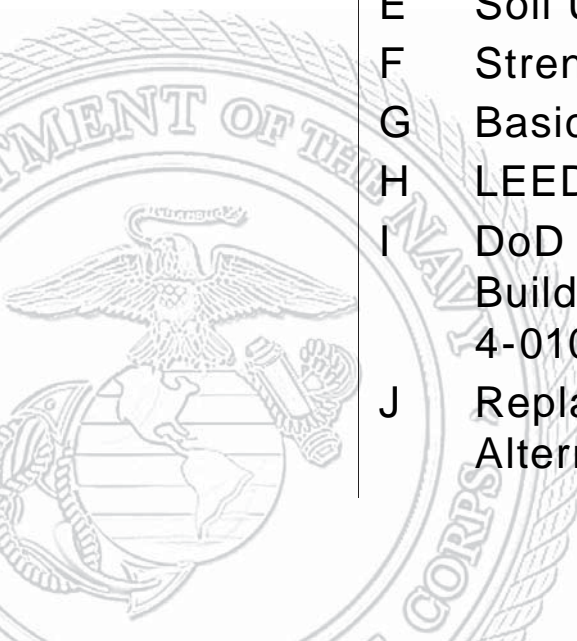
FURTHER RECOMMENDED PLANNING EFFORTS

The following follow-on planning actions have been identified to support the development and completion of design, construction, and renovation efforts proposed in the Master Plan.

- » **Hazardous Materials Survey, Building 9**
- » **Space Optimization Study, Building 9**
- » **Perimeter Study, Building 9**
- » **Hazardous Materials Survey, Building 20**
- » **Facility Reuse Study, Building 20**
- » **Installation Sustainability Plan**

Appendices

- A Utilities Survey
- B DC Zoning & Land Use
- C Facilities Data
- D Secretary of the Interior's Standards for the Treatment of Historic Properties
- E Soil Unit Summaries
- F Strengths, Weakness, Opportunities & Threats
- G Basic Facilities Requirements (BFRs)
- H LEED®-DoD Antiterrorism Standards Tool
- I DoD Minimum Antiterrorism Standards for Buildings, Summary Standoff Distances (UFC 4-010-01)
- J Replacement BEQ and Support Facility/
Alternative Site Selection Analysis



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Appendix A

Utilities Study Summary



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Appendix B

DC Zoning & Land Use



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DC ZONING CLASSIFICATIONS ASSOCIATED WITH MBW

ZONING CATEGORY	DESCRIPTION
RESIDENTIAL ZONING	
R-4	Permits matter-of-right development of single-family residential uses (including detached, semi-detached, row dwellings, and flats), churches and public schools with a minimum lot width of 18 feet, a minimum lot area of 1,800 square feet and a maximum lot occupancy of 60% for row dwellings, churches and flats, a minimum lot width of 30 feet and a minimum lot area of 3,000 square feet for semi-detached structures, a minimum lot width of 40 feet and a minimum lot area of 4,000 square feet and 40% lot occupancy for all other structures (20% lot occupancy for public recreation and community centers); and a maximum height of three (3) stories/forty (40) feet (60 feet for churches and schools and 45 feet for public recreation and community centers). Conversions of existing buildings to apartments are permitted for lots with a minimum lot area of 900 square feet per dwelling unit. Rear yard requirement is twenty (20) feet.
R-5-B	Permits matter-of-right moderate development of general residential uses, including single-family dwellings, flats, and apartment buildings, to a maximum lot occupancy of 60% (20% for public recreation and community centers), a maximum FAR of 1.8, and a maximum height of fifty (50) feet (90 feet for schools and 45 feet for public recreation and community centers). Rear yard requirements are not less than fifteen (15) feet.
COMMERCIAL ZONING	
C-2-A	Permits matter-of-right low density development, including office employment centers, shopping centers, medium-bulk mixed use centers, and housing to a maximum lot occupancy of 60% for residential use and 100% for all other uses, a maximum FAR of 2.5 for residential use and 1.5 FAR for other permitted uses, and a maximum height of fifty (50) feet. Rear yard requirements are fifteen (15) feet; one family detached dwellings and one family semi-detached dwellings side yard requirements are eight (8) feet.
C-3-A	Permits matter-of-right medium density development, with a density incentive for residential development within a general pattern of mixed-use development to a maximum lot occupancy of 75% for residential use and 100% for all other uses, a maximum FAR of 4.0 for residential and 2.5 FAR for other permitted uses and a maximum height of sixty-five (65) feet. Rear yard requirements are twelve (12) feet; one family detached dwellings and one family semi-detached dwellings side yard requirements are eight (8) feet.
ZONING OVERLAY DISTRICTS	
CAP	The Capitol Interest (CAP) Overlay District was established to promote and protect the public health, safety, and general welfare of the U.S. Capitol precinct and the area adjacent to this jurisdiction, in a manner consistent with the goals and mandates of the United States Congress. The overlay controls land use, as well as the height and bulk of buildings, for the areas south of the U.S. Capitol and the historic residential district to the east of the U.S. Capitol. The overlay restricts some of the permitted uses allowed in the existing zone districts and provides for more control of the height and bulk allowed in existing underlying zone districts. The height of buildings or structures in the CAP Overlay District shall not exceed forty feet (40 ft.) or three (3) stories in height. Roof structures shall not exceed ten feet (10 ft.) in height above the roof upon which they are located. The maximum permitted density of a building or structure within the overlay district shall not exceed one and eight-tenths (1.8) floor area ratio (FAR). All special exception applications within the overlay are referred to the Architect of the Capitol for review and comment. For more information, including information on specific use regulations and allowable Inclusionary Zoning modifications, see Chapter 12 of the Zoning Regulations.

ZONING CATEGORY	DESCRIPTION
CHC	<p>The Capitol Hill Commercial (CHC) Overlay District was established to implement the goals and policies of the Comprehensive Plan, particularly those land use objectives and policies related to improving the physical condition of Capitol Hill through the provision of functional, efficient, and attractive commercial areas; minimizing conflicts between various land uses; locating more intensive and active land uses in areas of Capitol Hill that can accommodate and support such uses; stabilizing and improving commercial areas in portions of Capitol Hill; ensuring the integrity of the Capitol Hill Historic District; and developing and establishing special land use categories to meet the unique characteristics of the commercial areas of Capitol Hill. The overlay also seeks to encourage adaptive reuse of buildings and to provide appropriate incentives for new infill that is compatible with the Capitol Hill Historic District. The maximum building height permitted in the CHC Overlay District shall be that of the underlying zone; however, if the property is located within both the CHC Overlay District and the CAP Overlay District, the maximum height shall be that permitted in the CAP Overlay District. The maximum density permitted for a building or structure in the CHC Overlay District shall be 3.0 floor area ratio (FAR). The maximum density for a building or structure located in both the CHC Overlay District and the CAP Overlay District shall be 2.5 FAR. The maximum density for a planned unit development within the CHC is 3.0 FAR; the maximum density for a planned unit development within both the CAP and CHC overlays is 2.5 FAR. For more information, see Sections 1570 through 1573 of the Zoning Regulations.</p>
ES	<p>Eighth Street (Commercial): The Eighth Street district was established to encourage and allow new business and office development in close proximity to WNY, with emphasis on firms that will conduct business with the Navy, as well as neighborhood-serving retail and service businesses; allow and encourage medium density commercial development, in the interest of securing economic development, while restricting building heights to a low level so as to respect the historic scale of buildings and the entrance to the adjacent Navy Yard; and provide for safe and efficient pedestrian movement, so as to improve access to retail and other businesses in the area. Restaurants, fast food establishments, and prepared food shops subject to limitations to control density, including that the maximum permitted height for any building or structure in the ES Overlay District shall be 45 feet.</p>
SEFC	<p>The Southeast Federal Center (SEFC) Overlay District was established to provide for the development of a vibrant, urban, mixed-use waterfront neighborhood, offering a combination of uses that will attract residents, office workers, and visitors from across the District and beyond. The objectives of the SEFC overlay are to: ensure a mix of residential and commercial uses with suitable height, bulk, and building design; encourage high-density residential development with a pedestrian-oriented streetscape; encourage support and visitor-related uses; reduce height and bulk of buildings along the Anacostia riverfront; require ground-floor retail and service uses near the Navy Yard Metrorail station; encourage development that is sensitive to historically significant buildings and the adjacent Navy Yard; and establish zoning incentives and restrictions to provide a publicly-accessible park for W-0 Zone District uses along the Anacostia River. The maximum height allowed under the SEFC Overlay varies from 90 to 130 feet, depending on the underlying zone and location within the overlay. The maximum density also varies depending on the underlying zone and location within the overlay. For more information, including design requirements, preferred ground-floor uses and prohibited uses, see Chapter 18 of the Zoning Regulations.</p>

Appendix C

Facilities Data



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MBW Facilities

Source: Assets Analysis provided by NAVFAC, December 2013.

BLDG	TYPE	BLDG NAME	CCN	CCN-2 DESCRIPTION	CCN-1 DESCRIPTION	AREA	UM	AREA	UM
20026	1	Parade Ground	17960	Parade Ground	Parade and Drill Field	1	AC		
1	2	Married Officers Quarters	71144	Family Housing	Married Officers Quarters 07-O10	7,376	GSF	685	GSM
2	2	Married Officers Quarters	71144	Family Housing	Married Officers Quarters 07-O10	6,140	GSF	570	GSM
3	2	Married Officers Quarters	71143	Family Housing	Married Officers Quarters O6	6,140	GSF	570	GSM
4	2	Married Officers Quarters	71144	Family Housing	Married Officers Quarters 07-O10	6,140	GSF	570	GSM
5	2	Bachelor Officer Quarters	72412	Unaccompanied Personnel Housing	BOQ Transient W3-W5 & O3	2,900	GSF	269	GSM
5	2	Bachelor Officer Quarters	74060	Indoor Morale, Welfare and Recreation Facilities	Commissioned Officer's Club	1,790	GSF	166	GSM
5	2	Bachelor Officer Quarters	17120	Training Facilities	Applied Instruction	1,450	GSF	135	GSM
6	2	Commandants' House	71144	Family Housing	Married Officers Quarters 07-O10	15,605	GSF	1,450	GSM
7	2	Garage/Warehouse	44110	Covered Storage	General Warehouse	2,086	GSF	194	GSM
7	2	Garage/Warehouse	72340	Unaccompanied Personnel Housing	Garage, Detached	2,016	GSF	187	GSM
8	2	Marine Barracks East Wing	61010	Administrative Facilities	Administrative Office	32,134	GSF	2,985	GSM
8	2	Marine Barracks East Wing	21910	Maintenance Facilities	Public Works Shop	6,490	GSF	603	GSM
8	2	Marine Barracks East Wing	17120	Training Facilities	Applied Instruction	5,787	GSF	538	GSM
8	2	Marine Barracks East Wing	73035	Personnel Support & Services Facilities	Locker Room	2,240	GSF	208	GSM
8	2	Marine Barracks East Wing	42135	Ammunition Storage	Ready Magazine - RSL	1,160	GSF	108	GSM
8	2	Marine Barracks East Wing	21910	Maintenance Facilities	Hazardous/Flammable Storage	172	GSF	16	GSM
9	2	Marine Barracks South Wing	17120	Training Facilities	Applied Instruction	34,000	GSF	3,159	GSM
9	2	Marine Barracks South Wing	73020	Personnel Support & Services Facilities	Security Building	543	GSF	50	GSM
10	2	Post 1 Sentry Booth	73025	Personnel Support & Services Facilities	Gate Sentry House	56	GSF	5	GSM
11	2	Post 10 Sentry Booth	73025	Personnel Support & Services Facilities	Gate Sentry House	36	GSF	3	GSM

APPENDIX C / FACILITIES DATA

BLDG	TYPE	BLDG NAME	CCN	CCN-2 DESCRIPTION	CCN-1 DESCRIPTION	AREA	UM	AREA	UM
12	2	Multipurpose Kitchen	72241	Unaccompanied Personnel Housing	Dining Facility Detached - Commissioned Personnel	816	GSF	76	GSM
13	2	Post 10A Sentry Booth	73025	Personnel Support & Services Facilities	Gate Sentry House	36	GSF	3	GSM
14	2	Post 4 Sentry Booth	73025	Personnel Support & Services Facilities	Gate Sentry House	36	GSF	3	GSM
19	2	Storage Shed @ Quarters Six	71477	Family Housing	Housing - Det Misc Storage	144	GSF	13	GSM
20	2	BEQ and Support Facility	85310	Roads & Other Pavements (Parking Garage)	Parking Bldg	102,027	GSF	9,479	GSM
20	2	BEQ and Support Facility	72124	Unaccompanied Personnel Housing	BEQ Marine E1-E4	60,582	GSF	5,628	GSM
20	2	BEQ and Support Facility	61010	Administrative Facilities	Administrative Office	26,203	GSF	2,434	GSM
20	2	BEQ and Support Facility	74044	Indoor Morale, Welfare and Recreation Facilities	Indoor Physical Fit Ctr	16,455	GSF	1,529	GSM
20	2	BEQ and Support Facility	74064	Indoor Morale, Welfare and Recreation Facilities	Enlisted Club	7,556	GSF	702	GSM
20	2	BEQ and Support Facility	72210	Unaccompanied Personnel Housing	Enlisted Dining Facility	5,034	GSF	468	GSM
20	2	BEQ and Support Facility	14345	Land & Operational Facilities	Armory	2,772	GSF	258	GSM
20	2	BEQ and Support Facility	72112	Unaccompanied Personnel Housing	BEQ E5/E6 (MC E5 Only)	1,968	GSF	183	GSM
25	2	BEQ and Band SPT Facility	72124	Unaccompanied Personnel Housing	BEQ - Marine E1-E4	82,264	GSF	7,643	GSM
25	2	BEQ and Band SPT Facility	17120	Training Facilities	Applied Instruction	55,868	GSF	5,190	GSM
25	2	BEQ and Band SPT Facility	74044	Indoor Morale, Welfare and Recreation Facilities	Indoor Physical Fit Center	12,350	GSF	1,147	GSM
25	2	BEQ and Band SPT Facility	74002	Indoor Morale, Welfare and Recreation Facilities	Location Exchange (Restricted)	3,700	GSF	344	GSM

BLDG	TYPE	BLDG NAME	CCN	CCN-2 DESCRIPTION	CCN-1 DESCRIPTION	AREA	UM	AREA	UM
25	2	BEQ and Band SPT Facility	74054	Indoor Morale, Welfare and Recreation Facilities	Military Rec Center	1,932	GSF	179	GSM
25	2	BEQ and Band SPT Facility	74009	Indoor Morale, Welfare and Recreation Facilities	Exchange Service Outlets (Barber Shop)	310	GSF	29	GSM
25	2	BEQ and Band SPT Facility	61010	Administrative Facilities	Administrative Office	250	GSF	23	GSM
26	2	Annex Parking Garage	85310	Roads & Other Pavements (Parking Garage)	Parking Bldg	87,812	GSF	8,158	GSM
26	2	Annex Parking Garage	21910	Maintenance Facilities	Public Works Shop	2,539	GSF	236	GSM
26	2	Annex Parking Garage	74078	Indoor Morale, Welfare and Recreation Facilities	Recreation Pavillion	1,222	GSF	114	GSM
26	2	Annex Parking Garage	73025	Personnel Support & Services Facilities	Gate/Sentry House	58	GSF	5	GSM
27	2	Gate/Sentry House - Post 8 (Annex)	73025	Personnel Support & Services Facilities	Gate/Sentry House	126	GSF	12	GSM
30	2	HVAC Enclosure - Annex	82610	Heat & Refrigeration	Cooling System Plant Bldg	1,650	GSF	153	GSM
17	3	Building 9 Loading Platform	85115		Load Unload Ramp	28	SY		
18	3	Building 20 Loading Platform	85115		Load Unload Ramp	20	SY		
21	3	Pedestrian Tunnel Under I Street	85230		Pedestrian Tunnel	133	SY		
22	3	Parade Ground Tower-North	87220		Guard and Watch Tower	1	EA		
23	3	Parade Ground Tower-South	87220		Guard and Watch Tower	1	EA		
24	3	Flag Staff Parade Ground	69010		Flagpole Marker	1	EA		
28	3	Multipurpose Field w/Track	75020		Playing Field	1	EA		
29	3	Basketball Court - Annex	75010		Outdoor Playing Court	1	EA		
20030	3	Parade Lighting	81240		Perimeter and Security Lighting	2	EA		
30-F	3	Fence - HVAC Enclosure - Annex	87215		Interior Fencing	95	LF		
F1	3	Security Fencing	87210		Station Security and Perimeter Fencing and Walls	1,289	LF		

APPENDIX C / FACILITIES DATA

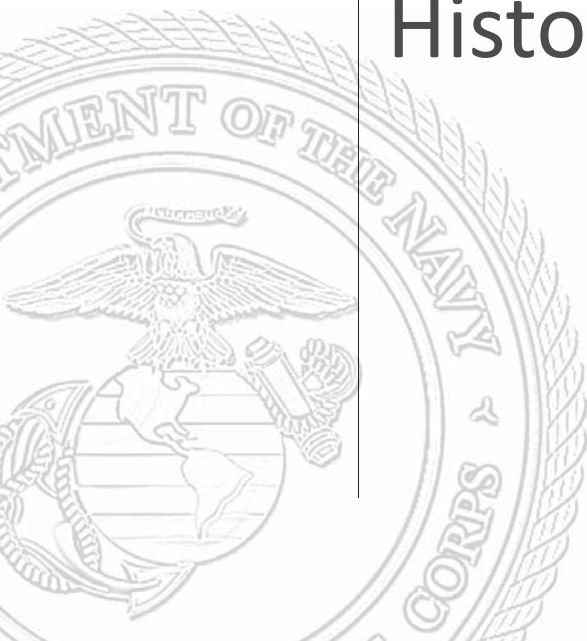
BLDG	TYPE	BLDG NAME	CCN	CCN-2 DESCRIPTION	CCN-1 DESCRIPTION	AREA	UM	AREA	UM
F2	3	Security Fencing-Annex	87210		Station Security and Perimeter Fencing and Walls	2,318	LF		
F3	3	Multipurpose Field Fence	87215		Interior Fencing	549	LF		
FP1	3	Flag Staff Parade Ground	69010		Flagpole/Marker	1	EA		
FP2	3	Flag Staff Bldg 9	69010		Flagpole/Marker	1	EA		
GM1	3	Gun Mount	69015		Saluting Battery Gun Mount	1	EA		
M1	3	Brass Bell	76020		Outdoor Monument/Memorial	1	EA		
M2	3	Anchor Monument	76020		Outdoor Monument/Memorial	1	EA		
M3	3	Cannonball Monument	76020		Outdoor Monument/Memorial	1	EA		
M4	3	Projectile Monument	76020		Outdoor Monument/Memorial	1	EA		
M5	3	Sundial Monument	76020		Outdoor Monument/Memorial	1	EA		
MSB1	3	Post 1 Mechanical Security Barrier	87230		Mechanical Security Barricade	1	EA		
MSB2	3	Post 4 Mechanical Security Barrier	87230		Mechanical Security Barricade	1	EA		
MSB3	3	Post 8 North Mechanical Security Barrier	87230		Mechanical Security Barricade	1	EA		
MSB4	3	Post 9 Garage Mechanical Security Barrier	87230		Mechanical Security Barricade	1	EA		
MSB5	3	Mechanical Security Barrier near Post 8	87230		Mechanical Security Barricade	1	EA		
MSB6	3	Mechanical Security Barrier near Multipurpose Field	87230		Mechanical Security Barricade	1	EA		
MSB7	3	Mechanical Security Barrier near Basketball Court	87230		Mechanical Security Barricade	1	EA		
P2	3	Pavement	85110		Roads	1,167	SY		
PW1	3	Parking	85210		Parking	1,625	SY	1,359	
RW1	3	Roadway Behind Bldg 20	85110		Roads	506	SY		
RW1 Annex	3	Retaining Wall N of Field	87135		Retaining Wall	371	LF		
RW2	3	Retaining Wall/Dumpster Pad	87135		Retaining Wall	26	LF		

BLDG	TYPE	BLDG NAME	CCN	CCN-2 DESCRIPTION	CCN-1 DESCRIPTION	AREA	UM	AREA	UM
RW3	3	Retaining Wall East of Multipurpose Field	87135		Retaining Wall	64	LF		
SW1	3	Sidewalk	85220		Sidewalk	1,079	SY		
SW2	3	Bleacher Concrete Base	85235		Other Paved Areas	948	SY		
SW3	3	Sidewalks-Annex	85220		Sidewalk	378	SY		

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Appendix D

Secretary of the
Interior's Standards
for the Treatment of
Historic Properties



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SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES

STANDARDS FOR THE PRESERVATION

Applied measures necessary to sustain the existing form, integrity, and materials of a historic property and generally focused upon the ongoing maintenance and repair.

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.
2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

STANDARDS FOR REHABILITATION

Applied measures necessary to facilitate the compatible new or continued use for a historic property through repair, replacement alterations and additions.

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

STANDARDS FOR RESTORATION

Applies to the accurate depiction of the form, features, and character of a property as it appeared at a particular period of time. Measures may include the removal, replacement or addition of certain features and appropriate upgrade of necessary building systems.

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

STANDARDS FOR RECONSTRUCTION

Includes depicting or replicating the original form, features, and detail of a historic property through new construction.

1. Reconstruction will be used to depict vanished or non-surviving portions of a property when documentary and physical evidence is available to permit accurate reconstruction with minimal conjecture, and such reconstruction is essential to the public understanding of the property.
2. Reconstruction of a landscape, building, structure, or object in its historic location will be preceded by a thorough archeological investigation to identify and evaluate those features and artifacts which are essential to an accurate reconstruction. If such resources must be disturbed, mitigation measures will be undertaken.
3. Reconstruction will include measures to preserve any remaining historic materials, features, and spatial relationships.
4. Reconstruction will be based on the accurate duplication of historic features and elements substantiated by documentary or physical evidence rather than on conjectural designs or the availability of different features from other historic properties. A reconstructed property will re-create the appearance of the non-surviving historic property in materials, design, color, and texture.
5. A reconstruction will be clearly identified as a contemporary re-creation.
6. Designs that were never executed historically will not be constructed.

