NAVAL SUPPORT ACTIVITY WASHINGTON

NAVAL SUPPORT FACILITY SUITLAND

INSTALLATION DEVELOPMENT PLAN

FINAL | FEBRUARY 2020

NAVFAC Naval Facilities Engineering Command

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Chapter 1
Introduction

NSF Suitland
Source: Department of Navy

Landscaping at NSF Suitland
Source: Department of Navy

1.1 Purpose

This Installation Development Plan (IDP) has been developed for Naval Support Facility (NSF) Suitland to provide master planning guidance for development of the installation over the next 20-year planning horizon. The IDP adheres to the Department of Defense's (DoD) approved master planning guidance for consistent planning processes found in the 2012 Unified Facility Criteria (UFC) 2-100-01, Installation Master Planning, which states: "DoD Instruction 4165.70 (Real Property Management) established the requirement for installation master plans. The purpose of this UFC is to prescribe the DoD minimum requirements for master planning processes and products in accordance with the DoD instruction. The process is to use the tool of a master plan and its components to provide ongoing master planning of installations in support of the mission."

This IDP provides an updated master plan for NSF Suitland reflecting new planning criteria and requirements according to the *2018 Installation Development Plan Consistency Guide*. The IDP Consistency Guide follows the same instructions as UFC 2-100-01, but further defines and clarifies the effective planning processes, methods, and outputs required for the IDP, and ensures best practices are used to create recommendations to meet mission requirements. As described in the IDP Consistency Guide, IDPs are to be completed and subsequently updated every five years to remain current and applicable.

Previous to the present effort, NSF Suitland completed an Area Development Plan (ADP) in 2007.

This current IDP updates the information contained in the last ADP and conforms to the planning guidance previously described. Because NSF Suitland is uniquely situated within the Suitland Federal Center (SFC), a non-Navy installation, this plan considers NSF Suitland to be an area within a larger site. To that end, this document will contain some IDP sections based on the larger SFC master

plan and a more robust ADP section that establishes a vision and development plan for NSF Suitland through a thorough planning process, including an analysis of existing conditions, and prioritized future infrastructure development actions that reflect any changing mission demands.

1.1.1 Scope

The NSF Suitland IDP establishes a comprehensive framework for real property development over short-term (0-5 years), mid-term (6-10 years), and long-term (10-20 years) time frames. It evaluates known and projected mission requirements, analyzes development constraints and opportunities, and identifies courses of action (COAs) to achieve optimal use of lands, facilities, and resources.

The scope of this planning effort primarily focuses on the NSF Suitland site, which is located about 2 miles from Washington, D.C.

1.1.2 Methodology

The IDP development methodology follows a planning process based on the IDP Consistency Guide. The process includes direct input of installation stakeholders and follows strategic guidance from all levels of the DoD. An analysis of the mission requirements, existing and proposed land use, facilities conditions, natural and man-made constraints, and other planning drivers established several COAs for long-range development plans of the installation and its tenants. Throughout the process, many planning elements ran concurrently; that is, the data collection process was consistently incorporated into an ever-expanding understanding of the installation and its tenants. The process entailed several phases including data collection and analysis, stakeholder engagement, future recommendations identification, and development of a Capital Improvement Plan (CIP). The IDP was developed over seven phases and completed in a 12-month period as described below.

Phase 1: Plan Initiation and Project Kick-off

The project began with a kick-off meeting and presentation at the installation. The process was explained to key stakeholders, installation leadership, and tenants. This step was helpful to garner support for the effort and to encourage participation from tenants in future phases.

Phase 2: Data Collection and Vision Development

Data collection and analysis officially began in Phase 2. Existing documents, strategic guidance, and other pertinent information was gathered and reviewed, followed by an analysis of key tenants' missions. This phase concluded with a series of individual stakeholder interviews to verify current and future missions, loading, facility assets, operations, and other information pertinent to the planning process.

Phase 3: Existing Data Analysis

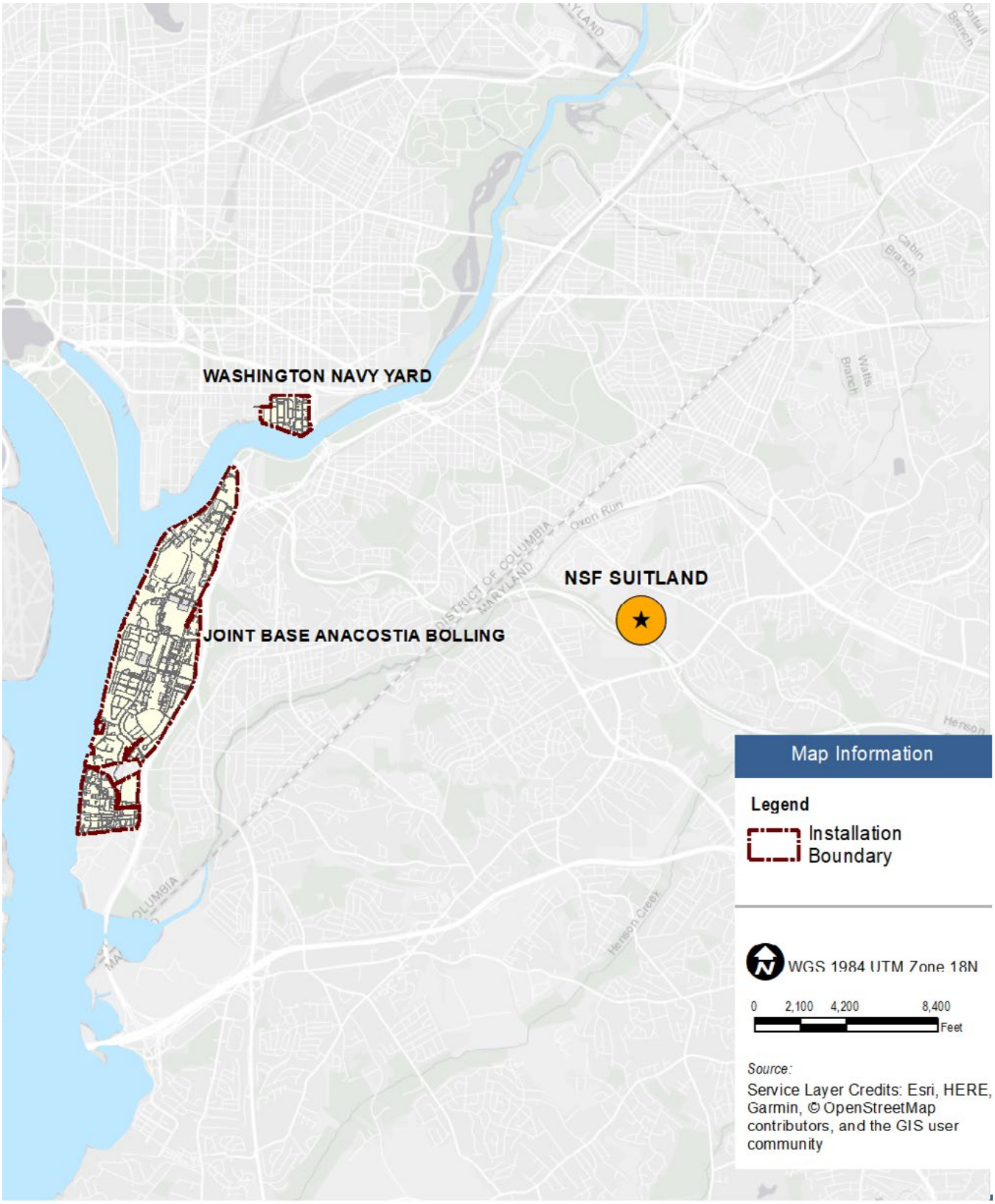
The analysis of data collected during Phase 2 allows for a thorough understanding of the installation's development opportunities, constraints, and overall capacity to rectify current facility and infrastructure deficiencies, and handle current and anticipated mission growth. A baseline inventory is assembled to analyze environmental, cultural, and operational conditions on the installation as well as transportation and utility networks, land use, and existing programmed projects. The analysis results in a developable areas and land suitability model, identifying opportunities for infill development and redevelopment areas.

Phase 4: Capability Gap Analysis

Data collected during both Phases 2 and 3 was analyzed further to identify capability gaps. The analysis compared current facility assets with known requirements documented in Navy records and identified deficiencies. NAVFAC compared the gross capability gaps with currently planned projects and other information provided by the stakeholders to identify the net capability gaps, or those gaps requiring planning actions. These gaps were prioritized in terms of impacts and risks, and are shown in Chapter 3.

Phase 5: Course of Actions Development

The capability gap analysis resulted in a list of programmed projects from the installation's project list and prioritized capability gaps. Based on the analysis developed in previous phases, stakeholders reviewed the programmed projects and capability caps, and developed alternate COAs. The resulting COAs considered various budget constraints and planning scenarios. The results of the effort are described in Chapter 4.



Map 1.1 NSF Suitland Installation Location
Source: NAVFAC

Phase 6: Preferred Plan Development

A preferred COA was identified by staff at NSF Suitland; this preferred COA served as the basis for the future development plan included in Chapter 5. The development plan outlines specific actions based on requirements, logistics, and fiscal considerations, to be implemented in the short-, mid-, and long-range timeframes.

1.1.3 Schedule

The Kick-Off meeting occurred July 2018. Stakeholder interviews occurred during September 2018. The Basic Facility Requirement (BFR) was completed in March 2019. Draft submittal to the Client was completed in April 2019. The Draft IDP was reviewed by the National Capital Planning Commission (NCPC) in September 2019. NCPC approval of the IDP is scheduled for April 2020.

1.2 Background

1.2.1 Installation History

Suitland is located in Prince George's County, Maryland, near Washington, DC, and is not an incorporated town. Land in the Suitland area was in agricultural use beginning in the late 18th century. Prior to that time, Native American peoples had migrated through and occupied nearby areas; however, no significant archaeological resources have been identified on the site.

By the early 20th century, Suitland was becoming suburbanized. In 1941, the federal government purchased land for the construction of federal office space; 226 acres of this parcel now are in use as the SFC. When the land was purchased by the federal government, it was largely wooded, with a few residential and agricultural structures, a gas station, and a grocery store. The Suitland House, a two-and-one-half-story colonial-style house, was constructed on the site in 1937. It served as the home of the Chief of the US Census Bureau after the federal government acquired the property.

Construction of the first federal building began in 1941. Federal Office Building 3 (FOB-3) was built to house the Census Bureau and has served as the Bureau's headquarters since that time. Next came construction of the first Navy office building. Following were, Federal Office Building 4 (FOB-4), also built for the Census Bureau; a water tower for the Washington Suburban Sanitary Commission (WSSC); and a garage and annex.

In 1958, the Department of the Navy built Suitland Federal Center Building #2. A second floor was added to the northern wing in 1970; two prefabricated temporary structures were erected in interior courtyards. In 1991, the Navy built a new office building on 41 acres of the SFC. The 1991-built office (the current NSF Suitland site) is approximately 200 yards distant from the 1958-built office.

The Navy occupied the 1958-built office until 1994 when it moved into to the new office. The 1958-built office was transferred to General Service Administration (GSA), renamed Suitland Federal Center 2, and assigned to the 1996 Armed Forces Inaugural Committee (which never actually occupied the building). Staff from the Federal Protective Service and the GSA have occupied SFC2 on a short term basis; in recent years SFC2 has lapsed into poor condition and is vacant.

1.2.2 Population/Demographics

NSF Suitland supports approximately 4,000 military personnel, civilian, mobilized reservists, and contractor personnel worldwide. It also supports up to 1,000 additional employees during surges (due to mission changes or National Emergencies). Additionally, at any given time, there are 362 non-assigned / temporary visitors at NSF Suitland.

1.2.3 Surrounding Community Context

NSF Suitland is approximately two miles southeast of Washington D.C. The SFC campus is located in southern Prince George's County in Maryland.

The SFC is 226 acres in total, which includes the parcel owned by the US Navy (NSF Suitland). The SFC is bounded to the north by Suitland Road, to the south by Suitland Parkway, to the east by Silver Hill Road, and to the west by the Washington National Cemetery.

The SFC is a federal employment center operating under the control of the General Services Administration (GSA). Current tenants include the United States Bureau of Census (Census); National Oceanographic and Atmospheric Administration (NOAA); the National Archives (NARA); and NSF Suitland.

Suitland, MD is part of Prince George's County's Sub region 4, which is approximately 29 square miles and bordered by US 50 (John Hanson Highway) to the north, the District of Columbia (DC) to the west, Suitland

Parkway to the south, and I-95/I-495 to the east. Per the Approved Sub region 4 Master Plan and Sectional Map Amendment (2010), Sub region 4 contains more than one-third of the county's resident population and employment base. The sub region is unique within Prince George's County due to the combination of new and older suburban neighborhoods comingled with more urban development.

1.3 Vision/Mission

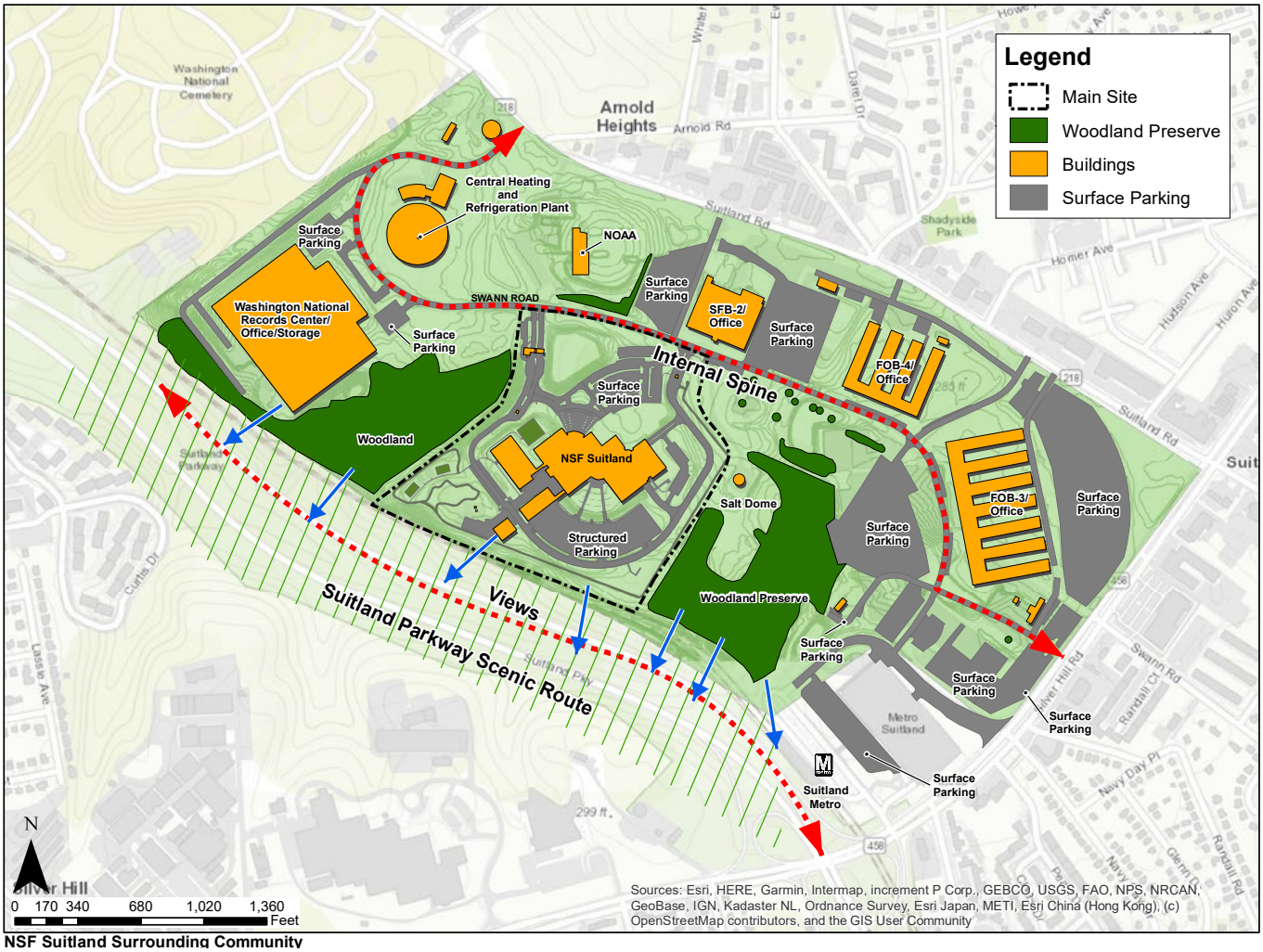
1.3.1 Overall Regional Vision/Mission

NSF Suitland is encompassed by the Naval District Washington (NDW) region. NDW's mission is to "sustain combat readiness through effective and efficient shore installation management and support."[1] This echoes the larger mission of the Navy in its long-term planning efforts. NDW articulates the following planning vision for the region:

- Reduce Footprints and Costs
- Increase Existing Capabilities and Sustainability
- Maximize Mission Efficiencies

NSF Suitland houses the Office of Naval Intelligence, which serves as America's premier maritime intelligence service and core elements of the Navy.

[1] Naval District Washington RSIP, 2006



NSF Suitland Surrounding Community

Map 1.2 NSF Suitland Surrounding Community
Source: Suitland Federal Center Master Plan 2002

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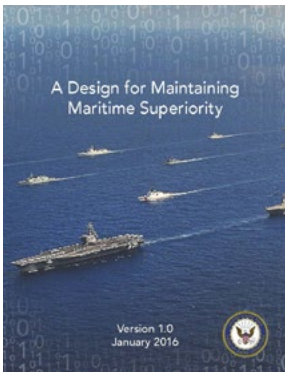
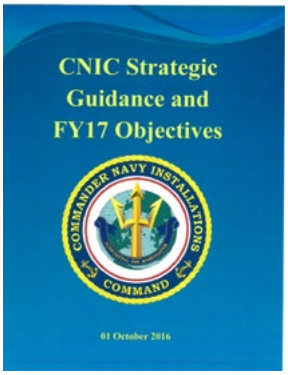
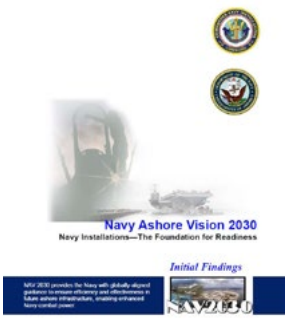
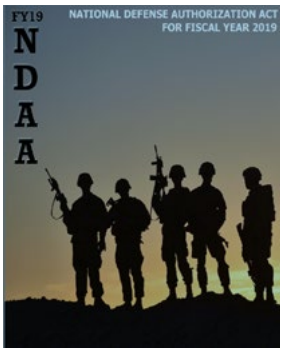
Chapter 2
Strategic Planning Guidance and Operational Drivers









2.1 DoD and Navy Guidance

Preparation of this Installation Development Plan (IDP) is governed by a range of DoD and Navy guidance, from high-level planning policies and directives to detailed installation-specific plans and initiatives. This section provides a brief description of guidance and drivers that influence master planning at the installation.

2.1.1 Chief of Naval Operations' (CNO) Guidance

A Design for Maintaining Maritime Superiority Version 1.0 (January 2016)

To help maintain the Naval presence described in the Revised Cooperative Strategy for the 21st Century (CS-21R, March 2015), the Chief of Naval Operations (CNO) Design for Maintaining Maritime Superiority, or The Design, presents the means by which the Navy will address threats within the "emerging security environment." The increasing rate of change in the three rapidly changing global forces— the maritime environment (shipping traffic and overseas migration), the global information system (network coverage, connectivity, and invasiveness), and advanced technologies (hardware and software capabilities)— challenge maritime security and dominance. Combined with present day-fiscal constraints, these forces must be approached strategically and decisively. The Design offers four Lines of Effort to strengthen and maintain Navy maritime superiority in the face of global forces:

- Strengthen Naval Power at and from Sea: Maintain a fleet that is trained and ready to operate and fight decisively from the deep ocean to the littorals, from the sea floor to space, and in the information domain. Align the organization to best support operational excellence.

- Achieve High Velocity Learning at Every Level: Apply the best concepts, techniques, and technologies to accelerate learning as individuals, teams, and organizations. Know the objective and theoretical limits of performance to set aspirational goals. Begin problem definition by studying history and analyzing what can be accomplished without additional resources. During execution, conduct routine and rigorous self-assessment.
- Strengthen Our Navy Team for the Future: We are one Navy Team comprising a diverse mix of active duty and Reserve Sailors, Navy Civilians, and our families, with a history of service, sacrifice, and success. Build on this history to create a climate of operational excellence that will keep us ready to prevail in all future challenges.
- Expand and Strengthen Our Network of Partners: Deepen operational relationships with other services, agencies, industry, allies, and partners who operate with the Navy to support shared interests.

2.1.2 CNIC Strategic Plan

Commander, Navy Installations Command (CNIC) is responsible for worldwide shore installation support for the United States Navy under CNO. CNIC's Mission is to support the Fleet, Fighter and Family, by maintaining operating requirements, training and manning needs, and quality of life for families.

CNIC Strategic Guidance and FY17 Objectives

The CNIC Strategic Guidance and FY17 Objectives document provides a way forward for the Navy's 2017 shore mission. The document focuses on reaffirming overarching strategic guidance and guiding principles and adjusting shore alignment to the CNO Guidance: A Design for Maintaining Maritime Superiority V1.0. While outdated, the general objectives remain relevant for guiding the recommendations presented in this IDP in support of NSF Suitland's mission. The document confirms the Navy Shore Mission is "to deliver shore-based products and services to sustain the Fleet, enable the Fighter, and support the Family."

2.1.3 Navy Ashore Vision 2030 (2004)

The *Navy Ashore Vision 2030 (NAV 2030)* establishes a transformational network to support the fleet of the future in its maritime mission around the world. As a tool for developing Regional Shore Infrastructure Plans (RSIPs), *NAV 2030* establishes a strategic vision for the Navy in accordance with four basic guiding principles:

- **Right Bases:** Installations, institutions, functional support facilities, and services are available to enable the Force Commanders to most effectively train, man, and equip operational units.
- **Right Places:** Installations and support functions are relationally and geographically aligned with Fleet Operations to enable surge, sustainment, and reconstitution.
- **Right Capabilities:** Cost-effective support actively serves dynamic readiness requirements and sustains quality of life.
- **Right Price:** Resource allocation is driven by valid output requirements. Core facilities and services will be sustained.

The Navy must size its ashore facilities to ensure they meet operational requirements while still addressing issues of surge, contingencies, and critical assets. By the year 2030, Naval bases must be sized, typed, and located to meet the range of operational requirements expected. Ashore facility investments and costs must make optimum use of Fleet, Navy, DoD, and other resources. This IDP aligns with these guiding principles as it outlines the necessary requirements in the next sections of the document to meet these goals and the development of the preferred COA.

This IDP employs guiding principles that are relevant to the installation's mission and future vision. An update to the *NAV 2030* document is currently in draft form. This pending document is known as *NAV 2035*.

2.1.4 Infrastructure Plans

Infrastructure plans translate the global, strategic view of the individual operational mission requirements into current and future infrastructure requirements to achieve mission success. Infrastructure plans are long–range (25 years or more) planning documents that identify a vision, guiding principles, operational concepts, and strategic actions that drive infrastructure needs specific

to an enterprise. Planning analysis was applied to this IDP. Summaries of the capability gaps and recommendations for each of these infrastructure plans are provided in this section. Although no major capability gaps were identified for NSF Suitland, the document does provide guidance for ensuring that Navy infrastructure is sustainable and capable of supporting operational mission readiness today and into the future.

2.1.5 Regional Integration Plan

Regional Integration Plan

The NDW regional integration plan is broad in scope and provides macro-level planning analysis for regional assets. It focuses on functional relationships over specific initiatives, and provides documentation of key regional assets. The guiding principles for integration within NDW are based upon the larger vision for the Navy, as established in the *NAV 2030* plan. One of the primary elements of these principles is maintaining or improving the quality of life on Navy installations while maximizing efficiencies. The following guiding principles were used throughout the planning process:

- Installations are aligned with fleet operations and address surge, sustainment, and reconstitution
- Resource allocation is driven by valid requirements
- Quality of service is enhanced to retain highly motivated and well-trained personnel

2.1.6 Major Tenant Strategic Plans

There are no major strategic plans relevant to the IDP for tenants at NSF Suitland.

