YOKOTA AIR BASE
INSTALLATION FACILITIES STANDARDS (IFS)
(PRE-FINAL)


Installation Elements


Site Development


Facilities Exteriors


Facilities Interiors

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AIR FORCE INSTALLATION FACILITIES STANDARDS

2022

Yokota Air Base IFS

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A. OVERVIEW

Comply with Air Force Corporate Standards for Overview:
http://afcfs.wbdg.org/index.html

This Installation Facilities Standards (IFS) document is part of the Air Force Corporate Facilities Standards (AFCFS) program to assist bases in implementing and maintaining facilities standards as appropriate for efficient operations within the respective climate region. IFS fully replaces, consolidates and simplifies existing facilities standards documents, such as the Architectural Compatibility Plan (ACP) or ACGs, FEPs, etc., and organizes information using the same structure, or Table of Contents, as the AFCFS website.

IFS reflects the AFCFS' concepts of "Facility Hierarchy" (categorizing facilities into group numbers) and "Facility Quality" (assigning an appropriate level of quality to each group number) and applies these principles at the base level. Applicable DoD and Air Force criteria such as UFCs, AFIs, Memoranda, and UFGSs (Guide Specs) are referenced and linked within IFS to ensure the document is always current.

Navigating within this IFS is efficient and straightforward. Please use the interactive Table of Contents to locate subject matter, and click on the title of a section to access it. From any page, click on the "Back to Table of Contents" footer to return. Content is organized into 4 major sections: Installation Elements, Site Development, Facilities Exteriors and Facilities Interiors.

This IFS document begins as a fill-in PDF form, which is fully editable, and becomes a "living document" that can be regularly updated by base-level personnel following a format that is consistent across the Air Force. While the format is standardized, IFS content is customized for base operations and the local climate to ensure mission success while emphasizing reduced maintenance and reduced initial costs, life-cycle costs, energy use, and water use.

1. Conformance to Air Force Corporate Facilities Standards (AFCFS) and Installation Facilities Standards (IFS) are required by Air Force Instruction (AFI) 32-1023 and Air Force Memorandum. Please refer to the AFCFS website for links to documentation on current policy.

2. Requests to deviate from any installation facilities standards, that are Unified Facilities Criteria (UFC) requirements, will follow the process outlined in the AFCFS for UFC waivers and exemptions.

3. All Air Force designs including Non-Appropriated Funds (NAF) facilities are required to conform to AFCFS per Air Force Instruction (AFI) 32-1023; AFCFS will be used to formulate Installation Facilities Standards (IFS) per the AFI. The Base Civil Engineer (BCE) maintains and implements the IFS.

4. Please refer to the AFCFS website as a portal to reference materials and requirements documents for design and construction projects (via links). Specific references to current DoD memoranda and Air Force criteria are updated periodically to provide the most current guidance and requirements. Programming, design and contract documents should list "current edition" for all reference and requirements documents. The documents in force at the date of execution of the design and/or construction contract shall be the governing version.

5. *Advanced Modeling Requirements:*
   For all Air Force projects requiring advanced modeling, to include 3D visualization, Building Information Modeling (BIM), facility data, quantity take-off, geospatial, etc., follow the Army standards. Refer to USACE Minimum Model Matrix (M3) and Project Execution Plan (PxP) which outline required model uses. Refer to CAD BIM Technology Center (Contract Requirements) *for more information on M3 and PxP.*

6. Joint Bases shall implement IFS under their Joint-Base designation with volume numbers for individual installations following the IFS Development Tool template. For example, for Joint Base Langley-Eustis, provide: Vol. 1 Langley AFB and Vol. 2 Fort Eustis.

7. References and Supplementary Documents listed in Appendix G are included in these Installation Facilities Standards by reference and are fully part of this document. Please refer to Appendix G for a listing of documents, which are available via hyperlink for viewing and downloading.

8. Installations outside the United States: Per UFC 1-200-01 DOD BUILDING CODE, 8 Oct 2019, "All construction outside of the United States is also governed by Status of Forces Agreements (SOFA), Host Nation Funded Construction Agreements (HNFA), and in some instances, Bilateral Infrastructure Agreements (BIA). Therefore, the acquisition team must ensure compliance with the most stringent of the UFC, the SOFA, the HNFA, and the BIA, as applicable." Refer to Appendix G for applicable agreements. "Use UFC 1-202-01 for design of host nation facilities that support military operations."
   https://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc/ufc-1-202-01

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Group 1 Headquarters

Group 1 Gate at McGuire Avenue

Group 3 Hangars

Group 4 Housing

A01. FACILITY HIERARCHY

Comply with AF Corporate Standards for Facility Hierarchy (and subsections):
http://afcfs.wbdg.org/facility-hierarchy/index.html

A02. FACILITY QUALITY

Comply with AF Corporate Standards for Facility Quality (and subsections):
http://afcfs.wbdg.org/facility-quality/index.html

A03. FACILITY DISTRICTS

Comply with AF Corporate Standards for Facility Districts (and subsections):
http://afcfs.wbdg.org/facility-districts/index.html