Source: National Park Service, The Secretary of the Interior's Standards for the Treatment of Historic Properties

In addition to the application of SOI Standards, the following provides further direction to guide the treatment of MBW's historic properties located at the Main Post:

- » **Additions or significant alterations to historic buildings should be designed and implemented in a manner that makes clear what is new and what is historic.**
- » **Restoration and renovation efforts for historic buildings must be compatible and considerate of the original building. The use of similar scale, articulation, materials, fenestration and other elements that are consistent with the original building should be incorporated into any proposed solution.**
- » **For additions to existing facilities, the degree of fenestration, including door and window replacement and other architectural detail, should be similar or sympathetic to the original structure and reflect the existing architectural character to the greatest extent possible.**

- » **New buildings should not attempt to mimic the existing historic structures at MBW, but rather they should achieve a compatible and consistent representation that serves to unify the architecture through placement, the use of materials, massing and fenestration, but still be recognized as new.**

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Appendix E

Soil Map Unit Reports



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District of Columbia

U10—Udorthents, clayey, smoothed

Map Unit Setting

National map unit symbol: 49w9
Mean annual precipitation: 38 to 44 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 150 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Typical profile

H1 - 0 to 2 inches: clay loam
H2 - 2 to 65 inches: clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 10 inches to
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat):
 Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydrologic Soil Group: C

Data Source Information

Soil Survey Area: District of Columbia
 Survey Area Data: Version 7, Sep 24, 2014

District of Columbia

Ub—Urban land

Map Unit Setting

National map unit symbol: 49wq
Frost-free period: 175 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 10 inches to
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s

Data Source Information

Soil Survey Area: District of Columbia
Survey Area Data: Version 7, Sep 24, 2014

District of Columbia

UxB—Urban land-Sassafras complex, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 49x4
Elevation: 30 to 330 feet
Mean annual precipitation: 35 to 50 inches
Mean annual air temperature: 45 to 57 degrees F
Frost-free period: 160 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 70 percent
Sassafras and similar soils: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 10 inches to
Runoff class: Very high

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s

Description of Sassafras

Typical profile

Ap - 0 to 9 inches: sandy loam
E - 9 to 15 inches: sandy loam
Bt - 15 to 30 inches: loam
BC - 30 to 37 inches: sandy loam
C - 37 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat):
 Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e

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Appendix F

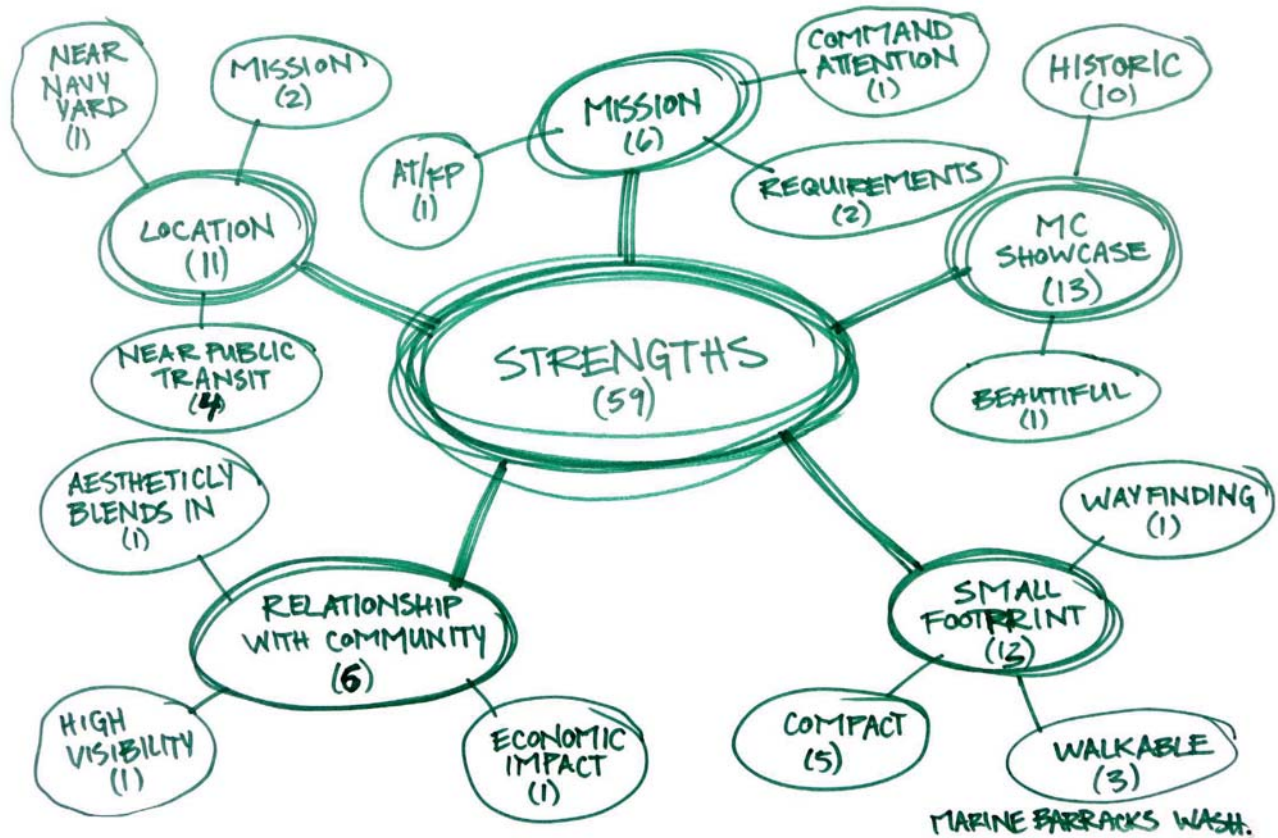
Strengths,
Weaknesses,
Opportunities &
Threats-Visual
Preference



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Strengths Analysis

Stakeholders identified many strengths of Marine Barracks Washington, including its compact footprint, central location, rich history, and relationship with community.



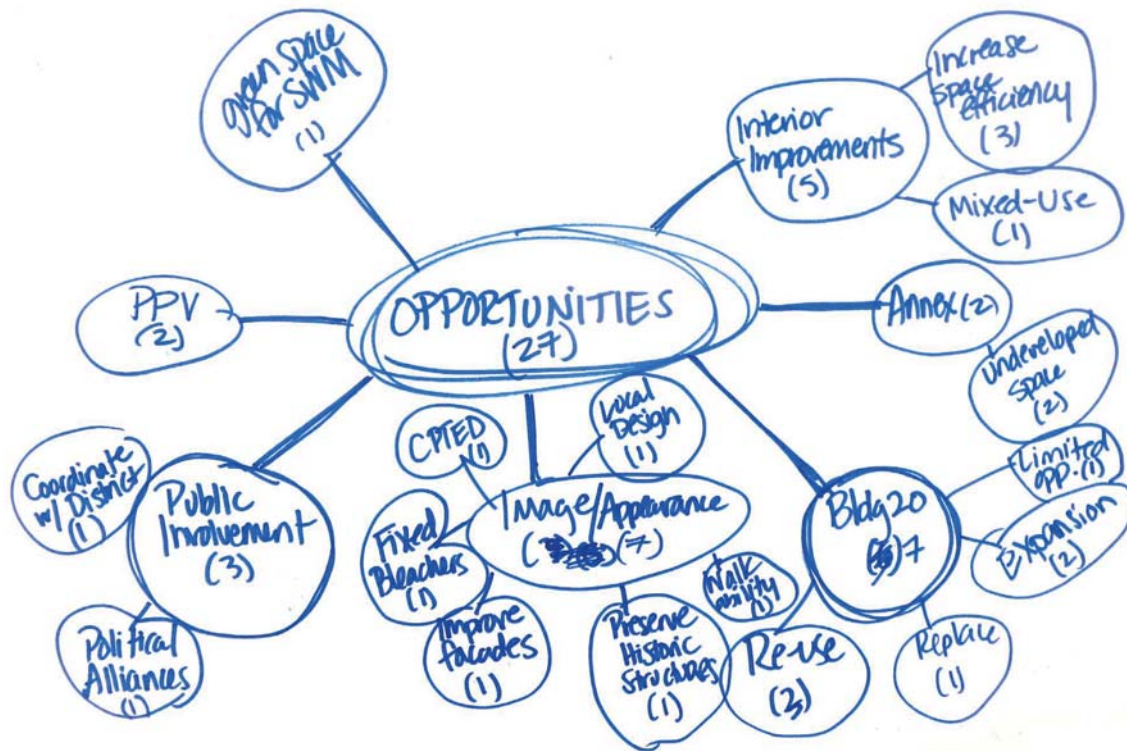
Weaknesses Analysis

Stakeholders targeted weaknesses of the base including old and inadequate facilities, a lack of land for future development, and a disconnected campus.



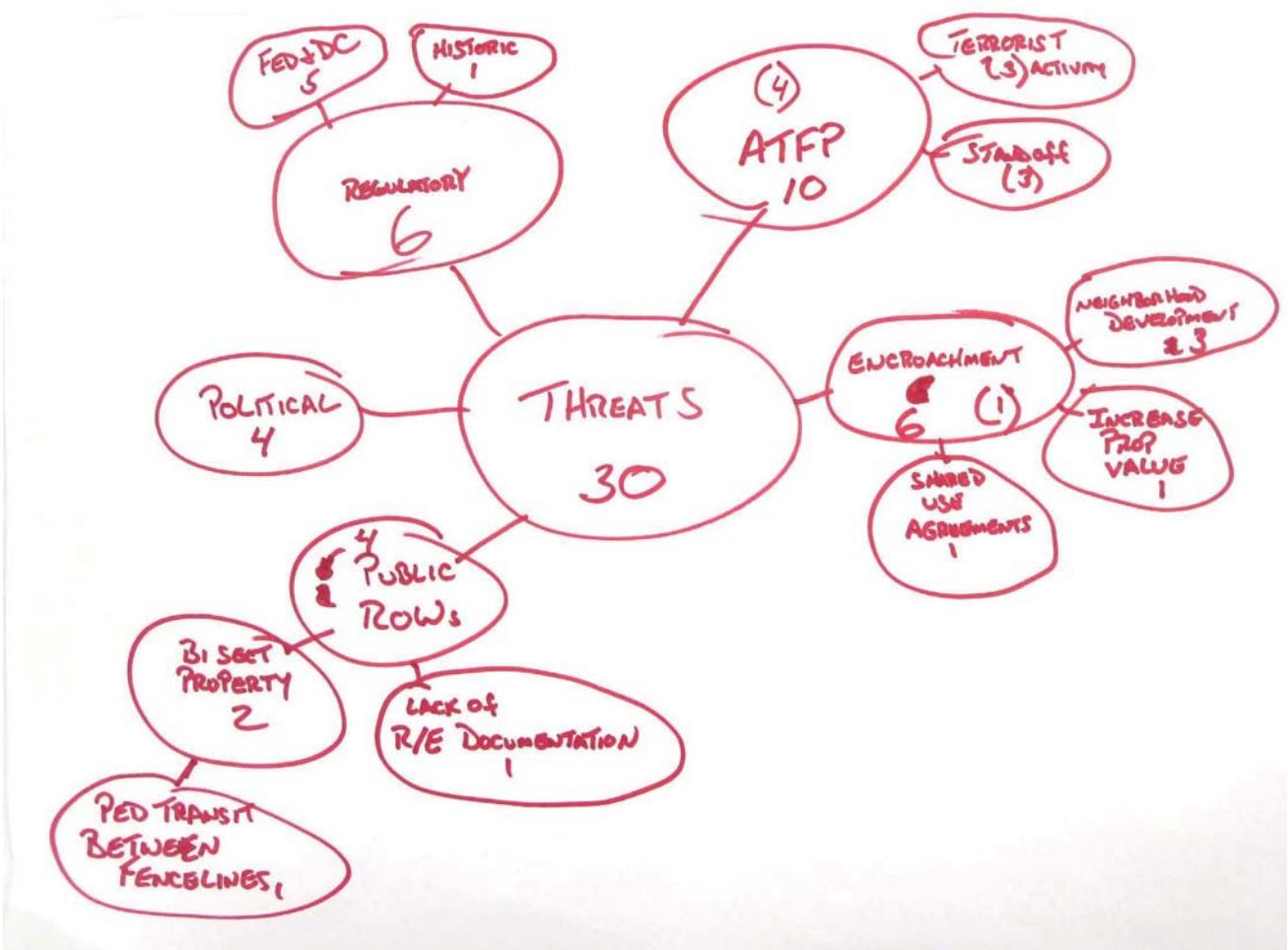
Opportunities Analysis

Opportunities for 8th and I include expansion at Building 20, improvement of general appearance, and interior renovations.



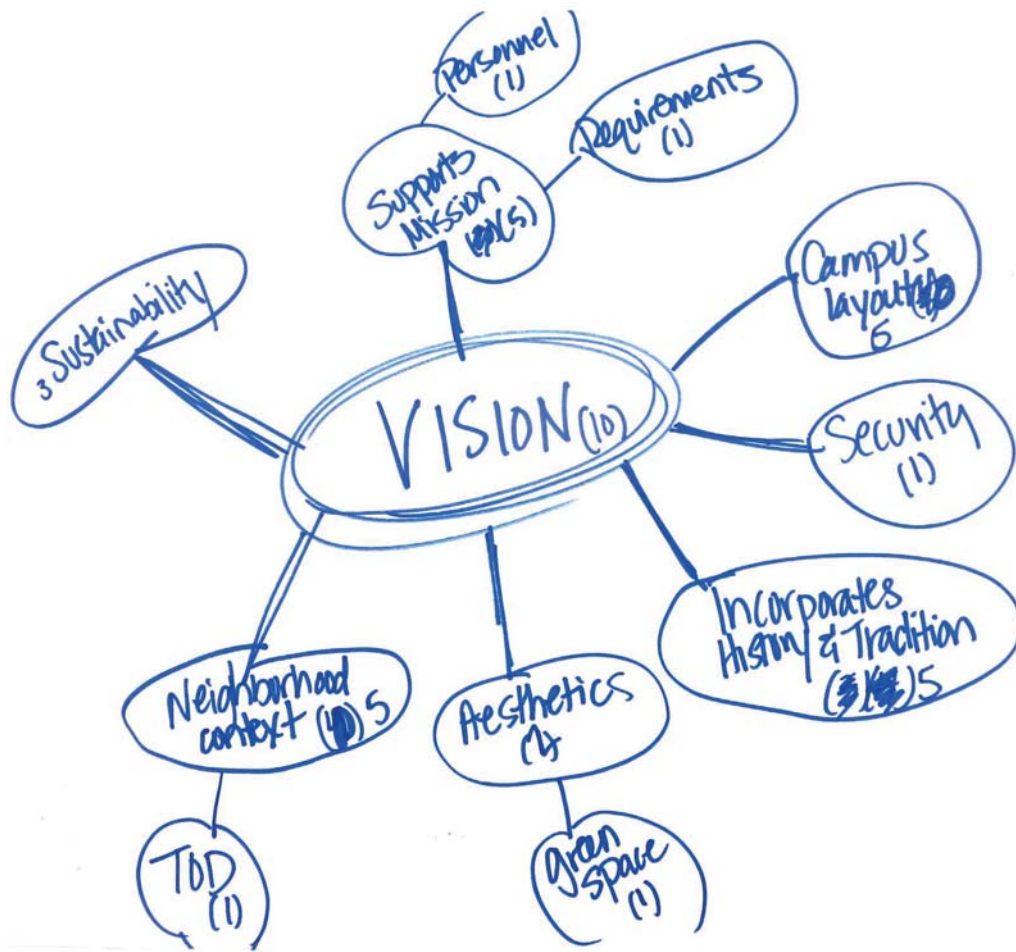
Threats Analysis

Threats of the base include adjacent neighborhood development, AT/FP regulations, and federal regulations.



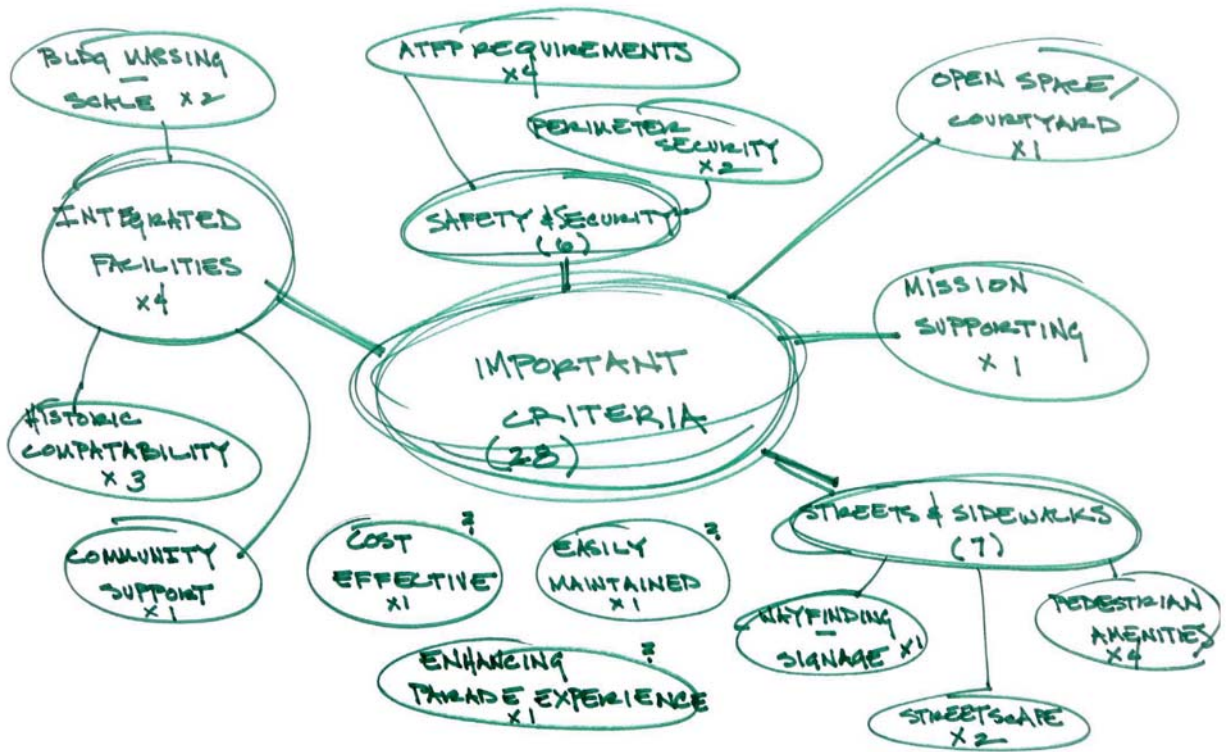
Vision Analysis

Stakeholders see an efficient campus layout that retains its historic values, while incorporating sustainability at Marine Barracks Washington.



Important Criteria Analysis

In the future, stakeholders agree that integrated facilities, pedestrian-oriented wayfinding, and AT/FP requirements will be important criteria in the development of 8th and I.



What Makes a Great MBW?

Stakeholders identified history, efficiency, ritual, and community relations as key indicators of a great base.



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Appendix G

Basic Facilities Requirements



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BASIC FACILITY REQUIREMENTS WORKSHEET

Installation: Marine Barracks Washington **User:** Marine Barracks Washington **Special Area:**
Installation UIC: M67029 **User UIC:** M67029

CCN: 14345 Nomenclature: Armory

LOADING ANALYSIS / JUSTIFICATION OF REQUIREMENT

Description: An installation armory provides space for storage and routing maintenance of small arms and emergency gear. The materials stored will provide for emergencies and for training of selected personnel in the handling of station emergencies, civil disorders, and area disasters.

Planning Criteria Used: **X** UFC 2-000-05N
 X Engineering Evaluation
 Other (Parking Capacity Study)

Loading: Marine Barracks Washington (MBW) requires an Armory to provide space for storage, cleaning, and routine maintenance of small arms, emergency gear, non-lethal, and ceremonial weapons, in support of the mission of MBW to provide ceremonial support duties throughout the National Capital Region and the world as directed by the Commandant of the Marine Corps and the President of the United States. A secondary separate space also provides short and long-term ammunition storage in support of installation security, ceremony, and training missions. The security mission requires the command to maintain a small amount of boxed ammunition and pyrotechnics for contingency requirements. Similarly, Marine Barracks Washington, DC has ceremonial requirements and must store blank ammunition for rifles and naval guns. This ammunition is frequently expended with a high turnover rate. Lastly, the installation lacks training ranges suitable for USMC requirements and must therefore conduct training at other National Capital Region military installations. USMC ammunition is stored at Marine Corps Base Quantico, but Marine Barracks Washington, DC frequently draws ammunition and stores it on a short term basis in the Ready Service Locker for training. This space and the arms, ammunition, and explosive program are under the purview of the command's logistics officer.

SUMMARY

(See next page for supporting documentation)

Armory Space: 3,500 GSF

Ammunition Storage: 25

TOTAL REQUIREMENT: 3,525 GSF or 327 M2

Date Prepared: March 2014

Prepared By: Carl Schneider, carl.j.schneider1@navy.mil, 202-685-3950

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BASIC FACILITY REQUIREMENTS WORKSHEET

Installation: Marine Barracks Washington
Installation UIC: M67029

User: Marine Barracks Washington
User UIC: M67029

Special Area:

CCN: 73025 **Nomenclature:** Gate/Sentry House

LOADING ANALYSIS / JUSTIFICATION OF REQUIREMENT

Description: Sentry houses are located at entry points to the installation and provide protection for installation guards.

Planning Criteria Used: X UFC 2-000-05N
 Engineering Evaluation
 Other (Parking Capacity Study)

Loading: Sentry houses are required at each manned gate and at strategic positions on the perimeter of the installation.

SUMMARY

(See next page for supporting documentation)

32 Total GSM - All Gates
348 Total GSF - All Gates

TOTAL REQUIREMENT: **348 GSF** or **32 M2**

Date Prepared: 15 October 2013

Prepared By: Carl Schneider, carl.j.schneider1@navy.mil, 202-685-3950

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BASIC FACILITY REQUIREMENTS WORKSHEET

Installation: Marine Barracks Washington
Installation UIC: M67029

User: Marine Barracks Washington
User UIC: M67029

Special Area:

CCN: 74060

Nomenclature: Commissioned Officers' Club

LOADING ANALYSIS / JUSTIFICATION OF REQUIREMENT

Description: Center House is a historic structure and location. As the last closed officers' mess in the Marine Corps, this is a unique facility within all of DoN. The residential requirement (CCN 72412) is for transient officer/visting general officer or billeting. The entertaining requirement (CCN 74060) supports the Title X responsibilities of the Service Chief and Senior General Officers, as well as officers assigned to Marine Barracks Washington. In addition, space in the facility is used to provide support and gathering space for the weekly parades that occur throughout the summer.

Planning Criteria Used: X UFC 2-000-05N
 Engineering Evaluation
 Other (Parking Capacity Study)

Loading: Loading of approximately 50 assigned officers and four visitors' suites (reduced from seven by a facility renovation) provided by Russ Pantleo and Major Christopher Johnson.