2.1.7 Other Relevant DoD/Navy Instructions

Unified Facilities Criteria Guidance

In accordance with Department of Defense Instruction (DODI) 41653.70, Real Property Management (dated April 6, 2005), all military departments must maintain a current inventory of all real property assets and properly oversee their use and management. Installation master plans (as defined under UFC 2-100-01, Installation Master Planning) are the guidance for upholding DODI 4165.70 through the careful administration of real property assets over a long-range planning horizon. With mission readiness at its core, the master planning UFC offers a holistic approach to site planning incorporating traditional planning elements such as sustainability, walkability, network and form based planning, as well as natural and cultural resource management into design. Note that certain planning elements, such as sustainability measures, are assessed according to set metrics established in EOs or SECNAV mandates. In addition to UFC 2-100-01, the following UFC documents provide the foundation for engineering and design elements of the IDP:

- UFC 1-200-02, *High Performance Sustainable Building Requirements*
- UFC 2-000-05N, *Facility Planning for Navy and Marine Corps Shore Installations*
- UFC 3-210-10, *Low Impact Development*
- UFC 4-010-01, *DoD Minimum Anti-Terrorism Standards for Buildings*

Naval Shore Infrastructure Installation Development Plan Consistency Guide, Version 2.0 (2018)

The Naval Shore Infrastructure IDP Consistency Guide (Guide) provides the framework for all Navy IDP documents, processes, and general methodologies in support of the defense mission. The intent of the Guide is to ultimately standardize Navy installation master planning products from workshop facilitation and procedures, geospatial data and mapping format, and overall document organization. It assists the integration of planning guidance at all levels of the Shore Infrastructure Planning (SIP) hierarchy – from DoD to regional and local scales – following UFC 2-100-01, Installation Master Planning.

2.2 Operational Drivers

2.2.1 New Platforms/New Mission/ Realignments

While there is some anticipated expansion, there are no major new platforms or missions anticipated to impact NSF Suitland.

2.2.2 Installation Planning Initiatives

The following plans and studies summarize planning initiatives previously completed for NSF Suitland with potential influence on the recommendations contained in this IDP.

NSF Suitland Area Development Plan (2007)

The NSF Suitland Area Development Plan (ADP) provides a long-range facilities plan that meets the requirements of tenant missions. It represents a sub-area plan of the Suitland Federal Center (SFC) Master Plan, which was completed in June 2002 by the General Service Administration (GSA). The plan provided a list of 27 key planning actions designed to achieve facilities that meet mission requirements, including renovation and new construction. A key proposal in the ADP was to construct a new wing to accommodate growing personnel requirements; the new wing was constructed in 2010. The ADP also considered the parking requirements and challenges at NSF Suitland, which remains an ongoing challenge at the installation. This current IDP represents a more extensive planning process that builds upon and updates the 2007 plan.

NSF Suitland Transportation Management Plan (2019)

The purpose of the 2019 NSF Suitland Transportation Management Plan (TMP) is to develop goals, objectives, and strategies to address the traffic and transportation impacts at the installation. The last TMP was conducted in 2007; the 2019 TMP reflects updated requirements and takes into consideration additional development that has occurred since that time.

The TMP identified several key transportation issues including the desire of employees to live in areas perceived as safer than those surrounding Suitland, MD. Observations include: 1) the majority of employees live farther than three miles from public transportation options; 2) public transportation is more time intensive even when available; 3) parking ratios within NSF Suitland are less than what is authorized by DoD policy; and 4) NSF Suitland employees use hundreds of parking spaces in SFC parking lots, as well as on-street parking.

Naval District Washington Integrated Natural Resources Management Plan (2013, Update 2016)

The purpose of the Naval District Washington (NDW) Integrated Natural Resources Management Program Management Plan (INRMP) is to ensure consistency with the use of military installations to support military preparedness, while providing for (1) the conservation and rehabilitation of natural resources on military installations; (2) the sustainable multipurpose use of the resources including hunting, fishing, trapping, and non-consumptive uses; and (3) public access to military installations within safety and military security requirements (Sikes Act). The INRMP must also ensure that natural resources management practices comply with all pertinent laws and regulations and are in accordance with Navy policy to incorporate ecosystem management as the basis for planning and management; identifying requirements to comply with federal laws, regulations, and guidelines; and establishing future management strategies and procedures for integrated planning and stewardship of natural resources. The INRMP reviews any natural resource constraints at the installation and provides recommended projects to ensure support of the installation mission, while protecting and enhancing installation resources for multiple use, sustainable yield, and biological integrity. The INRMP recommends several projects for NSF Suitland including:

- Improve the vegetation and habitat at NSF Suitland stormwater management pond to manage runoff.
- Manage resident Canada goose populations warranting control from a safety and health perspective at NSF Suitland.
- Conduct research on the health of the pond including the vegetation to identify pollutants that are being filtered before entering a waterway

These projects and approaches to natural resource management are supported by the IDP and incorporated into proposed COAs where applicable.

Integrated Cultural Resource Management Plan (2018-2022)

The Integrated Cultural Resource Management Plan (ICRMP) is intended as guidance for cultural resource management activities, primarily with regard to compliance with the National Historic Preservation Act (NHPA) of 1966, as amended, and DoN Guidance on cultural resources. Under DoD policy, ICRMPs are updated every five years. Four archaeological surveys have been conducted at or adjacent to NSF Suitland. The facility has been completely inventoried for archaeological recourses. No additional archaeological survey is currently recommended for the site.

NSAW Encroachment Action Plan (2010)

The purpose of the Encroachment Action Plan (EAP) is to identify and analyze encroachment challenges and create a strategic plan for mitigating those and future encroachment challenges within NSAW. The EAP identified urban development and competition for land as the primary concerns.

2.3 Planning Guiding Principles

This IDP effort was conducted according to the planning methodology outlined in the IDP Consistency Guide (Guide). The planning methodology of the Guide is designed to produce a plan that adheres to the following planning principles:

- **Mission-Focused Planning:** Meet mission requirements while considering the life cycle cost of planning decisions, using multiuse and flexible facilities to adapt to changing missions, and minimizing risk to strategic infrastructure and networked assets.
- **Program-based Planning:** Use Navy planning tools to capture requirements while considering facility optimization, renovation, and new construction to be funded by diverse sources.
- **Sustainable Planning:** Promote development with minimal impact to natural resources, including compact development, connected transportation networks, and efficient energy and water systems.
- **Natural, Historic, and Cultural Resource Management:** Preserve land for current and future training, sustaining, and deploying forces and establish buffers to protect environmentally and culturally sensitive areas.
- **Healthy Community Planning:** Promote development that encourages walking, running, and cycling and decreases auto dependence.
- **Capacity Planning:** Develop according to the installation's maximum carrying capacity for mission loading according to DoD policy and NCPC advice.
- **District/Area Small Scale Form-based Planning:** Design facilities and infrastructure that fully support mission activity.
- **Circulation Network Planning:** Design a well-connected circulation network, with functional linkages between streets, transit networks, sidewalks, parks, and open space.
- **Facility Planning and Design Standards:** Develop building type, site planning, street, landscape, and signage standards to promote a unified architectural and visual identity for the base as a whole.

2.4 Planning Assumptions

The following planning assumptions for NSF Suitland establish the development baseline from which to develop the IDP planning actions:

- The planning horizon for the IDP is based on a 20-year timeframe, including short-range (0 to 5 years), mid-range (6 to 10 years), and long-range (11 to 20 years) horizons.
- While DoD and Navy priorities will evolve in response to changing national priorities and geopolitical environments, current forecasts regarding NSF Suitland mission, loading, and priorities are considered reliable for purposes of this IDP.
- The primary mission of NSF Suitland will remain fundamentally unchanged during the short- to mid-range planning horizon.
- Navy/DoD financial resources will continue to be constrained, requiring careful prioritization and difficult choices among competing desired expenditures.
- Reuse of existing facilities, where feasible, will continue to be a high priority to minimize MILCON expenditures.
- Information provided by government-owned databases are considered the best available, up-to-date, and reliable data for master planning purposes.
- The Basic Facility Requirement (BFR) process provides the best available data for personnel loading calculations.

Chapter 3
Planning Opportunities and Constraints

NSF Suitland Parking Garage
Source: Department of Navy

Landscaping at NSF Suitland
Source: Department of Navy

3.1 Natural, Environmental, and Cultural Constraints

This section describes the existing constraints at NSF Suitland that must be considered for any planning process. The Naval District Washington (NDW) Integrated Natural Resources Management Program Management Plan (INRMP) provides specific information on the natural resources found on the site, with details on existing conditions, natural resource management issues, program elements, and implementation strategies. This document constitutes a comprehensive picture of NSF Suitland's natural environment and should be referenced for natural resources information in conjunction with this Installation Development Plan (IDP). Further, an Environmental Assessment (EA) was conducted in relation to the 2007 Area Development Plan (ADP) and proposed new building addition. A final Navy Finding of No Signification Impact (FONSI) determination was signed by Navy Installations Command on March 26, 2008.

3.1.1 Topography

For purposes of the IDP, slopes are analyzed to determine land suitability for development. Steep slopes, or slopes greater than 25 percent, are a concern because they can limit development opportunities and increase construction costs. The topography of the NSF Suitland site is mapped on the United States Geological Survey Anacostia, DC—Maryland quadrangle map. Suitland lies in the Atlantic Coastal Plain physiographic province, and the topography reflects typical coastal plain attributes of relatively flat grades with some steep slopes at stream valleys and drainage courses. While the land around the site is relatively flat, steep slopes exist around the stormwater retention pond on site and near the NSF Suitland fence line. Just south of NSF Suitland, a ridge runs parallel to the Metrorail corridor and Suitland Parkway. Steep wooded slopes descend to the rail corridor, in

some cases exceeding 20 percent. The average change in elevation from the ridge to the rail corridor is 60 feet.

At NSF Suitland, elevations range from 256 to 298 feet above sea level. Much of the land at the NSF Suitland has previously been graded relatively level in association with the main building (Building 1).

3.1.2 Hydrology

Federal and state wetland regulatory agencies identify wetlands using information from the U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI). While there are no wetlands at NSF Suitland, the NWI has identified a drainage course on GSA property, west of NSF Suitland, as a non-tidal forested wetland with temporary saturation. The drainage course runs south onto National Park Service property and joins an ephemeral tributary of the Oxon Run stream that runs northwest along the Suitland Parkway median. This channel is classified as a forested wetland and joins another temporary drainage descending from the north to form the headwaters of Oxon Run stream, a low gradient, slow velocity, riverine wetland that is permanently inundated. Oxon Run stream is a tributary of Oxon Creek, which flows into the Potomac River. Per the INRMP, NSF Suitland is in the Four Mile Run-Potomac River watershed.

An on-site man-made retention pond, near Gate 1, collects stormwater runoff at NSF Suitland. For more information, please see section 3.3.4 Storm Water.

3.1.3 Geology/Soils

No restrictive soils have been identified at NSF Suitland. According to the Prince George's County Soil Survey, the majority of soils are of the Sassafras-Croom association and Beltsville series, which are gently sloping to steep, well-drained to excessively-well-drained, and dominantly gravelly. Some areas include a hardpan substratum impeding drainage.

Many of the soils on the site comprise materials of the Beltsville silt loam and Beltsville urban land complex. The potential low permeability and shallow water table conditions of these soils could impose limitations for shallow excavations; however, these series do not impose limitations related to stoniness, slope, or shrink/swell potential. A geotechnical survey conducted in 1988 (prior to construction of the new NSF Suitland office building) found no unstable soil conditions at the site.

3.1.4 Vegetation

Most of NSF Suitland is landscaped and includes grass lawn, groundcover, and shrubbery. Landscape trees include sycamore (*Platanus occidentalis*) along roadways and red maple (*Acer rubrum*) near the drainage swales adjacent to the parking garage. On the site, a small stand of mature vegetation adjacent to the existing picnic pavilions includes species such as sweet gum (*Liquidambar styraciflua*), pin oak (*Quercus palustris*), and American beech (*Fagus grandifolia*). This forest stand, located in the southwest corner of the installation, is approximately 44,000 square feet. There is no understory growth.

3.1.5 Threatened and Endangered Species

The Forest, Wildlife, and Heritage Service of the Maryland Department of Natural Resources has no record of federal or state, rare, threatened, or endangered species (RT&E) within the NSF Suitland site. A US Geological Survey study completed in 2000 identified 120 species of birds on the lands of the Suitland Parkway. Wildlife expected to be present at NSF Suitland consists of suburban species of birds including American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), American robin (*Turdus migratorius*), northern cardinal (*Cardinalis cardinalis*), blue jay (*Cyanocitta cristata*), northern mockingbird (*Mimus polyglottos*), and gray catbird (*Demtella carolinensis).* In addition, Canada geese *(Branta canadensis)* frequent the storm water management pond. Mammals expected on the site include raccoon (*Procyonlotor*), opossum (*Dedelphis virginiana*), eastern gray squirrel (*Sciurus caroliniensis*), eastern cottontail (*Sylvilagus floridanos*), eastern chipmunk (*Tamias striatus*), striped skunk (*Mephitis mephitis*), and various small rodents. Larger mammals, which require more extensive wooded areas for their habitat, are unlikely to use the relatively small wooded area at NSF Suitland.

3.1.6 Historical and Archaeological

According to the Integrated Cultural Resources Management Plan (ICRMP) 2018-2022 for Naval District Washington, there are no cultural resources at NSF Suitland. Navy GIS, however, identifies three very small Cultural Probable Sensitive Areas on the south side of the installation.

NSF Suitland does not contain any historic-eligible properties. Furthermore, an archaeological investigation of the site conducted in support of the original construction, revealed that there are no significant

archaeological sites. In a letter dated August 2, 1996, the Maryland Historical Trust (MHT) agreed with a Navy determination that it is highly unlikely that National Register-eligible archaeological resources exist within the NSF Suitland property and that an additional archaeological investigation is not warranted. However, MHT noted that there are two historic properties nearby, which could be affected by future Navy construction at NSF Suitland. The first property, which is 900 feet from NSF Suitland, is the Suitland House. It is listed in the National Register of Historic Places (NRHP). The second property is the Suitland Parkway itself, which shares a boundary with NSF Suitland. The 2007 ADP proposed adding an augmented buffer between the NSF Suitland site and the Parkway, reinforced with appropriate tree screening, to mitigate potential impacts of the Suitland Parkway view shed.

3.1.7 Climate and Environmental Influences

3.1.7.1 Climate Change

The warming climate is causing increased evaporation and precipitation, and on a large scale, causing glaciers and ice sheets in the north and south poles to melt. According to the Environmental Protection Agency (EPA) report, What Climate Change Means for Maryland, Maryland's temperature has increased one to two degrees and the sea level has increased one inch every seven to eight years over the last century. Specific to Maryland, annual precipitation has increased by five percent in the last century. Based on weather data, the amount of rainfall and intensity of individual storm events are expected to rapidly increase in the future. These factors result in greater flooding during the spring and summer.

Storm Surge

Storm surge is a term used to describe temporary flooding and water inundation along coastlines during storm events such as tropical depressions or hurricanes. During a storm surge, water is displaced from one area of the ocean and pushed onto coastlines. This surge is caused by strong winds associated with low-pressure weather events. Storm surge is the most destructive component to hurricane-type storms for coastal communities. Flooding and the sheer strength of water coming ashore combined with wave action cause most of the hurricane damage.

As NSF Suitland is situated inland and at a sufficient elevation even above the 500-year flood plain, storm surge is not a concern.

Sea Level Rise

Sea level rise is a term used to describe the increasing volume of ocean water due to glacier and ice sheet melt generally believed to be caused by global temperature rise. As NSF Suitland is not a tidally-influenced installation, sea level rise is not a concern.

Floodplain

The 100-year floodplain represents an area with a 1-percent chance of flood occurrence per year; the 500-year flood has a 0.2-percent chance occurrence per year. The Federal Emergency Management Agency (FEMA) delineates floodplains with the following flood zone designations: 100-year flood (AE), 100-year flood with stream flooding hazards (AO), 100-year with wave hazards (VE), and 500-year flood (X). Under EO 11988, it is recommended that all federal agencies avoid development within the 100-year floodplain where feasible. Soils in the 100-year and 500- year floodplains are not ideal for construction as they are composed of unconsolidated alluvium, tend to erode, and are classified as restrictive soils.

The NSF Suitland is above the 500-year floodplain and therefore not in a flood zone.

3.1.7.2 Environmental Quality

Greenhouse Gas Emissions

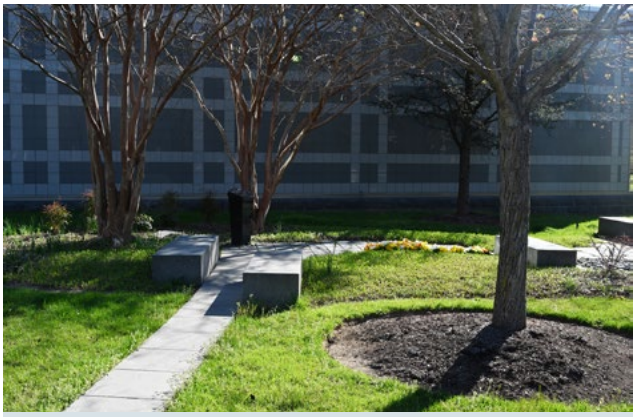
Greenhouse gases (GHG) are gases that trap heat in the atmosphere. These gases build up and lead to the cumulative effects of climate change and air pollution. Objectives introduced in the Department of Defense (DoD) Strategic Sustainability Performance Plan (SSPP) mandate the reduction of GHG emissions of Scope 1 and 2 GHGs (consumed or produced on site) by 42 percent, and Scope 3 (related off-site emission including losses) by 25 percent as compared to the 2008 baseline for all DoD installations. Efforts at NSF Suitland to minimize these emissions are described in Section 3.3.1, Energy.

NSF Suitland is located in Prince George's County, which currently (2019) is in non-attainment for 8-hour ozone; however, NSF Suitland is not a source of pollutants and therefore is not subject to a Title V Part 70 Operating

Permit. The NSA Washington Public Works Department (PWD) Environmental Section staff are responsible for maintaining compliance with all applicable National Ambient Air Quality Standards (NAAQS) requirements.

In addition, the state of Maryland recently passed legislation strictly regulating GHG emissions. The state set a goal to reduce emissions to 40 percent below the 2006 baseline by 2030. The bill requires energy companies to obtain a portion of their energy from renewable sources and creates more programs to increase building energy efficiency.

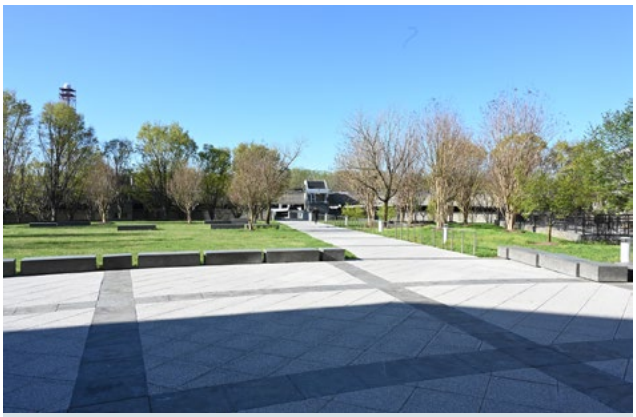
The Clean Air Act regulates air pollution through the use of NAAQS for six criteria pollutants: carbon monoxide, lead, ground-level ozone, nitrogen-dioxide, sulfur-dioxide, and particulate matter. Areas within the United States that exceed the standards for these pollutants are considered to be in "non-attainment."



NSF Suitland Landscaping
Source: Department of Navy

Contaminated Soils / IR

There are no contaminated soils nor Installation Restoration Programs at NSF Suitland. A phase I environmental site assessment (ESA) completed by Applied Environmental in March 2001 evaluated the possible presence of hazardous wastes and/or soil and groundwater contamination on the Suitland Federal Center (SFC) campus. According to the ESA, aerial photographs and fire insurance maps did not reveal historical evidence of the manufacture, use, or disposal of hazardous materials or non-hazardous wastes on the SFC.



Plaza at NSF Suitland
Source: Department of Navy

3.2 Man-Made/Operational Constraints

Development on the installation is also constrained by mission-oriented operations that take place throughout the base. Some operations have associated risks, and development is limited or requires mitigation in those areas in order to protect both people and the continuity of operations. The majority of the constraints at NSF Suitland occur as a result of standard security practices.

3.2.1 Existing Land Use Plan

NSF Suitland occupies approximately 41 acres within the SFC. The land is primarily occupied by an administrative office, open space and recreation land, maintenance facilities, and base support - parking for employees and visitors. Table 3.1 indicates the existing land use distribution by acres.

Table 3.1 Existing Land Use (Acres)

Land Use	Acres	Percent
Base Support	15	37%
Administrative	5	12%
Natural Open Space	14	34%
Fields/Recreation	2	5%
Utilities	5	12%
Total	**41**	**100%**

Source: GeoReadiness Explorer and NAVFAC Washington

- The **Base Support** land use category includes direct support and maintenance to the installation on a day-to-day basis. It is the largest land use area at NSF Suitland with 37% of total acreage.
- The **Administrative** land use category is the primary function of the NSF Suitland. The office building represents 12% of the total acreage at NSF Suitland.
- The **Natural Open Space** land use area encompasses much of the land along the NSF Suitland boundary. It is the second largest land use at NSF Suitland, with 34% of the total acreage.
- The **Fields/Recreation** land use category is the smallest of the land use designations. This land use is located towards the west of the complex. It accounts for 5% of the total acreage at NSF Suitland.
- The **Utilities** land use category includes support functions and the stormwater retention pond. This land accounts for about 12% of the total acreage.

3.2.2 Airfield Operations

There are no airfield operations at NSF Suitland.

3.2.3 Ordnance Operations

There are no ordnance operations at NSF Suitland.

3.2.4 Small Arms Range

There are no small arms range operations at NSF Suitland.

3.2.5 Security

Security measures are required by Title 10 U.S Code, Section 2859 and are intended to reduce risk. Security is compliant with Navy and DoD standards.

3.2.6 Electromagnetic Areas

There are no electromagnetic operations at NSF Suitland.

3.2.7 Enhanced Use Lease/Public Private Venture

NSF Suitland does not currently have any Enhanced Use Leases (EULs) or Public Private Ventures (PPVs).

3.2.8 Encroachment

OPNAVINST 11010.40 Encroachment Management Program defines encroachment as "any non-Navy action planned or executed in the vicinity of a naval activity which inhibits, curtails, or possesses the potential to impede the performance of the mission of the naval activity." An Encroachment Action Plan (EAP) was completed for NSA Washington, including NSF Suitland in 2010 and identifies encroachment challenges and strategies to address each. Of the 14 encroachment categories outlined in the Navy instruction, none were deemed significant in terms of existing and potential impacts to NSF Suitland operations. Nine were deemed to have no impact on operations or were not applicable, and two were determined to have the potential to minimally impact operations. The following three were determined to potentially have a moderate impact on operations:

- Competition for air, land, and sea space
- Interagency coordination
- Legislation initiative

Map 3.1 Existing Land Use
Source: Georeadiness Explorer, NAVFAC

The specific challenges cited include limited alternatives for accommodating growth, including parking; external agency coordination; and existing and proposed environmental regulations that apply to NSF Suitland, such as energy use and greenhouse gas emissions.

The five encroachment challenges that have a potentially minimal to moderate impact on operations, as identified in the EAP, are summarized in Table 3.2

Since the most recent EAP in 2010, Suitland has begun to see additional growth as Prince George's County pursues the vision for the Suitland Town Center. While this development may provide opportunities, such as food and service options for personnel within the SFC, and increased safety with more "eyes on the street," there has been a concern that political pressures could result in the removal of the GSA fence. GSA, however, has confirmed it has no plans to remove the fence line around the Suitland Federal Center. Therefore, encroachment from the Suitland Town Center development is not a concern at this time.

Table 3.2 NSF Suitland Encroachment Summary

Encroachment Factor	Challenge	Recommendation
Urban Development	The National Capital Planning Commission (NCPC) and various Prince George's County departments have active roles and responsibilities in planning, review, development and approval of land use and development projects in the Suitland area.	Participate in development of small area plans for surrounding neighborhoods to ensure Navy interests are represented; conduct regular coordination meetings among the Navy, Federal, and Prince George's County planners; coordinate with GSA to ensure Navy involvement in the implementation or revision of the SFC master plan and TMP.
Competition for Land Space	Since NSF Suitland is fully built out, it has limited alternatives for accommodating growth, including parking. NSF Suitland has an easement for power, water, and sewer lines across the Suitland Federal Center.	Negotiate an extension of the parking agreement with GSA; ensure NSF Suitland (NAVFAC and tenant) is included in the process when GSA updates its master plan for the SFC; evaluate general space needs for NSF Suitland and investigate options with the NDW region or at the SFC to accommodate new growth; complete a transportation study jointly with GSA.
Water Quality	The impact of water quality regulations is minimal; additional time and resources may be required to meet regulations if they tighten significantly or monitoring and reporting requirements increase.	Monitor water quality initiatives and be proactive in planning for additional regulation and ways to meet necessary project and monitoring requirements.
Interagency Coordination	There is a lack of understanding amongst external agencies regarding the Navy's mission, organization, and the appropriate points of contact for each site in NSAW. The two tracks of coordination (public relations-based and project-based or compliance) and perceived uncertainty regarding the appropriate contact may be impacting the rate at which the Navy receives information from external agencies.	Publicize contact information for the NSAW Community Planner Liaison Officer (CPLO); establish a regional transportation management team for NSAW; hire a PAO for NSAW; establish a process for external communication; establish a process for documenting and addressing community complaints.
Legislation Initiative	Implementing programs to meet the targets stipulated by the initiatives (energy, storm water management, water resource, etc.) will require additional resources and often include an opportunity cost.	Collect baseline data for building energy use and greenhouse gas emissions and integrate with GIS; develop a sustainability master plan; establish a comprehensive training program for personnel; monitor how legislative orders regarding water quality in the Chesapeake Bay watershed will affect storm water regulations.