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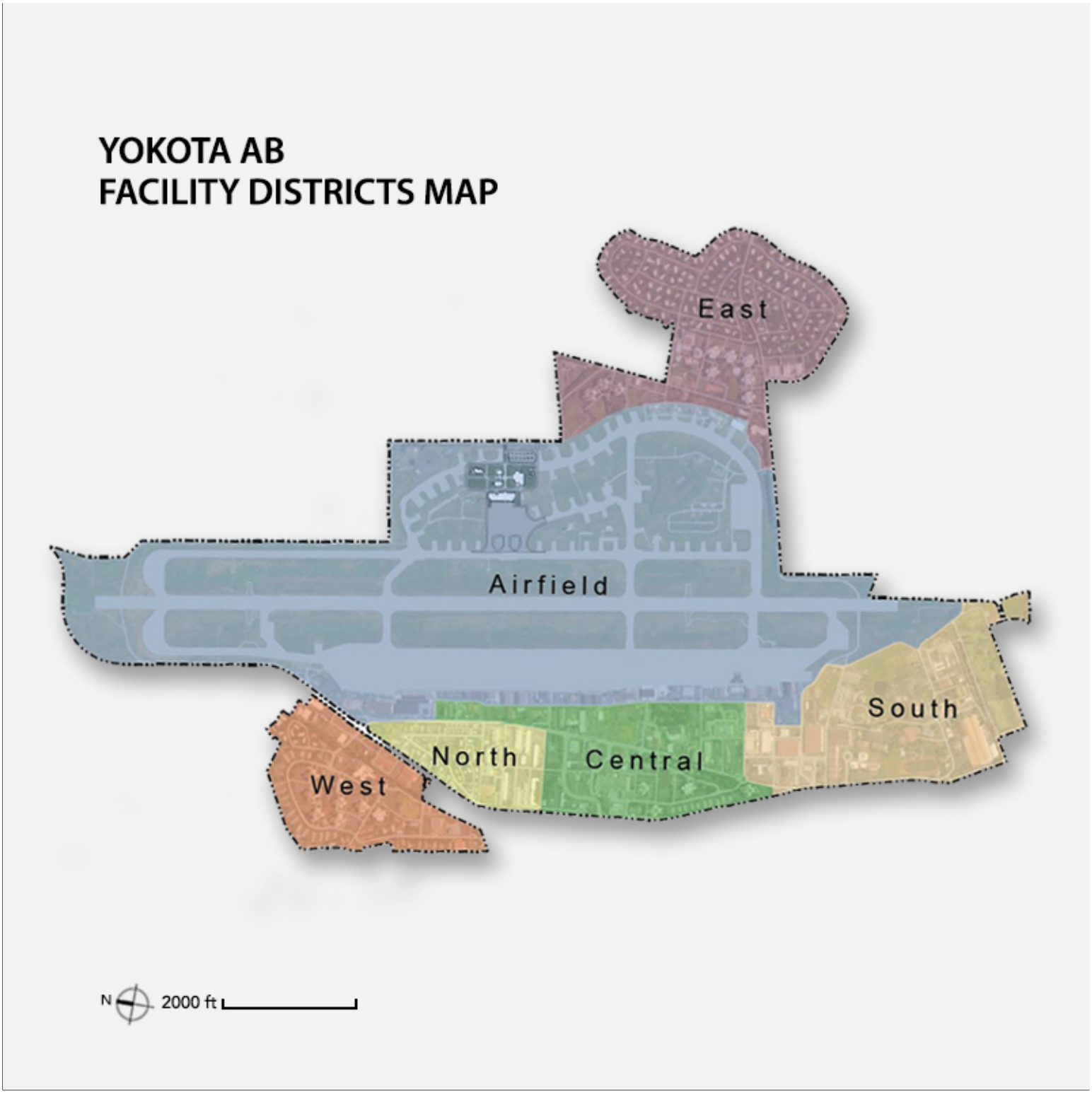


Note: *Apply the base-wide standards in this IFS for Installation Elements, Site Development, Facilities Exteriors and Facilities Interiors (products, materials, color, etc.). Following application of the base-wide standards, refer to the Appendix and apply any additional requirements specifically related to the Facility District.*

B. INSTALLATION ELEMENTS

Comply with Air Force Corporate Standards for Installation Elements:
http://afcfs.wbdg.org/installation-elements/index.html