SUMMARY

(See next page for supporting documentation)

166 Total GSM
 1,790 Total GSF

TOTAL REQUIREMENT: **1,790 GSF** or **166 M2**

Date Prepared: 15 October 2013

Prepared By: Carl Schneider, carl.j.schneider1@navy.mil, 202-685-3950

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Appendix H

LEED® DoD Antiterrorism Standards Tool



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LEED®-DoD Antiterrorism Standards Tool

- Legend**
- Complementary requirements
 - Conflicting and complementary requirements
 - Conflicting requirements
 - Not conflicting or complementary, but have related considerations

LEED Credit	Credit Description	Antiterrorism Standards (UFC 4-010-01)																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Sustainable Sites																							
<u>SS-P1</u>	Erosion & Sedimentation Control	Green																					
<u>SS-1</u>	Site Selection		Blue																				
<u>SS-2</u>	Development Density		Red																				
<u>SS-3</u>	Brownfield Redevelopment		Blue																				
<u>SS-4.1</u>	Alternative Transportation, Public Transportation Access		Yellow																				
<u>SS-4.2</u>	Alternative Transportation, Bicycle Storage & Changing Rooms		Blue																				
<u>SS-4.3</u>	Alternative Transportation, Alternative Fuel Vehicles		Blue												Green								
<u>SS-4.4</u>	Alternative Transportation, Parking Capacity		Blue																				
<u>SS-5.1</u>	Reduced Site Disturbance, Protect or Restore Open Space		Yellow		Blue															Blue			
<u>SS-5.2</u>	Reduced Site Disturbance, Development Footprint		Yellow		Blue															Red			
<u>SS-6.1</u>	Stormwater Management, Rate and Quantity		Blue		Blue									Blue									
<u>SS-6.2</u>	Stormwater Management, Treatment		Green																				
<u>SS-7.1</u>	Heat Island Effect, Non-Roof		Blue		Blue																		
<u>SS-7.2</u>	Heat Island Effect, Roof													Blue									
<u>SS-8</u>	Light Pollution Reduction		Blue												Blue								
Water Efficiency																							
<u>WE-1.1</u>	Water-Efficient Landscaping, Reduce by 50%		Yellow																				
<u>WE-1.2</u>	Water-Efficient Landscaping, No Potable Use or No Irrigation		Yellow																				
<u>WE-2</u>	Innovative Wastewater Technologies		Blue																				
<u>WE-3.1 - 3.2</u>	Water Use Reduction, [20%] [30%] Reduction																						

Energy & Atmosphere		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
EA-P1	Fundamental Building Systems Commissioning																							
EA-P2	Minimum Energy Performance																							
EA-P3	CFC Reduction in HVAC&R Equipment																							
EA-1	Optimize Energy Performance																							
EA-2.1 - 2.3	Renewable Energy, [5%] [10%] [15%]																							
EA-3	Additional Commissioning																							
EA-4	Ozone Protection																							
EA-5	Measurement & Verification																							
EA-6	Green Power																							
Materials & Resources		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
MR-P1	Storage & Collection of Recyclables																							
MR-1.1	Building Reuse, Maintain 75% of Existing Walls, Floors and Roof																							
MR-1.2	Building Reuse, Maintain 100% of Existing Walls, Floors and Roof																							
MR-1.3	Building Reuse, Maintain 100% of Shell/Structure & 50% Non-Shell																							
MR-2.1 - 2.2	Construction Waste Management, Divert [50%] [75%] from Landfill																							
MR-3.1 - 3.2	Resource Reuse, [5%] [10%]																							
MR-4.1 - 4.2	Recycled Content, Specify [5%] [10%] (post consumer + 1/2 post industrial)																							
MR-5.1	Regional Materials, 20% Manufactured Regionally																							
MR-5.2	Regional Materials, 50% Extracted Regionally																							
MR-6	Rapidly Renewable Materials																							
MR-7	Certified Wood																							
Indoor Environmental Quality		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
EQ-P1	Minimum IAQ Performance																							
EQ-P2	Environmental Tobacco Smoke (ETS) Control																							
EQ-1	Carbon Dioxide Monitoring																							
EQ-2	Ventilation Effectiveness																							
EQ-3.1	Construction IAQ Management Plan, During Construction																							

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Appendix I

DoD Minimum
Antiterrorism Standards
for Buildings, Summary
Standoff Distances
(UFC 4-010-01)



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UFC 4-010-01
9 February 2012

Table B-1 Standoff Distances for New and Existing Buildings

Distance to:	Building Category	Standoff Distances				
		Applicable Level of Protection	Conventional Construction Standoff Distance		Minimum Standoff Distance ⁽²⁾	Applicable Explosive Weight ⁽³⁾
			Load Bearing Walls ⁽¹⁾	Non-Load Bearing Walls ⁽¹⁾		
Controlled Perimeter or Parking and Roadways without a Controlled Perimeter	Billeting and High Occupancy Family Housing	Low	A	C	18 ft (5.5 m)	I
	Primary Gathering Building	Low	A	C	18 ft (5.5 m)	I
	Inhabited Building	Very Low	B	D	18 ft (5.5 m)	I
Parking and Roadways within a Controlled Perimeter	Billeting and High Occupancy Family Housing	Low	E	G	12 ft (3.6 m)	II
	Primary Gathering Building	Low	E	G	12 ft (3.6 m)	II
	Inhabited Building	Very Low	F	H	12 ft (3.6 m)	II
Trash Containers	Billeting and High Occupancy Family Housing	Low	E	G	12 ft (3.6 m)	II
	Primary Gathering Building	Low	E	G	12 ft (3.6 m)	II
	Inhabited Building	Very Low	F	H	12 ft (3.6 m)	II

1. See Table B-2 for standoff distances.
2. For new construction, standoff distances less than those in this column are not allowed for new buildings regardless of analysis or hardening. For existing buildings that are constructed / retrofitted to provide the required level of protection, standoffs less than those in this column are allowed, but discouraged.
3. See UFC 4-010-02, for the specific explosive weights (pounds / kg of TNT) associated with designations I and II. UFC 4-010-02 is For Official Use Only (FOUO).

Table B-2 Conventional Construction Standoff Distances

Wall Type	Column Letter							
	A	B	C	D	E	F	G	H
Wood Studs – Brick Veneer	105 ft (32 m)	105 ft (32 m)	79 ft (24 m)	66 ft (20 m)	36 ft (11 m)	36 ft (11 m)	23 ft (7 m)	16 ft (5 m)
Wood Studs – EIFS	207 ft (63 m)	207 ft (63 m)	164 ft (50 m)	141 ft (43 m)	85 ft (26 m)	85 ft (26 m)	66 ft (20 m)	56 ft (17 m)
Metal Studs – Brick Veneer	187 ft (57 m)	108 ft (33 m)	207 ft ⁽²⁾ (63 m)	186 ft ⁽²⁾ (57 m)	75 ft (23 m)	43 ft (13 m)	82 ft ⁽²⁾ (25 m)	75 ft ⁽²⁾ (23 m)
Metal Studs – EIFS	361 ft (110 m)	207 ft (63 m)	420 ft ⁽²⁾ (128 m)	361 ft ⁽²⁾ (110 m)	151 ft (46 m)	85 ft (26 m)	167 ft ⁽²⁾ (51 m)	151 ft ⁽²⁾ (46 m)
Metal Panels	n/a ⁽¹⁾	n/a ⁽¹⁾	151 ft (46 m)	108 ft (33 m)	n/a ⁽¹⁾	n/a ⁽¹⁾	56 ft (17 m)	39 ft (12 m)
Girts	n/a ⁽¹⁾	n/a ⁽¹⁾	115 ft (35 m)	59 ft (18 m)	n/a ⁽¹⁾	n/a ⁽¹⁾	23 ft (7 m)	16 ft (5 m)
Reinforced Concrete	66 ft (20 m)	66 ft (20 m)	26 ft (8 m)	20 ft (6 m)	16 ft (5 m)	16 ft (5 m)	13 ft (4 m)	13 ft (4 m)
Unreinforced Masonry ⁽³⁾	262 ft (80 m)	262 ft (80 m)	125 ft (38)	33 ft (10 m)	80 ft (24 m)	80 ft (24 m)	26 ft (8 m)	16 ft (5 m)
Reinforced Masonry	86 ft (26 m)	86 ft (26 m)	30 ft (9 m)	20 ft (6 m)	30 ft (9 m)	30 ft (9 m)	13 ft (4 m)	13 ft (4 m)
European Block	164 ft (50 m)	164 ft (50 m)	59 ft (18 m)	30 ft (9 m)	39 ft (12 m)	39 ft (12 m)	23 ft (7 m)	16 ft (5 m)

1. Metal panels and girts are not considered primary structural members.
2. Non-load bearing steel studs are assumed to have slip-track connections. Closer distances may be obtained through non-standard detailing and analysis.
3. Only used for analysis of existing structures. Not allowed for new construction.

UFC 4-010-01
9 February 2012

Figure B-1 Standoff Distances – With Controlled Perimeter

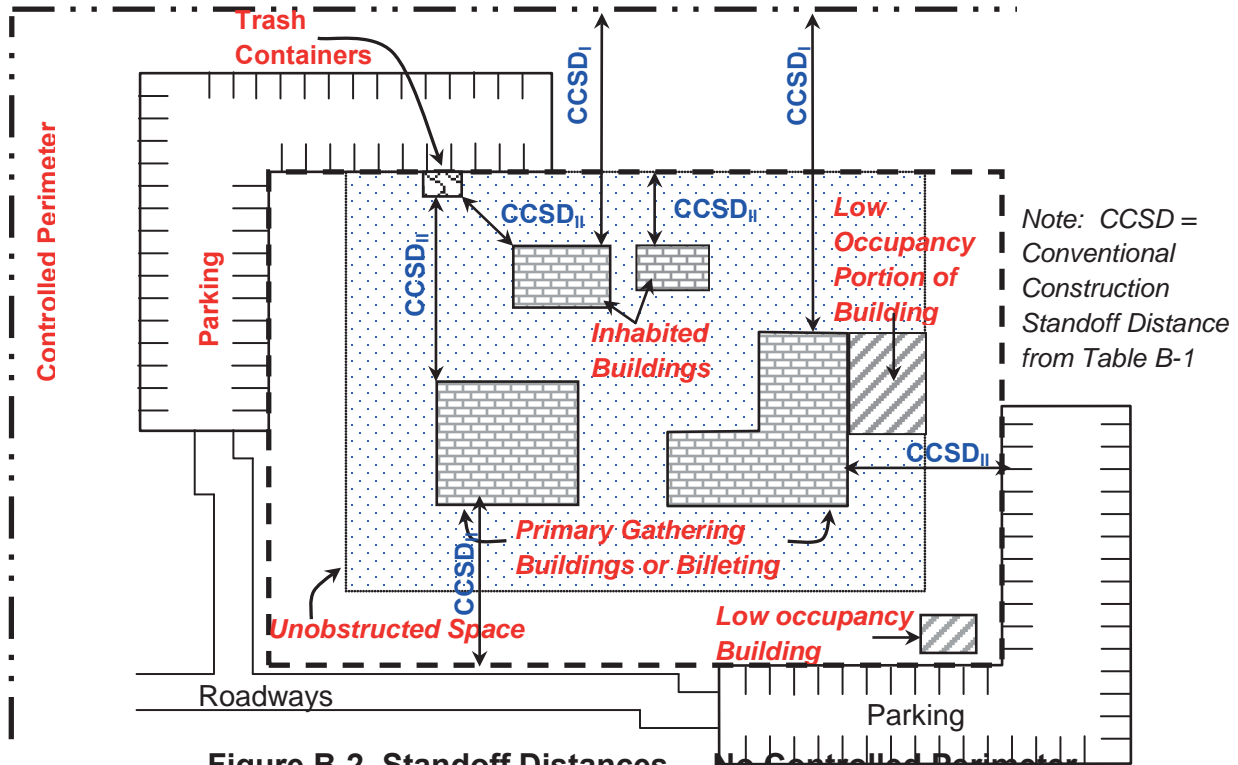
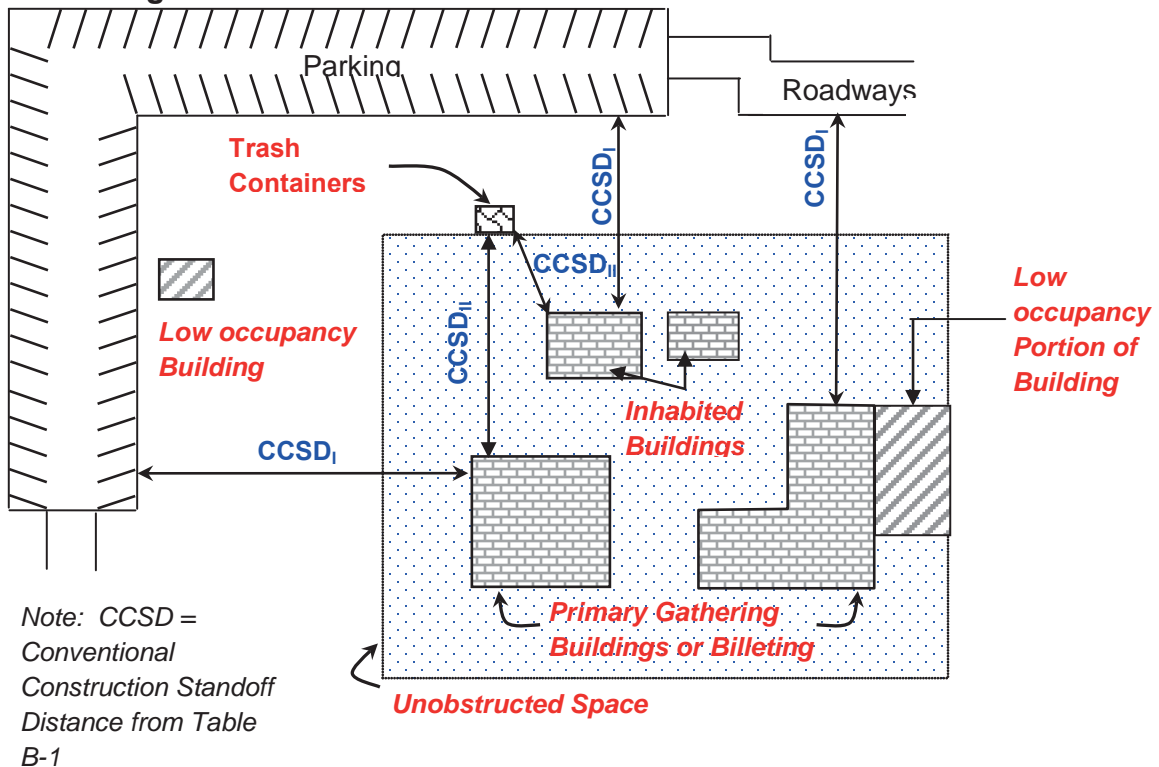


Figure B-2 Standoff Distances – No Controlled Perimeter



UFC 4-010-01
9 February 2012

Figure B-3 Parking and Roadway Control for Existing Buildings – Controlled Perimeter

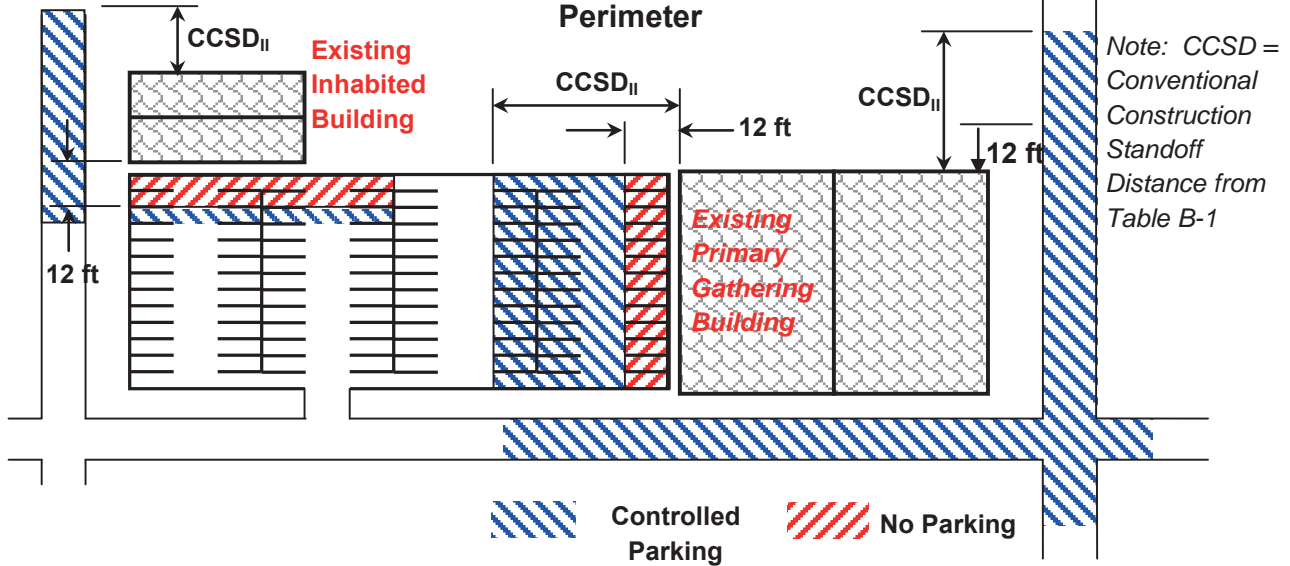
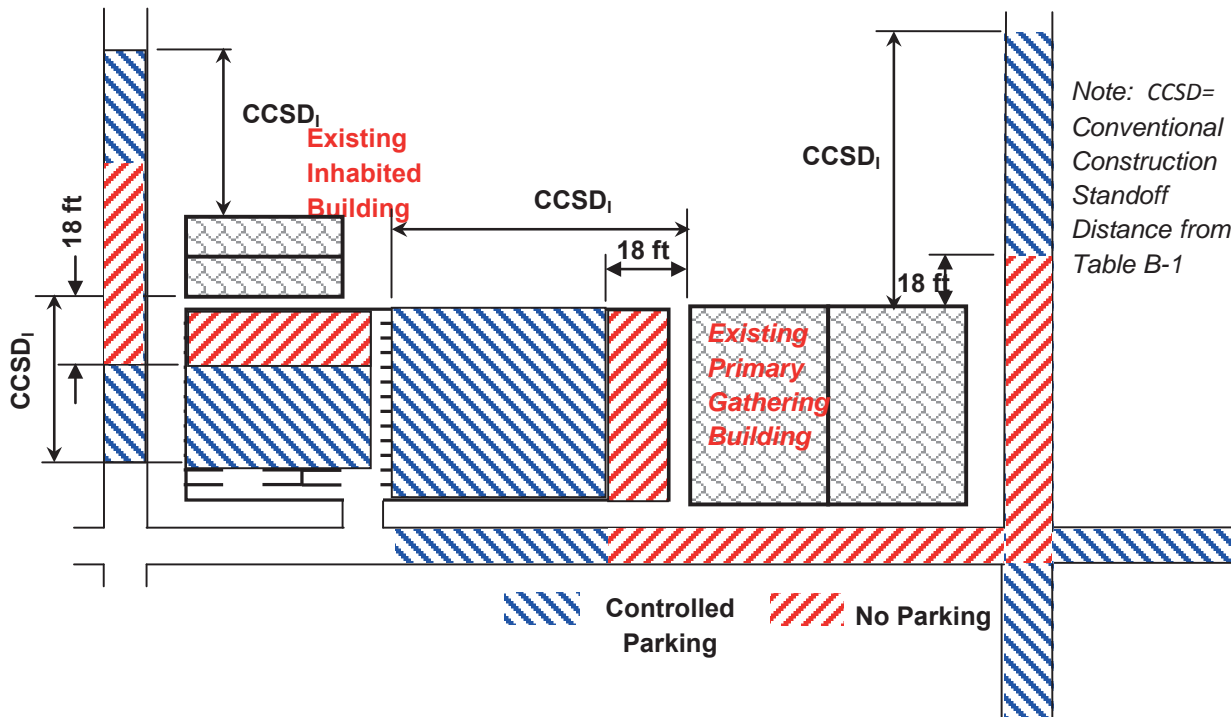


Figure B-4 Parking and Roadway Control for Existing Buildings – No Controlled Perimeter



Appendix J

REPLACEMENT BEQ & SUPPORT FACILITY/ ALTERNATIVE SITE SELECTION ANALYSIS



J.1 BEQ REPLACEMENT COMPLEX

J.1.1 Alignment of EIS, National Historic Preservation Act, and Master Plan Process

COMMUNITY PARTICIPATION PROCESS

Opportunities for the public to provide input on the projects proposed in support of MBW are being coordinated through the NEPA process, the Section 106 process, and the master planning process. The EIS and Section 106 public involvement processes began with a Notice of Intent (NOI) announcing intent to prepare the EIS, which was published in the *Federal Register* on September 6, 2013. The NOI formally initiated a 30-day public scoping process. Concurrently, an announcement of the NOI publication and information about the public scoping meeting were published in *The Washington Post* and *The Washington Business Journal*. During the public scoping process, the Marine Corps provided the public and interested parties with information on the proposal and via informative mailings, the project website (<http://mbweis.com/>), and a public scoping meeting held at John Tyler Elementary School (1001 G Street SE, Washington, DC, 20003) on September 24, 2013. The initial 30-day public scoping period was scheduled to close on October 7, 2013; however, the comment period was extended to October 25, 2013 due to the partial federal government shutdown that occurred from October 1, 2013 to October 16, 2013. The Marine Corps received 22 comments during the scoping period on topics ranging from the scope of the analysis, the alternative replacement BEQ Complex sites and their potential effects, the public/agency involvement process, and potential cumulative effects. For a more detailed discussion of the public involvement process and comments received during the process, see Section 1.4.1 of the Draft EIS.

An additional Section 106 public meeting was held on December 1, 2014 at King Greenleaf Recreation Center (210 N Street SW, Washington, DC, 20024). During this meeting, additional information was presented on the alternatives under evaluation in the Draft EIS and the analysis of potential effects on historic properties. The Advisory Council on Historic Preservation, as well as the public and other potential consulting parties were invited to comment on potential effects on historic properties. The Marine Corps accepted Section 106-related comments on projects proposed in the Draft EIS through December 31, 2014. The Capitol Hill Restoration Society was the only entity to submit comments.

The public and interested parties will also have an opportunity to review and comment on the Draft EIS and Draft Master Plan in April of 2015, and to review both the Final EIS and Final Master Plan in the fall of 2015.