Legend: Has a potentially minimal impact on operations Has a potentially moderate impact on operations

Source: NSA Washington Encroachment Action Plan 2010

3.3 Utility Networks

Utility networks at NSF Suitland are primarily privatized systems. In general, existing network coverages and capacities are adequate to support current mission requirements; however, some systems are nearing or exceeding their functional life expectancies and require maintenance or replacement.

3.3.1 Energy – Conventional

An Installation Energy Plan was completed in FY19 for NSA Washington, which includes NSF Suitland.

3.3.1.1 Electric

Electrical power is provided by Potomac Electric Power Company (PEPCO).

3.3.1.2 Natural Gas

NSF Suitland is located within the Washington Gas Light service area.

3.3.1.3 Steam

There are no steam lines at NSF Suitland.

3.3.1.4 Advanced Metering / Smart Energy Infrastructure

NSF Suitland does not yet use advanced metering or smart energy infrastructure.

3.3.2 Energy – Alternative

3.3.2.1 Wind

NSF Suitland does not yet use wind power.

3.3.2.2 Solar

NSF Suitland does not yet use solar power.

3.3.2.3 Hydro

NSF Suitland does not yet use hydroelectric power.

3.3.2.4 Geothermal/Ground Source

NSF Suitland does not yet use geothermal/ground source power.

3.3.2.5 Biomass

NSF Suitland does not yet use biomass power.

3.3.3 Communications

3.3.3.1 Communications Networks (Phone, Data)

Verizon supplies telephone services to NSF Suitland.

3.3.4 Storm Water

The stormwater conveyance system at NSF Suitland consists of a network of pipes (approximately 6.368 linear feet), open channels, and several structural Best Management Practices (BMPs) that discharge runoff through three discharge points into an approximately 1-acre wet stormwater retention pond. In addition to the three discharge points originating within the facility, the stormwater retention pond receives stormwater runoff from drainage areas north of the facility through two additional discharge points. NSF Suitland has one outfall from the stormwater retention pond, which then discharges through one closed pipe off the property into a tributary to Oxon Run, which eventually flows into the Potomac River.

As of October 31, 2018, NSF Suitland is covered by Maryland Department of the Environment's (MDE) Phase II Municipal Separate Storm Sewer System (MS4) Permit. Coverage by this permit requires NSF Suitland to meet all state stormwater regulations, including construction site runoff control and post construction stormwater management. In addition, under the Phase II MS4 permit, NSF Suitland must commence restoration efforts for 20 percent of existing developed land that have little or no stormwater management.

3.3.5 Wastewater

A gravity sanitary sewer system collects wastewater from various points at NSF Suitland. Wastewater flows through a line and into an off-site sewer system. That sewer system, which is owned and maintained by the Washington Suburban Sanitary Commission (WSSC), flows to the Blue Plains Wastewater Treatment Plant in Washington, DC.

3.3.6 Water

The water supply system at NSF Suitland is operated by the WSSC.

3.4 Installation Energy Plan

An Installation Energy Plan was completed in FY19 for NSA Washington, which includes NSF Suitland.

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3.5 Transportation/Circulation Networks

3.5.1 Easement and Rights-of-Way

NSF Suitland has easements for power, water, and sewer lines across the SFC, as noted in the EAP.

3.5.2 Circulation and Parking

3.5.2.1 Vehicular Circulation

NSF Suitland lies within the SFC, which is bounded to the north by Suitland Road, to the south by Suitland Parkway, to the east by Silver Hill Road, and to the west by the Washington Cemetery. Once through the perimeter gates of the SFC, employees and visitors reach NSF Suitland via Swann Road. Vehicular circulation within NSF Suitland is accomplished by the single Loop Road, which connects to Swann Road at both ends.

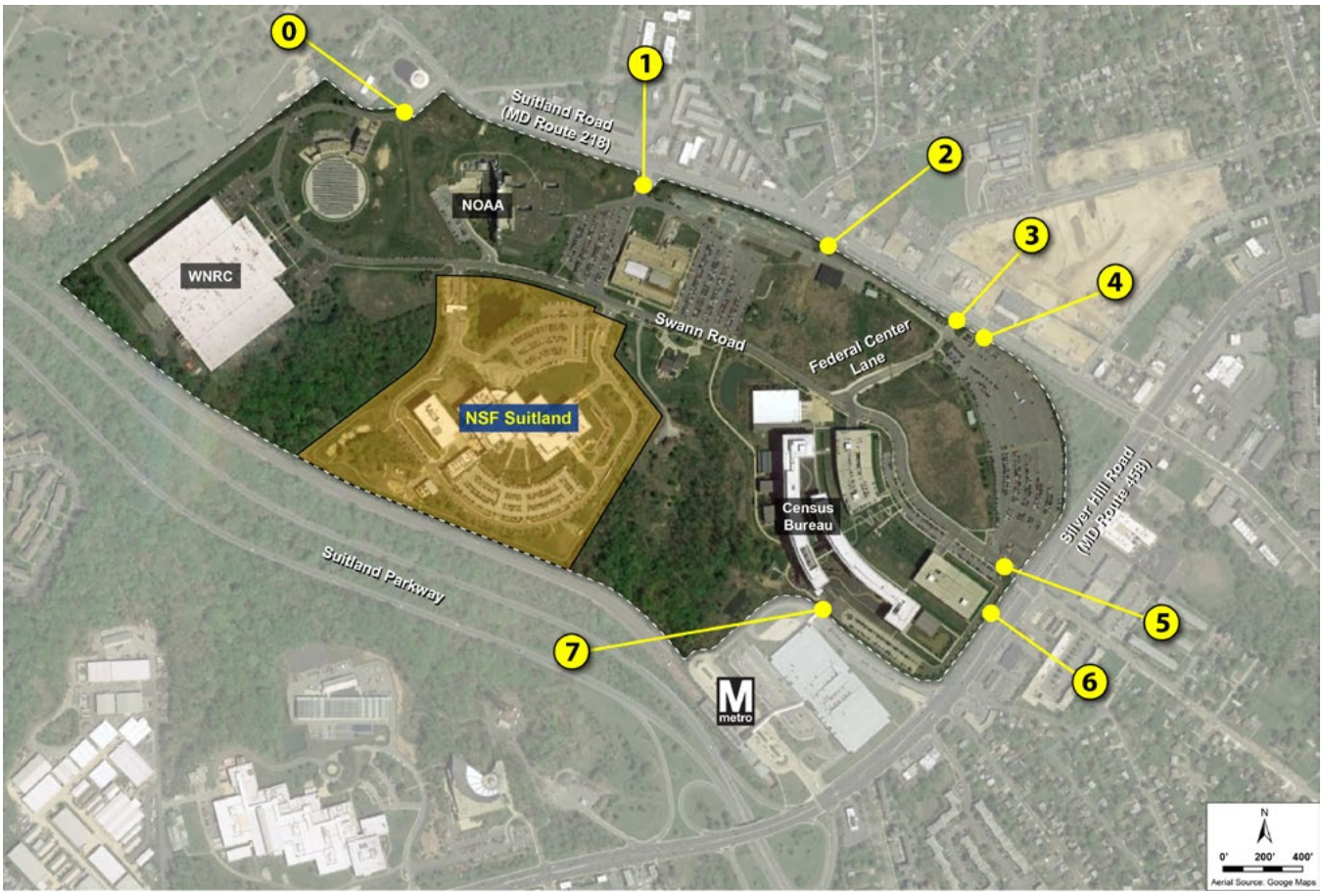
3.5.2.2 Gates

Suitland Federal Center Gates

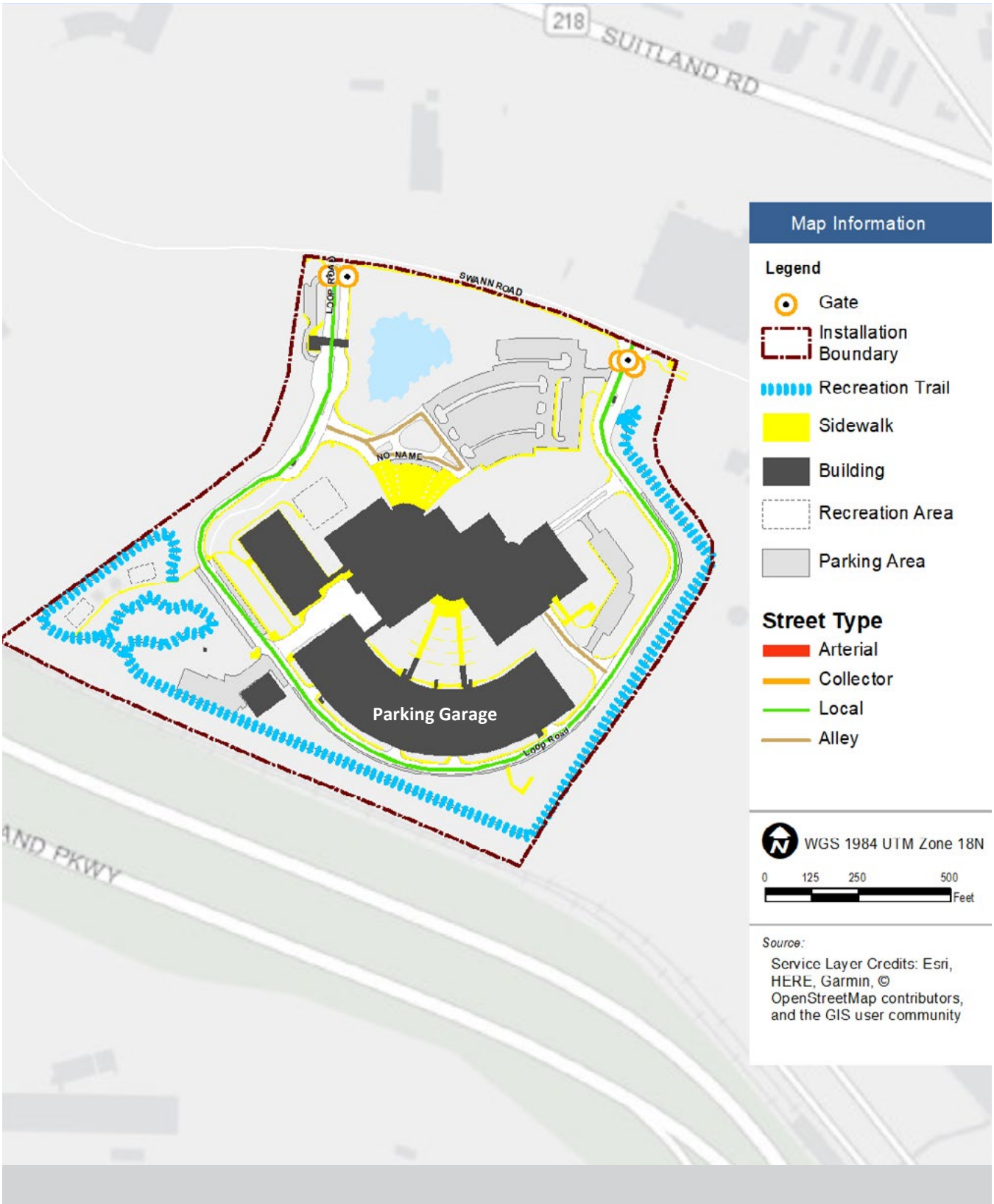
NSF Suitland employees can access the SFC through five vehicular entrance gates or through one pedestrian gate. The pedestrian gate provides pedestrian access to/from the Suitland Metrorail Station.

Naval Support Facility Suitland Gates

Once through the perimeter gates of the SFC, employees and visitors can reach NSF Suitland via Swann Road. Of the two gates, one provides access to vehicles and both provide access to pedestrians.



Map 3.2 Suitland Federal Center Road Network and Gate Location
Source: NSF Suitland TMP (Pre-Final), 10 May 2019



Map 3.3 NSF Suitland Circulation
Source: GeoReadiness Explorer, NAVFAC

3.5.2.3 Parking Inventory

As of June 2019, the existing number of parking spaces was 6 for government vehicles, 22 parking spaces for visitors, and 1,919 for employees. Most employee parking spaces are located in the deteriorating garage (1,052 spaces). There was a total of 1,947 parking spaces.

Table 3.3 NSF Suitland Parking Counts

Area Name / Description	Parking Spaces	Employee Parking
Visitor's (North) Parking Lot	22	0
Government Vehicles (GOV) Lot	6	0
Parking Lot East of Building 1	54	54
Parking Lot North of Building 1	251	251
Parking Lot West of Building 1	57	57
NSF Suitland Parking Garage	1,052	1,052
NSF Suitland on-road parking	55	55
GSA Parking Lot (Leased)	450	450
Total	**1,947**	**1,919**

Source: NAVFAC, 24 April 2019

The three-story NSF Suitland parking garage was built in the early 1990s. Accelerated corrosion has shortened the expected lifespan of the parking garage and has made it impossible to maintain or renovate. Three of the concrete stairways connecting the floors of the parking garage have been closed because they have separated from the garage structure. Over 100 supplemental steel columns have been installed throughout the entire garage alongside the failing concrete columns as a short-term solution. Nevertheless, monitoring by civil engineers has recommended closure of the top floor of the parking garage as it cannot support the weight of the vehicles.

Structural condition assessment, now conducted quarterly (due to safety concerns) show that complete closure of the parking garage is imminent. Therefore, effective 20 August 2019, the parking garage has a remaining 650 parking spaces due to closures. Additionally, GSA has accommodated the loss of most of those spaces with an amendment to the Navy's lease. The parking inventory, due to recent changes, is shown in Table 3.4

NSF Suitland supports more than 4,000 military personnel, civilian, mobilized reservists, and contractor personnel worldwide. It also supports up to 1,000 additional employees during surges (due to mission changes or National Emergencies). Additionally, NSF Suitland hosts conferences for North Atlantic Treaty Organization (NATO) and other allies. On any day, there are 300 visitors for conferences, and an additional 62 daily visitors for non-conference purposes. Stakeholder input informed that there is extreme competition for parking given the current deficit.

Table 3.4 NSF Suitland Parking Counts Reflecting Garage Closures

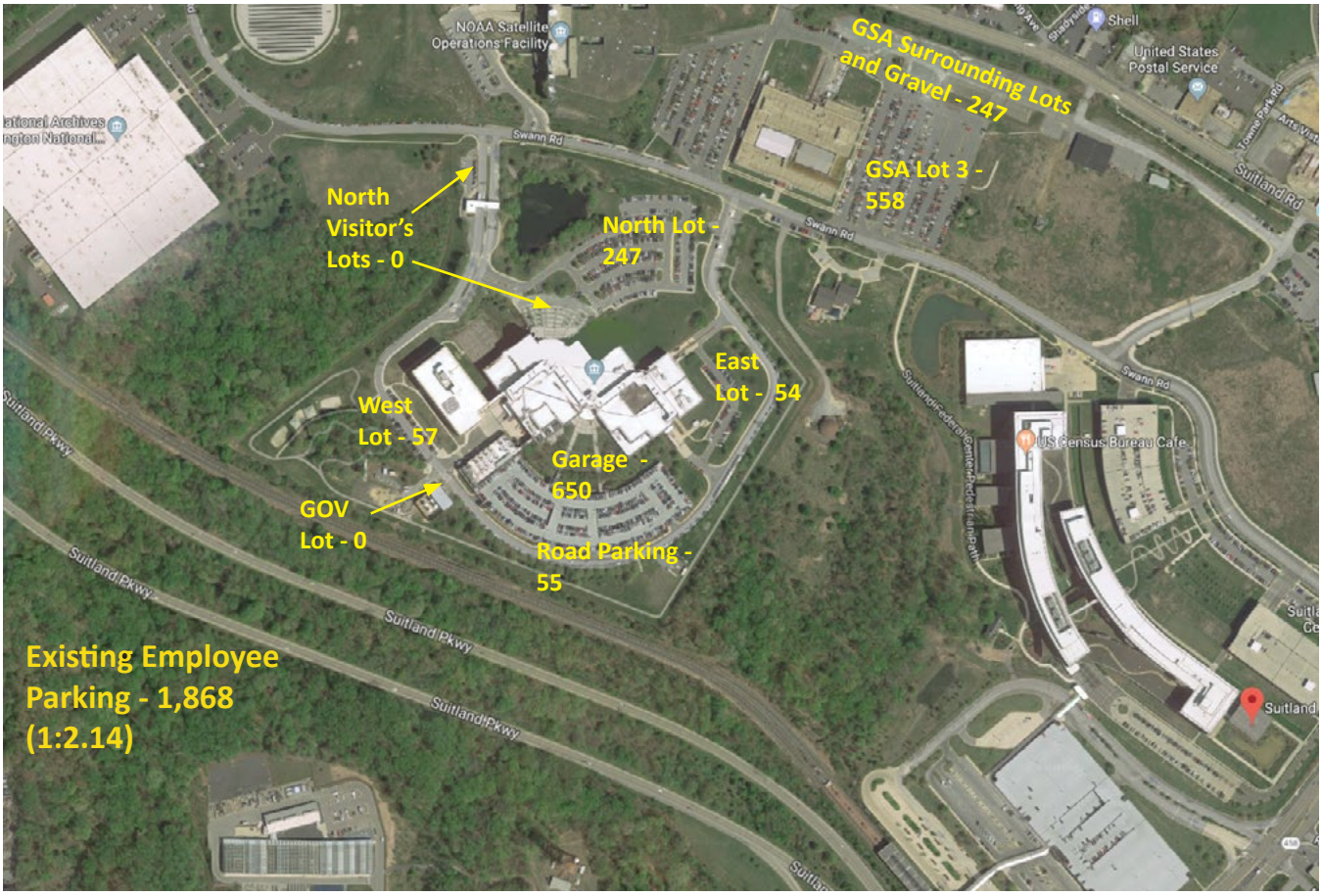
Area Name / Description	Parking Spaces	Employee Parking
Visitor's (North) Parking Lot	22	0
Government Vehicles (GOV) Lot	6	0
Parking Lot East of Building 1	54	54
Parking Lot North of Building 1	251	247
Parking Lot West of Building 1	57	57
NSF Suitland Parking Garage (usable spaces)	650	650
NSF Suitland on-road parking	55	55
GSA Parking Lot (Leased)	819	805
Total	**1,914**	**1,868**

Source: NAVFAC, 20 August 2019

DoD regulation, via the UFC, provides instruction by which Navy/Marine Corps real property managers calculate vehicular parking requirement. As NSF Suitland is an administrative facility, it is allotted parking for 70% of its personnel and 75% for government or operational vehicles. According to DoD regulation the total number of employee parking spaces needed for administrative personnel of 4,000 is 2,800 employee parking spaces (70% of administrative personnel).

However, the National Capital Planning Commission (NCPC) guidance restricts the employee parking ratio at NSF Suitland to 1 space for every 3 employees (1:3), or 1,333 spaces. With all of NSF Suitland's current parking inventory (including leased spaces), the existing parking ratio is 1:2.14.

Section 5.2.4 NSF Suitland Circulation and Parking Plan sets the framework for short, mid and long-term parking plans and goals.



Map 3.4 NSF Suitland Existing Employee Parking Allocations
Source: NAVFAC, 20 August 2019

3.5.3 Sidewalks and Trails

NSF Suitland

Within the NSF Suitland campus, sidewalks are located alongside the internal Loop Road, providing a connection between the parking areas and the main building. The sidewalks along the Loop Road connect to sidewalks outside of the campus along Swann Road, providing connections to the rest of the SFC.

Bicycle facilities are provided at the SFC and NSF Suitland. The roadways within the SFC are favorable for biking because of the low posted speed limits. There are several off-road paths for pedestrians and cyclists at the SFC. A bike rack with a capacity of 15 bicycles is provided in the NSF Suitland parking garage. Bicyclists may shower and change clothing at the fitness center within the main building.

Within the NSF Suitland fence line, there is an asphalt-paved trail that follows the east, south, and west boundaries used for recreation purposes. This trail is about 8 feet wide and ¾ mile long and it is connected to the rest of the installation via crosswalks along Loop Road that lead to sidewalks.

Suitland Federal Center

Outside of the NSF Suitland site, a partial sidewalk along Swann Road provides internal pedestrian connectivity within the SFC. Sidewalks within the SFC are generally in good condition. A bicycle / pedestrian path, located along the west side of the Census Bureau, creates a connection between the Suitland Metro Station and Swann Road. This path provides a twenty-minute walk from the Metro Station to the NSF Suitland campus but is longer than the guidance in the NCPC Transportation Element of the Comprehensive Plan for the 1:3 parking ratio.

Prince George's County

Beyond the SFC, while some sidewalks exist, the roadways are primarily designed for automobile traffic only. Sidewalks along both sides of Silver Hill Road are continuous. However, on the east-side of Silver Hill Road, the sidewalk is frequently interrupted by vehicular driveways, and there is no buffer between the sidewalk and the roadway. Adjacent to the SFC along the south-side of Suitland Road, the sidewalk extends only partway to the Suitland Road and Silver Hill Road intersection. On the north side of Suitland Road, there is no buffer between the sidewalk and the roadway. In the surrounding community, sidewalks are not continuous or are non-existent. Sidewalks along Swann Road east of the SFC have recently been upgraded to include ADA ramps.

Outside of the SFC, bicycle facilities are limited in the surrounding community. The Suitland Parkway is designated as a recreational greenway in the Maryland Atlas of Greenways. This roadway provides a direct travel route from the District of Columbia and points west, including Arlington, Alexandria, and Fairfax County, Virginia, to Suitland, Maryland. The Suitland Parkway bike trail in the District of Columbia terminates abruptly at Southern Avenue at the border with Maryland. There is no off-road bike trail alongside the Suitland Parkway in Maryland and the roadway is not favorable to cycling as cyclists would have to share the roadway with motor vehicles traveling at or above the posted speed limit of 50 miles-per-hour. From the District of Columbia-Maryland border, bicyclists traveling to NSF Suitland must continue travel on vehicular roadways to reach the SFC. Southern Avenue, Suitland Road, and other roads immediately surrounding the facility are not particularly conducive to biking, as these streets have many curb cuts, no designated bike lanes, fair to poor pavement conditions and high posted speed limits. There are no exclusive bicycle facilities in the vicinity of the SFC; however, there is a shared-use on-road motor vehicle-bike lane on both directions of Silver Hill Road.

3.5.4 Airfield Runways/Aprons/Taxiways

NSF Suitland has no airfield runways.

3.5.5 Piers/Wharves

NSF Suitland does not have piers, nor wharves.

3.5.6 Other Paved Areas

NSF Suitland does not have other paved areas as a real property category code.

3.5.7 Federal Transit Services

There are currently no federal shuttles driving to the NSF Suitland. There is a federal transportation subsidy available to NSF Suitland employees and other employees in the National Capital Region to use mass transit options. Personnel receiving a federal transit subsidy are not eligible for a permanent parking permit.

Transit usage has increased by 3% since 2005. However, even though a transit subsidy is available at NSF Suitland, only 5% of survey respondents currently use this subsidy (Figure 3.1). The majority of NSF Suitland employees do not live in areas with access to public transportation.

3.5.8 Troop Movement Corridors

NSF Suitland does not have troop movement corridors.