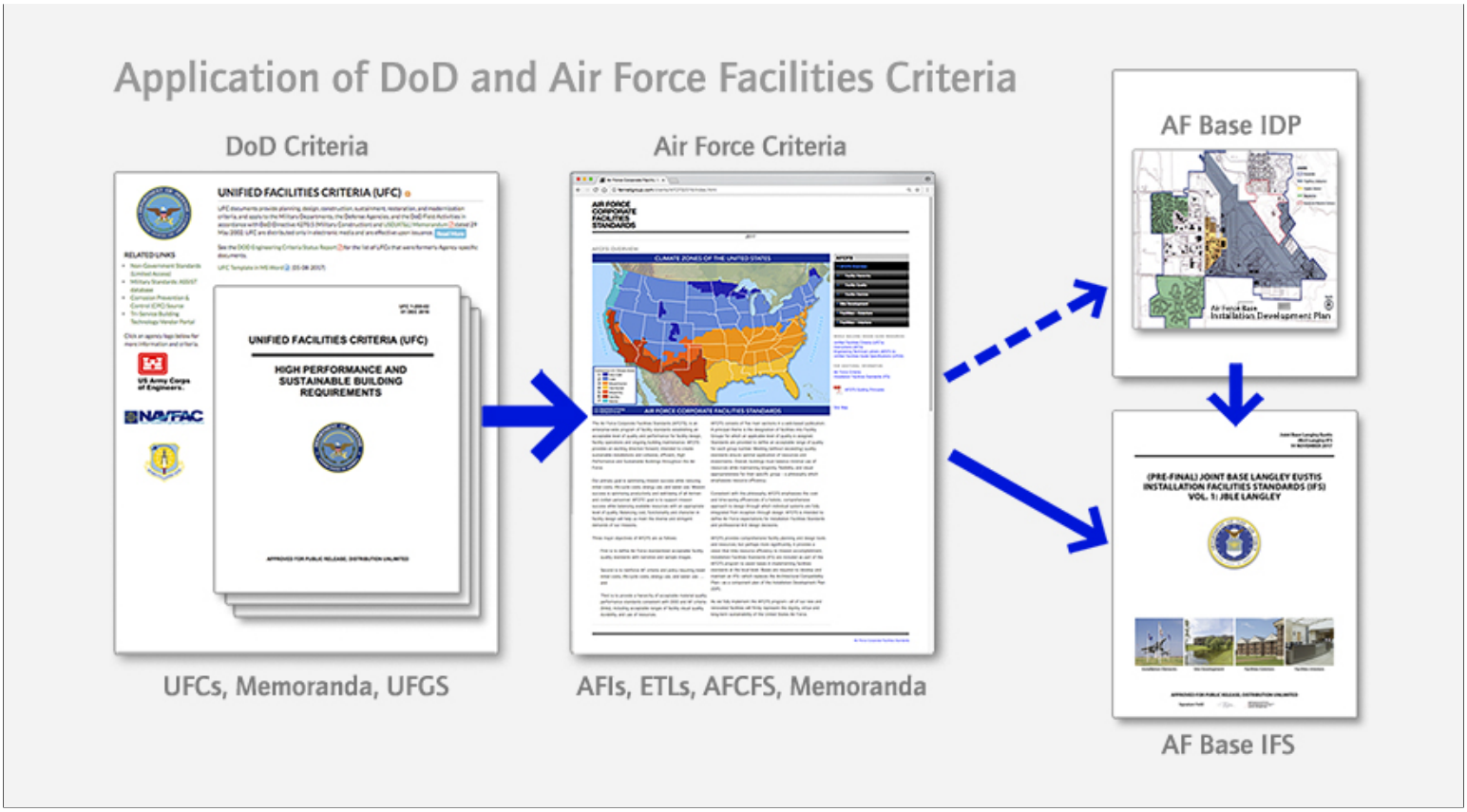
B01. COMPREHENSIVE PLANNING

Comply with Air Force Corporate Standards for Comprehensive Planning:
http://afcfs.wbdg.org/installation-elements/comprehensive-planning/index.html

B01.1. Installation Development Plan (IDP)

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

○ Applicable ◉ N/A Small graphics do not apply



Department of Defense, Department of the Air Force and Air Force Base Criteria

1. The Base Civil Engineer is responsible for developing, maintaining and implementing the Installation Planning documents and to ensure that the Installation Development Plan (IDP) is prepared, maintained, and implemented following AFI 32-1015.

2. Refer to the IDP for information on climate and weather and for demographics and related data.

B01.1.1. IFS Component Plan of IDP

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Comply with installation planning criteria, architectural compatibility and facilities standards.

2. All Air Force designs will conform to the standards specified in the Air Force Corporate Facilities Standards (AFCFS). AFCFS will also be used to formulate individual Installation Facilities Standards (IFS).

3. Maintain this Installation Facilities Standards (IFS) as required under AFI 32-1023. IFS is maintained and implemented by the Base Civil Engineer (BCE).

4. Address all infrastructure, site and facilities reuse opportunities in the IDP. Reuse designs will follow IFS.

B01.1.2. Brief History of Base

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Students from Mechanics School Pose in Front of A-16 Invader, 1947

Original Headquarters Building, 1945

Army Operations Building, 1946

CV-22B Ospreys at Yokota AB

Imperial Japanese Army Air Period: 1940-45

The Imperial Japanese Army constructed Yokota, then known as Tama Air Field, and activated it 15 August 1940. During WWII, it was a training base and secret aircraft test and development center. As a result, the base suffered minimal damage during WWII. This allowed the occupying Americans to use many of Yokota's wartime facilities, such as the flightline hangars, one of which is still in use today.

Occupation Period: 1945-51

The first Americans to arrive at Yokota took possession of the base on 3 September 1945. Maj Benjamin Hayes accepted the surrender sword from Maj Gen Yamaguchi Tsuchio on 6 September. About ten days later the first American airplanes landed at Yokota: C-46s from the 5th, 6th, 7th, and 8th Combat Cargo Squadrons ferrying supplies and men for the Occupation. By the end of 1945 the original runway had become unusable, and for nearly a year construction crews rebuilt and extended the runway for B-29s. During this time, units assigned to Yokota had to fly out of nearby Tachikawa and Johnson (now Iruma) Air Bases. On 15 August 1946, the base was declared operational and officially dedicated by 5th Air Force commander Maj Gen Kenneth Wolfe, which became the base operating unit. Soon after various other units began flight operations here, including photo reconnaissance, air rescue, and weather.

Kanto Plain Consolidation Program

In the early 1970s the Air Force decided to return most of its Kanto-area properties to the Japanese government, consolidating all administration, operations, housing annexes, and schools at Yokota Air Base in a project called the Kanto Plain Consolidation Program (KPCP). Flight operations ceased at nearby Tachikawa Air Base (now Showa Kinen Park) in 1969, with the remainder of that base released to GOJ in 1977. Meanwhile, Grant Heights, Green Park, and Johnson Air Station housing areas were shuttered in 1973. This consolidation occurred alongside residential development of the East Side where the Garden Units opened in 1972, while the towers were constructed during 1973-76. 5th Air Force moved to Yokota from Fuchu Air Station in late 1974 after its new headquarters building and general officers' quarters were completed.

Into the Present

Yokota saw continued construction and modernization during the late 1970s and the 1980s, but especially the 1990s (Wing HQ and Ops bldg, South and West Side Towers and Garden Units, YCC). In September 1975 Yokota received an airlift mission for the first time with the activation of 345th Tactical Airlift Squadron and 316th Tactical Airlift Group, a mission that continues to the present under the 36th Airlift Squadron and 374th Operations Group. Of greatest historical significance was the March 2012 opening of the JASDF's Air Defense Center (ADC), which not only resulted in large-scale construction across the base, but also was the first time the Japanese military had been stationed at Yokota since WWII.

B01.1.3. Future Development

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

○ Applicable ◉ N/A Small graphics do not apply

Coordinated Construction

1. Follow AFI 32-1015 for Air Force Comprehensive Planning, the Comprehensive Planning Process, Comprehensive Planning Requirements, and Geospatial Mapping.