AGENCY COORDINATION

The agency coordination efforts associated with the EIS, Section 106, and master planning processes have also been aligned. The most notable agency coordination to date includes the following:

- » **NCPC and DCOP are acting as cooperating agencies on the MBW EIS. As such, these agencies conducted a “Cooperating Agency” review of the document prior to the public release of the Draft EIS (scheduled for April 2015).**
- » **GSA, NCPC, and ANC 6B are acting as consulting parties under Section 106.**
- » **The NCPC Master Plan submittal process includes additional coordination with NCPC on master plan development.**

COMPREHENSIVE PLAN COMPLIANCE

The Master Plan was developed in compliance with the NCPC Comprehensive Plan for the National Capital. The Federal Elements of the Comprehensive Plan provides specific guidance for the planning, location and development of federal facilities within the NCR and are organized into seven key elements; Federal Workplace; Missions and International Organizations; Transportation; Parks and Open Space; Federal Environment; Preservation and Historic Features; and Visitors.

The Federal Elements are framed around three guiding principles:

- » **Accommodate Federal and National Capital Activities**
- » **Reinforce “Smart Growth” and Sustainable Development Planning Principles**
- » **Support Local and Regional Planning and Development Objectives**

The Master Plan, including the proposed replacement BEQ Complex project, fully support these principles. To support the first guiding principle, the proposed Master Plan (including the replacement BEQ Complex project) continues to promote the highest standards of design and planning to continue the tradition of the integration of MBW properties and activities with the Capitol Hill and Near Southeast neighborhoods through the enhancement of the beauty and order of all MBW properties and preservation of the historic Main Post. In support of the second guiding principle, the Master

Plan promotes sustainable practices such as compact development, pedestrian-oriented and walkable environment, and reduced reliance on automobile use and parking. The master planning process supports the third guiding principle by promoting consistency with local and regional plans and ongoing intergovernmental

coordination and public participation through the Master Plan, NEPA, and Section 106 planning processes. Compliance with the DC Comprehensive Plan is reviewed in Table J-1 for each alternative replacement BEQ Complex site.

JTable J-1 Consistency with the Federal Elements of the DC Comprehensive Plan

COMPREHENSIVE PLAN ELEMENT/POLICY	ALTERNATIVE 1 SITE A	ALTERNATIVE 2 SITE B
Workplace Element		
District of Columbia and the Monumental Core	- Supports the policy by locating the BEQ within the District of Columbia	- Same as Alternative 1
Regional Distribution of Federal Workplace	<ul style="list-style-type: none"> - Provides for operational efficiency and productivity for enlisted Marines residing at the BEQ and those who would utilize the support facilities - Close proximity to the MBW Main Post permits unit cohesion and allows the MBW Commanding Officer to maintain adequate command and control of the enlisted Marines assigned to the BEQ 	- Same as Alternative 1
Existing Facilities and Resources	<ul style="list-style-type: none"> - Not possible to renovate the current BEQ (Building 20) to meet requirements or correct the numerous deficiencies at the Building 20 site including force protection, minimum space requirements, QOL, life safety, sustainability, and energy efficiency - A federal site would not be used 	- Same as Alternative 1
Coordination with the Community	<ul style="list-style-type: none"> - Would be built within the urban environment, revitalizing the surrounding areas, would be compatible with pedestrian activity, and within close proximity to public transportation - A segment of L Street SE would be closed to vehicular and pedestrian traffic and street parking; however, sidewalks would be constructed around the perimeter of the BEQ complex consistent with the historical context and character of the Capitol Hill Historic District - No effect on public access to the adjacent Virginia Avenue Park and community gardens 	- Same as Alternative 1 except the effected segment of L Street would remain open for pedestrian use
Business Development	<ul style="list-style-type: none"> - Promotes revitalization of underdeveloped area - Shifts MBW population south towards M Street, providing potential expansion in customer base for businesses in the area 	- Same as Alternative 1
Building and Development	- Would comply with local building codes, including the Height Act	- Same as Alternative 1
Energy Efficiency	- Would be designed and constructed in accordance with LEED Silver standards and using LID principles in accordance with DoD guidance documents	- Same as Alternative 1
Working Environment	<ul style="list-style-type: none"> - Would contribute to the health, safety, welfare, and productivity of those residing at or using the BEQ complex - Would to locate the BEQ complex within a short walking distance to local restaurants and businesses, the Main Post, transportation, and parks and recreation 	- Same as Alternative 1
Security	<ul style="list-style-type: none"> - Designed and constructed in accordance with AT/FP and Physical Security requirements - Perimeter fencing would be designed and constructed in a manner that is consistent with the Main Post fencing, protects the viewshed of the Capitol Hill District, would not have an impact on vehicular traffic, or impede pedestrian circulation surrounding the BEQ complex 	- Same as Alternative 1

ALTERNATIVE 3 SITE C	ALTERNATIVE 4 SITE D	ALTERNATIVE 5 SITE E
- Same as Alternative 1	- Same as Alternative 1	- Same as Alternative 1
- Same as Alternative 1	- Same as Alternative 1	- Same as Alternative 1
- Same as Alternative 1, except that the site is federally owned and is subject to the SEFC "The Yards" Master Redevelopment Plan, including the developer (Forest City)	- Same as Alternative 1, but utilizes existing DoD sites and limits long-term reuse options for Building 20 site	- Same as Alternative 4
- Would be generally consistent with planned use of the site under the SEFC "The Yards" Master Redevelopment Plan, but military residential use would differ in character and density as compared to the planned community residential	- Would be constructed to be consistent with historical context and character of WNY - Would be in close proximity to public transportation	- Would be constructed to be consistent with the character of the Annex, though it would require violation of 6th Street viewshed - Would be in close proximity to public transportation
- Planned development of this area could occur more quickly than under the SEFC "The Yards Master Redevelopment Plan" - Business development supported by military residential would be different than planned community residential	- Same as Alternative 1	- No effect
- Same as Alternative 1	- Same as Alternative 1	- Same as Alternative 1
- Same as Alternative 1	- Same as Alternative 1	- Same as Alternative 1
- Same as Alternative 1	- Same as Alternative 1	- Same as Alternative 1
- Same as Alternative 1	- Would comply with WNY and USMC security measures and requires reduced AT/FP setbacks since since the site is located within a secured perimeter	- Would comply with WNY and USMC security measures and requires reduced AT/FP setbacks since since the site is located within a secured perimeter

Table J-1 Compliance with DC Comprehensive Plan (Continued)

COMPREHENSIVE PLAN ELEMENT/POLICY	ALTERNATIVE 1 SITE A	ALTERNATIVE 2 SITE B
Transportation Element	<ul style="list-style-type: none"> - Parking would primarily be located below ground - Would provide a 1:4 parking ratio for employees, consistent with the parking policy - Segments of roads within the site would be closed to vehicular and pedestrian traffic 	<ul style="list-style-type: none"> - Same as Alternative 1 except that the affected segment of L Street would remain open to pedestrian use
Transportation Management Plans	<ul style="list-style-type: none"> - A Transportation Management Plan was prepared 	<ul style="list-style-type: none"> - Same as Alternative 1
Parks and Open Space Element	<ul style="list-style-type: none"> - No effect 	<ul style="list-style-type: none"> - Same as Alternative 1
Federal Environment Element		
Air Quality	<ul style="list-style-type: none"> - BMPs and SOPs would be implemented during construction to reduce emissions - Over the long-term, emissions would be reduced by the replacement of existing stationary sources with more energy efficient, state-of-the art units 	<ul style="list-style-type: none"> - Same as Alternative 1
Water Quality/Water Supply	<ul style="list-style-type: none"> - All Federal and DC guidelines for construction permitting would be adhered to, including adherence with SWPPP BMPs to prevent sediment discharge into water bodies - Design and construction would be in accordance with LEED Silver standards and using LID principles 	<ul style="list-style-type: none"> - Same as Alternative 1
Stormwater	<ul style="list-style-type: none"> - All federal and DC guidelines for stormwater management would be adhered to. - Stormwater management would be designed according to the DC Stormwater Management Guidebook - Stormwater design would include bioretention and dry swales 	<ul style="list-style-type: none"> - Same as Alternative 1
Vegetation	<ul style="list-style-type: none"> - New native trees and vegetation would be added 	<ul style="list-style-type: none"> - Same as Alternative 1
Human Activities	<ul style="list-style-type: none"> - Construction noise would be managed to comply with local noise ordinances and mitigated near sensitive receptors 	<ul style="list-style-type: none"> - Same as Alternative 1
Preservation and Historic Features Element		
National Capital Image	<ul style="list-style-type: none"> - Would adhere to the high aesthetic standards established in DC, protecting the horizontal character and skyline by limiting the height of the BEQ complex, and protecting vistas and views of the area 	<ul style="list-style-type: none"> - Same as Alternative 1
Stewardship of Historic Properties	<ul style="list-style-type: none"> - A Section 106 agreement document will be developed to resolve adverse effects on historic properties - Based on the stipulations adopted in the agreement document, there would be no significant impacts to NRHP-listed or eligible cultural resources - Archeological monitoring would be conducted during construction to determine the presence of archaeological sites in compliance with Section 106 - Marine Corps would work cooperatively with local agencies to ensure that the historic character of adjacent properties will not be affected 	<ul style="list-style-type: none"> - Same as Alternative 1, but no historic properties listed on the National Register of Historic Places would be physically impacted by construction of the BEQ complex
Historic Plan of Washington DC	<ul style="list-style-type: none"> - Adverse effects to the L'Enfant Plan would result from closing L Street SE and constructing within the L Street viewshed 	<ul style="list-style-type: none"> - Would not adversely affect the L'Enfant Plan, as the L Street ROW segment would remain the same and the open space above the street would be maintained.
Visitors Element	<ul style="list-style-type: none"> - No effect 	<ul style="list-style-type: none"> - Same as Alternative 1

ALTERNATIVE 3 SITE C	ALTERNATIVE 4 SITE D	ALTERNATIVE 5 SITE E
- Same as Alternative 1, except localized transportation network planning would differ than under the SEFC "The Yards" Master Redevelopment Plan	- No additional parking would be constructed at WNY	- No additional parking would be constructed at the Annex
- Same as Alternative 1	- Same as Alternative 1	- Same as Alternative 1
- Same as Alternative 1	- Same as Alternative 1	- Same as Alternative 1
- Same as Alternative 1	- Same as Alternative 1	- Same as Alternative 1
- Same as Alternative 1	- Same as Alternative 1	- Same as Alternative 1
- Same as Alternative 1	- Same as Alternative 1	- Same as Alternative 1, except stormwater design utilizes permeable pavement and green roof instead of bioretention and dry swales
- Same as Alternative 1	- Same as Alternative 1	- Same as Alternative 1
- Same as Alternative 1	- Same as Alternative 1	- Same as Alternative 1
- Same as Alternative 1	- Same as Alternative 1	- Same as Alternative 1
<p>- No historic properties listed on the NRHP, nor contributing elements to the WNY would be physically impacted by construction of the BEQ complex.</p> <p>- Would adhere to Programmatic Agreement and Historic Covenant on the transferred land that includes stipulations requiring the development to be carried out in accordance with Historic Preservation Guidelines and undertaken in consultation with the DC HPO, ACHP, and consulting parties</p>	<p>- No historic properties listed on the NRHP, nor contributing elements to the WNY would be physically impacted by construction of the BEQ complex.</p> <p>- Would consult under Section 106 to ensure exterior of the BEQ complex would be compatible with the architectural context of the WNY</p>	<p>- No historic properties listed on the NRHP, nor contributing elements would be physically impacted</p>
- No effect	- No effect	- Would adversely affect a segment of the 6th Street viewshed of the L'Enfant Plan
- Same as Alternative 1	- Same as Alternative 1	- Same as Alternative 1

PLANNING REQUIREMENTS

The MBW facility and parking requirements are the driver for the Master Plan, EIS, and Section 106 processes. Facility planning requirements for MBW are established through the BFR process and were updated in December 2013 (Chapter 7, Tables 7-2 and 7-3). Specific facility and parking space requirements for the proposed replacement BEQ Complex are discussed here because they are relevant in identification of the alternatives.

Facility Space Requirements

Table J-2 provides the BEQ and support facility requirements that would be accommodated by the proposed replacement BEQ Complex. Programmed requirements for the replacement BEQ Complex are supported by MILCON P516-B. Enlisted BEQ space is based on providing 125 2+0 Standard Marine BEQ rooms (538 SF/ 50 square meters per room). Applied Instruction and administrative space requirements accommodate needs of the Drum and Bugle Corps and Companies Alpha and Bravo including training, classroom, and rehearsal rooms. Other functions are sized to support the entire MBW population and are currently housed in Building 20, including the dining facility, indoor fitness center, and armory.

Table J-2 Facility Requirements

CCN	FUNCTION	AREA (SF)	AREA (SM)
14345	Armory	3,500	325
17120	Applied Instruction	19,106	1,775
61010	Administrative	9,700	901
72124	BEQ - Marine E1-E4	67,274	6,250
72210	Enlisted Dining Facility	14,521	1,349
74044	Indoor Physical Fitness Center	2,000	186
85310	Parking Building	75,304	6,996
	Total Building Area	191,405	17,782

Source: NAVFAC Washington

Parking Space Requirements

As discussed in Chapters 3 and 7, MBW parking requirements comply with the NCPC parking allowance ratio of one space per four employees (or commuters), and the UFC parking allowance of one space for 70 percent of the residential (BEQ) military population. Based on personnel loading, the military commuter population at MBW is 781 personnel (641 reporting to MBW), and the residential (BEQ) military population is 500 personnel. The existing MBW parking to be retained under all alternatives includes the Annex parking

garage and parking at the Main Post. The parking requirement that would be accommodated in the proposed BEQ replacement project is 212 spaces, which was calculated as follows:

- » **Commuter (Military) Parking Requirement**
641 commuters X 0.234 (1:4.27 parking ratio at MBW)
= 150 commuter spaces
- » **Residential (Military) Parking Requirement**
500 residents X 0.70 (70% UFC parking requirement)
= 350 residential spaces
- » **TOTAL Parking Requirement (MBW Installation)**
150 residential spaces + 350 commuter spaces
= 500 subtotal spaces
- » **TOTAL Parking Requirement (BEQ Complex)**
500 required spaces - 288 spaces (Existing Building 26)
= 212 Total spaces
(Equal to existing spaces in Building 20)

Parking requirements in the proposed alternatives would be met through structured parking facilities, above or below ground. Requirements may be met either through new construction or retention of the existing below-grade parking in Building 20 (212 spaces). No surface lots are proposed to meet this requirement.

SITING CRITERIA

The three key planning criteria used to develop a reasonable range of alternative replacement BEQ Complex sites to be analyzed in the Draft EIS, Master Plan, and Section 106 process include:

Criterion 1

Must be within reasonable walking distance (2,000-foot radius) of the Main Gate entrance to the MBW Main Post (Figure J-1). The NCPC Comprehensive Plan for the NCR defines “reasonable walking distance” as “2,000 feet”, or somewhere between a quarter mile and a half mile - about a 10-minute walk”. Consistent with widely accepted planning principles, a radial distance of 2,000 feet from the destination point (the MBW Main Post Main Gate) was used to define “reasonable walking distance” for the Proposed Action. This reasonable walking distance criterion is required for operational efficiency, unit cohesion, safety, and ensuring that the MBW Commanding Officer can maintain adequate command and control of the enlisted Marines assigned to the BEQ.

Criterion 2

Must meet the minimum developable area requirements for the approximately 191,405-SF BEQ Complex (which includes supporting facilities and parking) at a single site (while also complying with applicable laws governing height restrictions) or for DOD-owned sites only at a split site that retains the existing parking

Figure J-1 Alternative Site Locations



Legend

- Alternative Site (Federal)
- Alternative Site (Private)
- 2,000-FT Walking Radius
- MBW Installation
- Washington Navy Yard
- Surrounding Parks and Open Space
- Surface Water
- # Walking Time (minutes) to Main Post
- M Metro Rail Station
- # Local Transit Routes
- CSX Virginia Ave RR Tunnel
- M Metro Rail Station
- # Local Park

assets below Building 20 and replaces the remaining BEQ Complex functions (approximately 116,101 SF). Table J-3 summarizes the site acreage estimates for 5 replacement BEQ Complex configurations. The acreage estimates include a minimum stand-off distance of 66 feet for vehicles and 33 feet for pedestrians (Figures J-2 through J-4). The acreage estimates for the 5-, 8-,

Figure J-2 Minimum Site Analysis, 5-Stories

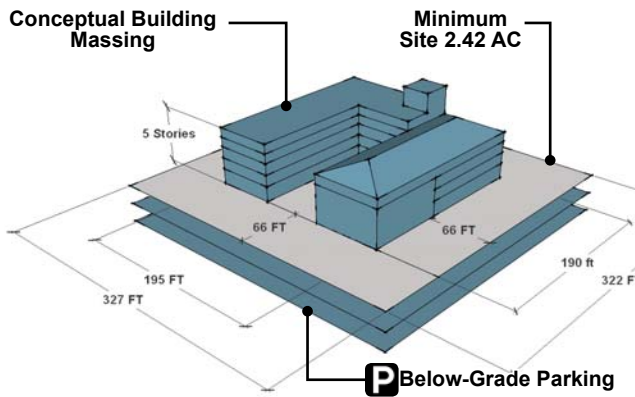


Figure J-3 Minimum Site Analysis, 8-Stories

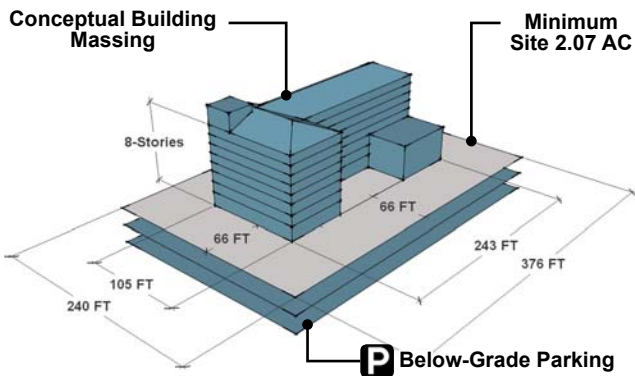
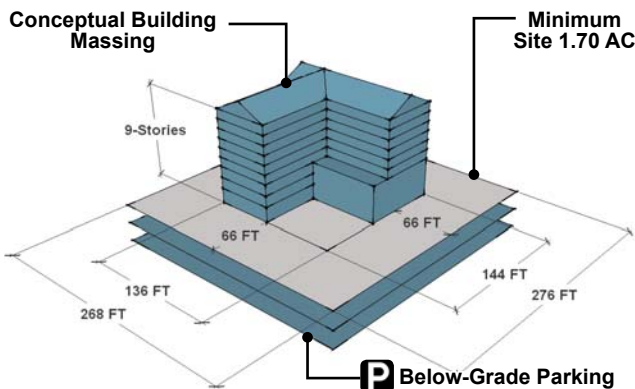


Figure J-4 Minimum Site Analysis, 9-Stories



and 9-story BEQ Complex alternatives also include the parking requirement of 212 spaces underground, but not directly beneath the enlisted quarters or gathering areas due to AT/FP standoff distance requirements. The 5/6- and 6/7-story acreage estimates meet the parking requirement by retaining the existing parking beneath Building 20. The acreage estimate includes a minimum stand-off distance of 66 feet for vehicles and 33 feet for pedestrians.

Table J-3 Minimum Acreage Planning Estimate

BEQ & SUPPORT FACILITIES CONFIGURATION	MIN SITE (AC)
5-Story BEQ Complex (Figure J-2)	2.42
8-Story BEQ Complex (Figure J-3)	2.07
9-Story BEQ Complex (Figure J-4)	1.70
5/6-Story BEQ Complex, Parking at Building 20	0.78
6/7-Story BEQ Complex, Parking at Building 20	0.48

Criterion 3

Must not relocate public services to DC residents, to include public housing, education, or public recreation services. This criterion refers to areas dedicated to public services, and is not intended to include supporting elements such as roads, parking, sidewalks, and utilities.

RELATIONSHIP OF FIVE ALTERNATIVE SITES TO MBW MISSION

All of the alternative sites identified for the replacement BEQ Complex would support the MBW mission by equally accommodating the facility and parking requirements identified for the replacement BEQ Complex. Points of note with respect to relationship with the MBW mission are as follows:

- » Sites A, B, C, and D would increase the overall footprint of MBW property and associated responsibilities. The functional relationships between these sites and the existing MBW property would be a similar campus style complex integrated with the surrounding neighborhood.
- » Site E would result in disruption of mission during construction and require revision of the existing memorandum of understanding with agencies regarding cultural resources and the preservation of the 6th Street L'Enfant viewshed.
- » Sites A, B, and C do not utilize the parking at the Building 20 site, which allows for a greater range of long-term options for MBW and potentially community use of the Building 20 site.
- » Sites D and E require that the below-grade parking at Building 20 be retained to meet the MBW parking requirement. These two alternatives limit long-term reuse options for the Building 20 site and result in

differing functional relationships between the MBW properties than the other three alternatives.

J.1.2 BEQ Replacement Complex Alternative Sites

ALTERNATIVE 1

Land Use & Zoning

Site A is currently zoned "C-3-A", which includes medium density mixed-use development land uses and is within the ES Overlay District (Figure J-5 and J-6). The future land use designation for Site A is Mixed-Use CMOD/RMOD. Existing parcel and land use data for privately owned land to be acquired under this alternative are detailed in Table J-4. The buildings within Squares 929 and 930 are included in the Capitol Hill Historic District. If the land is acquired by the Marine Corps and rezoned as Federal, the 45-foot height limit established by the 1999 Eighth Street Overlay District would not be applicable as DC Zoning does not apply to federally owned lands. However, the Height Act would apply and the maximum building height for Site A is 90 feet (measured from Virginia Avenue). Under Alternative 1, the Marine Corps would acquire privately owned land and secure a government-owned ROW for the proposed BEQ Complex. The proposed development of Site A would require the rezoning to unzoned/federal.