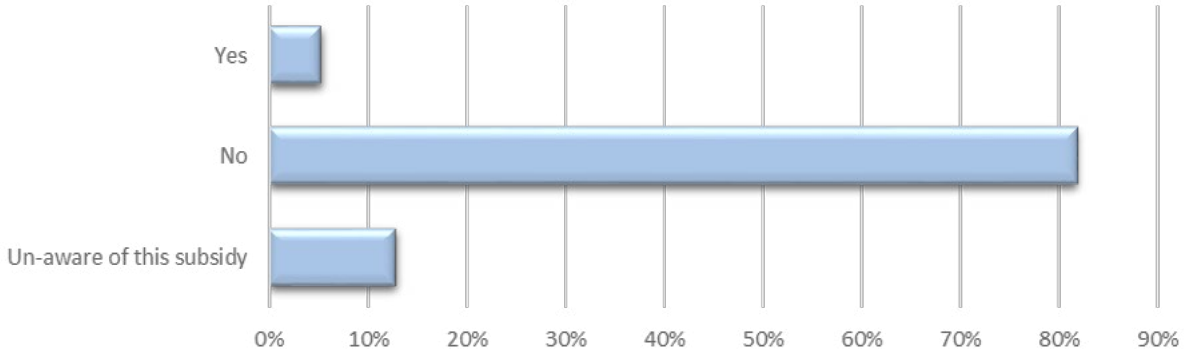


Figure 3.1 Employee Awareness and Usage of Transit Subsidy
Source: NSF Suitland TMP 2019

3.6 Developable Areas

A developable areas analysis for NSF Suitland represents a synthesis of natural and man-made constraints in order to demonstrate varying degrees of development potential. This analysis in turn informs the siting of future construction projects and identification of redevelopment and infill opportunities.

An aerial view of NSF Suitland gives the appearance that there are amounts of land readily available for development; however, the developable areas analysis reveals that that is not the case. Only a small amount of readily-available, developable land exists at the installation; the majority of the installation requires mitigation for development to occur.

There are no environmental areas or areas of cultural significance. Further, as detailed in the UFC 2-100-01, developable areas are determined and then sorted into the following categories:

- **Minimally Constrained** is land that can be immediately developed with minimal preparation, relocation, or demolition. Existing parking areas, parks, streets, and buildings are not considered part of this area. The extent of the developable parcel extends to the public realm (sidewalks, roads, etc.) or to adjacent building lines. At NSF Suitland this land is comprised of open space and recreation. This area is scarce and corresponds to the land south of the deteriorating parking garage and the open area between the north asphalt parking lot and Building 1. This land makes about 9% of the total acreage.
- **Moderately Constrained** is land that can be developed with more extensive relocation or demolition of existing buildings on the demolition list or remediation of appropriate Installation Restoration Program sites. At NSF Suitland this land is comprised of the area where the deteriorating parking garage is located; open area and parking areas west of Building 1; and the site where basketball courts are located to the west of the building. These areas can offer valuable opportunities for infill or redevelopment. This land makes about 19% of the total acreage.
- **Highly Constrained** is land with various constraints categories that require the most amount of mitigation. At NSF Suitland, most of the land has been categorized as highly constrained. These are areas with road easements; Building 1; and the water retention pond. These areas will require more extensive mitigation and expense in order to accommodate new development, and should be avoided unless no reasonable alternatives are available. This land makes about 72% of the total acreage.

Table 3.5 Developable Areas

Developable Area Category	Acres	Percent
Developable Land	3.70	9%
Mitigation Required	7.52	19%
Highly Constrained	28.77	72%
Total	**40.00**	**100%**

Source: Georeadiness Explorer, NAVFAC

3.7 Facility Condition and Requirements

The success of the NSF Suitland mission depends on the reliable functioning and integrity of its facilities and infrastructure. In addition to the proper sizing and capacity, adequate condition and configuration is critical in providing the necessary foundation for mission readiness. The Navy maintains real property databases to track the viability of shore based assets from the overall installation level to the individual facility level. This IDP conducts the facility analysis in terms of space requirements, and individual facility status (condition and configuration ratings). Any significant variance from the identified requirements or acceptable facility ratings indicates a potential capability gap requiring action. The facility assessment combines a detailed review of these data with stakeholder interviews to gain a comprehensive understanding of existing conditions, future requirements, and known projects. Once capability gaps are validated, COAs are developed to rectify each gap. Figure 3.2 illustrates the IDP capability gap process.

Requirements related to CCNs in NSF Suitland are reported based on the Asset Evaluation (AE) and Basic Facility Requirements (BFRs) finalized March 2019.

3.7.1 Facility Condition, Configuration, Capacity Summary

Requirements to Assets

Facility space requirements are evaluated to understand where large-scale variances in assets exist, and also at the CCN level for a more definitive view of space discrepancies. Surpluses represent opportunities for expansion or reuse and are not considered capability gaps. Significant deficits, however, effectively hinder mission operations and are considered gaps. Identified surpluses offer potential solutions to these deficits if similar or supporting functions can be collocated. One of the goals of the IDP is to balance requirements to assets through a reallocation of space where feasible, followed by renovation or new construction when no other option is available. Notwithstanding, new construction is typically required to support new missions with specialized requirements.

NSF Suitland currently comprises 11 buildings with a combined area of 1,156,767 SF. NSF Suitland also has 7 facilities with a combined area of 1,233,357 SY, and nine facilities measured either as “each” or in linear feet.

Table 3.6 Facility Requirements and Assets by Shore Capability Area (square feet)

Shore Capability Area	Required Area (SF)	Assets (SF)	Surplus / (Deficit)
Base Support	640,497	385,178	(255,319)
Administrative 1	723,113	682,845	(58,520)
Laboratory	19,066	17,144	(1,922)
Sailor and Family Readiness	42,419	43,299	880
Training	6,194	6,352	158
Utilities	N/A	N/A	N/A

Source: FRES (March 2019), BFRs and Bldg. 1 AE conducted March 2019

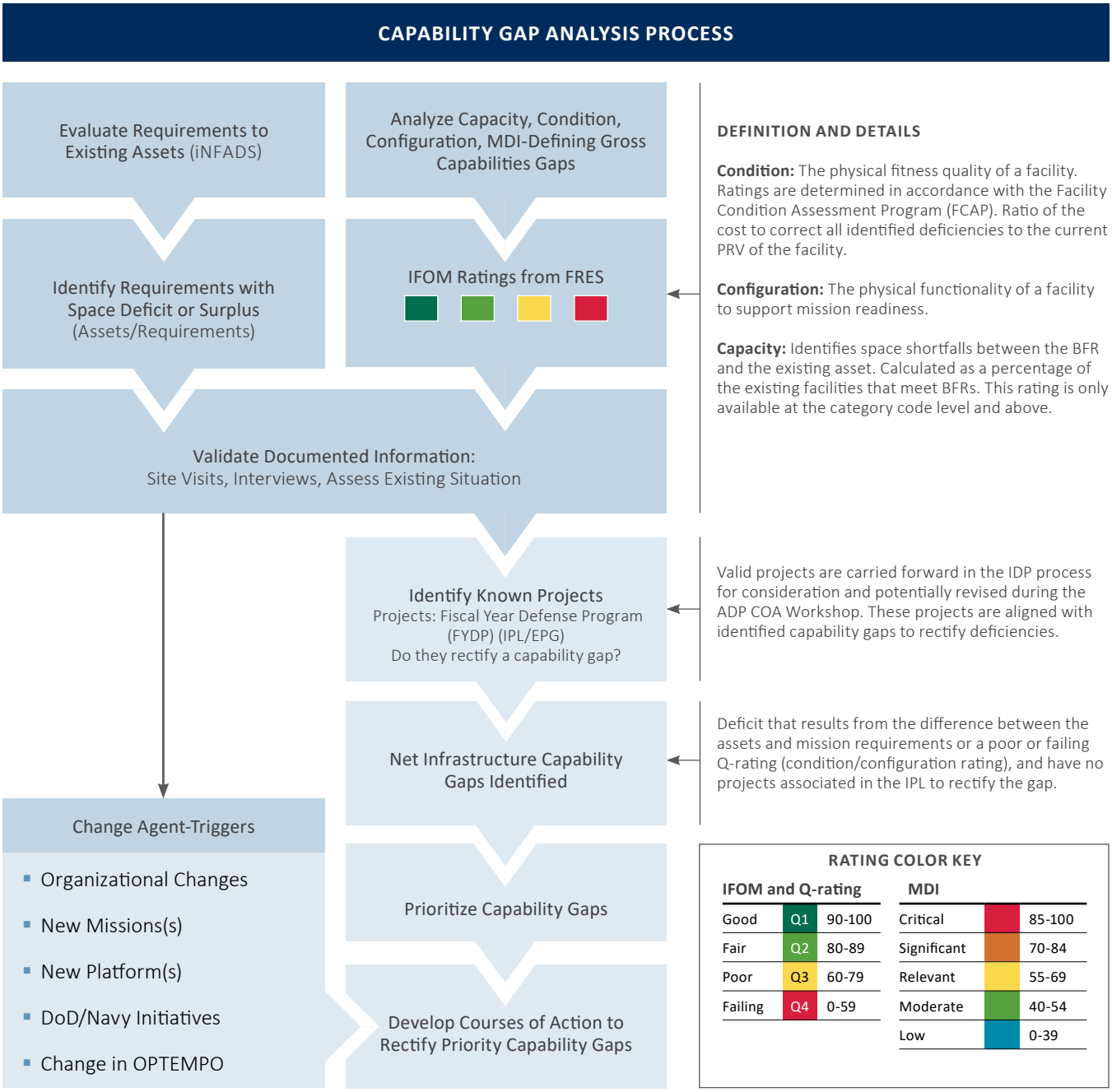


Figure 3.2 Capability Gap Analysis Process
Source: AECOM

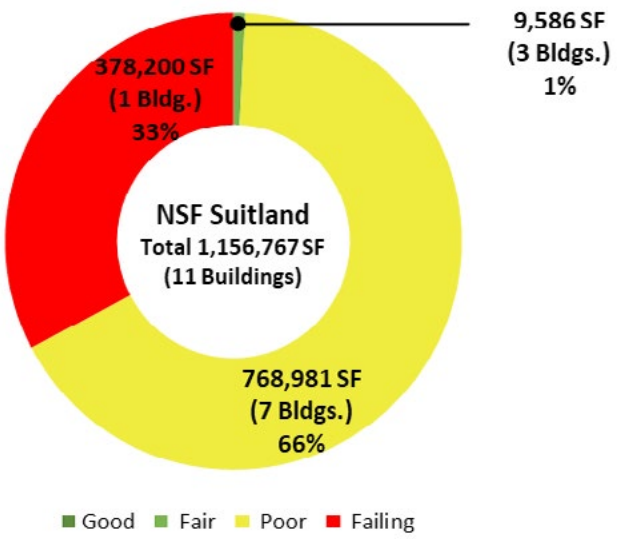


Figure 3.3 Physical Quality Rating by Building (square feet)
Source: FRES (March 2019), BFRs and Bldg. 1 AE conducted March 2019

Facility Ratings by SCA

Facility physical quality ratings, known as Q-ratings, are a measure of facility ability to meet mission requirements. The Q-ratings represent the lower of condition or configuration ratings, and are good indicators of overall facility readiness. Figure 3.3 illustrates the total building square footage by Q-rating across NSF Suitland. None of the buildings at NSF Suitland rate good, while only one percent of building square footage (3 buildings) rates fair. Sixty-six percent of building square footage (7 buildings) rates poor, while 33 percent (1 building, which is the parking garage) rates failing.

Installation Figure of Merit (IFOM) Scores by Shore Capability Area (SCA)

The Installation Figure of Merit (IFOM) score is relevant at the CCN level (and above) and accounts for condition and configuration, but also assesses overall capacity. Capacity scores are evaluated at the CCN level and above, and are not valid at the facility level. The IFOM score is the lowest of these three component ratings. Overall IFOM scores and component ratings for NSF Suitland are shown in Table 3.7. The table includes overall installation level scores as well as the break down by SCA. For those CCNs that are part of a facility where the facility's predominant CCN is under a different SCA, the IFOM, Condition, Capacity, and Configuration rating were assumed to be the same as the facility's primary CCN ratings. It should be noted that for CCNs that fall under the administrative SCAs, the March 2019 asset evaluations and BFRs indicate there is a deficit of space.

The overall IFOM score at NSF Suitland is poor (67). One SCA, Base Support, has the only failing IFOM score (21), which is driven primarily by the failing parking garage (Facility No. 2). Overall, facility configuration is largely driving the IFOM ratings at NSF Suitland.

Table 3.7 NSF Suitland Q-ratings Summary by SCA

SCA	IFOM	Condition	Configuration	Capacity
Overall NSF Suitland	67	76	67	97
Base Support	**21**	**50**	**21**	68
Administrative Office	72	79	72	100
Laboratory	72	79	72	100
Sailor & Family Readiness	71	92	71	96
Training	72	79	72	100
Utilities	77	77	100	100

Source: FRES (March 2019)

3.7.2 Major Shore Capability Area Summaries

Descriptions of each SCA at NSF Suitland are provided in the following sections, along with an overview of the capability gaps by Shore Task. For each Shore Task, a summary of the ratings and requirements is presented in the first table. Requirements noted as "N/A" indicate that requirements are not required to be reported into iNFADS.

Shore Tasks with poor or failing ratings are identified in the second table, along with the PRV and Mission Dependency Index (MDI). Facilities with multiple tenants are represented according to the Shore Task of the predominant user, unless otherwise noted. The MDI is an Operational Risk Metric scale from 1-100 that assesses the criticality of a facility to meet mission requirements, with high ratings indicating the most critical facilities and low ratings indicating less critical facilities. Ratings that are gray denote that either no data was available, or the facility may have a number of different tenants and the IFOM score is discussed under the SCA of the predominant user.

3.7.2.1 Airfield Operations

There are no Airfield Operations assets at NSF Suitland.

3.7.2.2 Base Support

At NSF Suitland, the condition of facilities across all Base Support shore tasks varies greatly, with some facilities in good condition and others in failing condition. Parking capacity is generally good; however, there are some configuration issues.

Parking

Privately Owned Vehicle (POV) parking occurs within the fence line in a parking garage to the south of Building 1 and in surface lots to the east and north of Building 1; there is also use of surface parking on GSA land within the SFC through a memorandum of understanding (MOU). There are approximately 1,500 parking spots on the installation and another 450 on GSA land to accommodate the approximate population of 4,000 personnel.

Parking has a poor condition and configuration rating and a deficit of 254,239 SF. The parking garage houses the majority of the parking spaces. The parking garage has experienced severe deterioration despite interim repairs to address the cracks, holes, gaps, and exposed rebar in the concrete.

Unsafe Stairwell at NSF Suitland Parking Garage
Source: Department of Navy

Deterioration of Parking Garage at NSF Suitland
Source: Department of Navy

Missing Concrete in the NSF Suitland Parking Garage
Source: Department of Navy

Only two of the five stair towers are safe to use – the others have physically separated from the garage itself and are now freestanding. The garage has reached the end of its operable and safe service life and, as of December 2018, the west ramp leading to the upper level of the garage was closed, thereby removing 50 parking spaces from use. A complete closure of the upper level has occurred as of May 2019. A March 2018 feasibility study, which assessed the ability to repair the garage to continue operations, recommended that the parking garage "be put out of commission." In addition, employees have cited significant safety concerns with using the garage and try to avoid parking there when possible. NSF Suitland has reached an agreement with GSA to address the parking deficiencies.

Table 3.8 Base Support Facility Readiness, Requirements, and Assets by Shore Task

Shore Task	IFOM	Condition	Configuration	Capacity	Requirements	Assets	Surplus (Deficit)	UM
Grounds & Streets	100		100	100	14,205	32,543	18,338	SY
Administrative					4,543	5,553	1,010	SF
	84		84	100	NA	1	N/A	EA
Parking	13	43	13	61	632,439	378,200	(254,239)	SF
					7,244	7,663	419	SY

Source: FRES and iNFADS (BFRs and AE conducted March 2019

Note: Ratings that are gray denote either no data was available or the IFOM ratings are discussed under the SCA of the predominant facility use.

Table 3.9 Base Support Failing and Poor Facilities by Shore Task

Shore Task	Prime Use	PRV	MDI	IFOM	Condition	Configuration
Parking	Parking Area	$101,764	39	64		64
	Parking Building	$24,706,207	39	12	43	12

Source: FRES (March 2019)

3.7.2.3 Administrative Office

There is a 58,520 square foot deficit of administrative office space.

NSF Suitland has a deficit of 58,520 SF of administrative office space in addition to condition and configuration issues. NSF Suitland's poor rating is driven primarily by configuration issues, although the facility also has condition issues. Condition issues primarily relate to interior construction and HVAC. Many of the interior finishes haven't been replaced since the initial construction and have exceeded their life expectancy and are showing significant signs of wear. The HVAC system has not been replaced since it was installed in 1993 and has exceeded its useful life. It is severely deteriorated and replacement parts are no longer available as the manufacturer has stopped supporting the equipment. Configuration issues include organizations being dispersed throughout the facility instead of being co-located in organizational adjacencies, which has impacts on the various missions.

3.7.2.4 Expeditionary Operations

There are no Expeditionary Operations at NSF Suitland.

3.7.2.5 Intermediate-Depot Level Maintenance

There are no Intermediate-Depot Level Maintenance assets at NSF Suitland.

3.7.2.6 Logistics and Supply

There are no Logistics and Supply assets at NSF Suitland.

3.7.2.7 Ordnance and Weapon Operations

There are no Ordnance and Weapon Operations assets at NSF Suitland.

Table 3.10 Administrative Office Facility Readiness, Requirements, and Assets by Shore Task

Shore Task	IFOM	Condition	Configuration	Capacity	Requirements	Assets	Surplus (Deficit)	UM
Administrative Office	72	79	72	100	722,969	682,701	(58,520)	SF

Source: FRES and iNFADS (March 2019), BFRs and AE conducted March 2019

Table 3.11 Administrative Office Failing and Poor Facilities by Shore Task

Shore Task	Prime Use	PRV	MDI	IFOM	Condition	Configuration
Administrative Office	Administrative Office	$28,251,306	94	72	79	72

Source: FRES (March 2019), AE conducted March 2019

3.7.2.8 Laboratory

Laboratory functions at NSF Suitland are not the predominant use category code.

Laboratory

NSF Suitland has a deficit of 1,922 SF of Laboratory space.

Table 3.12 Laboratory Requirements and Assets by Shore Task

Shore Task	Requirements	Assets	Surplus (Deficit)	UM
Laboratory A	16,842	15,643	(1,199)	SF
Laboratory B	2,224	1,501	(723)	SF

Source: BFR and AE conducted March 2019

Basketball Courts at NSF Suitland
Source: Department of Navy

3.7.2.9 Sailor and Family Readiness

Sailor and Family Readiness infrastructure delivers quality of life (QOL) services for Sailors, their families, and qualifying installation personnel. This SCA includes MWR recreational facilities such as recreation pavilions and outdoor playing courts, in addition to retail, food, and other services. NSF Suitland has sufficient space for Sailor and Family Readiness but there are deficiencies for MWR and Retail Exchange uses, driven primarily by configuration.

MWR

NSF Suitland has three outdoor playing courts, one of which is failing due to configuration issues. Similarly, NSF Suitland has two recreation pavilions, but only one of them (Facility 10) is rated poor, due to configuration issues. The indoor physical gym is poorly configured and in need of updates to the interior finishes.

Retail Exchange

The Retail Exchange services are poorly configured and in need of updates to the interior finishes. Furthermore, the kitchen floor needs waterproofing and the floor tiles need to be replaced. There were two planned FY19 projects, one to replace the cafeteria dining are flooring and a second to replace the kitchen flooring.

Pavilion at NSF Suitland
Source: Department of Navy

Volleyball Court at NSF Suitland
Source: Department of Navy

Table 3.13 Sailor and Family Readiness Facility Readiness, Requirements, and Assets by Shore Task

Shore Task	IFOM	Condition	Configuration	Capacity	Requirements	Assets	Surplus (Deficit)	UM
MWR*	71	92	71	96	N/A	1	N/A	EA
					0	3	3	EA
					16,009	16,185	176	SF
Retail Exchange**		79	72		23,556	23,556	0	SF

Source: BFRs and AE conducted March 2019

Note: Ratings that are gray denote either no data was available or the IFOM ratings are discussed under the SCA of the predominant facility use.

*For MWR, the SF requirements and assets are based on the March 2019 BFR (fitness center) and the existing data (recreation pavilion)

**Based on CCN guidance in the Navy criteria, Retail Exchange BFRs are typically conducted by NEX and are determined by a Business Case Analysis. The guidance indicates that for existing assets it can be assumed that the requirement is equal to the asset.

Table 3.14 Sailor and Family Readiness Failing and Poor Facilities by Shore Task

Shore Task	Prime Use	PRV	MDI	IFOM	Condition	Configuration
MWR	Indoor Physical Gym		39		79	72
	Recreation Pavilion	$146,088	39	68	95	68
	Outdoor Playing Courts	$171,031	39	12		12
Retail Exchange	Exchange Retail Store		39		79	72
	Exchange/Food Service/ Restaurant		39		79	72
	Exchange Service Outlet		39		79	72

Source: FRES (March 2019), AE conducted March 2019

Note: Ratings that are gray denote either no data was available or the IFOM ratings are discussed under the SCA of the predominant facility use.

3.7.2.10 Training

The AE and BFR conducted in March 2019 indicate there is one training area at NSF Suitland.

Table 3.15 Training Requirements and Assets by Shore Task

Shore Task	Requirements	Assets	Surplus (Deficit)	UM
Academic Instruction	6,194	6,352	158	SF

Source: Source: BFR and AE conducted March 2019

Academic Instruction

NSF Suitland does not have a deficit of space under the Training SCA; however, there may be a configuration issue with the spaces in Building 1 as staff cited the lack of sufficient training space during stakeholder interviews. In addition, staff reported a lack of appropriate domain connections and seating, and inefficient layout of the IT infrastructure.

3.7.2.11 Utilities

Utility systems at NSF Suitland provide water, sanitary sewer, electric, gas service, and communication infrastructure to all installation tenants. Storm drain systems are also provided. Utility infrastructure includes all network mains and laterals, as well as supporting buildings and structures.

3.7.2.12 Waterfront Operations

There are no Waterfront Operations at NSF Suitland.

Plaza at NSF Suitland
Source: Department of Navy

Outdoor Seating at NSF Suitland
Source: Department of Navy

3.8 Relevant Integrated Project List (IPL) for MILCON and Special Projects

At the beginning of the master plan process, known development projects were identified by the Public Works Department and NSF Suitland staff. A summary of known projects for NSF Suitland is listed in Table 3.16. While these projects are planned for FY19-21, most have not been funded yet.

Table 3.16 Current and Planned Projects

Project	Est. Cost ($000)	Project Type	Funding Source
Replace HVAC System	$13,010	Repair	O&M, N
Ongoing utilities modernization*	$4,400	Repair	O&M, N
Ongoing utilities modernization*	$2,500	Repair	O&M, N
Renovate Room *	$1,500	Repair	O&M, N
Repurpose Rooms	$340	Repair	O&M, N
Refurbish Cafeteria Dining Area and Repair Drain	$2,000	Repair	O&M, N
Demo Parking Garage (Bldg 2), pave and stripe surface lot FY 21	$11,915	Demolition	O&M, N
Room Repurpose	$1,150	Repair	O&M, N
Install Cooling Tower Service Catwalks	$330	New Construction	O&M, N
Upgrade Fan Power Induction Unit	$30	Repair	O&M, N

Source: NAVFAC PWD, NSF Suitland IPL

* Projects that have been funded and are ongoing

3.9 Facility and Infrastructure Capability Gap Analysis

Capability gaps represent the most significant real property deficiencies potentially impacting mission success at NSF Suitland. Capability gaps comprise significant capacity deficits or condition deficiencies and high-risk facilities. Validated observed and stakeholder-reported gaps are also included. Currently programmed projects known to address capability gaps are integrated into the preferred plan; COAs are developed for gaps without programmed projects. These COAs are described in Chapter 4. Table 3.17 presents a summary of the capability gap analysis by SCA and includes a description of each gap and known projects to address the gap.