2. Address all future development under the Installation Development Plan (IDP).

B02. STREET ENVELOPE STANDARDS

Comply with Air Force Corporate Standards for Installation Elements:
http://afcfs.wbdg.org/installation-elements/index.html

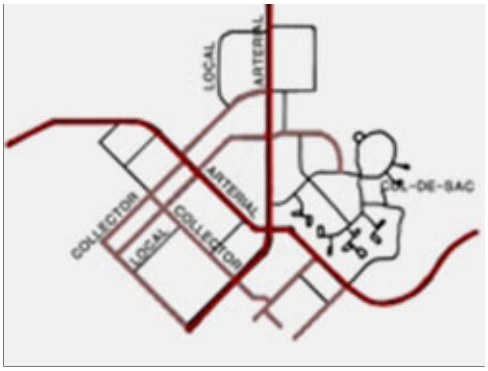
Comply with AF Corporate Standards for Street Envelope Standards:
http://afcfs.wbdg.org/installation-elements/street-envelope-standards/index.html

B02.1. Hierarchy of Streets

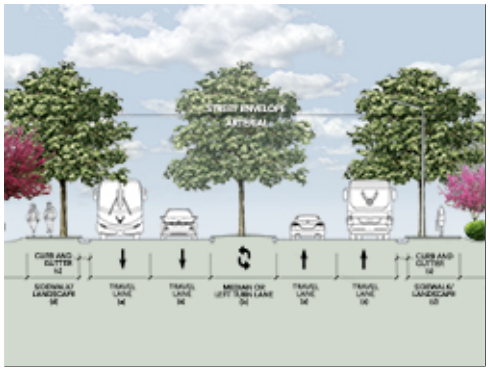
◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Ornamental Street Trees



Hierarchy of Streets



Street Envelope Section

Retractable Bollards at Gate

1. Develop and evolve a hierarchical transportation network of arterial, collector and local streets following UFC 3-201-01 and its industry references.

2. Provide consistent functionality throughout the installation and a level of visual quality relating to the adjacent Facility Group number.

3. Routes along facilities in Group 1 may have materials, finishes and features with a higher visual quality than Groups 2, 3 and 4. Reduce maintenance requirements by installing highly durable materials and finishes in routes along Group 3 industrial facilities.

4. Special routes may have a visual quality comparable to those along facilities in Group 1.

5. Create and maintain arterials with two lanes of traffic in each direction with landscaped or paved medians as applicable to the local climate and adjacent facility group designation / land use.

6. Minimize stops and turns along arterials. Eliminate on-street parking along arterials and provide on collector streets only on lower speed roadways such as residential streets.

7. Connect arterials to local streets with appropriately scaled collector streets.

8. Provide appropriate landscape setbacks and pedestrian buffers along all streets.

9. Minimize and consolidate curb cuts along streets.

10. Ensure access for emergency and service vehicles.

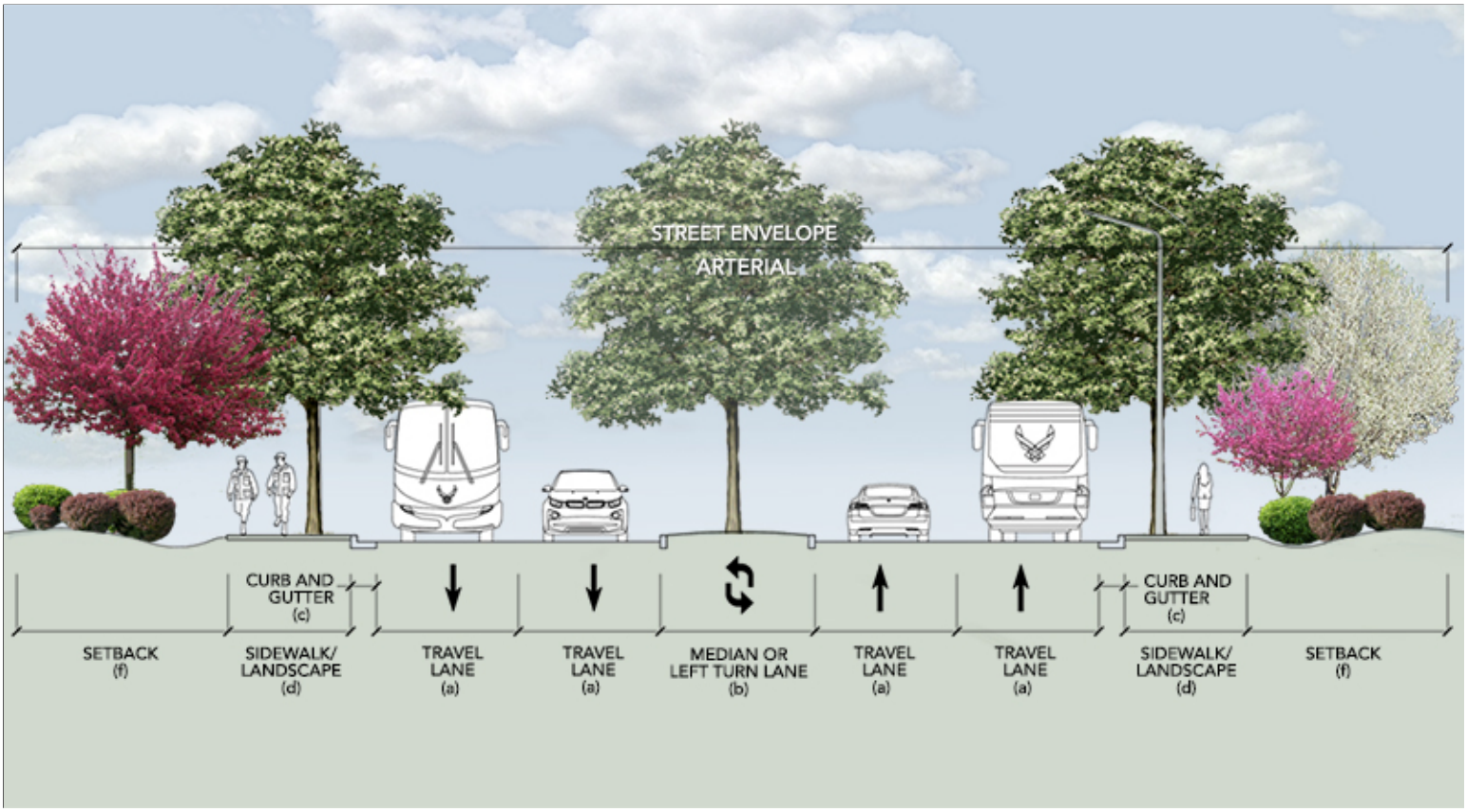
11. Define bicycle traffic routes in the Installation Development Plan or its applicable component plans.