Table J-4 Privately Owned Land to be Acquired Under Alternative 1

AREA (SF)	PARCEL ADDRESS	LAND USE TYPE	CURRENT USE
Square 929			
439	810 L Street SE	Residential-Single Family	Capitol Tax Group
419	808 L Street SE	Residential-Single Family	International Action
396	811 Virginia Avenue SE	Commercial	Sealander Brokerage Offices
435	809 Virginia Avenue SE	Commercial	Sealander Brokerage Offices
6,059	821 Virginia Avenue SE	Commercial	Dog-Ma Daycare
Square 930			
7,648	801 Virginia Avenue SE	Garage/Unimproved Land	Vacant - "Admiral at Barracks Row" Concept Development
2,900	1100 8th Street SE	Commercial	Chicken Tortilla
1,245	Potomac Avenue SE	Garage/Unimproved Land	Vacant

Figure J-5 Alternative 1 Site A, DC Land Use Map



Legend

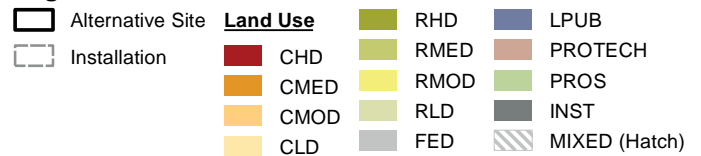
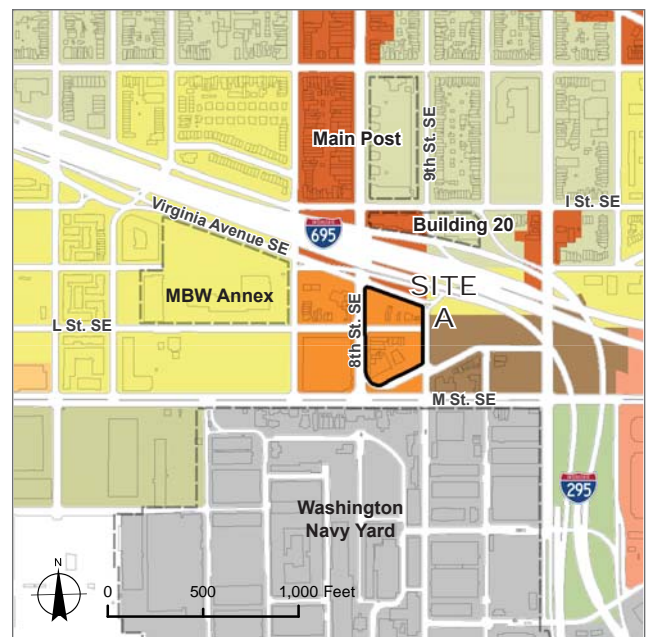


Figure J-6 Alternative 1 Site A, DC Zoning Map



Legend

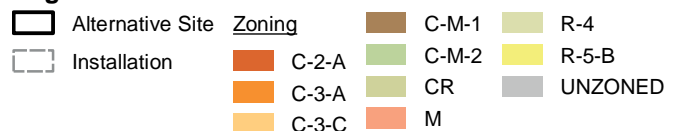


Figure J-7 Alternative 1 Site A, Existing Conditions



Legend

- Alternative Site
- Existing Buildings to be Demolished
- Installation Boundary
- Historic District Boundary
- L'Enfant Streets ROW
- Railroad Tunnel (CSX)
- Elevation Contour (2 FT)
- Historic Landmarks
- Public Transit Routes
- Public Transit Stops
- Vehicle Site Entrance/Exit
- On-Street Parking

AREA (SF)	PARCEL ADDRESS	LAND USE TYPE	CURRENT USE
1,711	815 L Street SE	Commercial	Residential
73	813 L Street SE	Garage/Unimproved Land	Residential
1,043	817 L Street SE	Residential-Single Family	For Sale
25	L Street SE	Garage/Unimproved Land	For Sale
1,245	Potomac Avenue SE	Commercial	Vacant
1,687	819 L Street SE	Residential-Single Family	International Action
630	1103 9th Street SE	Commercial	Vacant
91	819 R L Street SE	Garage/Unimproved Land	Vacant
1,991	Potomac Avenue SE	Commercial	Vacant
1,550	811 L Street SE	Commercial	Fuller's Barber Shop
6,396	816 Potomac Avenue SE	Residential-Multi Family	Residential
630	1105 9th Street SE	Commercial	Vacant
964	823-825 L Street SE	Commercial	Vacant
2,274	9th Street SE	Commercial	Vacant
8,598	810-1120 Potomac Avenue SE	Commercial	Family Preservation Services
6,306	1102-1104 8th Street SE	Commercial	Levis Port Café; The Bachelors Mill/Backdoor Pub

Existing Conditions

Alternative 1 would develop Site A to accommodate the proposed replacement BEQ Complex. Under this alternative, the Marine Corps would acquire 3.0 acres of land included at Squares 929 and 930, and a 340-foot segment of L Street between 8th and 9th Streets SE (Figure J-7). The affected segment of L Street SE would be closed to vehicular and pedestrian traffic and on-street parking, as it is expected that the replacement BEQ Complex construction would occur within the L Street ROW, affecting the L'Enfant Plan viewshed of this ROW segment.

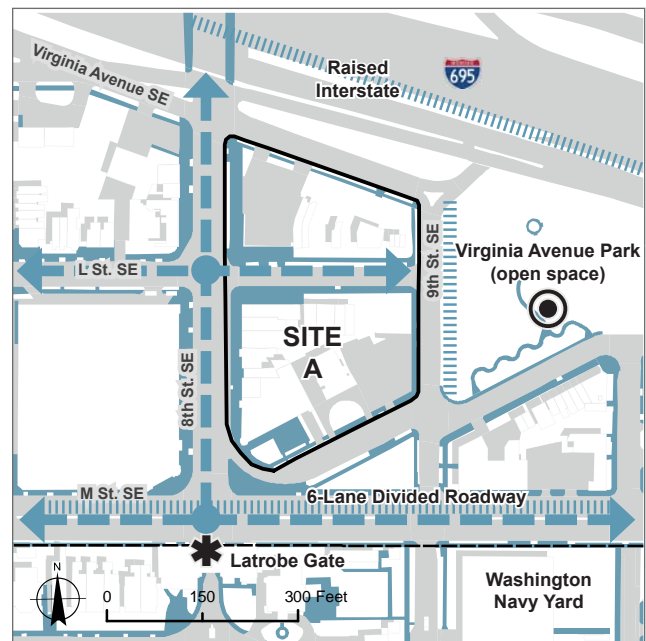
The site is generally flat, and abuts Virginia Avenue Park and Community Garden to the east. The primary street frontage is defined by 8th Street SE which runs north-south along the western boundary. The site

has prominent views of M Street SE to the south, and overlooks Virginia Avenue Park to the east. Site A is also adjacent to a small open space park at the intersection of 9th and M Streets SE. M and 8th Streets SE are the primary nearby transit corridors with bus stops located at the intersections of 8th and L Streets SE, and 8th and M Streets SE. The proposed DC Streetcar route will also follow 8th and M Streets SE corridors. On-street parking surrounds the site on all sides and will remain, with the exception of the L Street ROW to be closed.

Existing Urban Framework

Site A is formed by two city blocks that are framed by existing tree-lined residential and commercial street networks with on-street parking (Figure J-8). The site is within walking distance to the Main Post, MBW Annex, Barracks Row commercial areas, WNY, and the Eastern Market and Navy Yard Metro Stations. The northern boundary is bounded by the raised interstate and the future Virginia Avenue streetscape including a shared-use path. The primary street frontage for Site A is 8th Street SE (approximately 535 feet), although M Street frontage remains significant. Surrounding existing buildings frame the western (7th Street SE) and southern (M Street SE) edges and range from 2 to 4 stories. A positive open space asset to Site A is the adja-

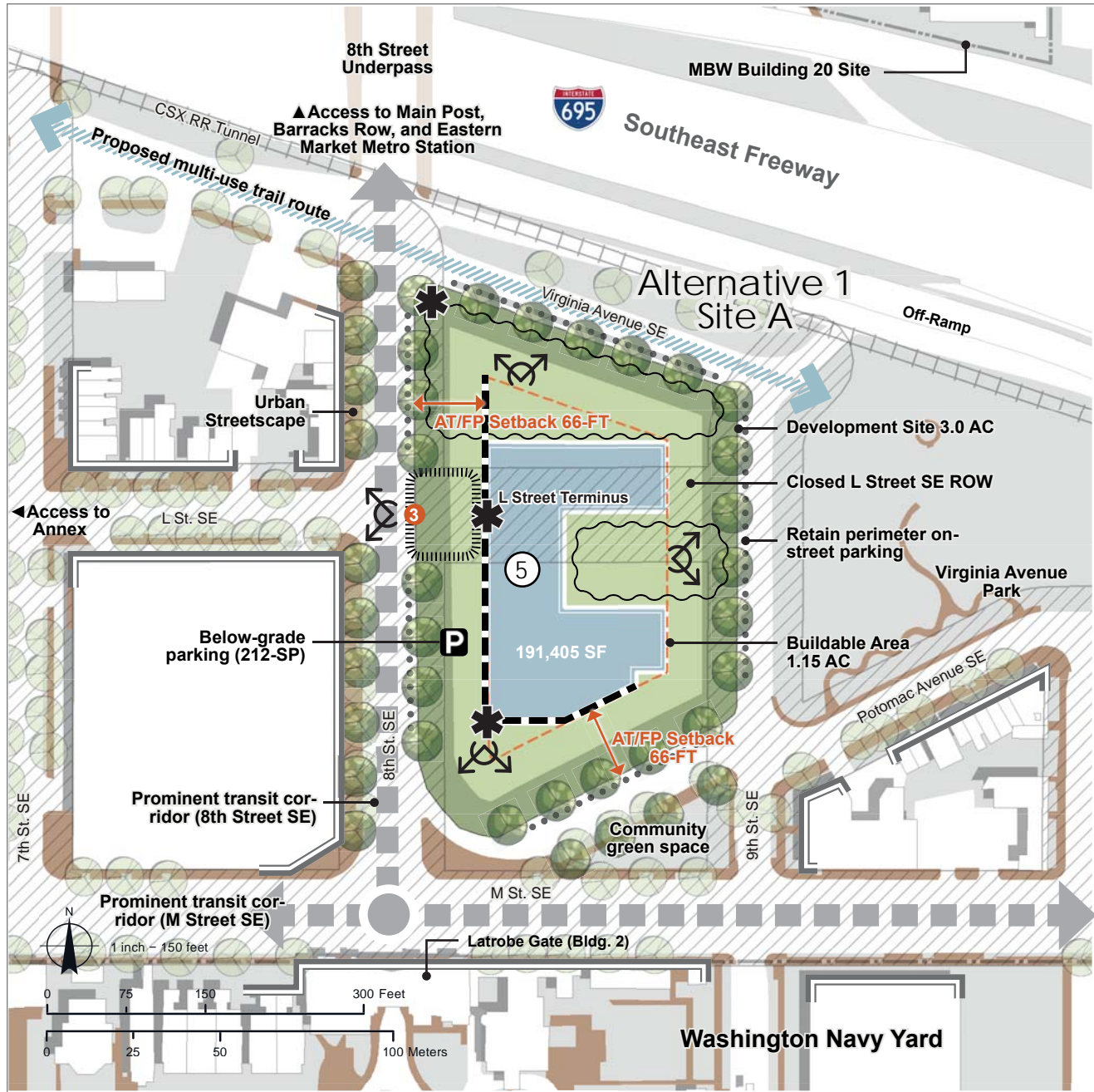
Figure J-8 Alternative 1 Site A, Existing Framework



Legend

- Path (Vehicle)
- Path (Pedestrian)
- Edge
- Alternative Site
- District Boundary
- Node
- Landmark

Figure J-9 Alternative 1 Site A, Proposed Design Concept



Legend

- | | | |
|-----------------------------|-----------------------|-------------------------------------|
| Notional Building Footprint | Existing Sidewalks | Prominent View/Vista |
| Alternative Site | Railroad Tunnel (CSX) | Primary Facade |
| AT/FP Setback | Transit Corridor | Focal Point |
| Pedestrian Buffer (33 FT) | Street Tree | Walking Time (minutes) to Main Post |
| Installation Boundary | Existing Urban Edge | Proposed Open Space |
| L'Enfant Streets ROW | On-street Parking | Proposed Primary Entry Zone |
| | | Proposed Building Height (Stories) |

cent Virginia Avenue Park which provides a terminus to L Street SE and visual relief to the urban surroundings.

Historic Resources

The site is located in the Capitol Hill Historic District and would require the demolition of contributing resources. Table J-5 includes a summary of impacts to cultural resources for Alternative 1.

Table J-5 Alternative 1 Impacts to Cultural Resources

IMPACTS TO CULTURAL RESOURCES FROM ALTERNATIVE 1
Adverse effects to the Capitol Hill Historic District by demolishing contributing resources and to the L'Enfant Plan by closing L Street SE.
Visual impacts would result in adverse effects to the WNY NHL, the Main Gate, Quarters A, Quarters B, Washington and Georgetown Railroad Car House, and Capitol Hill Historic District
No adverse effects to the US Marine Corps Barracks, Commandant's House, or the Capitol Hill Historic District from the renovation projects and the projects to foster integration of MBW with the community
Potential to impact archaeological resources at replacement BEQ Complex, Main Post renovation projects, and projects to foster MBW integration with the community

IMPACTS TO CULTURAL RESOURCES FROM ALTERNATIVE 1

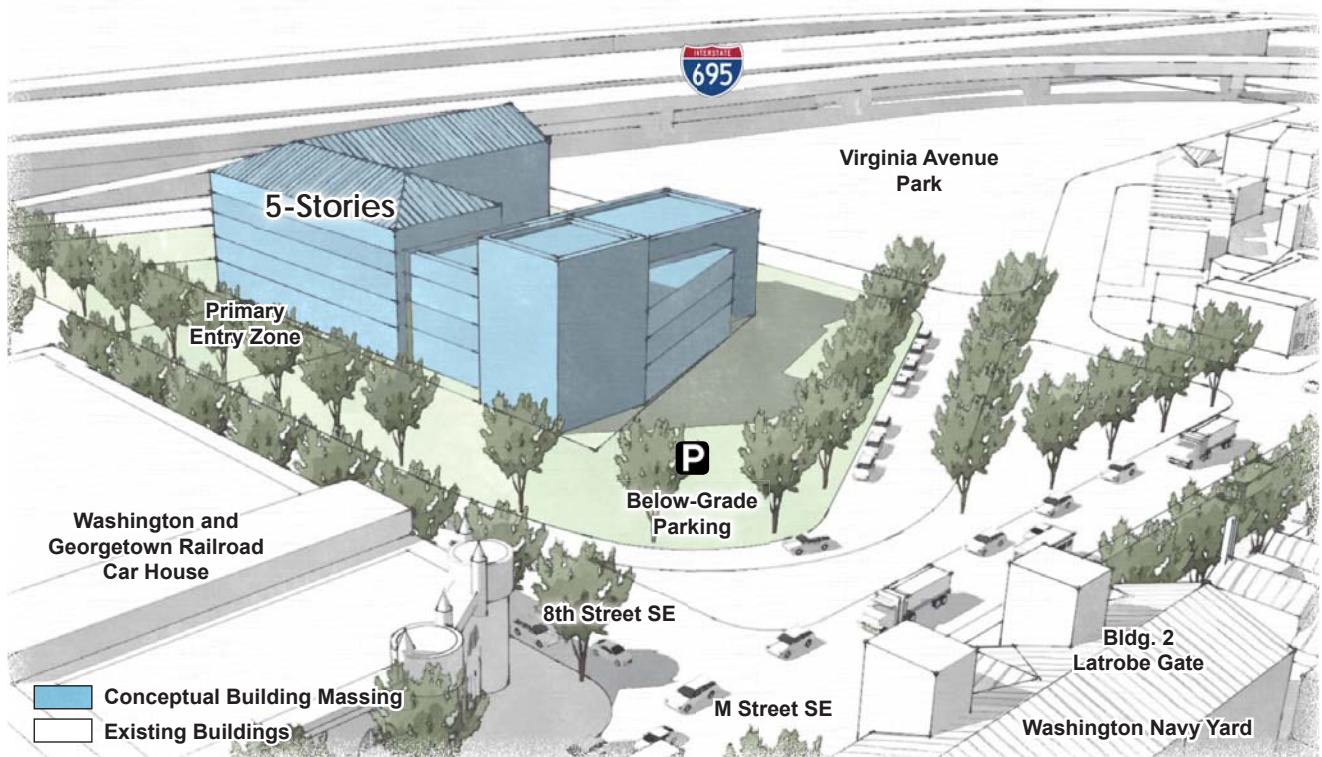
The Marine Corps' overall finding of effect is "historic properties adversely affected." A Section 106 agreement document will be developed to resolve adverse effects

Based on the stipulations adopted in the agreement document, there would be no significant impacts to NRHP-listed or eligible cultural resources

Proposed Design Concept

The proposed development of Alternative 1 would construct a 5-story BEQ Complex with below-grade parking to meet the programmed requirement. Figures J-9 and J-10 illustrate one possible concept that sites the proposed facility at Site A within the buildable footprint. The proposed complex would be an extension of the MBW campus and consistent with the Master Plan vision, IDS, and IAP requirements. Development would include the demolition of 14 existing structures at Site A. A key change from the existing urban framework includes the L Street ROW, which would be closed under Alternative 1. The future urban framework for Site A would reinforce the urban fabric with a strong building edge along 8th Street SE. The proposed structure's primary facades would include 8th and M Streets SE, with the main site access and building entry

Figure J-10 Alternative 1 Site A, Notional Development



along 8th Street SE. Site security would require development to be in compliance with current AT/FP stand-off distance requirements, placing the building's exterior 66 feet from the edge of pavement on all sides. Security includes a perimeter fence and controlled access for pedestrians and vehicles.

Comprehensive Plan Compliance

Table J-1 provides a summary and comparison of the compliance of all alternatives with the Comprehensive Plan Elements and applicable policies.

Compliance with DC District of the Environment 2013 Water Quality Regulations

Under Alternative 1, the building footprint would be approximately 22,000 SF on a site of approximately 110,000 SF. An additional 20 percent of the building area on the site is assumed to be impervious due to sidewalks and driveways. The remainder of the site soils are assumed to be pervious in compacted condition due to the developed nature of the site. The stormwater retention volume is approximately 35,000 gallons and the water quality treatment volume is approximately 15,000 gallons. The required site setbacks and "L" shaped building indicate the use of dry swales and bioretention areas to achieve stormwater goals consistent with the water quality regulations promulgated by the DC District of the Environment in 2013. A dry swale can be located on the east and south sides of the building with a bioretention area on the northwest side.

ALTERNATIVE 2

Land Use & Zoning

The future land use designation for Site B is Mixed-Use CMOD (Figure J-11). Site B is currently zoned “C-M-1”, a low bulk commercial manufacturing zoning district (Figure J-12). Existing parcel and land use data for privately owned land to be acquired under this alternative are detailed in Table J-6. Square 976 is adjacent to rather than within the Capitol Hill Historic District boundaries. The structures within the site boundaries that would potentially be directly affected are not historic structures. Businesses located on Site B parcels that would be displaced include a tailor, a spay/neuter clinic, and a parking lot. Based on the Height Act, the maximum building height for Site B would be 110 feet (measured from M Street). The proposed development of Site B would require the rezoning to unzoned/federal.

Table J-6 Privately Owned Land to be Acquired Under Alternative 2

AREA (SF)	Parcel Address	Land Use Type	Current Use
1,998	1001–1003 L Street SE	Flats/Conversions	Humane Society Spay and Neuter Clinic
1,151	1104 10th Street SE	Residential-Single Family	Kim’s Custom Tailor
1,109	1102 10th Street SE	Residential-Single Family	Residence
36,560	1022–1109 M Street SE	Commercial	Vacant; Parking Lot
2,491	1106–1108 10th Street	Residential-Single Family	Residence

Existing Conditions

Alternative 2 would develop Site B to accommodate the proposed replacement BEQ Complex. Under this alternative, the Marine Corps would acquire 1.8 acres of privately owned land at Square 976 and secure a government-owned ROW for the proposed BEQ Complex (Figure J-13). The required ROW includes an approximate 315-foot segment of the L Street ROW between 10th and 11th Streets SE. Unlike Alternative 1, there would be no construction within the L Street ROW. This segment of L Street would be closed to vehicular traffic and on-street parking, but it would remain partially open for pedestrians. The adjacent Virginia Avenue Park would also remain open to pedestrian use. The segment of the ROW and the adjacent portion of Virginia Avenue Park are included within this site as a means of satisfying the AT/FP vehicular

Figure J-11 Alternative 2 Site B, DC Land Use Map



Legend

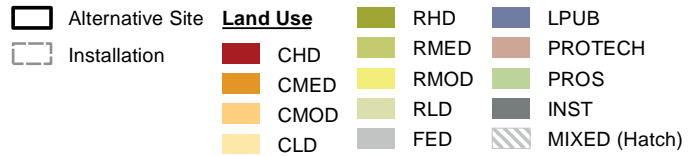


Figure J-12 Alternative 2 Site B, DC Zoning Map



Legend

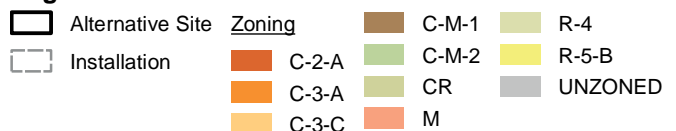


Figure J-13 Alternative 2 Site B, Existing Conditions



Legend

- Potential Alternative Site
- Existing Buildings (on-site)
- Installation Boundary
- Historic District Boundary
- L'Enfant Streets ROW
- Railroad Tunnel (CSX)
- Elevation Contour
- Public Transit Routes
- Public Transit Stops
- Vehicle Site Entrance/Exit
- On-Street Parking



Vacant lot encompassing the eastern portion of Site B.

standoff distance while also allowing public use to continue

The site’s prominent street frontage faces M and 11th Streets SE. Topography is generally flat. Site B anchored at the northwest intersection of 11th and M Streets SE, which serve as the primary adjacent transit corridors, including the proposed DC Streetcar (Chapter 3). The site is readily accessible to two prominent transit corridors with bus stops on the western and southern boundaries. On-street parking surrounds the site on all sides and will remain, with the exception of L Street SE. The site is surrounded on all sides by on-street parking, and abuts the Capitol Hill Historic District to the north and west. There are no historic structures present on Site B. The site has prominent views of M Street SE and WNY to the south and Virginia Avenue Park to the north.