Table 3.17 Capability Gap Analysis Summary

Gap No.	Shore Task	Capability Gap Description	Programmed Project (POM Cycle)
Base Support			
1	Parking	Parking is insufficient in capacity; the parking garage is in failing condition and complete closures will occur in 2020. Replacement/additional parking is needed	RMXX-XXXX (FY19) - Repairs to continue operating the garage in the short-term (1-2 years.) Long-term solution required.
1A	Parking	Gap in the number of parking spaces	Demo Parking Garage (Bldg 2), pave and stripe surface lot FY21
Administrative Office			
2	Administrative Office	Lack of ADA compliant doors on office suites and bathrooms	ADA Accessible bathrooms (FY18)
3	Administrative Office	Departments are dispersed throughout Building 1 and require co-location of their staff for efficiency	None
4	Administrative Office	HVAC system is past its useful life and deteriorated; requires replacement	ST17-2028 (FY21): Replace HVAC System and Install DDC System
5	Administrative Office	Server room requires a new fire suppression system	None
6	Administrative Office	Modernize Police office	None
7	Administrative Office	Deficit of 14,228 SF	RM18-2128 (FY18)
8	Administrative Office	Deficit of 10,039 SF and not co-located	None
9	Administrative Office	Deficit of 7,215 SF	None
10	Administrative Office	Deficit of 6,207 SF	None
11	Administrative Office	Deficit of 20,604 SF	None
12	Administrative Office	Deficit of 2,324 SF	None
13	Administrative Office	Deficit of 1,826 SF	None
14	Administrative Office	Deficit of 1,477 SF	None
15	Administrative Office	Deficit of 2,324 SF	None
16	Administrative Office	Doesn't have appropriate working space	RMXX-XXXX (FY19)
17	Administrative Office	Deficit of 1,178 SF	None
18	Administrative Office	Deficit of 755 SF	None
19	Administrative Office	Requires modifications to office space	None
20	Administrative Office	Shortage of flex space	None
Laboratory			
21	Laboratory	Deficit of 1,922 SF	None

Table 3.17 Capability Gap Analysis Summary (continued)

Gap No.	Shore Task	Capability Gap Description	Programmed Project (POM Cycle)
Sailor & Family Readiness			
22	Retail and Exchange	Deteriorated cafeteria kitchen drain is past its useful life and overflows, requiring repair. Overall refurbishment of cafeteria due to age	RMXX-XXXX (FYXX) - Refurbish Cafeteria Dining Area
Training			
23	Academic Instruction	Poorly configured training space and lack of appropriate domain connections and seating resulting in decreased student throughput	None

Source: NSF Suitland Capability Gaps Analysis, iNFADS & FRES, March 2019; NAVFAC

Impact Analysis/Risk Assessment

Section 3.7 Facility Condition and Requirement includes tables of facilities with Poor and Failing Q-ratings, indicating assets that should be considered for investment, according to Navy methodologies for tracking the ability of infrastructure to meet mission needs, and also in line with the Unified Facilities Criteria (UFC) 2-100-01) strategy to incorporate life cycle planning into an IDP. Facilities nearing the end of their useful lifespans will need to be demolished and replaced or subject to necessary renovations to bring them to required condition and/or configuration standards.

Although all the facility ratings highlighted in Section 3.7 indicate the need for investment, current funding constraints may limit opportunities to address some facility deficiencies. Installation leaders require processes to help prioritize investment, and a risk assessment provides one such tool.

This analysis prioritizes facilities based on the Mission Dependency Index (MDI) score and IFOM rating of each facility. Table 3.20 lists facilities with an MDI greater than 70 (i.e. Critical or Significant) and a Q-rating of 79 or lower (i.e. Poor or Failing). Only five facilities at NSF Suitland fall within these parameters and are shown in the table, ranked by their Condition/Configuration-Based Maintenance/Recapitalization (CBM/R) score, a metric developed by the Navy to give priority to facilities with higher MDI scores and lower IFOM ratings (see Figure 3.4). While the low MDI of the parking garage suggests it has no impact on mission, it's MDI of 39 and severely low Q-rating puts it on the cusp of the CBM/R 1 rankings. Therefore, it has been included in Table 3.18.

CBM/R Scores		
CBM/R	**Mission Impact**	**Metric**
4	Critical	Q-rating <60 and MDI > or =85
3	Very Important	Q-rating <65 and MDI > or =70
2	Important	Q-rating <70 and MDI > or =55
1	Marginal	Q-rating <80 and MDI > or =40
0	No Contribution	Q-rating > or =80 and MDI < or =39

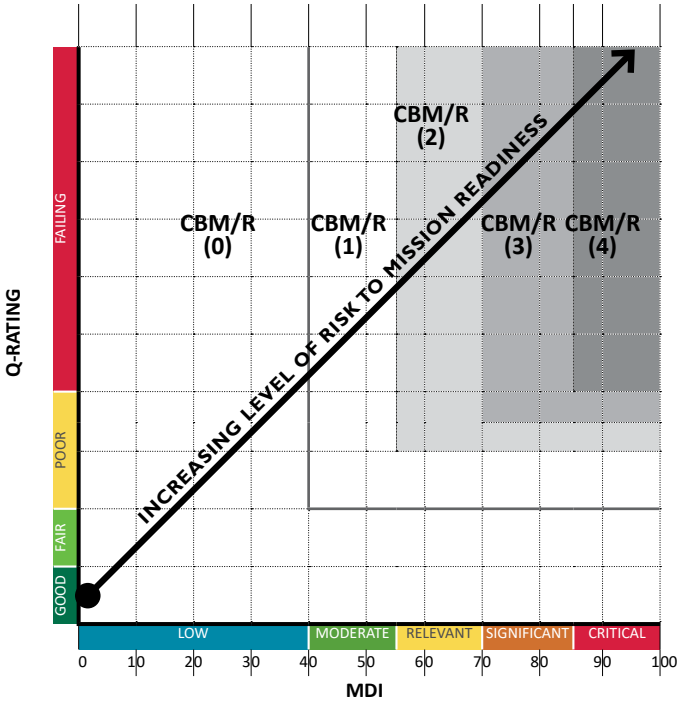


Figure 3.4 Facility Risk Assessment Diagram
Source: AECOM

The list of facilities identified in this risk analysis are considered as part of the Capability Gaps Analysis (CGA) shown in Section 3.7. This analysis is intended to be used in conjunction with NSF Suitland Requirements Branch processes for identifying, defining, and prioritizing maintenance and repair projects, including the Infrastructure Condition Assessment Program (ICAP), which pulls from and feeds data back into iNFADS. While the risk ranking in this IDP suggests a priority for identifying needed projects for facility repair/renovation/demolition, stakeholder and leadership priorities also factor into the final list of planning actions described in Chapter 5 and will ultimately drive the prioritization of projects at the installation level.

Table 3.18 NSF Suitland Impact Analysis Risk Assessment

Shore Task	Year Built	PRV	Area	UM	CBM/R	Q-Rating
Fences & Gates	2005	$2,700,966	0	SF	3	0
Fences & Gates	2005	$405,145	0	SF	2	68
Administrative Office	1993	$282,251,306	749,043	SF	1	72
Utilities	1993	$1,770,364	17,288	SF	1	72
Police Services	1993	$141,903	160	SF	1	69
Parking	1993	$24,706,207	378,200	SF	0	12

Source: FRES (March 2019) and AE conducted March 2019

Chapter 4
Analysis and Courses of Action (COAs)

Planning Analysis and Alternative COAs depict potential solutions and physical development approaches for addressing the installation's capability gaps, future functional needs, operational mission requirements, and investment priorities; defined during the planning and analysis process.

Source: IDP Consistency Guide 2013

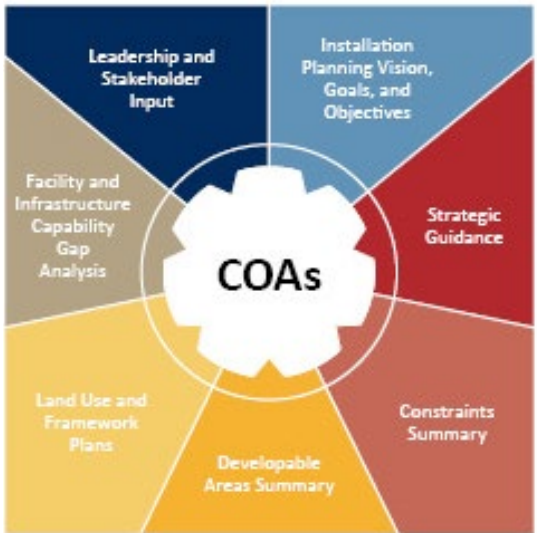


Figure 4.1 COA Development Inputs Diagram
Source: AECOM

Chapter 4 builds upon the planning analysis provided in previous chapters and identifies refined courses of action (COAs) developed from stakeholder input during the interviews and consultation with staff at NSF Suitland. The alternative COAs illustrate the potential solutions and physical development programs for addressing NSF Suitland's capability gaps, future needs, operational mission requirements, and investment priorities as identified in Chapter 3. The COAs are also influenced by the strategic guidance outlined in Chapter 2, and installation vision and goals presented in Chapter 5.

4.1 Alternative Courses of Action (COAs)

A COA Workshop for NSF Suitland was held on 10 April 2019, where installation facility managers worked together to build a 20-year real property plan to meet current and future mission requirements. Specific attention was given to the parking situation and office space capability gaps based on the Asset Evaluation (AE) and Basic Facility Requirement (BFR) findings.

Development and evaluation of the COAs began with the Traditional Scenario. This scenario represents the current state of planning and implementation of projects and focuses on heavy MILCON or new construction.

Building upon the Traditional COA, the Progressive COA also includes projects to address known or anticipated mission changes/growth, strategic demolitions, and building renovations. While the Progressive COA is more expansive than the Traditional COA, it still incorporates new construction to meet basic requirements, and adds Security projects that came to light during stakeholder input in September 2018.

The third approach, the Aggressive COA, comprehensively and strategically addresses long-term needs and unknown future capacity for the installation. It may also include non-standard approaches such as PPV, EUL, leases, or policy changes.

The process to develop COAs for each scenario is illustrated in Figure 4.2. The following sections describe these planning scenarios and the stakeholders' priorities under each. Figure 4.3 illustrates the COA concept formulation under the Navy Installation Development Plan Guidance (Guide).

Figure 4.2 Courses of Action Development Process
Source: AECOM

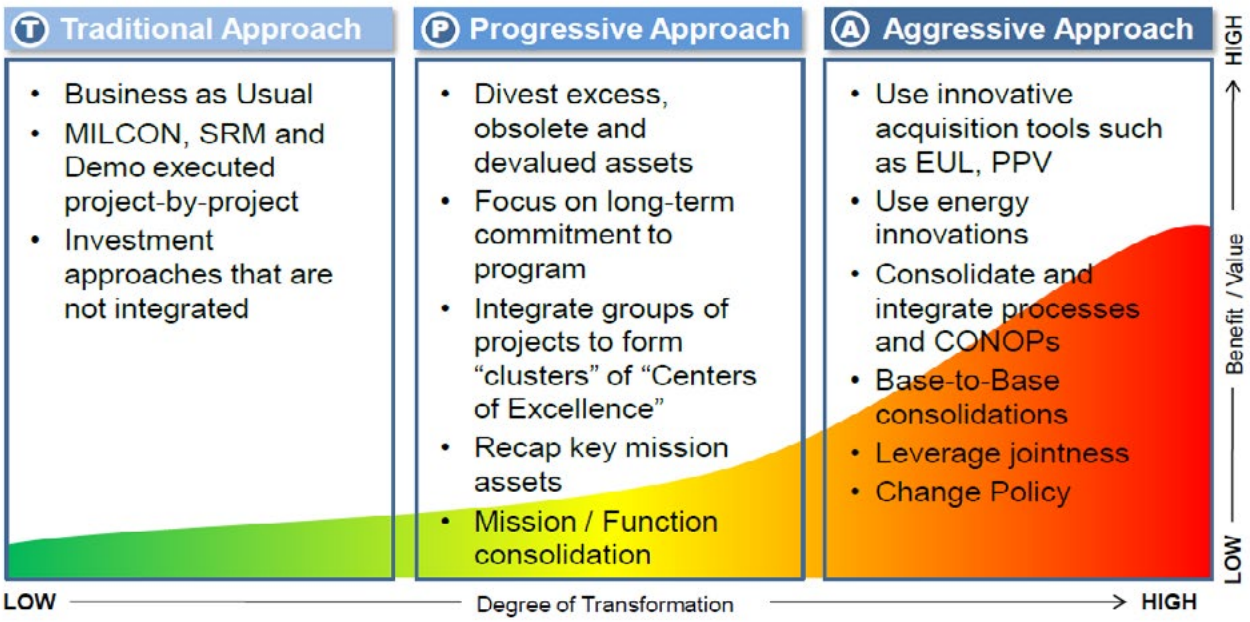


Figure 4.3 COA Alternative Solutions Continuum Diagram
Source: Navy Shore Infrastructure Installation Development Plan (IDP) Consistency Guide Version 2.0, May 2018

4.1.1 COA 1: Traditional

The Traditional COA is typically based on existing planned projects, with an unlimited amount of new construction. Current projects in the Integrated Project List (IPL) are used as a baseline for project development, with adjustments made as necessary to reflect a scope that meets the minimum current requirements.

The Traditional COA is a response to immediate needs. Therefore, this approach does not fully integrate tenant or facility requirements with proactive planning goals and objectives, thus providing unreliable results due to a lack of funding. MILCON, SRM, and Demolition projects are executed project-by-project, without integration, and on an as-funded basis.

The Traditional COA is geared toward meeting immediate needs and provides short-term fixes. These actions are intended to address current requirements and issues, as funding allows, and will offset some existing poor or failing facility conditions. Although these projects are beneficial to the efficiency and durability of the facility, they do not necessarily offset the physical quality rating (condition/ configuration).

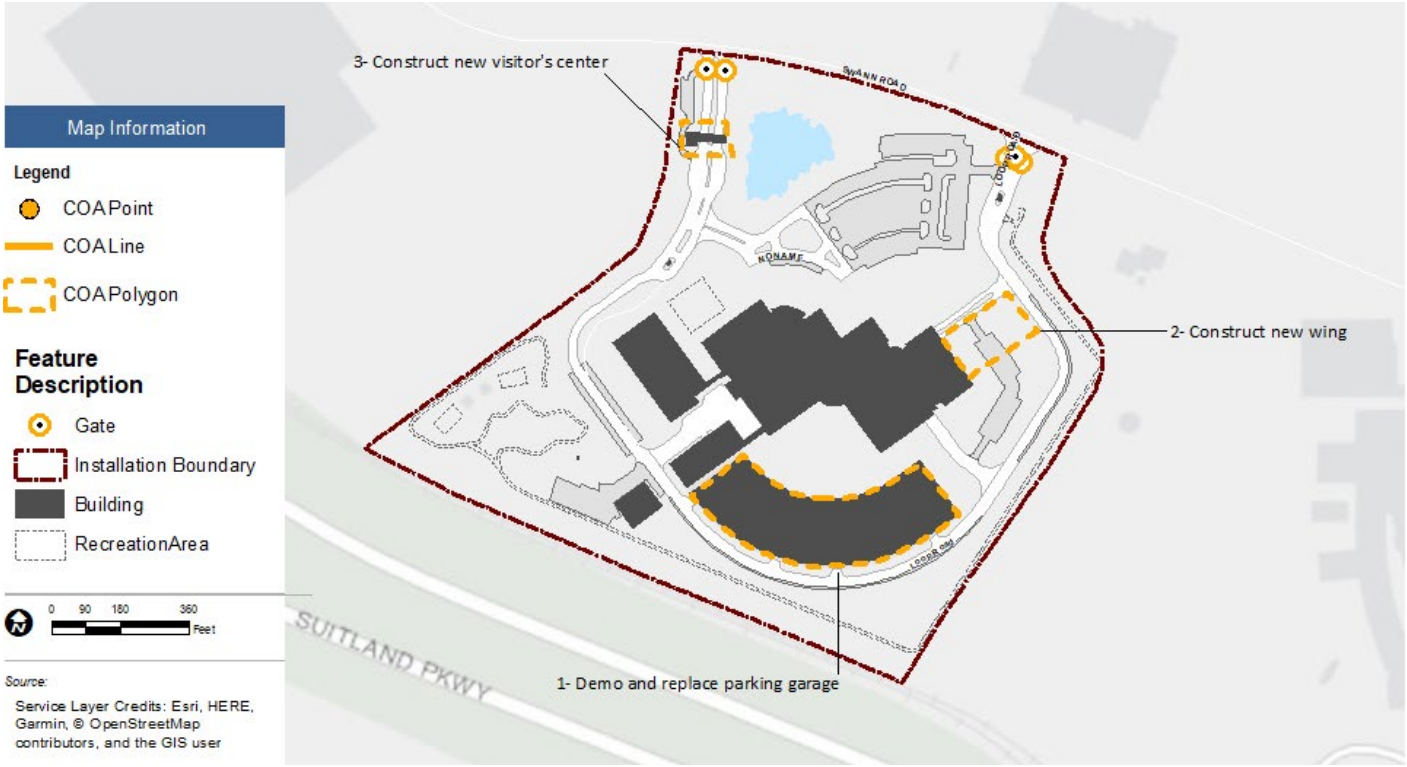
Recommended planning actions for the Traditional COA include demolition and construction of a new parking garage on the same site of the existing parking garage (MILCON); construction of an east wing to accommodate personnel growth (a 58,520 square foot gap); and the configuration of a new visitor's center.

The Traditional COA for NSF Suitland reflects the planning actions and projects as shown in Table 4.1 and concept location of projects are found on Map 4.1.

Table 4.1 COA 1: Traditional

ID	Traditional COA 1: Proposed Planning Actions
1	Demolish and replace parking garage
2	Construct 58,520 square foot administrative office space as east wing of Building 1
3	Construct new visitor's center at NSF Suitland main gate

Source: Gaps Analysis, Stakeholder Interviews, COAs Workshop (10 APR 2019)



Map 4.1 COA 1: Traditional Scenario
Source: GeoReadiness Explorer, NAVFAC

4.1.2 COA 2: Progressive

The Progressive COA builds upon the Traditional COA by adding more forward-looking projects to address capability gaps identified during the stakeholder interview process in September 2018. The COA begins to incorporate projects that address larger issues, such as transportation, security, and/or capacity. While it remains largely a responsive COA, it does provide for better use of the space by the colocation of entities in NSF Suitland, enhanced efficiency, and selective demolition within its projects.

The Progressive COA includes the continued land lease agreement with the General Service Administration (GSA). The land includes the gravel and paved areas adjacent to the site of the 1958-built NSF Suitland building along Swann Road. In addition, the lease (under negotiation) will include the use of spaces on the paved surface lot adjacent to the Census Bureau facility. The lease is for a period of 10 firm years with an option of two 5-year renewals for a total of 15-20 potential years.

In response to the quickly deteriorating parking garage, the garage would be demolished and replaced with surface parking. Renovations that came up during stakeholder input, are included in this COA. Interviews conducted with stakeholders identified needed renovation projects, which are included in this COA. As with the Traditional COA, the administrative office footprint would be expanded to the site east of the building to accommodate current mission growth (58,520 square foot gap). The Progressive COA for NSF Suitland reflects the planning actions and projects as shown in Table 4.2 and concept location of projects are found on Map 4.2.

Table 4.2 COA 2: Progressive

ID	Progressive COA 2: Proposed Planning Action
1	Demolish parking garage, pave surface lot replacement
2	Construct 58,520 square foot administrative office space as east wing of Building 1
3	Construct new visitor's center at NSF Suitland main gate
4	Phased interior renovations
5	Construct second loading dock
6	Collocate entities within Building 1

Source: Gaps Analysis, Stakeholder Interviews, COAs Workshop (10 APR 2019)

4.1.3 COA 3: Aggressive

The Aggressive COA focuses on implementation of a longer-term program that consolidates functions and develops dense, campus-type environments of similar uses. A holistic program of divestment and demolition of excess, obsolete, and devalued assets eliminate facilities that are poorly configured, past their useful life, or underutilized.

Projects are developed and submitted in a manner that integrates planning goals and long-term objectives. Key mission-critical assets are recapitalized, and consolidations are recommended wherever practical, particularly if this reduces the facility footprint, cost, or inefficiencies. Aggressive planning actions may also include changes in policy, implementation of enhanced-use leases (EULs) or public-private ventures (PPVs), or the use of energy innovations where feasible.

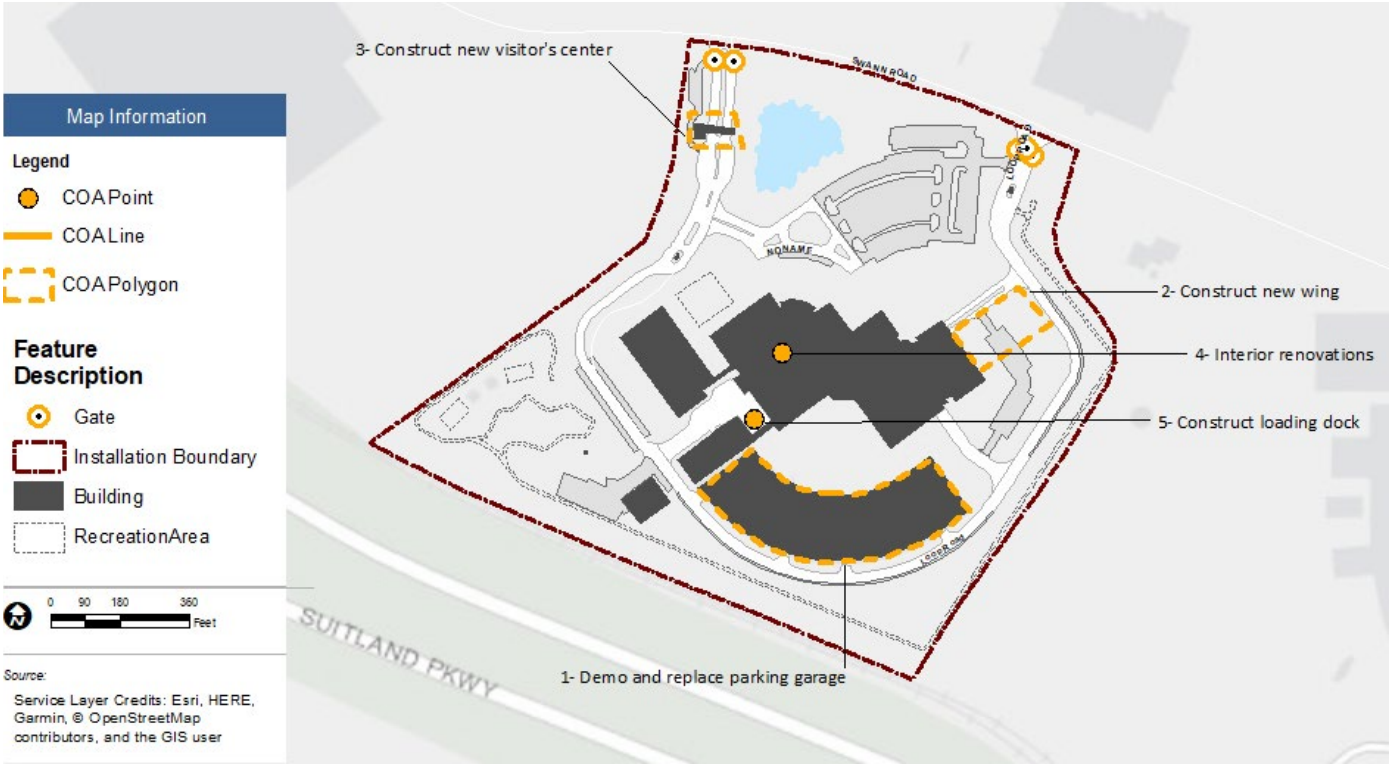
The Aggressive COA builds upon projects identified in the Progressive approach and shifts the focus from construction to joint ventures within the SFC. At times, these aggressive actions require consensus or input from enterprises, the region, or even the community. In these cases, project development can be very long and potentially controversial.

This COA addresses a wider array of capability gaps. While funding of these projects may be difficult to achieve, they position the installation to improve the average condition and efficiency of facilities over time, as planners are not constantly working to maintain facilities that have outlived their useful life.