12. Define appropriate force protection features, site furnishings, signs, lighting, utilities, and paving in the IFS.

B02.1.1. Arterial Streets

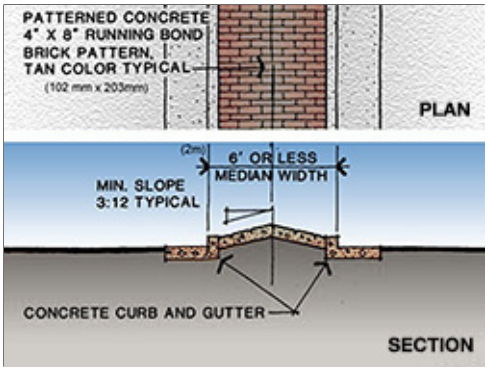
◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 2 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188



Travel Lane (a): 12’ Median (b): 12’ Curb and Gutter (c): 2’ Sidewalk / Landscape (d): 12’) Setback (f): Min. 35' or per AT

Landscaped Median and Integrated Security Elements



Paved Median

Coordinated Landscape

Integrated AT Elements

1. Stops and turns should be minimized and on-street parking will not be allowed at any point along arterial streets.

2. Provide sidewalks on at least one side of arterial streets and both sides of arterial streets in developed areas. Provide a 6' buffer between the road and sidewalk where space allows.

3. Limit curb cuts on arterial streets to entries into major facilities, building groups and major parking areas.

4. Reinforce the importance of arterial streets with appropriate signs, plantings and street lighting.

B02.1.2. Collector Streets

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Travel Lane (a): 12′ Median (b): N/A Curb and Gutter (c): 2′ Landscape (d): 10′ Sidewalk (e): 6′ Setback (f): Min. 35' or per AT

Overhead Utility Service near Group 3

Attached Sidewalk and Landscape Setback

Collector without Sidewalk at Group 3

1. Frequent traffic stops and low speeds are permitted on collector streets.

2. Provide sidewalks on at least one side of collector streets and both sides of collector streets where functionally required. Buffers are preferred but not required on collector streets.

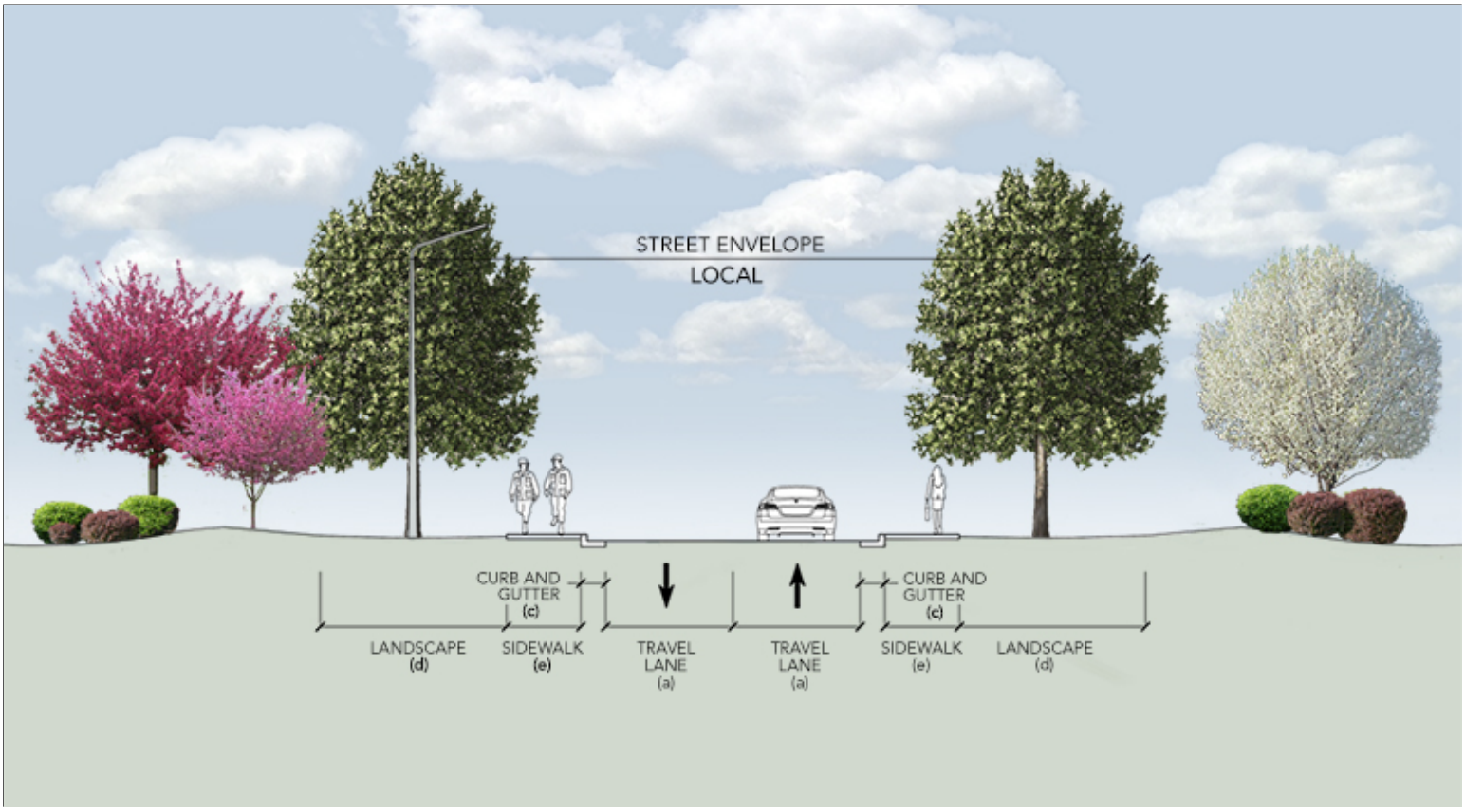
3. On-street parking may be allowed on one side where secondary roads are not less than 34 feet wide. Parking will not interfere with intersections or traffic flow.