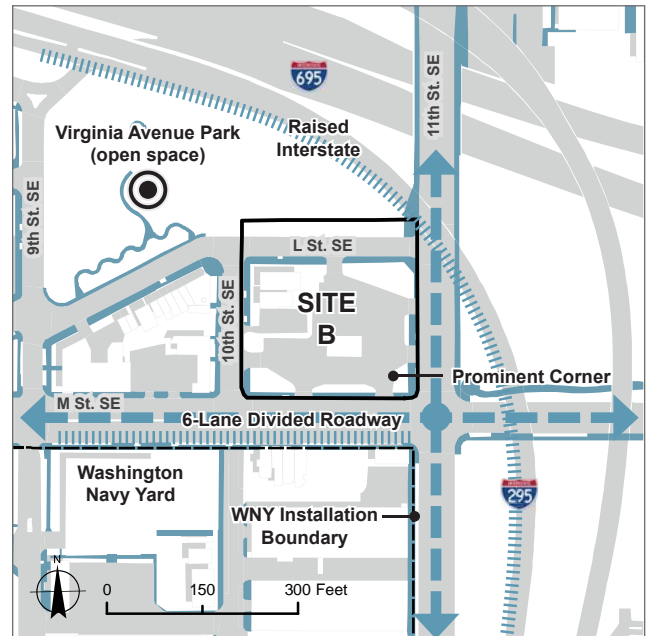
Existing Urban Framework

Site B consists of a single city block and is framed by existing tree-lined residential and commercial street networks with on-street parking (Figure J-14). The site is within walking distance to the Main Post, MBW Annex, Barracks Row commercial areas, WNY, and the Eastern Market and Navy Yard Metro Stations. The northern boundary is bounded by the raised interstate. The primary street frontage for Site B is M Street SE. Surrounding existing buildings frame the western (7th Street SE) and southern (M Street SE) edges and range from 2 to 4 stories. A positive open space asset accessible to Site B is the adjacent Virginia Avenue Park which provides a terminus to 10th Street SE and visual relief to the urban surroundings. The adjacent park also provides a link to the future Virginia Avenue streetscape including a shared-use path.

Historic Resources

The site is located adjacent to the Capitol Hill Historic District and there are no historic structures on the site.

Figure J-14 Alternative 2 Site B, Existing Framework



Legend

- Path (Vehicle)
- Path (Pedestrian)
- Edge
- Node
- Landmark
- Alternative Site
- District Boundary

Table J-7 includes a summary of impacts to cultural resources for Alternative 2.

Table J-7 Alternative 2 Impacts to Cultural Resources

IMPACTS TO CULTURAL RESOURCES FROM ALTERNATIVE 2
Adverse effect to the Capitol Hill Historic District, L’Enfant Plan, WNY NHL, and WNY East Extension from visual impacts
Adverse effect to the Main Gate, Quarters A, and the Washington and Georgetown Railroad Car House from visual impacts
All other effects to historical and archaeological resources are same as Alternative 1
The Marine Corps’ overall finding of effect for is “historic properties adversely affected.” A Section 106 agreement document will be developed to resolve adverse effects
Based on the stipulations adopted in the agreement document, there would be no significant impacts to NRHP-listed or eligible cultural resources

Proposed Design Concept

The proposed development of Alternative 2 would construct a 9-story BEQ Complex with below-grade parking to meet the programmed requirement. Development would require the demolition of 5 existing buildings on the site. Figures J-15 and J-16 illustrate one possible concept of how the site could accommodate the required program, including below grade parking.

Figure J-15 Alternative 2 Site B, Proposed Design Concept



Legend

- | | | |
|-----------------------------|-----------------------|-------------------------------------|
| Notional Building Footprint | Existing Sidewalks | Prominent View/Vista |
| Alternative Site | Railroad Tunnel (CSX) | Primary Facade |
| AT/FP Setback | Transit Corridor | Focal Point |
| Pedestrian Buffer (33 FT) | Street Tree | Walking Time (minutes) to Main Post |
| Installation Boundary | Existing Urban Edge | Proposed Open Space |
| L'Enfant Streets ROW | On-street Parking | Proposed Primary Entry Zone |
| | | Proposed Building Height (Stories) |

Figure J-6 Alternative 2 Site B, Notional Development



The future urban framework for Site B would close L Street to vehicular traffic between 10th and 11th Streets SE. The segment of the L Street SE would remain visually open and allow the proposed construction up to the L'Enfant ROW reinforcing the urban edge. The proposed development would present a prominent anchor at the intersection of M and 11th Streets SE, and utilize the maximum allowable building height under the Height Act of 110 feet. The proposed structure's primary facades would front 8th and M Streets SE, with the main site access and building entry along M Street SE. Site security would require development to be in compliance with current AT/FP stand-off distance requirements, placing the building's exterior 66 feet from the edge of pavement on all sides except L Street SE. Security includes a perimeter fence and controlled access for pedestrians and vehicles. On-street parking would be retained on all perimeter roads except L Street SE. The proposed BEQ Complex would be an extension of the MBW campus and constructed to be consistent with the Master Plan vision, IDS, and IAP guidelines.

Comprehensive Plan Compliance

See Table J-1.

Compliance with DC District of the Environment 2013 Water Quality Regulations

Under Alternative 2, the building footprint is estimated at approximately 14,000 SF on a site of approximately 60,000 SF. An additional 20 percent of the building area on the site is assumed to be impervious due to sidewalks and driveways. The remainder of the site soils is assumed to be pervious in compacted condition due to the developed nature of the site. The stormwater retention volume is approximately 20,000 gallons and the water quality treatment volume is approximately 8,000 gallons. The required site setbacks and building shape indicate the use of dry swales and bioretention areas to achieve stormwater goals. A dry swale can be located along the entire north side and part of the east and west sides of the building with a bioretention area on the southwest side in order to comply with the water quality regulations promulgated by the DC District of the Environment in 2013.



ALTERNATIVE 3

Land Use & Zoning

Formerly part of the WNY Annex, Site C was included in a 1963 land transfer of 55 acres from the DoN to the GSA for use as the Southeast Federal Center (SEFC). The GSA has an agreement in place to with Forest City regarding redevelopment of 42 of the 55-acre SEFC site based on private developer Forest City’s mixed-use development plan, which was developed to enhance the value of the SEFC.

The future Land use designation for Site is Mixed-Use CHD/RHD (Figure J-17). Based on the Height Act, the maximum building height for Site C is 110 feet, measured from M Street. Site C is currently zoned “CR”, a commercial-residential area within the SEFC Overlay District (Figure J-18)

Existing Conditions

Alternative 3 would develop Site C to accommodate the proposed replacement BEQ Complex. Under this alternative the Marine Corps would secure 2.1 acres of land composed of a portion of Square 853 to construct the replacement BEQ Complex and a 3-story above-ground parking structure. M Streets SE is the primary nearby transit corridor serving the site, with bus stops located immediately adjacent to the site along M Street SE. The proposed DC Streetcar route will also follow M Streets SE. The site has prominent views of M Street SE and the WNY. Additionally, portions of Site C fall within the limits of the 500- and 100-year floodplains (Figure J-19). The site is generally flat, and abuts WNY to the east and south. The primary street frontage is defined by M Street SE which runs in an east-west direction along the northern boundary of the site. Site C has prominent views of M Street SE.



Site C would provide infill development along M Street SE and frame the northwest entrance to the Navy Yard.

Figure J-17 Alternative 3 Site C, DC Land Use Map



Legend

	Alternative Site	Land Use		RHD		LPUB
	Installation		CHD			PROTECH
			CMED			PROS
			CMOD			INST
			CLD			MIXED (Hatch)

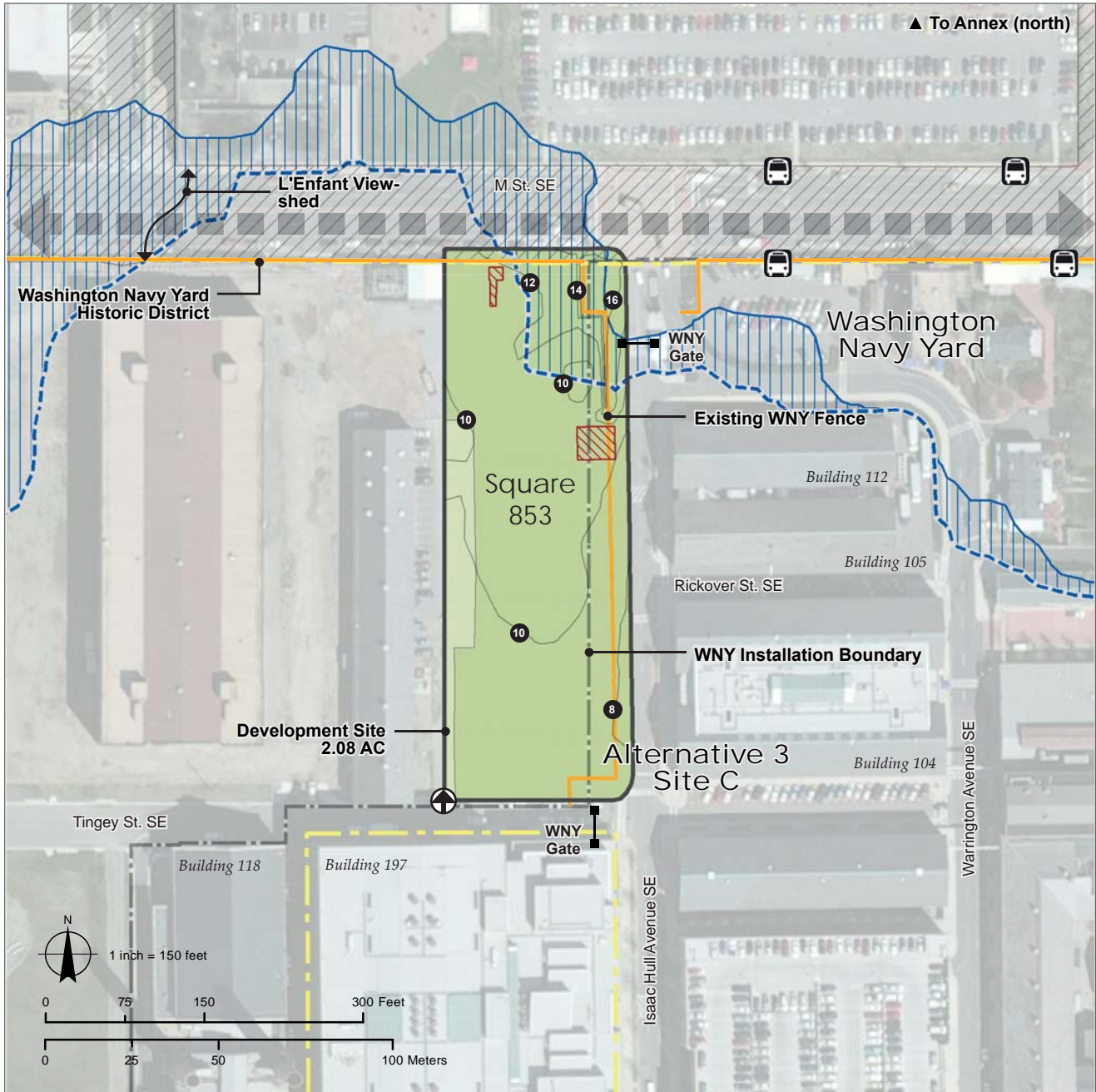
Figure J-18 Alternative 3 Site C, DC Zoning Map



Legend

	Alternative Site	Zoning		C-M-1		R-4
	Installation		C-2-A			R-5-B
			C-3-A			UNZONED
			C-3-C			

Figure J-19 Alternative 3 Site C, Existing Conditions



Legend

- | | | |
|------------------------------|------------------------------------|----------------------------|
| Alternative Site | Railroad Tunnel (CSX) | Public Transit Routes |
| Existing Buildings (on-site) | Elevation Contour (2 FT) | Public Transit Stops |
| Installation Boundary | Flood Hazard Areas | Vehicle Site Entrance/Exit |
| Historic District Boundary | (AE) 1.0% Chance of Flood Hazard | WNY Gate |
| L'Enfant Streets ROW | (X500) 0.2% Chance of Flood Hazard | |

Existing Framework

Site C is situated on a long narrow mostly undeveloped site along Isaac Hull Avenue (Figure J-20). The primary street frontage (approximately 170 feet) for Site C is M Street SE, while the intersection with Isaac Hull Avenue and the entry to the WNY is considered significant from an urban design standpoint. Surrounding existing buildings at the WNY are historic and industrial in nature and frame the eastern boundary along Isaac Hull Avenue. These buildings range in height between 55 and 75 feet. Buildings 74 and 202 are historic facilities in the immediate vicinity to Site C. The site is within walking distance to the Main Post, MBW Annex, Barracks Row commercial areas, WNY, and the Navy Yard Metro Station. There is no on-street parking associated with the site.

Historic Resources

Site C is within the WNY Annex Historic District and the Historic Zone as designated by the GSA "The Yards" Master Redevelopment Plan for The Yards (Figure J-19). Forest City and GSA have committed to rehabilitating historic buildings within the Historic Zone and ensuring new construction is compatible with the Historic Zone's historic context. The structures on the site are not contributing resources to the Historic



Site C is bounded on the west (above left) by Building 74 and on the east (above right) by the Navy Yard and Isaac Hull Avenue.

District, but Building 74, located just west of the Site C, is a contributing resource. Table J-8 includes a summary of impacts to cultural resources for Alternative 3.

Table J-8 Alternative 3 Impacts to Historic Resources

IMPACTS TO CULTURAL RESOURCES FROM ALTERNATIVE 3

No adverse effect to the WNY NHL or NRHP-listed historic district, or the individually listed Main Gate, Quarters A, or Quarters B (consistent with Historic Preservation Design Guidelines for new construction at the SEFC)

Consistent with L'Enfant Plan

No adverse effect to the Washington and Georgetown Railroad Car House or the Capitol Hill Historic District

Marine Corps' overall finding of effect is "no historic properties adversely affected."

All other effects to historical resources are same as Alternative 1

Potential to impact archaeological resources at Main Post renovation projects and projects to foster MBW integration with the community

Based on the stipulations adopted in the agreement document, there would be no significant impacts to NRHP-listed or eligible cultural resources

Proposed Design Concept

Proposed development of Alternative 3 would construct an 8-story BEQ Complex with above grade structured parking to meet the programmed requirement. Development would require the existing substation and pump house on the site to either be relocated or incorporated into the design of the replacement BEQ Complex. Figures J-21 and J-22 illustrate one possible concept of how the site could accommodate the required program, including the above ground parking structure. The future urban framework for Site D facilities would be compatible in form and massing with the existing structures at the WNY. The proposed layout recognizes the original historic masonry wall separating the WNY and running along M Street SE. The intent of

Figure J-20 Alternative 3 Site C, Existing Framework

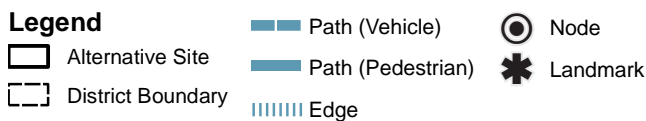
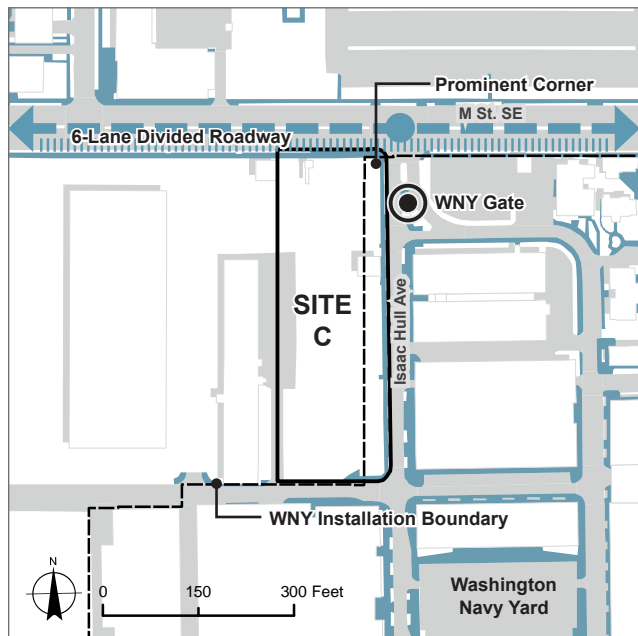


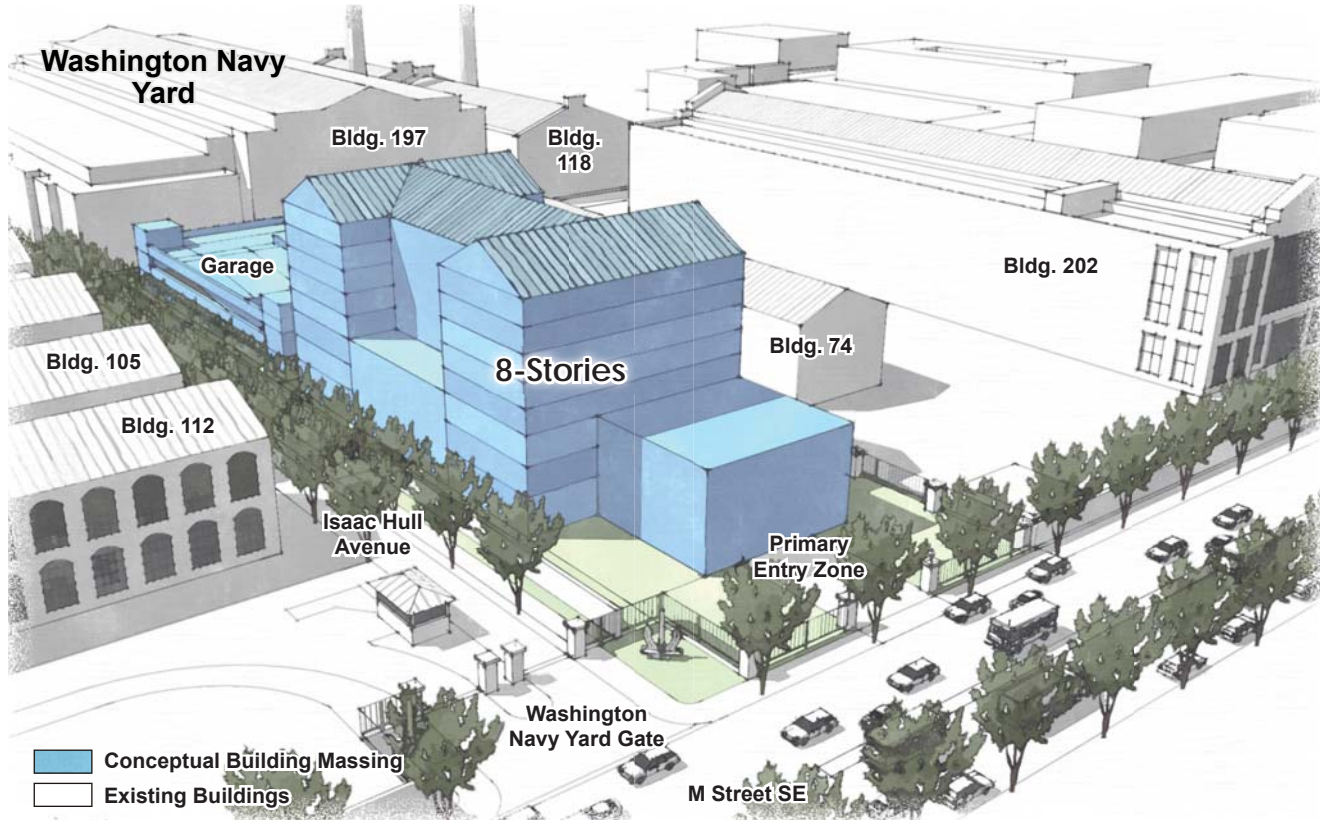
Figure J-21 Alternative 3 Site C, Proposed Design Concept



Legend

- | | | |
|-----------------------------|-----------------------|-------------------------------------|
| Notional Building Footprint | Existing Sidewalks | Prominent View/Vista |
| Alternative Site | Railroad Tunnel (CSX) | Primary Facade |
| AT/FP Setback | Transit Corridor | Focal Point |
| Pedestrian Buffer (33 FT) | Street Tree | Walking Time (minutes) to Main Post |
| Installation Boundary | Existing Urban Edge | Proposed Open Space |
| L'Enfant Streets ROW | On-street Parking | Proposed Primary Entry Zone |
| | | Proposed Building Height (Stories) |

Figure J-22 Alternative 3 Site C, Notional Development



this concept is to retain as much of the wall structure as possible while designating access; however, the specific impacts would need to be addressed during the design process should this alternative be pursued.

The proposed structure’s primary facade would front M Streets SE and consider the adjacent WNY gate and facilities. Site security would require development to be in compliance with current AT/FP stand-off distance requirements, placing the building’s exterior 66 feet from the edge of pavement along M Street. Site perimeter areas directly bordering WNY would be granted a minimum 16-foot setback. The western AT/FP setback would be measured at 66 feet from the exterior face of Building 74, and have a shared boundary between the sites. Vehicle access and parking access would not be permitted between Building 74 and the proposed BEQ. Security includes a perimeter fence and controlled access for pedestrians and vehicles. The proposed BEQ complex would be an extension of the MBW campus and constructed to be consistent with the Master Plan vision, IDS, and IAP guidelines. There is no on-street parking at the site.

Comprehensive Plan Compliance

See Table J-1.

Compliance with DC District of the Environment 2013 Water Quality Regulations

Under Alternative 3, the estimated building footprint totals approximately 51,000 SF on a site of approximately 100,000 SF. An additional 20 percent of the building area on the site is assumed to be impervious due to sidewalks and driveways. The remainder of the site soils is assumed to be pervious in compacted condition due to the developed nature of the site. The stormwater retention volume is approximately 51,000 gallons and the water quality treatment volume is approximately 21,000 gallons. The narrow site indicates the use of dry swales with one bioretention area to achieve compliance with water quality regulations promulgated by the DC District of the Environment in 2013. The dry swales can be located down the east and west sides of the buildings and a bioretention area located on the north side where there is some green space. Site D is constrained by its size and ability to accommodate traditional surface treatment methods. It’s likely that a combination of alternative approaches



including green roof or underground retention will be needed, which may also increase project costs.

ALTERNATIVE 4

Land Use & Zoning

Being federally owned, Site D is currently unzoned (Figures J-23 and J-24). The existing land use includes an administrative building (Building 169) and the adjacent tennis and basketball courts to the east. All of these areas have been identified for potential redevelopment in the WNY Master Plan. According to the Height Act, the maximum building height for the BEQ at the WNY is 110 feet (measured from M Street).

Existing Conditions

Alternative 4 would develop Site D to accommodate the proposed replacement BEQ Complex. No land acquisition would be required under this alternative. A 5/6-story complex containing the replacement BEQ Complex would be constructed on a 1.67-acre site at the northern end of Square 935, within the boundary of the WNY (Figure J-25). M Streets SE is the primary nearby transit corridor serving the site, with bus stops located immediately adjacent to the site along M Street SE. The proposed DC Streetcar route will also follow M Street SE. Also included at the site is a parking lot south of Building 169 (16 spaces) and potentially a portion of Poor Street, that connects Parsons Avenue and 10th Street SE. Establishing a replacement BEQ Complex on this site would require demolishing Building 169, which



Proposed entrance along M Street SE and Parsons Avenue at WNY.