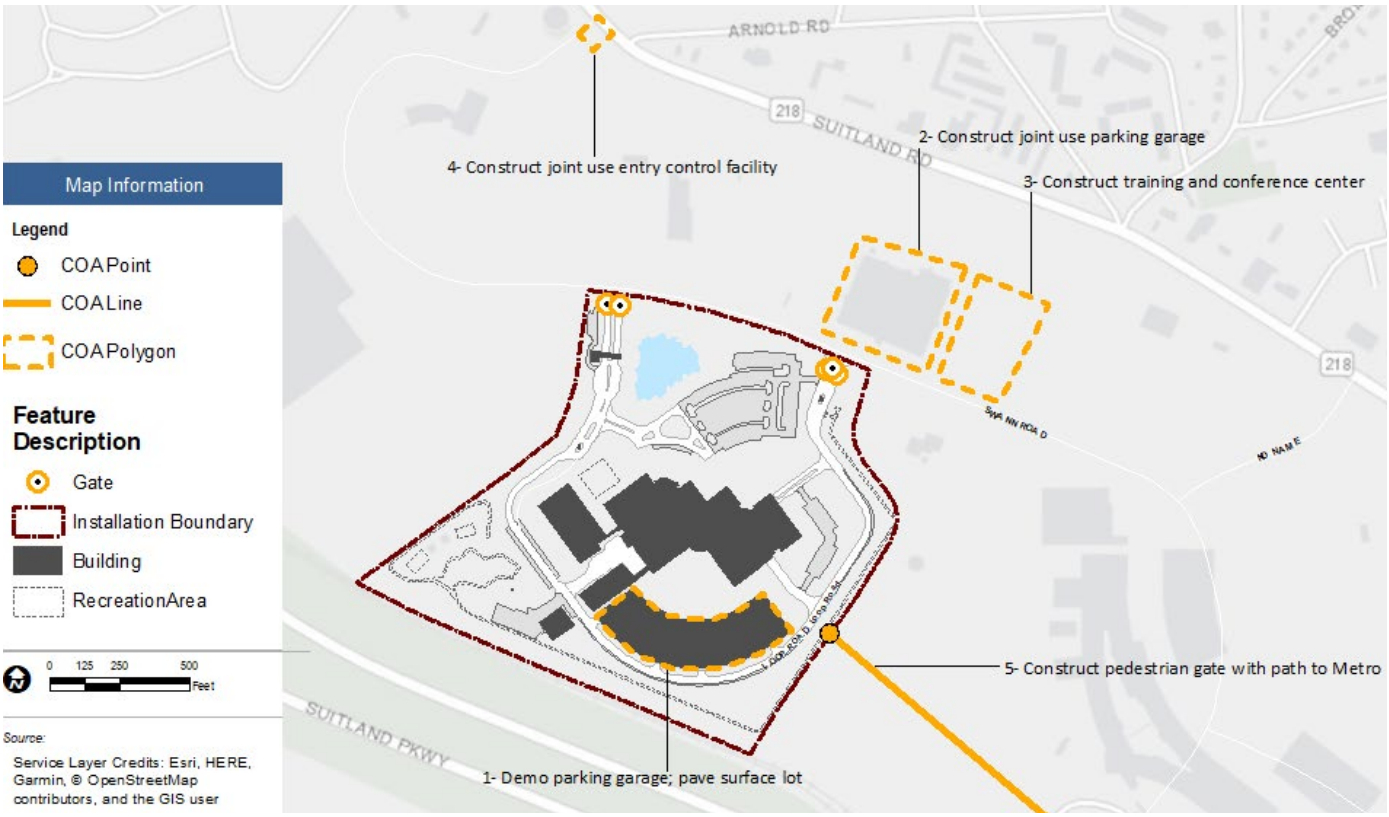
The Aggressive COA aims for long-term strategy implementation versus short-term fixes. It requires coordination and policy changes between GSA and NSF Suitland. This approach includes the existing land lease with GSA for 10 years with options to renew for two 5-year terms. However, this site would serve both NSF Suitland and GSA, via a shared parking garage. This site would also have NSF Suitland's conference and training uses, and therefore the east wing of Building 1 from the Traditional COA would not be need.

An SFC Visitor Gate would be located by the Washington National Record Center (WNRC) Gate and would serve all tenants of the SFC. Coordination with GSA in this option would be critical and require policy change.

An agreement with GSA would foster a direct connection to the Metro, through the Woodland Preserve at SFC and into the east side of the NSF Suitland, to create a more direct path to the installation. This would require coordination



Map 4.2 COA 2: Progressive Scenario
Source: GeoReadiness Explorer, NAVFAC



Map 4.3 COA 3: Aggressive Scenario
Source: GeoReadiness Explorer, NAVFAC

with GSA and be contingent upon Security forces vetting. The Aggressive COA for NSF Suitland reflects the planning actions and projects as shown in Table 4.3 and concept location are found on Map 4.3

Table 4.3 COA 3: Aggressive

ID	Aggressive COA 3: Proposed Planning Action
1	Demolish parking garage, pave surface lot replacement
2	Construct joint use parking garage on 1958-built NSF Suitland building site via agreement with GSA
3	Construct training and conference uses on 1958-built NSF Suitland building site via agreement with GSA
4	Construct joint use entry control facility at WNRC gate via agreement with GSA
5	Construct a pedestrian gate on the east boundary of NSF Suitland to create a direct path to the Metro

Source: Gaps Analysis, Stakeholder Interviews, COAs Workshop (10 APR 2019)

4.1.4 Preferred COA

Alternative COAs depict potential solutions and physical development approaches for addressing NSF Suitland's capability gaps, future functional needs, operational mission requirements, and investment priorities identified in Chapter 3. The Preferred COAs developed by the planning team and refined by stakeholders are unique to the installation and influenced by strategic guidance outlined in Chapter 2; the installation vision and goals presented in Chapter 5; and analysis conducted throughout the IDP planning process (Figure 4.2).

Direct input from the installation stakeholders at COA workshops and subsequent communications, provided a forum for evaluating the merits of the different alternative COAs to develop the preferred COA. The NSF Suitland police prioritizes having the visitor's center within the NSF Suitland boundary than having a joint venture at any of the gates due to logistics. Likewise, NSF Suitland staff and Security prefer to use the existing sidewalk behind the U.S. Census Bureau for pedestrians and cyclists arriving from the Metro, rather than traversing though the woodland preserve area and adding a pedestrian / bicyclist gate through the NSF Suitland east fence due to security concerns and the low number of personnel using this mode of transit. Although creating a shorter path between the Metro station and NSF Suitland is an intelligent alternative, the Navy needs to explore employee perceptions on transportation modes, and more information regarding transportation assistance programs needs to be made available to the employees. After reviewing the Traditional, Progressive, and Aggressive COAs, stakeholders prioritized the planning actions based on their consistency with the established goals and objectives for the installation. The result is the Preferred COA, the actions of which are summarized in the following section.

The resulting Preferred COA for NSF Suitland includes the following concepts:

- Continue to lease existing parking from GSA to address parking deficiency.
- Meet a parking ratio goal of 1:2.51 by 2025, 1:2.77 by 2030, and 1:3 by 2040
- Construct parking garage (at a 1:3 parking ratio) to address the lease expiration after 10 years
- Address space capability gap for NSF Suitland components
- Construct new visitor's center

These concepts are illustrated in Table 4.4 and are described in detail in Chapter 5.

Table 4.4 Preferred COA

Preferred COA : Proposed Planning Action
Build new administrative space (58,520 square feet)
Construct new visitor's center at NSF Suitland main gate
Develop short term solutions for parking due to parking garage closures
Demo and construct new parking garage in the long term

Source: Gaps Analysis, Stakeholder Interviews, COAs Workshop (10 APR 2019)

Chapter 5
Installation Development Plan

NSF Suitland
Source: Department of Navy

NSF Suitland
Source: Department of Navy

Chapters 1 through 4 established the background and foundation for the various projects and planning recommendations that are proposed in Chapter 5. The identified projects are phased and prioritized while maintaining flexibility for an ever changing environment. Chapter 5 presents the following:

- Vision Plan, planning goals and objectives, and a Framework Plan for NSF Suitland.
- Installation-wide Development Plan, which consists of the future land use/regulating, circulation, parking, green infrastructure, primary utilities, and development plans.
- Installation Planning and Design Standards, based on Unified Facility Criteria (UFC) and the Suitland Federal Center Master Plan (2002) that support the NSF Suitland vision, mission, and goals.
- Installation Development Program (Capital Investment Plan - CIP), outlining how and when various elements of the IDP will be implemented, providing rough-order-of-magnitude cost estimates, identifying funding sources, and depicting notional project phasing.

5.1 Vision Plan

A long-term vision for real property development at NSF Suitland was developed with input from leadership, key stakeholders, and installation planners. Leadership (Chief of Staff) participated along with N4 Facility Management in a Kick-Off meeting on July 2018. Stakeholders participated during an interview process on Sept 2018. About twenty (20) interviews were held which included department heads of NSF Suitland.

The stakeholder interviews along with the Basic Facility Requirement (BFR), set the long-term vision and guiding foundation for the physical development of the facility over the next 20-years.

5.1.1 Vision Statement

The plan is established by the following vision statement.

The NSF Suitland 20-year long term vision is to provide resilient and secure facilities that meet all mission requirements for NSF Suitland and its supported commands.

5.1.2 Planning Goals and Objectives

In order to achieve the stated vision, the following goals and objectives have been established:

Goal 1: Ensure assets and infrastructure supports current and future administrative missions

- Increase utility capacity and redundancy
- Co-locate compatible operation factions to increase efficiency
- Mission critical infrastructure systems shall be concurrently maintainable to insure 24/7/365 mission

Goal 2: Ensure base security and safety

- Provide safe and sound pedestrian network with adequate lighting
- Maintain existing fence line
- Reconfigure entry control points (ECP)

Goal 3: Increase the quality of life

- Provide safe and adequate parking
- Provide safe and efficient multi-modal routes
- Improve visual images and way-finding

Goal 4: Strengthen interagency relations

- Participate in Suitland Federal Center (SFC) planning efforts
- Plan for compatible uses with adjacent communities

5.1.3 Framework Plan

Framework Plans convey the functional and spatial context for long-term development based on mission requirements. The Framework Plan is intended to represent the ideal arrangement of functional land use areas, planning districts, and tenant focus areas to accommodate both existing facility and program needs and long-range development requirements.

A Framework Plan considers facility scale and operational environments to determine potential planning districts. The planning districts are typically defined by common geography, circulation networks, natural and man-made features that influence development, existing land use patterns, and historic districts. Additionally, a Framework Plan identifies entry gates, primary vehicular and pedestrian circulation paths, centers of activity (referred to as 'nodes'), and landmarks.

The Framework Plan for NSF Suitland includes:

- One large office building.
- A parking garage.
- Vehicular circulation
- Open space corridors along the surrounding Loop Road and the fence line.
- Landmarks, which include the flagpole area at the front of the office building, the courtyard area at the back of the office building, and recreation areas.

Map 5.1 NSF Suitland Framework Plan
Source: GeoReadiness Explorer, NAVFAC

5.2 Installation-Wide Development Plan

This section of the IDP presents recommendations for the future disposition and development of NSF Suitland. The IDP presents the projects necessary to implement the Preferred COA, as established during the COA workshops and described in Chapter 4.

The plan aims to ensure mission capability and readiness, as well as proposes changes to land use, circulation, parking, green infrastructure, utilities, and sustainable development. The recommendations represent a preferred COA that:

- Addresses capability gaps
- Aligns with IDP Goals and Objectives
- Provides critical improvements to infrastructure (safety/ security)
- Leverages joint venture opportunity
- Considers the potential for mission changes, growth, or new mission requirements
- Is cost effective and forward thinking
- Promotes "best planning practices" as identified in UFC 2-100-01

The IDP is presented in multiple sections within this chapter. This Section (5.2) provides the installation level viewpoint. It reviews projects for the installation in its entirety and discusses networks that are common across the installation.

- Future Land Use Plan
- Illustrative Plan
- Future Development Plan
- Circulation and Parking Plan
- Green Infrastructure Plan
- Regulating Plan

Figure 5.1 Small Parking Lot East of Building 1
Source: Georeadiness Explorer, NAVFAC

Figure 5.2 Potential Swing Space in Southeast Corner
Source: Georeadiness Explorer, NAVFAC

5.2.1 Future Land Use Plan

The Future Land Use Plan guides future development by designating where functionally-similar land uses should be sited, and encourages an organized growth pattern that avoids co-locating incompatible uses. Table 5.1 indicates the future land use categories distribution by acre, which are consistent to existing conditions, while Map 5.2 shows future land use categories.

NSF Suitland is, for the most part, already organized in a desirable land use pattern, the preponderant use being Administrative. The parking lot to the east of the office building will accommodate the east wing or 58,520 square feet gap (Figure 5.1). Since the user will need swing space for the east wing, the land to the south east corner may serve temporary structures while the east wing is under construction. Land uses will remain the same since the administrative function in open recreation space is only temporary (Figure 5.2).

The Navy will continue to lease parking spaces to the north of NSF Suitland on GSA property. The use of these spaces was recently renegotiated for a lease of 10-years with an option for renewal of an additional two 5-year terms. The site will resolve, at least for the next 10 to 20-years, the parking problem that has resulted from the failing parking garage.

There are three primary future land use designations at the NSF Suitland. Per recent Navy guidance, parking and roadway are adjudicated to the preponderant land use of the main building. Therefore, parking and streets are absorbed by the preponderant Administrative Office land use designation. This explains the increase of land use designated as Administrative when compared to the existing conditions in Chapter 3. The future land use designations are apportioned as Administrative Office (51%); Fields/Recreation (37%); and Utilities (12%). Land use designations by distribution can be seen on the table below and on Map 5.2.

Table 5.1 NSF Suitland Future Land Use in Acres

Future Land Use Category	Acres	Percent
Administrative Office	21	51%
Fields/Recreation	15	37%
Utilities	5	12%
Total	**41**	**100%**

*Source: GeoReadiness Explorer and NAVFAC **Washington***

5.2.2 NSF Suitland Illustrative Plan

Illustrative Plans show the envisioned long-term development for NSF Suitland. It shows a conceptual view of the proposed physical improvements identified in the Preferred COA to address current requirements and capability gaps. The Illustrative Plan also include conceptual facilities and projects to accommodate unknown future capacity and/or requirements.

The development framework for the future of NSF Suitland aims to reinforce solutions for parking; space needed to conduct the mission; and safety. First, the current lease agreement with GSA for parking on existing pavement within the SFC, provides a temporary solution to the parking issue in light of the failing parking garage. Therefore, the recommended long-term solution is the construction of a new parking garage. The recent Asset Evaluation (AE) and Basic Facility Requirements (BFR) set the basis for additional space requirements. Therefore, an extension to the eastern end of Building 1, along with swing space is recommended. The development framework also supports reconfiguration of the main entry point (Gate 1) to construct a Visitors Center and remove the Pass Office functions from Building 1. Additionally, pedestrian and bicycle connections are shown where necessary.

Safety, appearance, and environmental sensitivity serve as guiding principles that will enhance the long-term viability of the installation and its operations. Details of the projects included in the Illustrative Plans are provided throughout this chapter and are summarized in the Installation Development Program, Section 5.4

5.2.3 Installation Future Development Plan

Effective long-term planning depends on smart and implementable actions that respect a program-based plan, keeping the installation's mission at the forefront of all concepts and recommendations. The preferred development plan for NSF Suitland builds upon existing land use patterns at the installation, targeting projects that improve current facilities and infrastructure, as well as recapitalizing inadequate facilities and infrastructure with renovations or new construction. When possible, facilities should be renovated and used according to their intended design and configuration (i.e. labs, admin space, training areas, etc.) to optimize efficiency and minimize the need for new construction. When ideal facility utilizations are not possible, new construction may be considered. Co-location of similar functions is a priority.

The development plan balances requirements and assets through a reallocation of space, where appropriate, followed by renovation or new construction when other options are not adequate. Although renovation is preferred, new construction is typically required when facilities can no longer be maintained, as is the case of the parking garage.

The proposed development plan addresses the parking situation, security concerns, space gaps, and utilities. Proposed development is summarized on Table 5.2. Proposed planning actions are further detailed in the Capital Improvements Plan (Section 5.4).

Parking

Although parking has a Mission Dependency Index (MDI) of 39 from a range of 1 thorough 100, this is the number one issue at NSF Suitland, which received uncontested attention during the stake holder interviews.

Map 5.2 NSF Suitland Future Land Use Plan
Source: Georeadiness Explorer,NAVFAC

Map 5.3 NSF Suitland Illustrative Plan
Source: GeoReadiness Explorer, NAVFAC

Since the parking garage is currently failing, negotiations with GSA are ongoing to provide parking spaces on the asphalt parking area north of Swann Road, and north of the Census building, via a lease agreement. The agreement with GSA would be for 10 years with possible extensions for two 5-year terms. While in the short term, the parking garage will be demolished and converted to surface parking in order to meet the full parking requirement, a long-term solution will be needed.

The long-term solution is to rebuild the parking garage on its current location via a MILCON, after which time the lease of the GSA parking spaces would be terminated. New construction may be sited where the existing parking garage is located. The long-term parking garage solution will require a Basic Facility Requirement (BFR) when the time arrives.

A more detailed phasing approach of the parking solution over 20 years is provided in Section 5.2.4 NSF Suitland Circulation and Parking Plan.

Security

The proposed action would include a new visitor center.

Administrative Office and Laboratory Space

The NSF Suitland administrative office has a MDI of 94. There are deficits of 58,520 SF of administrative office space in addition to condition and configuration issues.

NSF Suitland has a deficit of 1,922 SF of laboratory space.

Table 5.2 NSF Suitland Future Development Plan

Project No.	Project Title
ST17-2028	Replace HVAC System
RM18-2128	Renovate rooms for new tenant
RMXX-XXXX	Refurbish Cafeteria Dining Area
DE19-0190	Demolish existing parking garage, pave surface lot
RM13-1899	Provide source of non-potable water
PXXX	Additional 58,520 square feet of office space
RMXX-XXXX	Room modernization
P340	New visitor center
P003	Construct new parking garage

Source: Integrated Project List; Stakeholder Interviews (Sept 2018); NSF Suitland Capability Gaps Analysis, iNFADS & FRES (March 2019); Gaps Prioritization Meeting (8 May 2019); Project Development Meeting (14 May 2019)

Due to the climate of finite resources and the Navy's need to fulfill financial and fiscal responsibilities, the Navy has prioritized projects into short-, mid-, and long-term time frames, which are discussed in Section 5.4: Installation Development Program.

5.2.4 Circulation and Parking Plan

Although the Navy has its own parking requirements (70% of administrative personnel), NSF Suitland is required by the current Transportation Element of the NCPC Comprehensive Plan to meet a parking ratio of 1:3 given its location in the National Capitol Region (NCR). The NCPC National Capital Region Federal Parking Study (2017) however, suggests that site-specific analysis may be appropriate for sites whose characteristics may differ from the criteria of the parking ratio guidelines. Potential variances should consider Accessibility Analysis and Mission Analysis. NSF Suitland meets several of the criteria for variance, as seen below:

Inadequate Accessibility

- NSF Suitland's location within the SFC places it much further from the Suitland Metrorail station than the 2,000-foot criteria for the 1:3 parking ratio. The shortest walking path from the station is over 4,000 ft.
- NSF Suitland's employees commute from all over the Washington Metropolitan Area, many of which are not accessible by Metrorail (especially Charles, Calvert and St. Mary's Counties). Traveling from these areas by Metrorail would significantly increase the commute times for these employees. This particular station is suited for a vast majority of NSF Suitland staff as an embarkation station to downtown DC not a debarkation station to the SFC.
- The area around the SFC does not have continuous sidewalks or bicycle lanes for pedestrians and cyclists.

Mission Analysis

- NSF Suitland has approximately 4,000 employees and hosts an additional 1,000 employees during surges, along with 210 Reservists. While these employees (1,210) are not calculated into the permanent staffing of the installation, they can significantly affect the parking situation at any given time.

- NSF Suitland has four different 24/7 operations, with irregular work hours and overlapping shifts. While the majority of employees still work during regular business hours, the other shifts overlap with these, requiring more people to be onsite at one time (potentially the entire workforce during critical situations).
- NSF Suitland comprises an expertly trained workforce with very specialized skills. Work-life balance is a huge factor in retaining a highly sought after work force in whom significant resources have been invested, and the absence of which would put a significant strain on the ability to meet the national security mission.

As a result of this analysis and a considerable amount of consultation with NCPC, NSF Suitland is committed to meeting an adjusted parking ratio of 1:2.51 in the short-term. NSF Suitland is also committed to continuing to work towards the 1:3 parking ratio over the next 20 years, through a phased approach of concrete initiatives and transportation demand management (TDM) strategies.

Short-Term Parking Goals (1 to 5 years, 2025)

The generalized planning actions are to continue to lease existing parking spaces on the SFC from GSA for 10 years with the potential for two 5-year extensions, and demolish the NSF Suitland parking garage due to failure of the structure, and convert the garage footprint to surface parking. In the long term, the intent is to build a new parking garage on the site of the demolished garage, and return all leased parking to GSA.

As presented in the November 7, 2019 NCPC open session hearing, the revised parking inventory is shown in Table 5.3 and Figure 5.3. Effective immediately, the Navy will improve the employee parking ratio from 1:2.14 to 1:2.51 with a total of 1,594 employee parking spaces:

- Demolish the parking garage and replaces with surface parking which results in the removal of 270 employee parking spaces for a total of 380 employee parking spaces
- Convert 158 employee parking spaces in the NSF Suitland North Lot to visitor's parking (150), and GOV parking (8), for a new total of 93 employee parking spaces
- Amend the current lease with GSA for 805 employee parking spaces to include the additional lease of 150 parking spaces near the Census Bureau for a total of 955 employee parking spaces.

The employee parking distribution is best shown on Figure 5.3.

Table 5.3 NSF Suitland Parking Counts November 2019 Proposal

Area Name/Description	Total Parking Spaces (Existing Conditions)	Employee Parking Spaces (Existing Conditions)	Total Parking Spaces (Nov 19 Proposal)	Employee Parking Spaces (Nov 19 Proposal)
Visitor's (North) Parking Lot	22	0	22	0
Government Vehicles (GOV) Lot	6	0	6	0
Parking Lot East of Building 1	54	54	54	54
Parking Lot North of Building 1	251	247	251	93
Parking Lot West of Building 1	57	57	57	57
NSF Suitland Parking Garage (Existing) vs. Surface parking on garage site (New)	650	650	400	380
NSF Suitland on-road parking	55	55	55	55
GSA Parking Lot leases	819	805	969	955
Total	**1,914**	**1,868 (1:2.14)**	**1,814**	**1,594 (1:2.51)**

Source: NAVFAC, NCPC Hearing (7 November 2019)

TDM Strategies:

- Re-evaluate Parking Placard System and criteria for parking eligibility (target contractors for parking off-site)
- Establish ticketing system for illegal use of parking spaces
- Provide shuttle for military personnel from Barracks on other installations
- Target carpool/vanpool to specific zip codes with potential highest return
- Engage with various commuter bus companies to provide better transit opportunities for employees not served by Metrorail
- Host town hall meetings to re-educate staff on all transit opportunities and benefits
- Conduct survey to gain insight on the interest of the workforce for specific alternative modes of transportation (commuter bus, carpool/vanpool, metro parking, employee shuttle)
- Explore Waze carpool program – open to NSF Suitland employees
- Engage with WMATA to negotiate a reduced parking cost for employees at the Suitland Metro Rail parking garage
- Partner with GSA to conduct a Transportation Study for the SFC to determine various opportunities for better TDM on the SFC as a whole

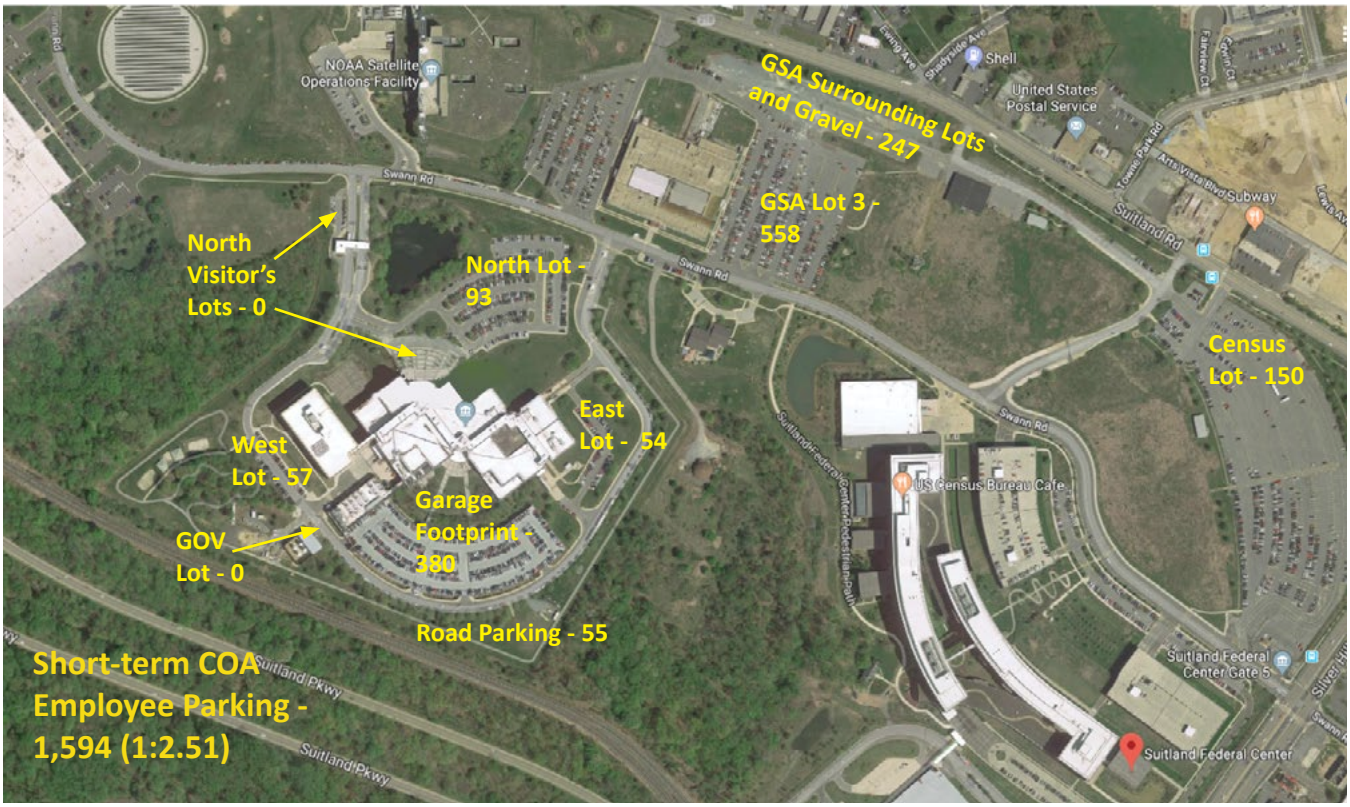


Figure 5.3 NSF Suitland Short-Term Parking Allocations
Source: Georeadiness Explorer, NAVFAC