4. Signs, plantings and street lighting should reinforce the designation of “collector” street.

B02.1.3. Local Streets

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188



Travel Lane (a): 11’ Median (b): N/A Curb and Gutter (c): 1.5’ Landscape (d): 15’ Sidewalk (e): 6’


Attached Sidewalk


Coordinated On-Street Parking


Regularly Spaced Street Trees

1. Frequent traffic stops and low speeds are permitted on local streets.

2. Provide sidewalks on at least one side of local streets and both sides of local streets where functionally required. Buffers are preferred but not required on local streets.

3. On-street parking may be allowed following UFC industry references.

4. Signs, plantings and street lighting should reinforce the designation of “local” street.

B02.1.4. Special Routes

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Friendship Boulevard at Gate 2

Maintained Streetscape

Gate at McGuire Avenue

Coordinated AT Elements

1. Develop special routes consistently with those adjacent to Group 1 facilities.

2. Special routes will include the following streets:

   a. Friendship Boulevard from the Main Gate to Airlift Avenue.

3. Maintain the trees, grasses, landscape beds, and setback areas along these special routes.

B02.2. Hierarchy of Intersections

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Offset Intersections at Group 2

Standard Striping and Markings

T Intersection at Group 4

Y Intersection

1. Provide a hierarchy of intersections to include arterial, arterial-collector, collector, collector-local and local following UFC 3-201-01 and its industry references.

2. Passive systems such as traffic circles are preferred to active systems such as signalized intersections. Aggressively pursue passive systems to lower maintenance requirements and reduce energy use.

3. Use a level of visual quality for an intersection equal to the quality found in the related streetscape, which corresponds to the adjacent Facility Group number.

B02.2.1. Arterials

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

○ Applicable ◉ N/A Small graphics do not apply

Signalized Intersection

1. At arterial intersections adjacent to Group 1, landscaping of native grasses and shrubs may be provided; trees may be included when maintenance and non-potable irrigation is available. Monuments and static displays may be integrated into arterial intersection designs.

B02.2.2. Arterial/Collector

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. At arterial/collector intersections adjacent to Group 1, landscaping of native grasses and shrubs may be provided; trees may be included when maintenance and non-potable irrigation is available.

B02.2.3. Collectors

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188


T Intersection near Group 1


Linked Crosswalks


Intersection near Group 3

1. At collector intersections adjacent to Group 1, landscaping of native grasses and shrubs may be provided; trees may be included when maintenance and non-potable irrigation is available. Intersections adjacent to Group 2 may be developed similarly, but with less detailing.

B02.2.4. Special Intersections

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Develop all special intersections consistently with those adjacent to Group 1 facilities.

B02.2.5. Street Frontage Requirements

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188


Sound Wall and Landscape Buffer


Frontage at Open Space


Frontage at Group 3

1. Consistently maintain open space buffers following B03.2.3. Preserves.

2. Refer to C06.1.7. Streetscape Landscaping for planting and screen wall requirements along street frontage.

B02.2.6. Sight Lines

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Provide adequate sight lines for an effective and safe traffic operation per American Association of State Highway and Transportation Officials (AASHTO) standards and local municipality guidelines.

B02.3. Street Elements

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

○ Applicable ◉ N/A Small graphics do not apply

Coordinated Placement of Utilities, Landscape and Lighting

1. Emulate the streetscape area's pre-development hydrology using passive and active design features to help sustain the adjacent regionally appropriate landscape. Coordinate with the base Stormwater Management Plan.

2. Employ systems, materials and techniques to maximize streetscape sustainability. Consider pervious paving and reflectivity of surfaces, which are appropriate for the local climate.

3. Install at-grade curbing and/or raised-profile curb and gutter as applicable to direct stormwater to bioswales and rain gardens as source water for vegetation. Do not paint concrete curbing.

4. Provide all on-site utility service lines and equipment below grade when adjacent to Facility Group 1. In routes along Group 2, 3 and 4, when mounting elements such as utility cabinets, communications equipment and water valves above grade is unavoidable, paint these consistently and provide visual screening following Installation Facilities Standards (IFS).

5. Provide traffic control devices including access control point/entry control facility signs, speed limit signs and street name signs following the Japanese National Standard and the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) per UFC 3-120-01.

6. Crosswalk markings will follow the standards above for Streets and Highways, current edition. Provide white markings that define the edges of the crosswalk or a tone of lines defining the area of the crosswalk consistent with common practices found in the adjacent municipality.

7. Follow the Japanese National Standard and UFC 3-120-01 for directional and wayfinding signs and address both vehicular and pedestrian traffic.

8. Reduce energy consumption and reduce maintenance requirements by providing street lighting only when functionally required to ensure safety and to address antiterrorism following UFC 4-010-01. Ensure the quality and quantities of lighting and fixtures are appropriate for the adjacent Facility Group number.

B02.3.1. Paving

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

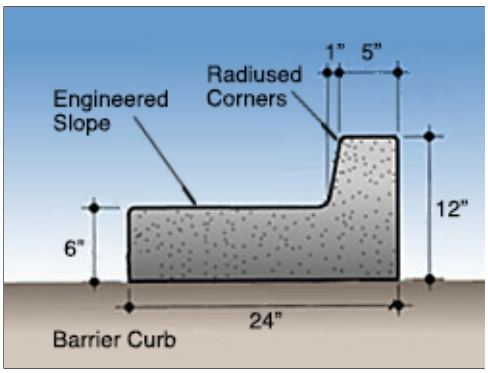
1. Pavement design will comply with UFC 3-250-01. Ensure appropriate analysis and design of subgrade conditions to promote low maintenance, high performance pavements. Apply all applicable best practices from Appendix B of the UFC.