Figure J-23 Alternative 4 Site D, DC Land Use Map



Legend

Alternative Site	CHD	RHD	LPUB
Installation	CMED	RMED	PROTECH
	CMOD	RMOD	PROS
	CLD	RLD	INST
		FED	MIXED (Hatch)

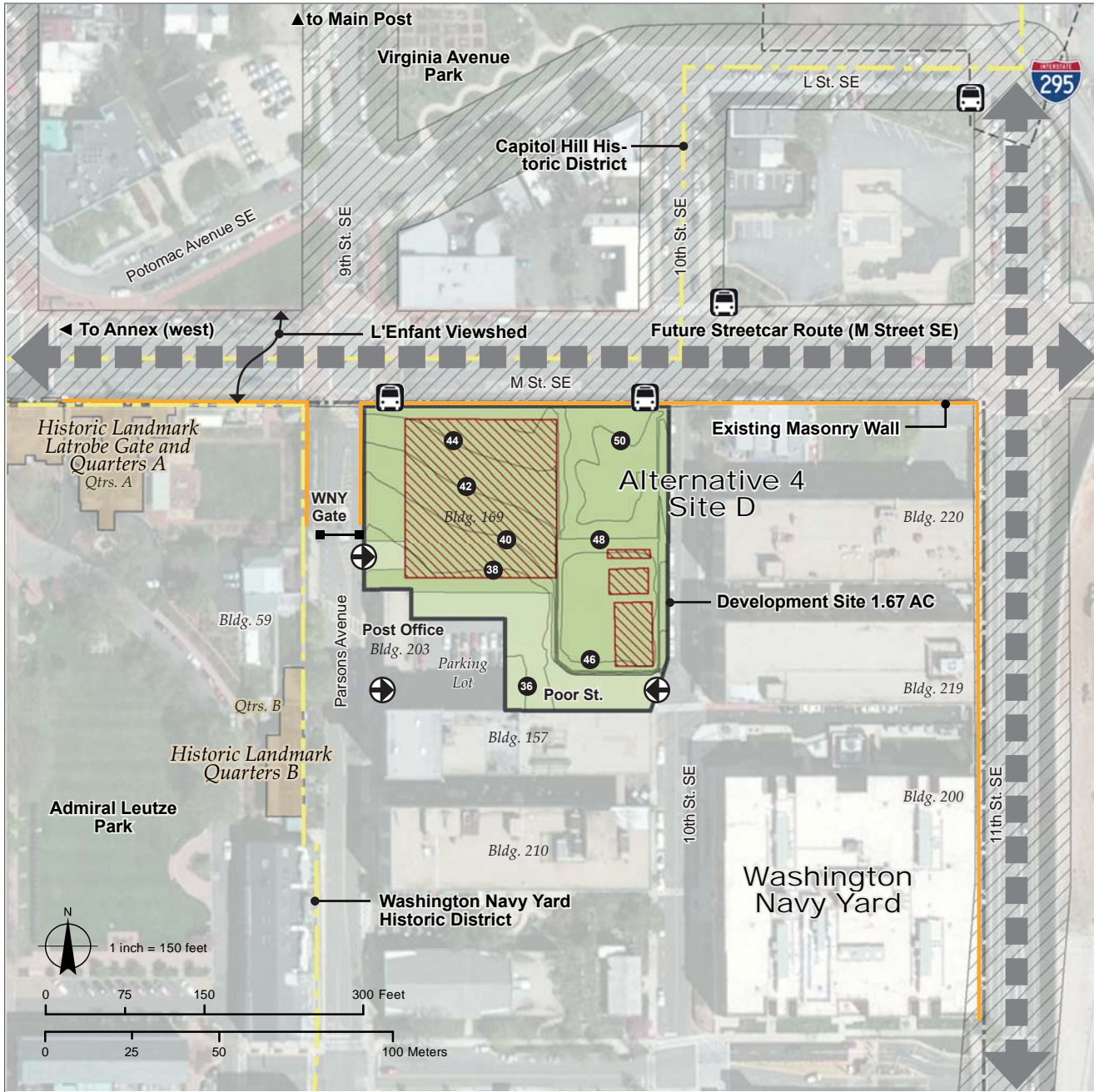
Figure J-24 Alternative 4 Site D, DC Zoning Map



Legend

Alternative Site	C-M-1	R-4
Installation	C-2-A	C-M-2
	C-3-A	R-5-B
	C-3-C	CR
		UNZONED
		M

Figure J-25 Alternative 4 Site D, Existing Conditions



Legend

- Alternative Site
- Existing Buildings (on-site)
- Installation Boundary
- Historic District Boundary
- L'Enfant Streets ROW
- Railroad Tunnel (CSX)
- 00 Elevation Contour (2 FT)
- Historic Landmarks
- Public Transit Routes
- Public Transit Stops
- ⬇ Vehicle Site Entrance/Exit
- On-Street Parking



View facing north from parking lot serving Building 169.

is currently occupied by MBW as a tenant to WNY. The Marine Corps has determined that it does not have a long-term need for continued use of Building 169. The site has prominent views of M Street SE and the WNY.

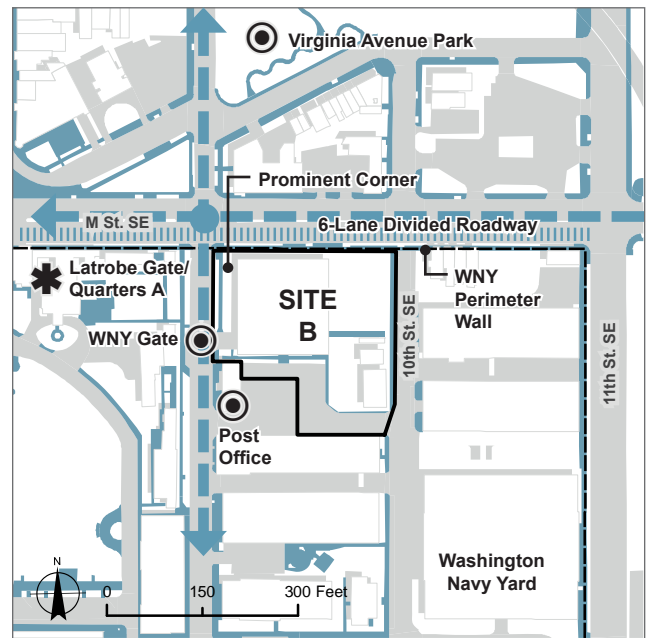
Existing Framework

Site D is situated prominently at the intersection of Parson’s Avenue and M Street SE near the historic Latrobe Gate and Quarters A and B (Figure J-26). The site is within walking distance to the Main Post, MBW Annex, Barracks Row commercial areas, WNY, and the Navy Yard Metro Station. The primary street frontage (approximately 287 feet) for Site D is along M Street SE, although the intersection with Parson’s Avenue (173-foot frontage) and the entry to the WNY is also significant from an urban design standpoint. Surrounding existing buildings at the WNY frame the site and range in height between 26 feet (Buildings 59 and 203) to 105 feet (Building 157), with most averaging 65 feet (Buildings 200, 201, 219, and 220). There is no on-street parking associated with the site.

Historic Resources

Table J-9 includes a summary of impacts to cultural resources for Alternative 4.

Figure J-26 Alternative 4 Site D, Existing Framework



Legend

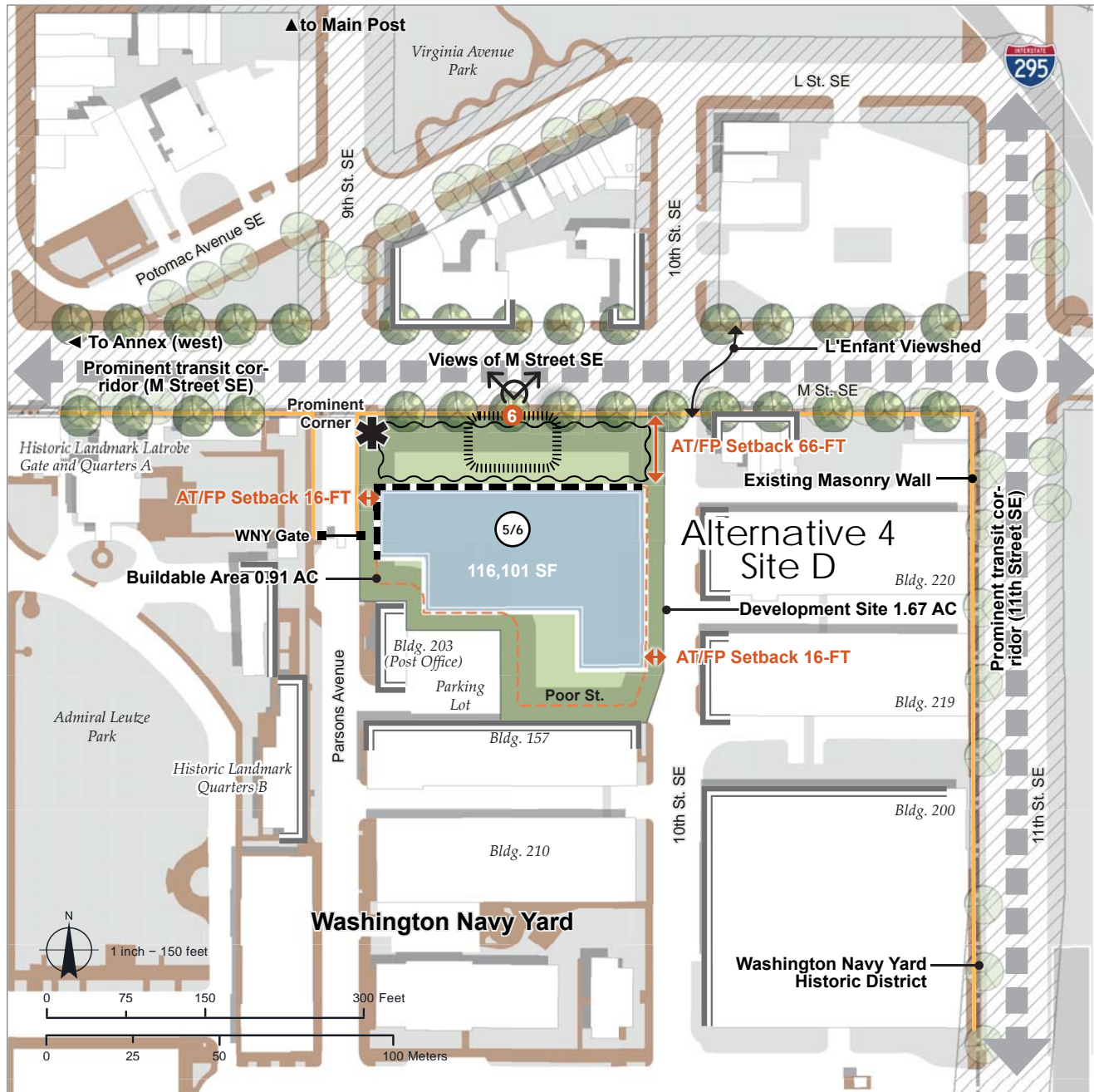
- Path (Vehicle)
- Path (Pedestrian)
- Edge
- Alternative Site
- District Boundary
- Node
- Landmark

Table J-9 Alternative 4 Impacts to Historic Resources

IMPACTS TO CULTURAL RESOURCES FROM ALTERNATIVE 4
Adverse effect to the NRHP-eligible WNY East Extension by demolition of a contributing resource
No adverse effect to the WNY NHL, the Main Gate, Quarters A, and Quarters B (height and design would be compatible with surrounding context)
Consistent with L'Enfant Plan
No adverse effect to the Capitol Hill Historic District or the Washington and Georgetown Railroad Car House
All other effects to historical and archaeological resources are same as Alternative 1
The Marine Corps' overall finding of effect is "historic properties adversely affected." A Section 106 agreement document will be developed to resolve adverse effects
Based on the stipulations adopted in the agreement document, there would be no significant impacts to NRHP-listed or eligible cultural resources
Proposed Design Concept

Under Alternative 4, the replacement BEQ Complex (including support facilities) would be constructed at the WNY and the associated parking require-

Figure J-27 Alternative 4 Site D, Proposed Design Concept



Legend

- | | | |
|-----------------------------|-----------------------|-------------------------------------|
| Notional Building Footprint | Existing Sidewalks | Prominent View/Vista |
| Alternative Site | Railroad Tunnel (CSX) | Primary Facade |
| AT/FP Setback | Transit Corridor | Focal Point |
| Pedestrian Buffer (33 FT) | Street Tree | Walking Time (minutes) to Main Post |
| Installation Boundary | Existing Urban Edge | Proposed Open Space |
| L'Enfant Streets ROW | On-street Parking | Proposed Primary Entry Zone |
| | | Proposed Building Height (Stories) |

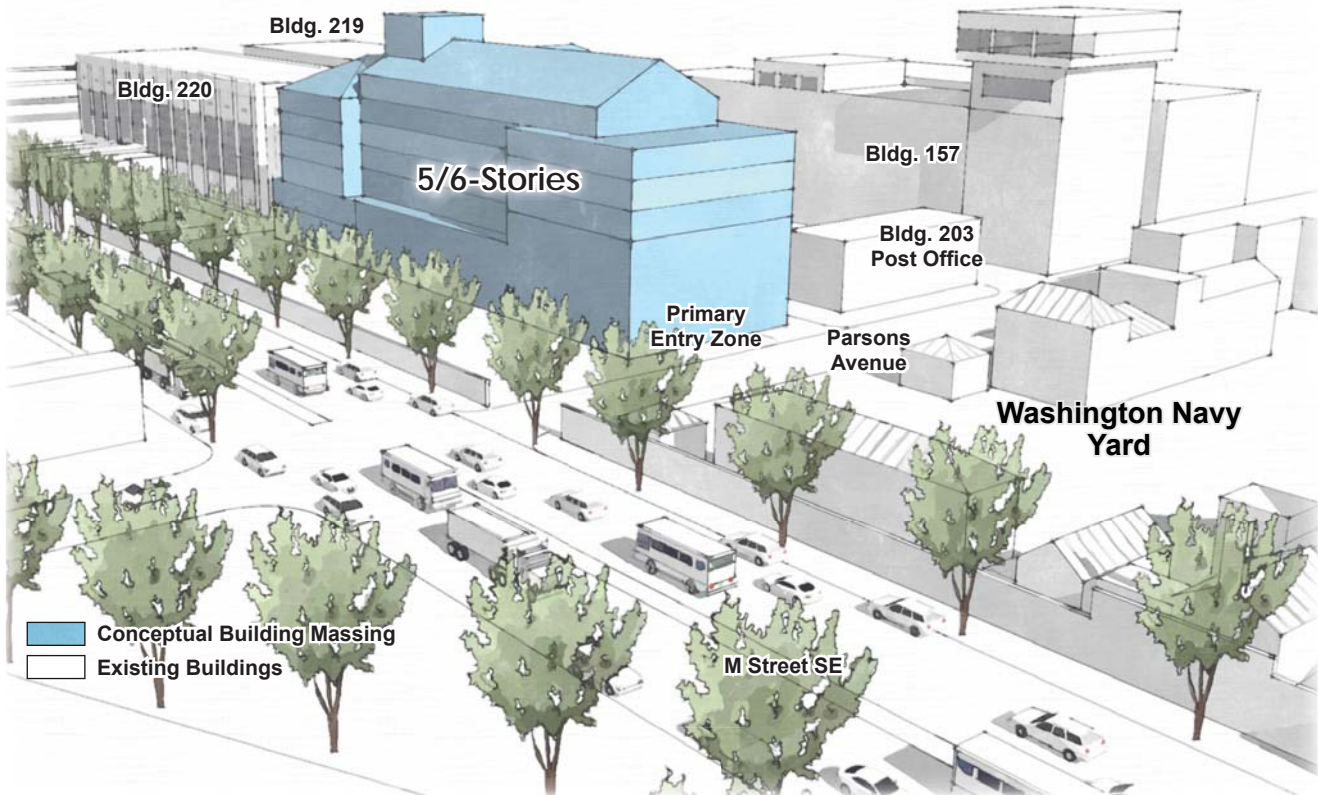
ment would be met nearby at the existing below-grade parking at Building 20. While not as ideal as constructing a cohesive replacement BEQ Complex at a single site, this alternative would allow the replacement BEQ Complex requirements to be met entirely on DoD-owned land, with no displacement of private organizations or activities. Development would require the demolition of one existing building (Building 169) on the site. Figures J-27 and J-28 illustrate one possible concept of how the site could accommodate the required program. The proposed BEQ complex would be an extension of the MBW campus and constructed to be consistent with the Master Plan vision, IDS, and IAP guidelines.

The proposed structure's primary facade and main entry would front M Street SE, with the main site access. Site security would require development to be in compliance with current AT/FP stand-off distance criteria for primary gathering structures, placing the building's exterior 66 feet from the edge of pavement along M Street SE. AT/FP setbacks along on all other sides abutting WNY is 16 feet from roads and parking



View of Site D facing west from behind Building 203 (Post Office)

Figure J-28 Alternative 4 Site D, Notional Development



within the installation's secured perimeter. Security includes a perimeter fence and controlled access for pedestrians and vehicles that complies with WNY and USMC security measures.

Comprehensive Plan Compliance

See Table J-1.

Compliance with DC District of the Environment 2013 Water Quality Regulations

Under Alternative 4, the building footprint is estimated at approximately 35,000 SF on a site of approximately 67,000 SF. An additional 20 percent of the building area

on the site is assumed to be impervious due to sidewalks and driveways. The remainder of the site soils is assumed to be pervious in compacted condition due to the developed nature of the site. The stormwater retention volume is approximately 34,000 gallons and the water quality treatment volume is approximately 14,000 gallons. The geometry of the site indicates the use of dry swales with a bioretention area to achieve compliance with DC Department of Environmental Quality 2013 water quality regulations.

The dry swales can be located on the entire north side and parts of the east and west sides of the site and a bioretention area located on the southern side of the site.

ALTERNATIVE 5

Land Use & Zoning

The future Land use designation for Site A is Mixed-Use FED and RMOD (Figure J-29). Site E is currently zoned "R-5-B" which consists of moderate general residential development including single-family dwellings and apartment buildings (Figure J-30). Given that Site E is within the MBW Annex boundary, the zoning is not enforceable. According to the Height Act, the maximum building height for the BEQ at the MBW Annex is 90 feet (measured from L Street SE).

Existing Conditions

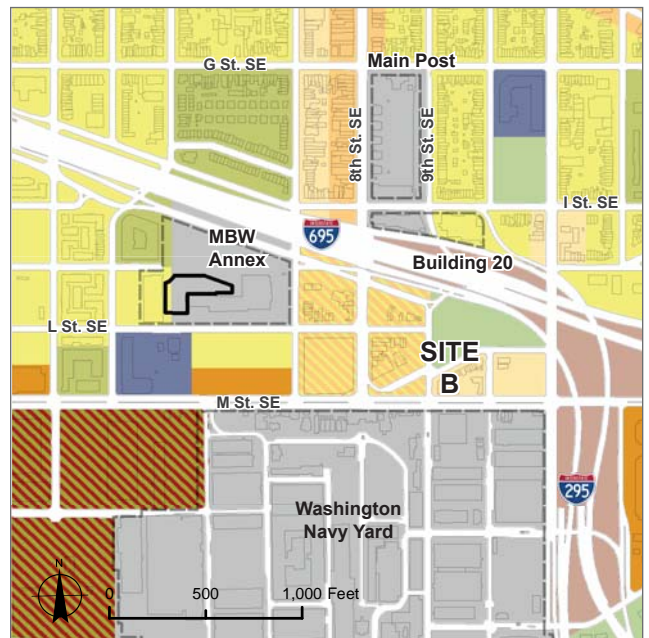
Under Alternative 5, the replacement BEQ Complex would be constructed at the MBW Annex, and the associated parking requirement would be met by using the existing below-grade parking at Building 20. For the purposes of this siting exercise, it is expected that the replacement BEQ Complex construction would occur within the 6th Street L'Enfant Plan viewshed between Building 25 and Building 26. While not as ideal as constructing a cohesive BEQ Complex and parking at a single site, this alternative would allow the replacement BEQ Complex requirements to be met entirely on DoD-owned land with no displacement of other organizations or activities. No land acquisition would be required under this alternative.

A 6/7-story complex containing the replacement BEQ Complex would be constructed on a 0.89-acre site at the MBW Annex between existing Buildings 25 (BEQ/Band facility) and 26 (garage) and south of the multipurpose recreation field (Figure J-31). The new facility would be sited as close to Building 25 as possible and would connect via a breezeway between the replacement BEQ Complex and the western end of Building 25. The site currently contains a basketball court that would be relocated to the north of Building 25.



Site E encompasses the undeveloped are between Buildings 25 and 26 fronting L Street SE.