Mid-Term Parking Goals (6-10 years, 2030)

- Program funds and initiate conversation with GSA for a new, more direct pedestrian path (and associated pedestrian entrance) to NSF Suitland through GSA property; subject to further study.
- Explore moving missions to other Intelligence Community properties in the region (which would also help alleviate the space deficit)
- At the end of the 10-year lease with GSA, the 150 spaces in the Census lot will return to GSA, resulting in a total of 1,444 employee spaces (1:2.77 ratio)

Long-Term Parking Goals (11-20 years, 2040)

- Achieve the 1:3 parking ratio goal, locating all employee parking within the NSF Suitland fence line.
- Pursue MILCON funding for a new parking garage on the site of the demolished garage. The new parking garage would facilitate the removal of all leased parking (955 spaces); the capacity of the garage would be limited to only what would meet a 1:3 parking ratio for the NSF Suitland site.
- In coordination with GSA, construct a more direct pedestrian path (and associated pedestrian entrance) between NSF Suitland and the Suitland Metro Station; subject for further study.
- Pursue options for a joint-use parking garage on the SFC

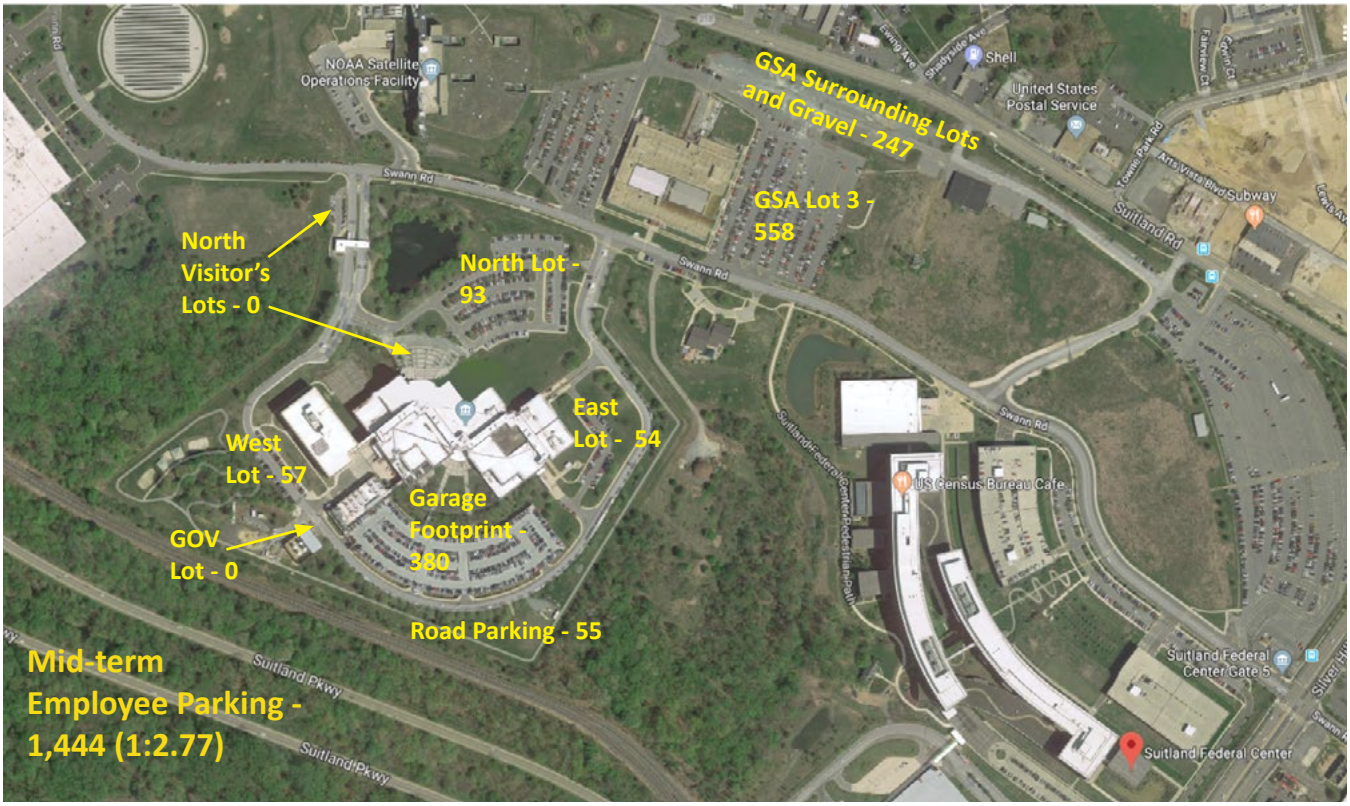


Figure 5.4 NSF Suitland Mid-Term Parking Allocations
Source: Georeadiness Explorer, NAVFAC

Circulation

A circulation plan actively illustrates and explains all current, planned, and to-be-demolished, streets/trails/sidewalks across the installation. As NSF Suitland is so small, and was comprehensively developed at the beginning, future circulation patterns are expected to remain identical to the existing condition. There are no primary- or secondary-level roads within NSF Suitland. The Loop Road within NSF Suitland is a tertiary-level road (or local) and has a speed limit of 15 miles per hour. Loop Road should be thought of as a parking-access road and not a through-road, as it both starts and ends on the SFC Swann Road, traversing the NSF Suitland fence line. Within the SFC, there are no primary-level roads; Swann Road is the single secondary-level (or collector) road connecting MD Route 218 (aka Suitland Road) and MD Route 458 (aka Silver Hill Road). As the transportation level of service (LOS) on Swann Road continues to deteriorate, it is recommended that all four-way-stop intersections become roundabouts. All the nearby primary-level roads are outside the boundary of the SFC.

Within the NSF Suitland boundary, the minority (less than 1%) of bicyclists easily share the road with slow moving vehicles; NSF Suitland has a posted speed limit of 15 miles per hour. There is no need to provide dedicated bicycle lanes within NSF Suitland. However, installing a bicycle rack near the fitness facility/lockers and showers could facilitate bicycling as a form of commuting.

Pedestrian and bicyclist connectivity to the Green Line of the Washington DC Metro system is via the existing 9-foot-wide concrete path southwest of the Census Building. From the main NSF Suitland building to the Metro station is about two-thirds of a mile or 3,304 feet (15 to 20-minute walk). An alternate would be a direct route from the Metro to the eastern-most gate. However, the gate is not currently configured to process personnel and it would have to be manned by security.

There is a "U"-shaped asphalt recreational trail that follows the general path of the loop road and the NSF Suitland fence line. Painted crosswalks connect the trail to the concrete sidewalks in logical/appropriate places for access into the building.

All new sidewalks will be in response to the adjusting parking situation. When the parking garage is demolished, a new system of sidewalks in that part of the installation will be developed as part of the project.

Metrobus, the Prince George's County Bus system, and the MTA Commuter Bus all have stops at the Suitland Metro Station, and along the nearby primary- and secondary-level roads. As these services run according to regional economic pressures, the precise location and timing of services continuously evolves over time, and therefore should not be included in long term (20-year) planning forecasts.

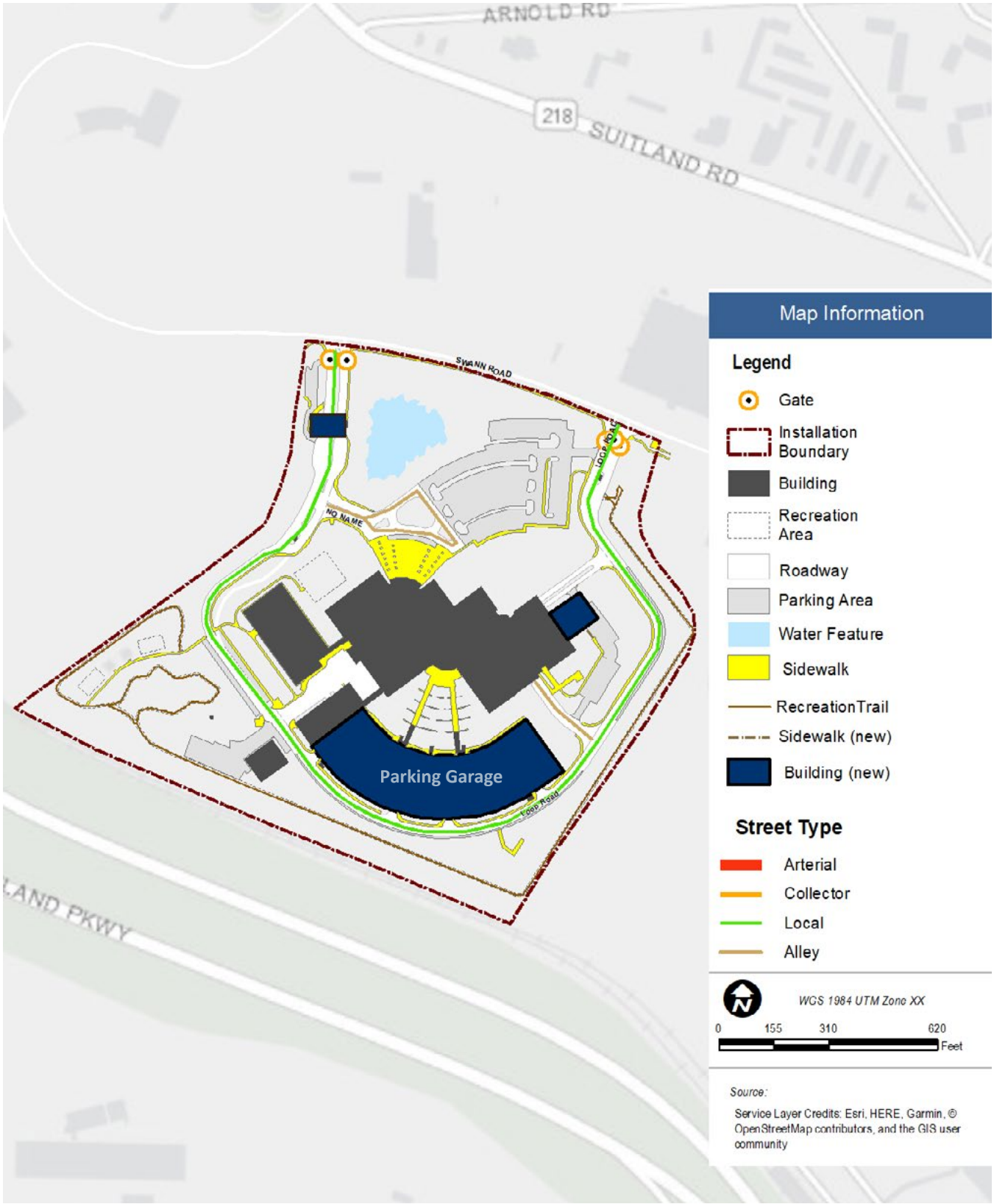
5.2.5 Green Infrastructure Plan

The Green Infrastructure Plan depicts all existing and planned open space elements on NSF Suitland, including a water body, recreation area, vegetation, and other natural features comprising the installation's open space system. Green infrastructure features provide buffers between activities or incompatible land uses requiring separation. In addition, green infrastructure reflects a more sustainable development pattern where open spaces are integral parts of the planning districts, potentially enjoyed by military personnel and the civilian workforce. Green infrastructure is a resilient and cost effective approach for the installation to meet DoD and other federal environmental mandates.

The following strategies and planning actions listed below are planned for implementation on NSF Suitland.

- Install low maintenance bio-swales, planting strips, and shade trees along the south-facing sides of parking lots and roads to mitigate for flooding, treat stormwater, provide shade, and reduce the urban heat island effect.
- Evaluate the viability of solar hot water, or solar air heating.
- Under Navy's LID policy, integrate low maintenance LID techniques into site design to address stormwater management.
- Under the Energy Independence and Security Act (EISA) Section 438 requirements, select appropriate stormwater management and other site design elements to mimic pre-development hydrology for projects impacting over 5,000 square feet
- Conserve forest stands and wetlands to improve flood control, mitigate heat, improve air and water quality, and provide habitats.
- Maintain recreational areas and trail to promote healthy community initiatives and social functions. These are the preferred areas for future tree planting.
- Plant only regionally-native species to lower maintenance costs. Native plantings offer a reduced need to water and apply fertilizer and pesticides.
- Build new facilities on brown- or gray-field sites.

Map 5.4 NSF Suitland Interim Circulation and Parking (10-year)
Source: Georeadiness Explorer, NAVFAC



Map 5.5 NSF Suitland Future Circulation and Parking (20-year)
Source: GeoReadiness Explorer, NAVFAC

Map 5.6 NSF Suitland Green Infrastructure Plan
Source: GeoReadiness Explorer, NAVFAC

5.2.6 Utility Plan

A reliable utility infrastructure is vital for NSF Suitland. As utility systems degrade over time, projects to recapitalize the utility infrastructure are significant investments required to enhance operational efficiencies by systematically replacing dated or failing systems and technologies with state–of-the-art infrastructure.

Aside from general sustainment of the utility systems, the IDP recommends a series of actions to improve efficiency and adopt better practices for resiliency. These recommendations include:

- A systematic replacement of infrastructure at NSF Suitland to improve the overall condition elements in the electrical distribution systems over time.
- As new buildings are developed, it is recommended that they incorporate efficient technology to reduce consumption and utilize renewable sources of energy, such as solar power or geothermal energy, where possible.
- Natural gas should be considered as a viable replacement for heating energy when new projects are submitted.
- A comprehensive utility study is recommended to address capacity, long-term security, system redundancy, and efficiency of the current utility infrastructure.

5.3 Area Development Plan

This section is not applicable.

5.4 Installation Development Program (Capital Investment Plan)

The Installation Development Program, also referred to as the Capital Investment Plan or CIP, outlines how and when various elements of the IDP will be implemented, including rough-order of magnitude (ROM) cost estimates and anticipated funding streams. Prioritization of the proposed development program are divided into three implementation horizons summarized below. Table 5.4 presents the planning periods (S) short-term, (M) mid-term and (L) long-term and the projected cost of each project.

Short-Term (0 - 5 Years): The short-term development program includes current projects and those that are proposed or programmed over the next five years, or projects that are recommended for programming in the next five years.

Mid-Term (6 - 10 Years): The mid-term development program includes projects that must be considered once the short-term projects have been implemented. These projects are anticipated to be needed in the near future based on facility age and anticipated life-cycles of facilities and systems. Mid-term projects are considered high priority and planning for them should begin now.

Long-Term (11 – 20 Years): The long-term development program identifies projects that are anticipated to be needed within the next 20 years, but are not the highest priority projects. It also identifies projects that require longer lead times or prerequisite actions.

Project phasing for implementation was determined by stakeholder input received at the Gaps Prioritization Meeting (May 2019). Stakeholders identified the most critical projects to the mission, or those that are essential to improve quality of life for all entities serving a function NSF Suitland. The phasing plan is designed to be flexible. It should be adjusted to account for changes in funding, priority, and mission, while identifying projects to be completed in the near-term to address urgent needs and immediate requirements.

As presented, the preferred plan for NSF Suitland contains a total of 9 projects totaling $134,594M over the course of plan implementation or the 20-year planning horizon, exclusive of the sustainment and modernization program that must be maintained. The plan presents 5 projects in the short term, or 30% of the total cost of all NSF Suitland projects. Three projects are proposed for the mid-term, which represent 18% of the total estimated cost. The single long-term project - the new construction parking garage – represents 52% of the total cost. Estimated costs are rough orders of magnitude, and have been escalated to 3, 7, or 15 years out.

As with best planning practice, when new construction is proposed, transportation and traffic patterns will be analyzed as part of the Transportation Management Plan.

5.4.1 Short-Term Development Program

- **ST17-2028 Replace HVAC System.** The project will overhaul NSF Suitland's HVAC systems to include replacement of chillers, VDFs, pumps, and energy management controllers. The new HVAC systems must be able to sustain 365/24/7 operations at NSF Suitland.
- **RM18-2128 Renovate room for new tenant.** As conditions deteriorate and tenants are shuffled within the building, there is an ongoing need to renovate rooms.
- **RMXX-XXXX Refurbish Dining Cafeteria Area.** This project extends the useful life of the Cafeteria which is deteriorating. Waterproofing and tile replacements are the main components of this project.
- **DE19-0190 Demolish parking garage, pave surface lot.** This project will demolish the Parking Garage at NSF Suitland. This parking garage has become a safety hazard. Its useful life is beyond repair and it is therefore slated for demolition. Since there is a need for parking spaces, the proposed action is to pave a surface lot after the demolition.
- **RM13-1899 Create non-potable water source.** This project will reuse two (2) abandoned-in-place underground tanks (50,000 gallons each) to store non-potable water.

5.4.2 Mid-Term Development Program

- **PXXX Build Eastern Wing.** Building an east wing would accommodate the 58,520 square feet deficit of office space needed, as well as alleviate the colocation issues within the main building.
- **RMXX-XXXX Room Modernization.** As conditions deteriorate and tenants are shuffled within the building, there is an ongoing need to renovate rooms.
- **P340 New Visitor Center.** A visitor center is needed at the site for visitor's screening.

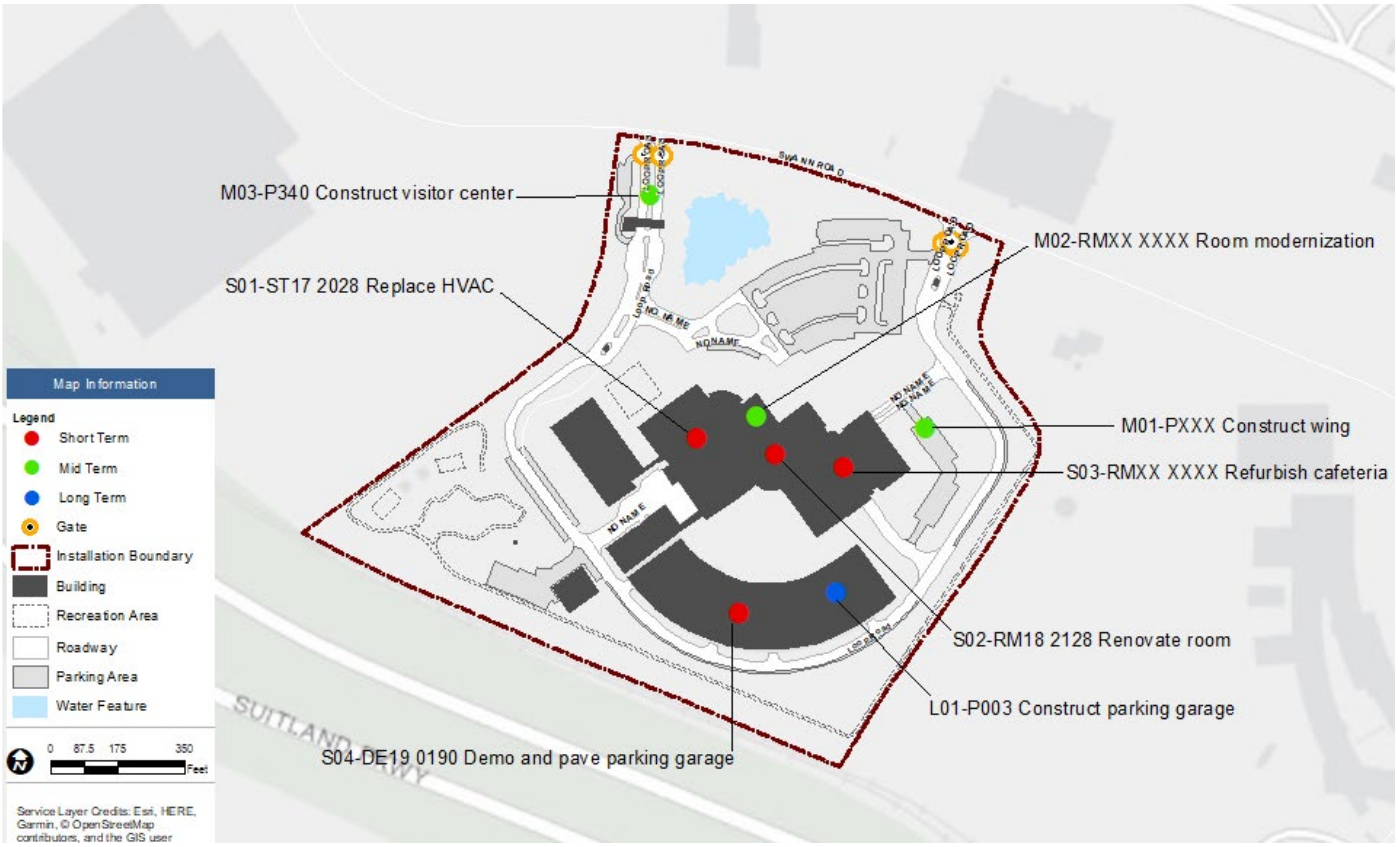
5.4.3 Long-Term Development Program

- **P003 Replace Parking Garage.** A long term solution is needed to resolve the parking situation. The lease agreement with GSA will be for a term of 10 years with two 5-year renewal options. When the lease expires, a more permanent solution will be necessary. The proposed project is to pursue a MILCON for a new parking garage.

Table 5.4 NSF Suitland Future Development Plan by Phases

Map ID	Project No.	Project Title	Project Type	Area (SF)	Demo Area (SF)	Cost ($000)	Fund Type
S01	ST17-2028	Replace HVAC System	Repair	17,288	-	$11,915	O&M, N
S02	RM18-2128	Renovate room for new tenant	Repair	13,000	-	$2,292	O&M, N
S03	RMXX-XXXX	Refurbish Cafeteria Dining Area	Repair	3,528	-	1,700	O&M, N
S04	DE19-0190	Demo Parking Garage (Bldg 2), pave and stripe surface lot FY21	Demolition	378,200	378,200	$11,915	O&M, N
S05	RM13-1899	Create non-potable water source	Repair & Construction	-	-	$ 235	O&M, N
M01	PXXX	Build eastern wing	Construction	58,520	-	$14,617	GDIP
M02	RMXX-XXXX	Room modernization	Repair	31,600	-	$11,918	O&M, N
M03	P340	New visitor center	Construction	-	-	$484	MILON Navy Fund
L01	P003	Construct new parking garage	Construction	632,444	632,444	$79,518	MILCON

Source: Integrated Project List; Stakeholder Interviews (Sept 2018); NSF Suitland Capability Gaps Analysis, iNFADS & FRES (March 2019); Gaps Prioritization Meeting (8 May 2019); Project Development Meeting (14 May 2019)



Map 5.7 NSF Suitland Future Development Plan
Source: GeoReadiness Explorer, NAVFAC

5.5 Installation Planning and Design Standards

Higher-level strategic planning guidelines, future development, and redevelopment projects at NSF Suitland should support facility standardization and site designs that are safe and efficient. Per UFC 2-100-01 Installation Master Planning, planning standards are developed to:

- Meet sustainability and energy efficiency requirements
- Promote visual order and architectural consistency
- Enhance the natural and man-made environments through consistent architectural themes and standards
- Improve the functional aspects of the installation

The design and construction of these facilities must also align with the following UFC's which identify specific building and space design requirements by facility use:

- UFC 2-000-05N Facility Planning Criteria for Navy / Marine Corps Shore Installations
- UFC 3-101-01 Architecture, with Change 5
- UFC 3-120-01 Design: Sign Standards, with Change 3
- U FC 3-201-02 Landscape Architecture
- UFC 3-210-10 Low Impact Development

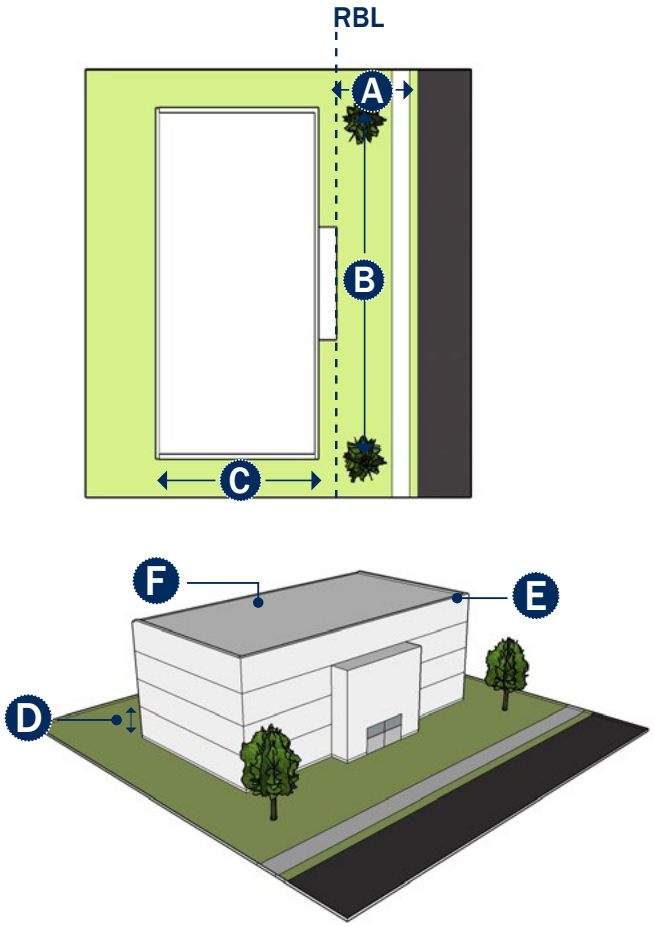
The guidelines in this section seek to conserve, protect and enhance the positive attributes of the Installation, while also improving, unifying and mitigating negative attributes. This section is organized around six topics: building envelope standards, street standards, site planning guidelines, landscape standards, signage and wayfaring guidelines, and sustainability guidelines.