2. Materials will be specified in accordance with UFC 3-250-01 and must conform to requirements set forth in the Unified Facility Guide Specifications (UFGS) for concrete and bituminous pavement.

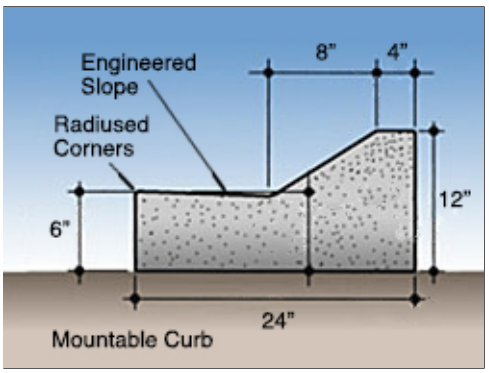
B02.3.2. Curb and Gutter

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188



Standard Curb



Mountable Curb


Curb Ramp

1. Curb all streets except remote/isolated roads and rock-paved service roads.

2. All streets should have integral concrete curbs and gutters. Painted curbs are prohibited because they are very difficult to maintain.

3. Use concrete for sidewalks and curbs. Do not use asphalt curbs.

B02.3.3. Utility Service Elements

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188


Standard Hydrant


Inconspicuous Utility Elements


Overhead Utility Lines Adjacent to Group 3

1. Provide all utility service lines below grade when streets are adjacent to Facility Group 1; when mounting elements (such as utility cabinets, communications equipment and water valves) above grade is unavoidable, paint these consistently and provide visual screening following Site Development, Landscaping.

2. Overhead service lines along streets adjacent to Facility Groups 2,3 and 4 and are discouraged.

B02.3.4. Traffic Signs

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Standard Traffic Device

Standard Characters

Coordinated Placement of Elements

1. Refer to Exterior Signs, Colors and Types for Traffic Control Devices, which includes signs.

B02.3.5. Street Lighting

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

○ Applicable ◉ N/A Small graphics do not apply

Standard Poles, Fixtures and Placement along Arterial

1. Refer to the Lighting section for appropriate applications along streets.

B02.3.6. Other

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

B03. OPEN SPACE / PUBLIC SPACE

Comply with Air Force Corporate Standards for Installation Elements:
http://afcfs.wbdg.org/installation-elements/index.html

Comply with AF Corporate Standards for Open Space / Public Space:
http://afcfs.wbdg.org/installation-elements/open-space-public-space/index.html

B03.1. Plazas, Monuments and Static Displays

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Plaza at Array of Flags Adjacent to Group 1

Building Entrance Plaza at Group 1

Memorial Marker

Static Display of Aircraft

1. Natural features and culturally or historically significant features or events may be recognized and acknowledged with physical elements such as plazas, monuments and static displays. However, limit these elements on the base to ensure judicious use of resources and to reduce ongoing maintenance requirements.

2. Design highly durable plazas, monuments and static displays with a level of quality comparable to Facility Group 1.

3. Link plazas, monuments and static displays to the pedestrian circulation system. Install landscaping, site furnishings and lighting appropriate for the application and local climate following Installation Facilities Standards (IFS).

4. Select systems, products and materials for paving, walls, and structures following IFS.

B03.1.1. Paved Plazas

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Entrance Plaza Adjacent to Parking Area at Group 2

Decorative Paving at Group 2

Varied Color and Texture at Group 2 School

Rock Paving at Park Setting

1. Provide shaded plazas. Pervious pavers will be used on all plazas and courtyards in Facility Groups 1 and 2; use pervious concrete in Groups 3 and 4. The designer will incorporate appropriate expansion and construction joints.

2. Pavers will match the color of pavers used on adjacent sidewalks using the base standard red or tan blend. Brick used on plazas will typically be 4" x 8" size or interlocking polygon pavers.

B03.1.2. Sculptures, Markers and Statuary

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Memorial Sculpture and Marker

Bronze Statuary

Bronze Plaque with Relief

Commemorative Plaque on Stone Base

1. Relate new sculpture, markers and statuary to the base's architectural design theme. Generally, limit these elements to frequently used locations adjacent to Facility Group 1 and highly traveled community pedestrian spaces.

2. Consider entry gates as possible sites for new displays.

3. All proposed memorials will follow AFI 36-3108 and be limited to highly deserving individuals or groups as deemed appropriate by the installation leadership. Living memorials (tree plantings / etc.) are discouraged due to added maintenance requirements.

4. When sculpture requires a base, match the materials and / or color palette of adjacent buildings.

5. Use direct or indirect lighting to accentuate features or enhance an intended effect.

6. Ensure that all sculpture, markers and statuary are honorable and inspiring, provide a sense of place, positively contribute to the base's visual quality, and encourage pride for the community and the US Air Force.

B03.1.3. Static Display of Aircraft

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

○ Applicable ◉ N/A Small graphics do not apply

Ground Mounted Display

1. Follow IFS base-wide standards for all elements of the display area with specific attention to traffic sight lines, pedestrian circulation, site furnishings, signs, and lighting. Address requirements for the Facility District as well.

2. Generally, locate concrete base/foundation structures for static displays below grade.

3. At static displays where pedestrian paths are provided, a minimum of one trash receptacle and one bench will be provided. Receptacle and bench design must conform to IFS requirements.

B03.2. Grounds and Perimeters

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Provide formal spaces for parade and review functions, recreational areas and parks following the base's Installation Development Plan (IDP) and Installation Facilities Standards (IFS). Refer to the Site Furnishings topic for additional information.

2. Maintain preservation areas following the IDP and IFS.

3. Comply with UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings and UFC 4-022-03 Security Fences and Gates for all elements associated with the base's gates and perimeter fence.