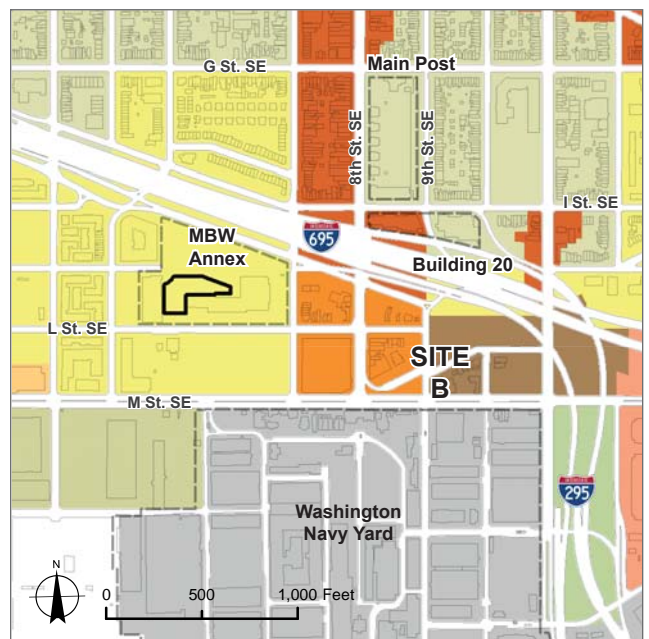
Figure J-29 Alternative 5 Site E, DC Land Use Map



Legend

	Alternative Site	Land Use		RHD		LPUB
	Installation		CHD			PROTECH
			CMED			PROS
			CMOD			INST
			CLD			MIXED (Hatch)

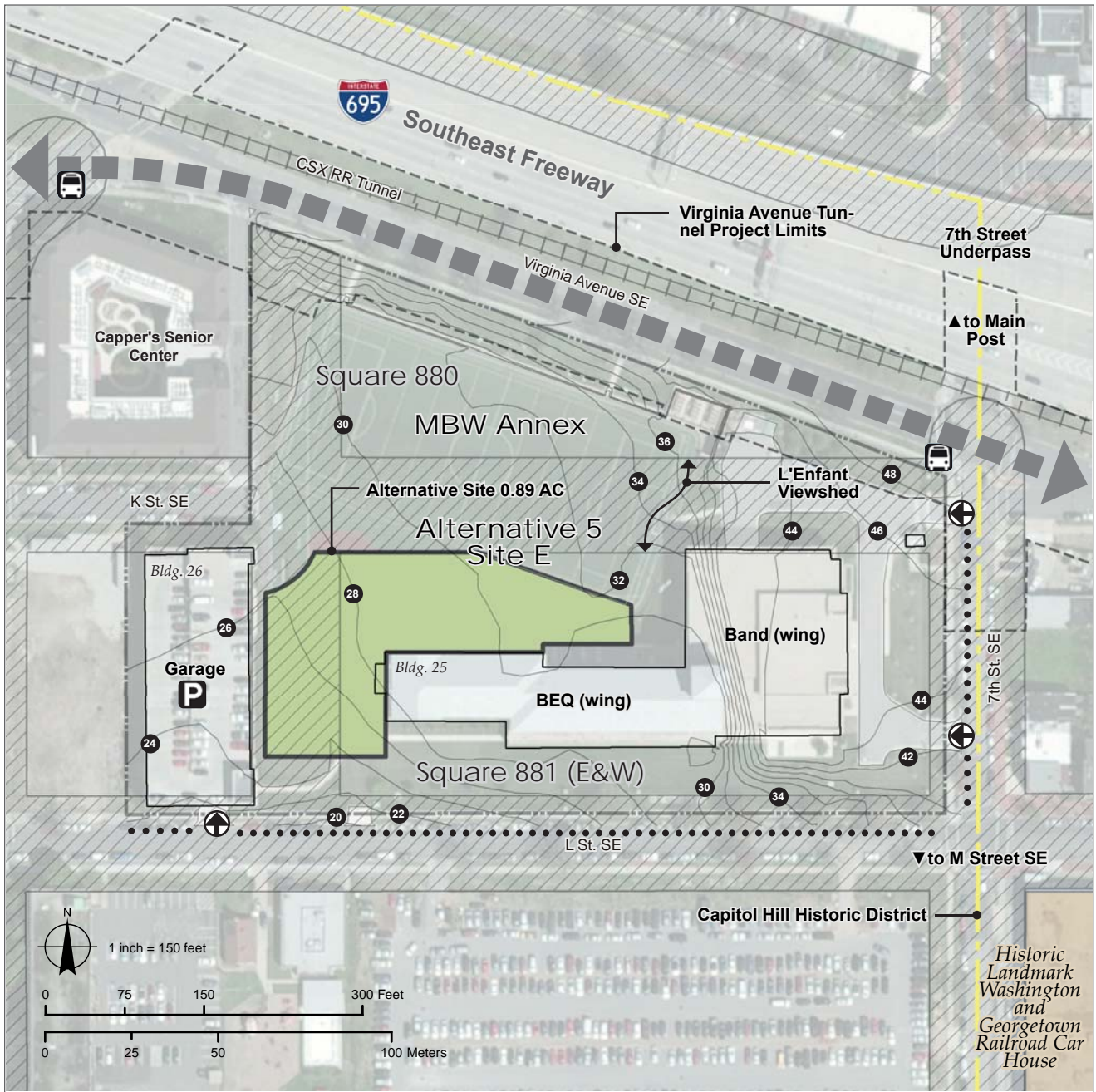
Figure J-30 Alternative 5 Site E, DC Zoning Map



Legend

	Alternative Site	Zoning		C-M-1		R-4
	Installation		C-2-A			R-5-B
			C-3-A			UNZONED
			C-3-C			
			M			

Figure J-31 Alternative 5 Site E, Existing Conditions





View of Site E facing northwest towards the existing parking garage (Building 26).

Existing Framework

Site E is situated between Buildings 25 (BEQ/Band) and 26 (garage) facing L Street SE, with portions occurring within the 6th Street L'Enfant Plan ROW (Figure J-32). The site is within walking distance to the Main Post, Barracks Row commercial areas, WNY, and the Navy Yard Metro Station. The primary street frontage for Site E is along L Street SE (approximately 125 feet). Adjacent buildings frame the site with heights of 73 feet (BEQ) and 46 feet (garage). The site is currently vacant with the exception of a single basketball court. On-street parking is located around the Annex including the portion of 7th Street SE in the vicinity of Site E.

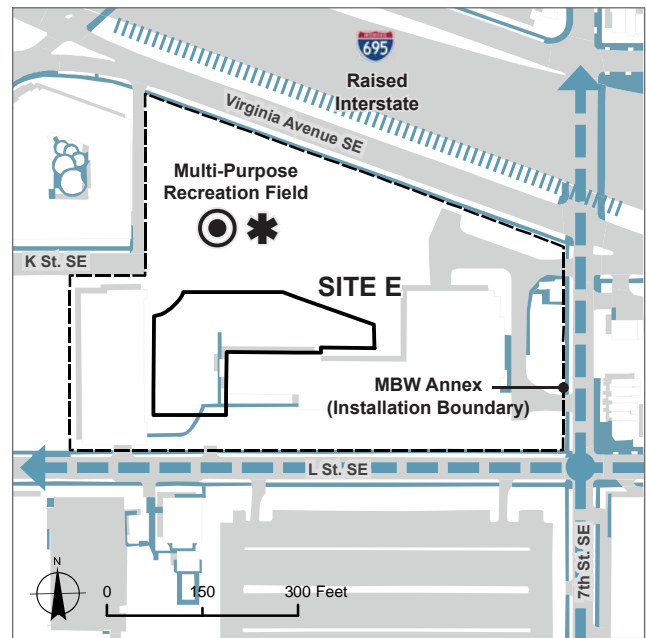
Historic Resources

Table J-10 includes a summary of impacts to cultural resources for Alternative 5.

Table J-10 Alternative 5 Impacts to Historic Resources

IMPACTS TO CULTURAL RESOURCES FROM ALTERNATIVE 5
Adverse effect to L'Enfant Plan viewshed at 6th Street SE
No adverse effect to the WNY NHL or NRHP-listed historic district, the Capitol Hill Historic District, or the Washington and Georgetown Railroad Car House (height and design compatible with surrounding context)
No effect to the WNY Main Gate, Quarters A, or Quarters B
All other effects to historical and archaeological resources are same as Alternative 1
The Marine Corps' overall finding of effect is "historic properties adversely affected." A Section 106 agreement document will be developed to resolve adverse effects
Based on the stipulations adopted in the agreement document, there would be no significant impacts to NRHP-listed or eligible cultural resources

Figure J-32 Alternative 5 Site E, Existing Framework



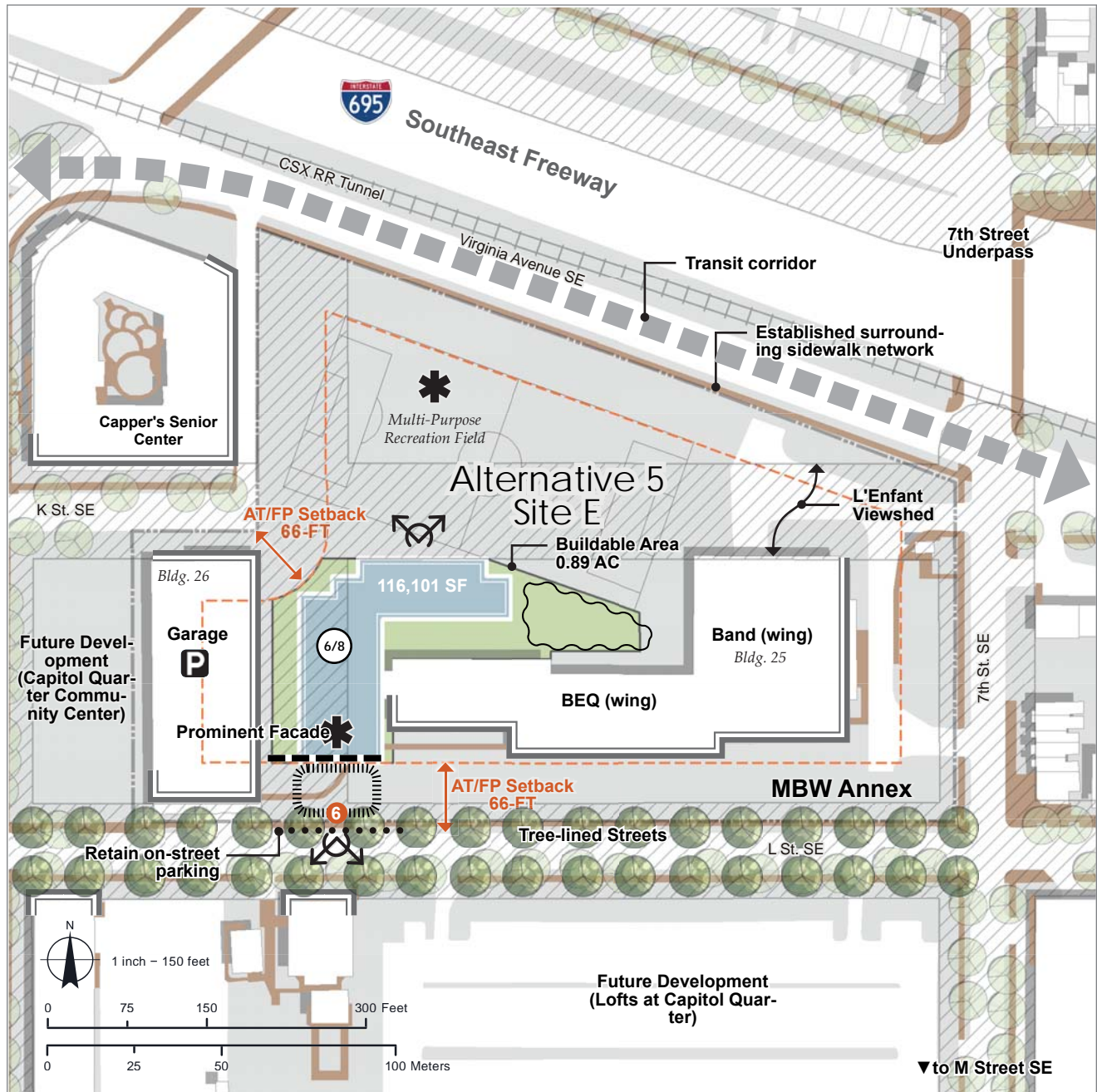
Legend

- Path (Vehicle)
- Path (Pedestrian)
- Edge
- Alternative Site
- District Boundary
- Node
- Landmark



Site E backs up to the existing multi-purpose recreation field.

Figure J-33 Alternative 5 Site E, Proposed Design Concept



Legend

- | | | |
|-----------------------------|-----------------------|-------------------------------------|
| Notional Building Footprint | Existing Sidewalks | Prominent View/Vista |
| Alternative Site | Railroad Tunnel (CSX) | Primary Facade |
| AT/FP Setback | Transit Corridor | Focal Point |
| Pedestrian Buffer (33 FT) | Street Tree | Walking Time (minutes) to Main Post |
| Installation Boundary | Existing Urban Edge | Proposed Open Space |
| L'Enfant Streets ROW | On-street Parking | Proposed Primary Entry Zone |
| | | Proposed Building Height (Stories) |

Proposed Design Concept

Under Alternative 5, the replacement BEQ Complex would be constructed at the Annex and the associated parking requirement would be met nearby at the existing below-grade parking at Building 20. While not as ideal as constructing a cohesive replacement BEQ Complex and parking at a single site, this alternative would allow the replacement BEQ Complex requirements to be met entirely on DoD-owned land, with no displacement of private organizations or activities. No demolition is required to accommodate the proposed development, although the existing basketball court would need to be relocated. Figures J-33 and J-34 illustrate one possible concept of how the site could be developed to accommodate the required program. The proposed BEQ complex would be an extension of the MBW campus and constructed to be consistent with the Master Plan vision, IDS, and IAP guidelines.

The proposed structure's primary facade and main entry would front L Street SE. Site security would require development to be in compliance with current AT/FP stand-off distance criteria for primary gathering structures, placing the building's exterior 66 feet from the edge of pavement along L Street SE. AT/FP setbacks along on all other sides abutting the Annex site is 16 feet

from roads and parking within the installation's secured perimeter. Security includes a perimeter fence and controlled access for pedestrians and vehicles.

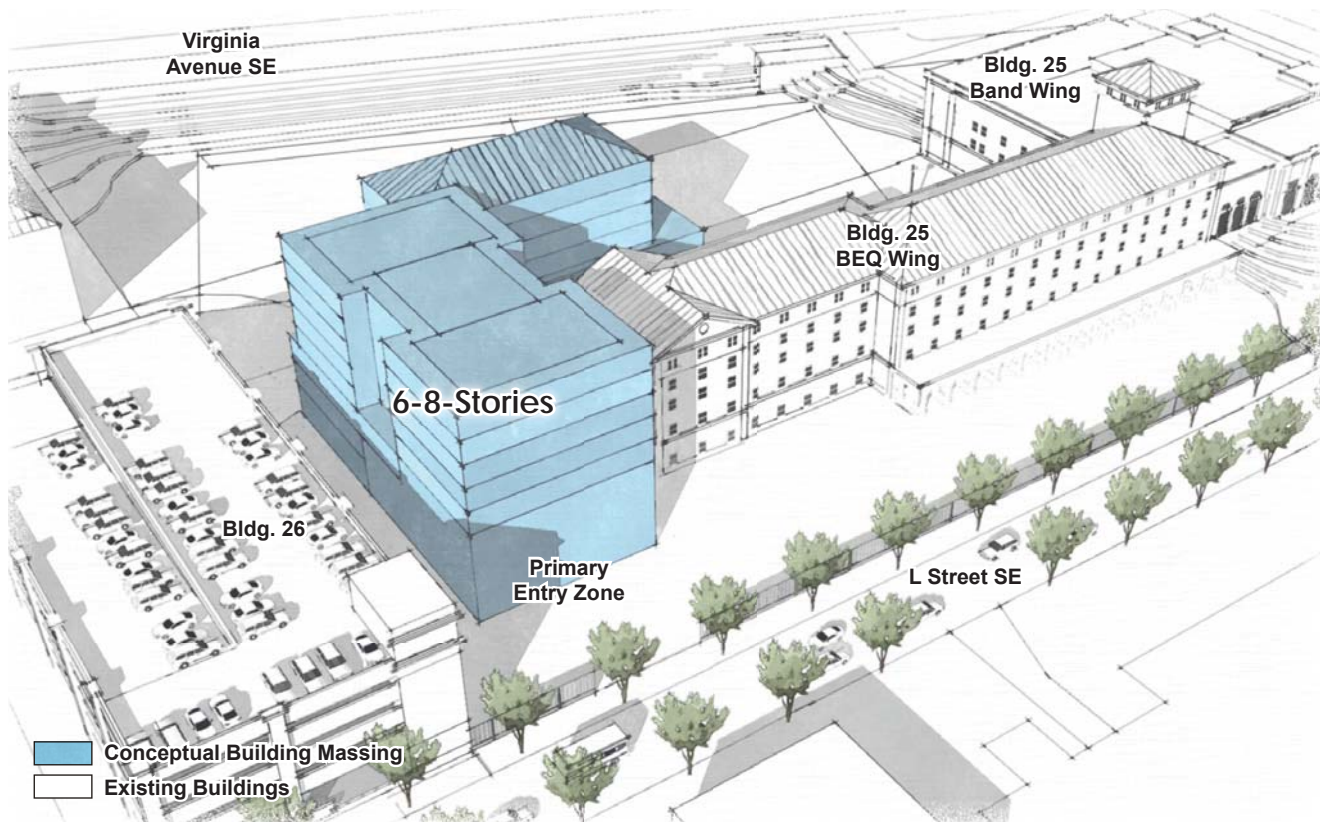
Comprehensive Plan Compliance

See Table J-1.

Compliance with DC District of the Environment 2013 Water Quality Regulations

Under Alternative 5, the building footprint is an approximately 20,000-SF addition to the existing Annex building footprint. An additional 10 percent of the building area on the site is assumed to be impervious due to sidewalks and driveways. The small remainder of the site soils is assumed to be pervious in compacted condition due to the developed nature of the site. The stormwater retention volume is approximately 16,000 gallons and the water quality treatment volume is approximately 6,500 gallons. The site constraints indicate the use of green roofs and pervious pavement in order to comply with the DC Department of Environmental Quality 2013 standards for water quality. The green roof is located on the roof of the building with a small setback from the edge. Vehicular areas located on the south side of the building are pervious pavement.

Figure J-34 Alternative 5 Site E, Notional Development



J.1.3 Preferred Alternative

The EIS analyzed 5 action alternatives and the no action alternative. Based on the analysis presented in the Final EIS, the Marine Corps has identified Alternative 5 (Site E) as the Preferred Alternative that would best meet the purpose and need for the Proposed Action, giving consideration to Marine Corps statutory mission and responsibilities, operational, environmental, and economic factors. The preferred site locates the replacement BEQ Complex on the MBW Annex site between buildings 25 and 26, placing the BEQ and supporting facilities within easy reach of all users at MBW. Alternative 5 would also retain the existing underground parking at the Building 20 site.

The preferred site results in communications efficiencies and reduces the cost of the project by eliminating the need for land acquisition or a new parking structure. Operational costs would be reduced through fewer security personnel. Alternative 5 (Site E), while not identified as the environmentally preferred alternative due to significant but mitigatable adverse impacts to Land Use and Cultural Resources, is the operationally preferred alternative and is, therefore, the preferred alternative when considering Marine Corps statutory mission and responsibilities, operational, environmental, and economic factors.

Table J-11 provides a summary from the Final EIS of the duration, type, and level of impact for each resource under all action alternatives considered.

Table J-11 Summary of Impacts Determinations

RESOURCE		IMPACT DURATION TYPE	ALT SITE 1	ALT SITE 2	ALT SITE 3	ALT SITE 4	ALT SITE 5	NO ACTION	
CULTURAL RESOURCES	BEQ Complex Replacement	L, A	SI-M	SI-M	LSI	SI-M	SI-M	LSI	
	Main Post Renovation Projects	L, B	UNK	UNK	UNK	UNK	UNK	LSI	
	Projects to Foster MBW Integration with the Community	L, B	UNK	UNK	UNK	UNK	UNK	LSI	
SOCIOECONOMICS	Population and Population Trends	NI	NI	NI	NI	NI	NI	NI	
	Employment and Income	S, B	LSI	LSI	LSI	LSI	LSI	NI	
	Housing	L, A	LSI	LSI	LSI	NI	NI	NI	
	DC Tax Base	L, A	LSI	LSI	LSI	NI	NI	NI	
ENVIRONMENTAL JUSTICE	Human Health	NI	NI	NI	NI	NI	NI	NI	
	Environmental Effects	LSI	LSI	LSI	LSI	LSI	LSI	NI	
PUBLIC HEALTH AND SAFETY	Hazardous Materials	S, A	LSI	LSI	LSI	LSI	LSI	NI	
	Hazardous Waste	S, A	LSI	LSI	LSI	LSI	LSI	NI	
	Toxic Substances	S, A	LSI	LSI	LSI	LSI	LSI	NI	
	Contaminated Sites	L, B	NI	LSI	LSI	LSI	NI	NI	
	Underground Storage Tanks	L, B	NI	LSI	NI	NI	LSI	NI	
	Protection of Children								
	Noise	S, A	LSI	NI	NI	LSI	LSI	NI	
	Dust Emissions	S, A	LSI	NI	NI	LSI	LSI	NI	
	Traffic	S, A	LSI	NI	NI	LSI	LSI	NI	

RESOURCE		IMPACT DURATION TYPE	ALT SITE 1	ALT SITE 2	ALT SITE 3	ALT SITE 4	ALT SITE 5	NO ACTION
UTILITIES AND INFRASTRUCTURE	Electrical Distribution	S, L, A	NI	NI	LSI	NI	NI	LSI
	Telecommunications	L, A	NI	NI	NI	NI	NI	LSI
	Potable Water	L, B	LSI	LSI	LSI	LSI	LSI	LSI
	Stormwater / Wastewater Collection	L, B	LSI	LSI	LSI	LSI	LSI	LSI
	Wastewater Treatment	L, A	NI	NI	NI	NI	NI	LSI
	Natural Gas	L, A	NI	NI	NI	NI	NI	LSI
	Solid Waste Disposal	S, A	LSI	LSI	LSI	LSI	LSI	LSI
PUBLIC SERVICES	Demolition, Construction, and Repair Activities	S, A	NI	NI	NI	NI	LSI	NI
	Operation	L, A	LSI	LSI	NI	NI	NI	NI
NOISE	Demolition, Construction, and Repair Activities	S, A	LSI	LSI	LSI	LSI	LSI	NI
	Operation	L, B	LSI	LSI	LSI	LSI	LSI	NI
GEOLOGY AND SOILS	Demolition; Construction, and Repair Activities							
	Geology	S, A	LSI	LSI	LSI	LSI	LSI	NI
	Soils	S, A	LSI	LSI	LSI	LSI	LSI	NI
	Operation							
	Geology	L, B	LSI	LSI	LSI	LSI	LSI	NI
	Soils	L, B	LSI	LSI	LSI	LSI	LSI	NI
WATER RESOURCES	Demolition, Construction, and Repair Activities							
	Surface Water	S, A	LSI	LSI	LSI	LSI	LSI	NI
	Groundwater	S, A	LSI	LSI	LSI	LSI	LSI	NI
	Floodplains	NI	NI	NI	LSI	NI	NI	NI
	Operation							
	Surface Water	L, B	LSI	LSI	LSI	LSI	LSI	NI
	Groundwater	L, B	LSI	LSI	LSI	LSI	LSI	NI
Floodplains	L, A	NI	NI	LSI	NI	NI	NI	
BIOLOGICAL RESOURCES	Demolition, Construction, and Repair Activities							
	Vegetation	S, V	LSI	LSI	LSI	LSI	LSI	NI
	Wildlife	S, A	LSI	LSI	LSI	LSI	LSI	NI
	Operation							
	Vegetation	L, B	LSI	LSI	LSI	LSI	LSI	NI
Wildlife	L, V	LSI	LSI	LSI	LSI	LSI	NI	
AIR QUALITY	Demolition, Construction, and Repair Activities	S, A	LSI	LSI	LSI	LSI	LSI	NI
	Operation	L, B	LSI	LSI	LSI	LSI	LSI	NI

Legend: S = short-term; L = long-term; A = adverse; B = beneficial; V = varied (adverse & beneficial); NI = no impact; LSI = less than significant impact; SI = significant impact; SI-M = significant impact, but mitigation to be implemented; PS = Potentially Significant; UNK = Unknown, further analysis required.

Note: Impacts considered SI or SI-M are shown in **bold red print**.

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