5.5.1 Building Envelope Standards: Flex

Building envelope standards identify a few different building types that are prevalent throughout the installation. Each of these building types are regulated by a set of standards that describe attributes of the building use, dimensions, placement, and other design details that should be followed for any new development or renovation projects. The Navy has developed standard area requirements and spatial relationships that provide consistency across an installation. The building envelope standards help to define requirements and provide a unified appearance. New construction and renovation projects proposed in this IDP should incorporate the standards outlined below:

- Use. Appropriate use is identified for the ground floor and the upper floor(s) of the facility type. The FLEX use is designed to be complementary, encouraging, vertically-mixed spaces such as administrative, lab, and training.
- Placement. The envelope requires a specific setback from the roadway, designated by the Required Build-to Line (RBL).
- Shape. Building shape is restricted by size and orientation to the street. Maximum width and depth, and the minimum percentage of the façade that must be oriented along the RBL are defined.
- Height. The building standard regulates the maximum number of floors as well as the maximum height of the ground floor. Additionally, an appropriate roof style is identified. The minimum height is one floor and the maximum height is five floors.

These standards are consistent with the Suitland Federal Center Master Plan 2002 for building height and number of stories. Complementary to the Future Land Use Plan is the Regulating Plan (see Map 5.8).



Flex-Use Building Envelope Standard		
Use		
Ground Floor	Admin, Training, Laboratory	
Upper Floor (s)	Admin, Training, Laboratory	
Placement		
RBL from Road	50’ minimum (note 1)	A
Shape		
Façade built to RBL	70%	B
Max building width and depth		C
Height		
Ground Floor	14’-20’	D
Maximum # Floors	1-5	E
Roof Type	Flat/Hipped	F
Notes:		
(1) Setback from roadways, parking lots, and other buildings must conform to current DoD guidance.		

Figure 5.5 Flex-Use Building Envelope Standards
Source: AECOM, NAVFAC

Map 5.8 NSF Suitland Regulating Plan
Source: GeoReadiness Explorer, NAVFAC

5.5.2 Street Standards

Given the installation's suburban character of development, the main mode of transportation throughout the installation is vehicular. The street network at the SFC is classed as secondary or tertiary level roads. The main design strategy is that the street hierarchy should be reinforced throughout the installation by enhancing both the streetscape and signage.

Secondary Roads

Secondary roads typically serve a cluster of buildings or a neighborhood and feed into a primary road. They generally accommodate lower traffic volumes and should be designed to facilitate slower driving speeds. Landscaping is not required to the same extent as primary roads, but street trees are appropriate around built areas. Pedestrian connectivity is also important along secondary roads as well, though sidewalks and crosswalks may be narrower. Pedestrian lighting should be provided, and sidewalks should be designed with the larger installation-wide sidewalk network, giving priority to connectivity. Sidewalks may be provided on both sides of the street.

Tertiary Roads

Tertiary roads typically act as access roads to certain buildings or facilities and do not handle large volumes of traffic. They are intended for primarily vehicular use with a 10 to 12-foot lane going in both directions. In some cases, they can be restricted to official vehicles only (e.g., Navy security or PWD vehicles). In some cases, tertiary roads can be used as pedestrian trails.

Parking Lot Standards

To reduce the environmental footprint of parking areas, paved areas should be kept to a minimum. Minimal dimensions for parking spaces are 9 x 18 feet, with 24-foot wide drive aisles. Sufficient disabled parking spaces should be provided in order to comply with ADA requirements. Efforts should be made to retain storm water on-site when possible, including LID strategies like bio-retention areas and pervious pavement. These facilities permit rainwater to percolate on-site, reducing rainwater volumes in sewers and decreasing flooding, and allowing the water to be filtered through the soil, improving water quality. Bio-retention areas also serve as aesthetic improvements to the site, and may act as wildlife habitats, contributing to the continuity of green spaces throughout the installation. Trees should also be used to shade parking areas, reduce heat island effect, and to screen parking from other public areas. Continuous pedestrian pathways should be present throughout parking areas to facilitate safe walking routes.

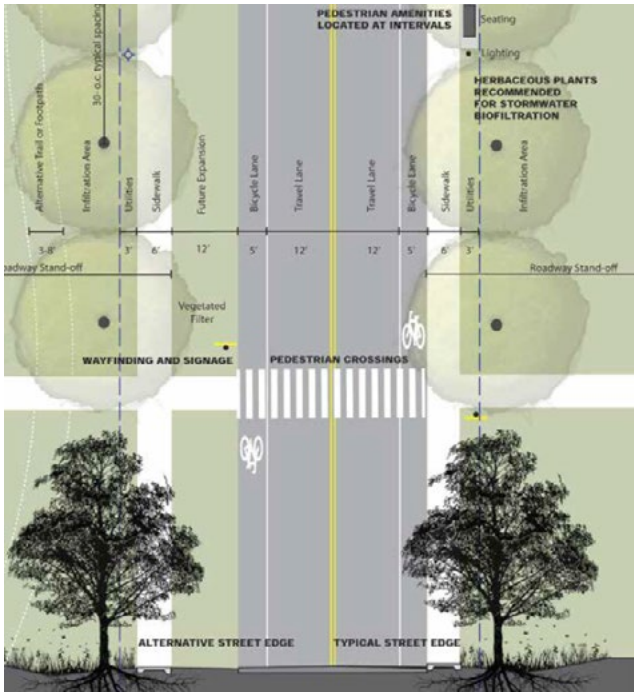


Figure 5.6 Secondary Roads Standard
Source: NAVFAC

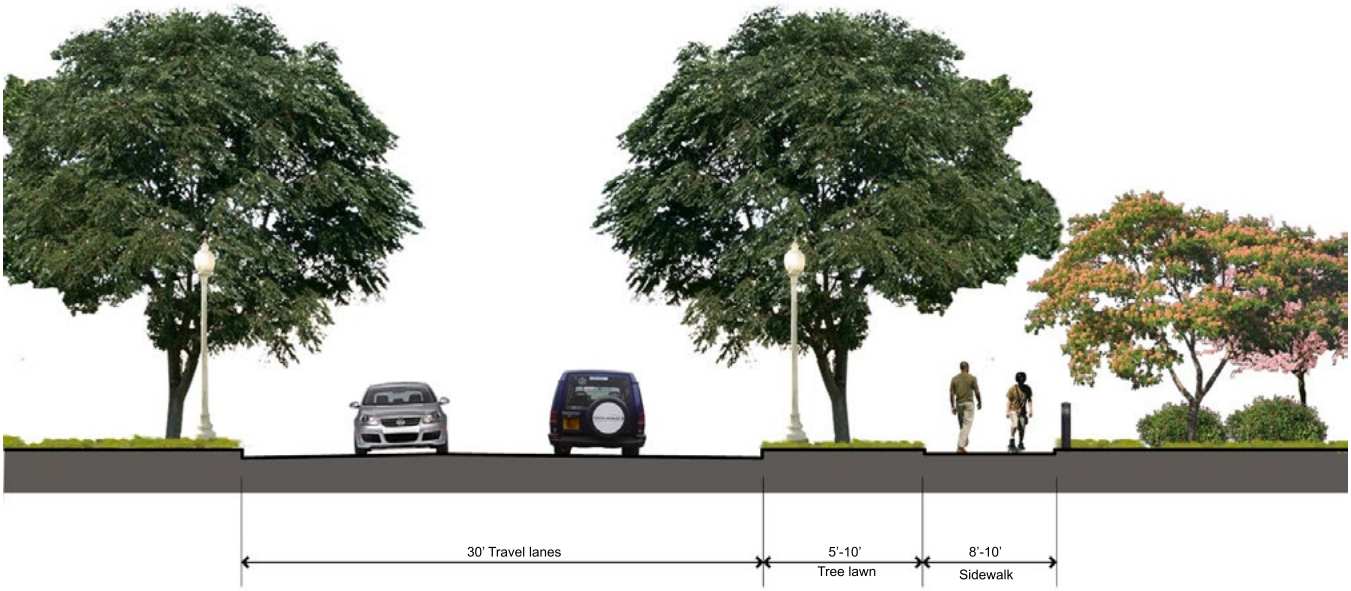


Figure 5.7 Secondary Road Section
Source: AECOM, NAVFAC

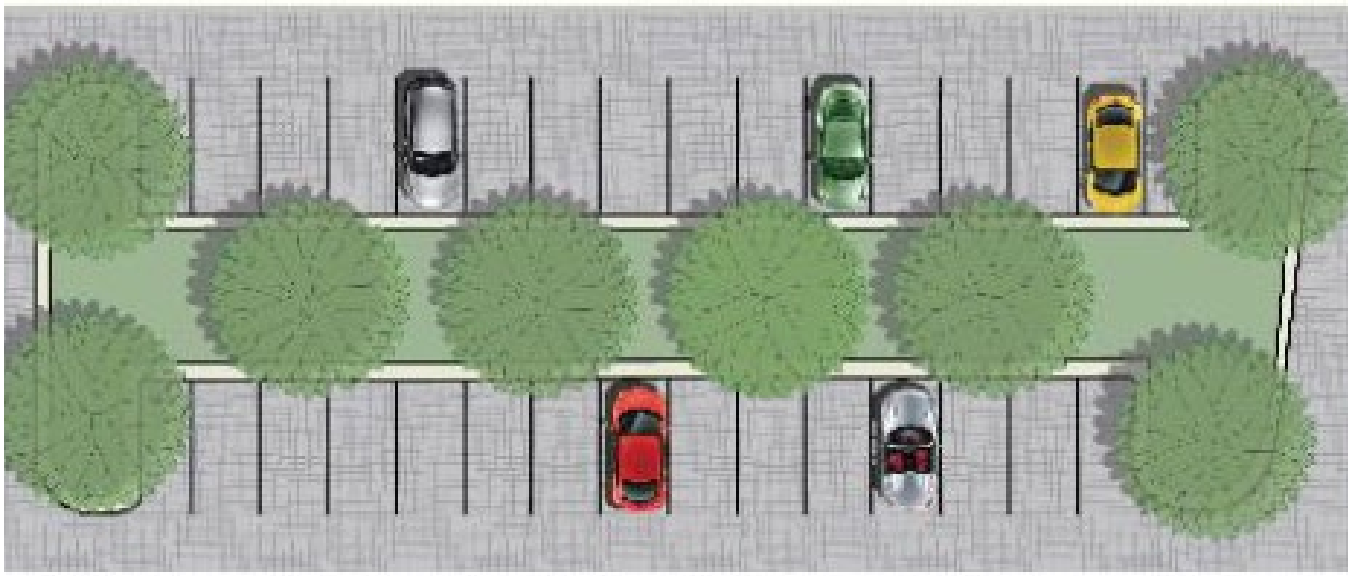


Figure 5.8 Typical Parking Layout
Source: AECOM, NAVFAC

5.5.3 Site Planning Guidelines

Site planning is the arrangement of buildings, roads, parking lots and open spaces within an installation. While all sites should be designed according to security standards, the following recommendations should be considered when siting or constructing new buildings at NSF Suitland:

- New developments should be high density, clustered with related existing buildings, and include a pedestrian network to ensure connectivity between buildings.
- Where relevant, buildings should also be sited to preserve existing view sheds in significant areas throughout the installation.
- New buildings should be compatible with the historic buildings in the greater area.
- Primary facades should be facing perpendicular or parallel to the street network.
- Planning for building sites that take advantage of climactic conditions, including solar orientation, wind exposure, and micro-climactic conditions.
- Key views sheds should remain intact.
- Providing parking areas that are visibly connected with continuous pedestrian pathways to the buildings they serve.
- Ensuring that spaces between buildings are functional pedestrian spaces.
- Establishing a compatible scale among buildings and the spaces defined by those buildings.
- Keeping separate vehicular and pedestrian traffic.

5.5.4 Landscape Standards

Two main goals of landscape architecture design are increasing walkability and sustainability. Given that much of the streetscape design prioritizes the movement of vehicles throughout the installation, it is important to ensure that there are safe, accessible, and connected pedestrian routes that provide an alternate mode of mobility. Increasing walkability not only increases public safety, but supports better public health outcomes and reduces vehicular trips, thereby also contributing to the goal of sustainability.

Landscaping should be used to establish spatial hierarchy, define spaces, screen utilities/parking, act as a wind/noise barrier, aid in storm water management, and create visual order and consistency throughout the installation.

Landscape treatments should be applied to areas including entry gates, the visitor center, primary and secondary circulation routes, building perimeters and entries, parks and ceremonial grounds, parking areas, and other planting areas. The Installation should follow the basic landscape design principles found in UFC 3-201-02 to include the following:

- Use hardy, regionally native and drought-tolerant plant materials when possible
- Create design solutions that minimize adverse impacts on the natural habitat.
- Prevent pollution by reducing fertilizer and pesticide requirements, using integrated pest management techniques, recycling green waste, and minimizing runoff.
- Preserve and enhance existing natural landforms and vegetation.
- Maximize the use of water-efficient plant material.
- Use water-efficient irrigation systems.
- Ensure site and planting promote energy conservation.
- Screen undesirable views and land uses.
- Use mass plantings, berms, groups of trees, and architecturally compatible fencing as screens and buffers.
- Create attractive entries.
- Reduce building mass by creative/sensitive foundation plantings.
- Use site amenities that are durable and well-constructed.
- Design irrigation systems to minimize damage to key components, including sprinkler heads, controllers, and back-flow preventers.

Amenities such as sidewalks, street furniture, lighting, signage, and traffic calming techniques help reinforce the circulation hierarchy and overall aesthetics of NSF Suitland. In addition to the aesthetic benefits and the

order landscaping establishes in the physical environment, landscaping also benefits the natural environment. The planting of bio-infiltration systems in parking areas not only creates more pedestrian friendly environments, but also captures storm water to improve water quality, recharge ground water, and reduce storm water runoff. This strategy should be used as developments occur on the installation.

5.5.5 Signage/Wayfinding Guidelines

Signage refers to a variety of messages to inform and guide visitors or users of an installation. A unified and consistent signage system throughout the installation can contribute to better wayfinding and a sense of identity. Clear signs also help separate vehicular and pedestrian traffic and can create a safer environment. A sign system creates a hierarchy that leads from major entrances to functional areas, then to buildings clusters, and then to specific buildings. Signs should also have a consistent appearance so that they are easy to find and follow.

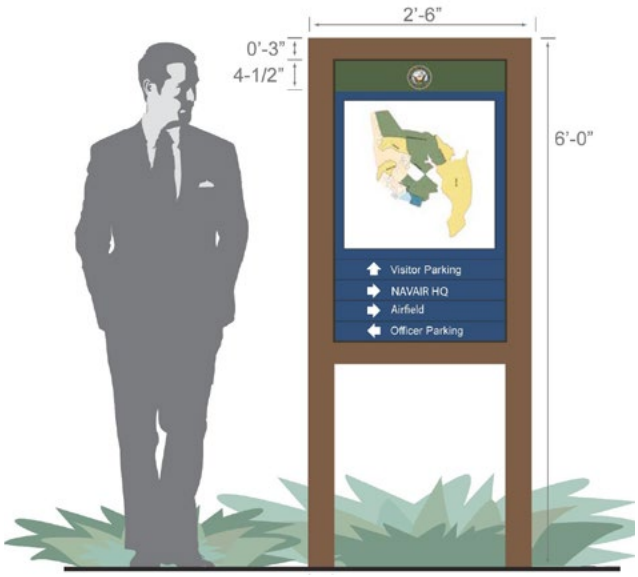


Figure 5.9 Typical Sign Design
Source: AECOM, NAVFAC

5.5.6 Sustainability Guidelines

Sustainability strategies can be used to improve water quality, and reduce flooding, heat island effect, and air pollution. Sustainability strategies can also be woven into facility design, using standards from the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating systems. There are different LEED requirements for different types of development, but each consists of a checklist of basic prerequisites and building improvements that are eligible to count towards a minimum number of credits. The two LEED rating systems applicable to NSF Suitland include LEED for New Construction (LEED-NC) and LEED for Neighborhood Development (LEED-ND). Additionally, the Sustainable Sites Initiative is a report written to provide national guidelines for sustainable land development and landscape design, which should also be considered in new construction and renovations. UFC 4-030-01 Sustainable Development guidance states "For all new construction and renovation building projects over $750K, reduce the life-cycle cost of shore facilities by incorporating sustainable concepts, strategies and features and meet the required LEED level rating, consistent with mission, budget, and client requirements." However, if any LEED or Sustainable Sites guidelines come into conflict with DoD Anti-terrorism standards, the DoD Anti-terrorism standards take precedence in site design. The recommended strategies are as follows:

Alternative Transportation

Planning for alternative forms of transportation including transit, carpooling, and bicycling encourage more energy-efficient transportation options. This may include ensuring sidewalk connectivity; placing bike parking in strategic areas as well as showering/changing facilities; designating bike lanes on primary roads; and setting aside electric vehicle parking near the entrances of major buildings.

Reduced Development Footprint

Prioritize infill development over sprawl. This may be accomplished by clustering new buildings in proximity to existing buildings, removing unused parking areas, increasing density by adding height to buildings rather than building new footprints. Strategies for infill development include co-locating new buildings near older buildings to share utility connections and parking lots; and considering vertical development where possible.

Cool Roofs and Pavements

Cool roofs deflect the sun's energy, thereby reducing roof surface temperature and mitigating the urban heat island effect. This strategy may be implemented by using light colored roofing, or building vegetated roofs which may also manage storm water. Cool roofs may also have the effect of reducing heating and cooling energy costs. Cool pavements similarly reduce the urban heat island effect and can be achieved by using lighter colored pavers or porous pavers that permit water infiltration.

Porous/Permeable Pavements

Porous or permeable pavements improve water quality and decrease storm water runoff volumes, reducing stress on storm water infrastructure. This strategy may be implemented by using concrete or asphalt that is designed with gaps to permit the permeation of water. These gaps should be maintained over time to ensure the porous functionality of the pavement.

Tree Planting

In addition to the aesthetic and design benefits, tree planting has environmental benefits. Trees improve air, water, and soil quality, increase walkability and wildlife habitat and contribute to the aesthetic character of a site. Integrating tree planting in installation development may be accomplished by designing tree areas in parking lots to provide shade, placing deciduous trees on the south and west sides of buildings to optimize shading during summer and winter, and screening objectionable views with trees. Considerations should be made to plant native species.

Bio-Infiltration Systems

Integrating bio-infiltration systems throughout the installation helps treat and retain storm-water runoff on-site. These may be implemented through the design of rain gardens, bio-retention cells, and vegetated swales in or adjacent to parking lots, adjacent to major buildings alongside primary roads. Disconnecting current downspouts or installing disconnected downspouts to future structures will also reduce stormwater runoff volume by bringing discharging stormwater to permeable areas.

Vegetated/Green Roofs

Vegetated roofs increase air and water quality and may reduce energy costs for heating and cooling. Vegetated roofs are best implemented on flat roofs where structural loads permit.

Rainwater Recycling

Rainwater recycling reduces storm water runoff and conserves fresh water, which may be reused for landscape irrigation and other non-potable water uses. Provision of rain barrels or cisterns at downspouts of non-historic administrative, housing, and visitor center buildings helps harvest water.

Exterior Lighting

Reducing light pollution increases visibility of the night sky and reduces disruption of nocturnal wildlife. Light pollution may be reduced by providing cutoff fixtures that prevent upward light spill.

Renewable Energy

Alternative energy sources are more sustainable for long-term operations and may guard against outages in the event of poor weather and other emergencies. Some potential sources of alternative energy include micro-solar panels for lighting, and micro-wind turbines mounted on top of non-historic buildings.

Building Automation

Install energy-control systems in all new construction projects that have the ability to automatically adjust temperature, shed electrical loads, control motor speeds, and adjust lighting intensities to reduce energy consumption on the installation.

Additional sustainability guidance can be found in UFC 1-200-02 High Performance and Sustainable Building Requirements, as noted in Section 2.1.6. The UFC provides minimum requirements and guidance to achieve high performance and sustainable facilities that comply with policies outlined in that section, including the *Energy Policy Act of 2005,* Energy Independence and Security Act of 2007, and Executive Order 13693, *Planning for Federal Sustainability in the Next Decade.* The UFC incorporates ASHRAE 90.1 Energy Standard for Buildings Except Low-rise Residential Buildings and ASHRAE 189.1 Standard for the Design of High-Performance Green Buildings, when appropriate.

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Chapter 6
Acronyms

ADP	Area Development Plan
AE	Asset Evaluation
BFR	Basic Facility Requirement
CBM/R	Condition/Configuration-Based Maintenance/Recapitalization
CCN	Category Code Number
CCTV	Closed Circuit Television
CIP	Capital Improvement Plan
CNIC	Commander, Navy Installations Command
CNO	Chief of Naval Operations
COA	Courses of Action
CPLO	Community Planner Liaison Officer
DOD	Department of Defense
EA	Environmental Assessment
EAP	Encroachment Action Plan
ECP	Entry Control Point
ESA	Environmental Site Assessment
EUL	Enhanced Use Lease
FRES	Facility Readiness Evaluation System
FY	Fiscal Year
GHG	Greenhouse Gas
GSA	General Service Administration
HVAC	Heating, Ventilation, and Air Conditioning
ICRMP	Integrated Cultural Resources Management Plan
IDP	Installation Development Plan
IFOM	Installation Figure of Merit
iNFADS	Internet Navy Facilities Assets Data Store
INRMP	Integrated Natural Resources Management Plan
IPL	Integrated Project List

MDI	Mission Dependency Index
MHT	Maryland Historical Trust
MILCON	Military Construction
MWR	Morale, Welfare, and Recreation
NAAQS	National Ambient Air Quality Standards
NATO	North Atlantic Treaty Organization
NAVFAC	Naval Facilities Engineering Command
NCPC	National Capital Planning Commission
NDW	Naval District Washington
NOAA	National Oceanographic and Atmospheric Administration
NRHP	National Register of Historic Places
NSAW	Naval Support Activity Washington
NSF	Naval Support Facility
NWI	National Wetlands Inventory
PEPCO	Potomac Electric Power Company
PPV	Public Private Venture
PRV	Plant Replacement Value
PWD	Public Works Department
Q-Rating	Quality Rating
RSIP	Regional Shore Infrastructure Plan
SCA	Shore Capability Area
SF	Square Feet
SFC	Suitland Federal Center
SSPP	Strategic Sustainability Performance Plan
SY	Square Yards
UFC	Unified Facilities Criteria
UM	Unit of Measure
WMATA	Washington Metropolitan Area Transit Authority
WNRC	Washington National Records Center

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NAVAL SUPPORT FACILITY SUITLAND IDP