4. Identify and describe base-wide utility corridors in the IDP.

5. Base-wide utility infrastructure will be inconspicuous. Bury utility service lines below grade when adjacent to Facility Group 1 and when economically feasible for Facility Groups 2, 3 and 4. When service lines are located above grade, create an ordered, coordinated appearance.

6. Follow the requirements of this IFS regarding all utility structures and service lines located above grade that visually impact the installation.

7. Where screening of utility equipment and structures is provided, allow adequate and proper clearance for safety and maintenance.

8. Reduce visual clutter and visual impact of the following items through a combination of careful placement, screen walls, landscaping and painting:
   - Electrical switch-stations
   - Sewage lift stations
   - Water well pumps, storage tanks and/or related structures
   - Gas piping, meters and similar incidental items
   - Above ground fuel storage tanks
   - Any ground-mounted freestanding utility item exposed to view

9. Larger structures such as electrical switch-stations, sewage lift stations, fuel storage tanks and mechanical/electrical equipment will be screened from view, using materials, forms, and colors in the screen walls that match those respective design elements present at adjacent buildings.

10. Paint aboveground equipment and associated components such as electrical piping or exposed plumbing lines dark bronze.

11. Maintain existing buried utility service lines as a visual asset.

12. Bury the following exposed above-grade items in future projects when economically feasible:
   - Electrical power grid and service lines
   - Telephone lines
   - Cable TV lines
   - Communications lines
   - Exterior lighting service lines
   - Any similar system of above-ground lines serving the base

13. Consolidate and enclose service utility lines in underground utility corridors when feasible. Create routes along the inside edge of parking lot islands.

14. All development of open space requires prior coordination and approval from the Base Civil Engineer.

B03.2.1. Parade Grounds

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Follow UFC 3-201-02, Appendix B for the planning and design process and criteria for parade grounds.

2. Establish and maintain parade grounds only where there is a confirmed need and provide landscape materials appropriate for the locale following IFS.

3. Bleachers may be installed only when there is a documented requirement at parade grounds. Nonferrous metals that do not require painting or ongoing maintenance are preferred. The Base Civil Engineer will determine quantities, sizes, and products on a case-by-case basis.

B03.2.2. Parks

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Park with Pavilions

Masonry Wall at Park Boundary

Picnic Pavilion

Playing Field with Bleachers

1. Bleachers may be installed only when there is a documented requirement at parks and fields for recreational events. Follow guidance under Parade Grounds.

2. Picnic pavilions may be provided in parks where there is a documented need.

3. Prohibited picnic pavilion materials include wood, concrete masonry units (CMU) or metal pre-manufactured storage sheds. Use only materials and detailing that are low maintenance and endure with minimal weathering.

4. When picnic pavilions are permitted near facilities, generally match the architecture of the adjacent facility and provide a level of quality of the adjacent facility group number.

B03.2.3. Preserves

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Preserve areas adjacent to runways, taxiways, aprons, golf course roughs, storage areas, antenna facilities, and ammunition storage areas as open space.

2. Provide minimal maintenance with mowing as needed for controlling bird behavior for airfield safety or eliminating fire hazards.

B03.2.4. Perimeter Fence

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188


Fencing at Perimeter Road


Reinforced Wall at Perimeter


Standard Chain Link Fencing

1. Design, install and maintain the base's perimeter fence following UFC 4-022-03. Stringently comply with AT requirements following UFC 04-010-01 for all spaces adjacent to the base's perimeter fence and all gates.

2. Fencing, gates and other elements that are associated with the main gates will be a level of quality equivalent to Facility Group 1.

3. Maintain a positive visual quality along the traffic corridor on both sides of the main gates. Specifically address pedestrian access, circulation and common areas.

C. SITE DEVELOPMENT

Comply with Air Force Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

C01. SITE DESIGN

Comply with Air Force Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

Comply with AF Corporate Standards for Site Design / NEPA:
http://afcfs.wbdg.org/site-development/site-design-nepa/index.html

C01.1. Site Design Considerations

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Collect documentation to validate approvals and completion of the NEPA process.

2. Ensure site design compliance with the Installation Development Plan (IDP) and its component plans and Installation Facilities Standards (IFS).

3. Promote integrated design with on-site solutions such as engineered small-scale hydrologic controls versus base-wide infrastructure; consider open space, natural features, bioswales, building roofs, streets, and paved surfaces, and snow storage areas.

4. Integrate snow storage areas with adjacent streets and parking areas; coordinate snow storage with the base stormwater plan.

5. Limit the impact of development on land and water resources. All site elements and infrastructure will reinforce an image of sustainability, with reduced energy demand, renewable-energy usage, and water conservation.

6. Consider energy conservation during site design for the following categories: building and site lighting, auxiliary systems and equipment (refrigerators, elevators, etc.), building envelope, electric power and distribution, HVAC systems and equipment, service hot water, and energy management (metering, EMCS).

7. Coordinate on-site renewable-energy systems and components to minimize area requirements and maximize efficiencies. Appropriately buffer and screen these and other mechanical systems and equipment.

8. New building projects should preserve open space and protect natural habitat.

9. Conform to existing topography to the greatest extent possible and use slopes to increase site and building efficiencies. Design sites to minimize irrigation and impacts to stormwater runoff.

10. Carefully study new project sites to identify the character of adjacent buildings, streets, landscaping, and site design elements. Reinforce the existing character in new site design.

11. Consider relationships to adjacent facilities and district / centralized heating and cooling infrastructure and cost effectively connect building systems to harvest heat, grey water or other beneficial byproducts.

12. Minimize existing and planned obstructions from landscaping, structures, topography, and adjacent developments to preserve solar access and natural ventilation.

13. Purposefully integrate service access, receiving and storage areas to eliminate the need for visual screening.

14. Appropriately connect to the base network of streets, sidewalks and trails using drive aisles, parking areas, walkways, paths, and bicycle routes addressing both vehicles and pedestrians.

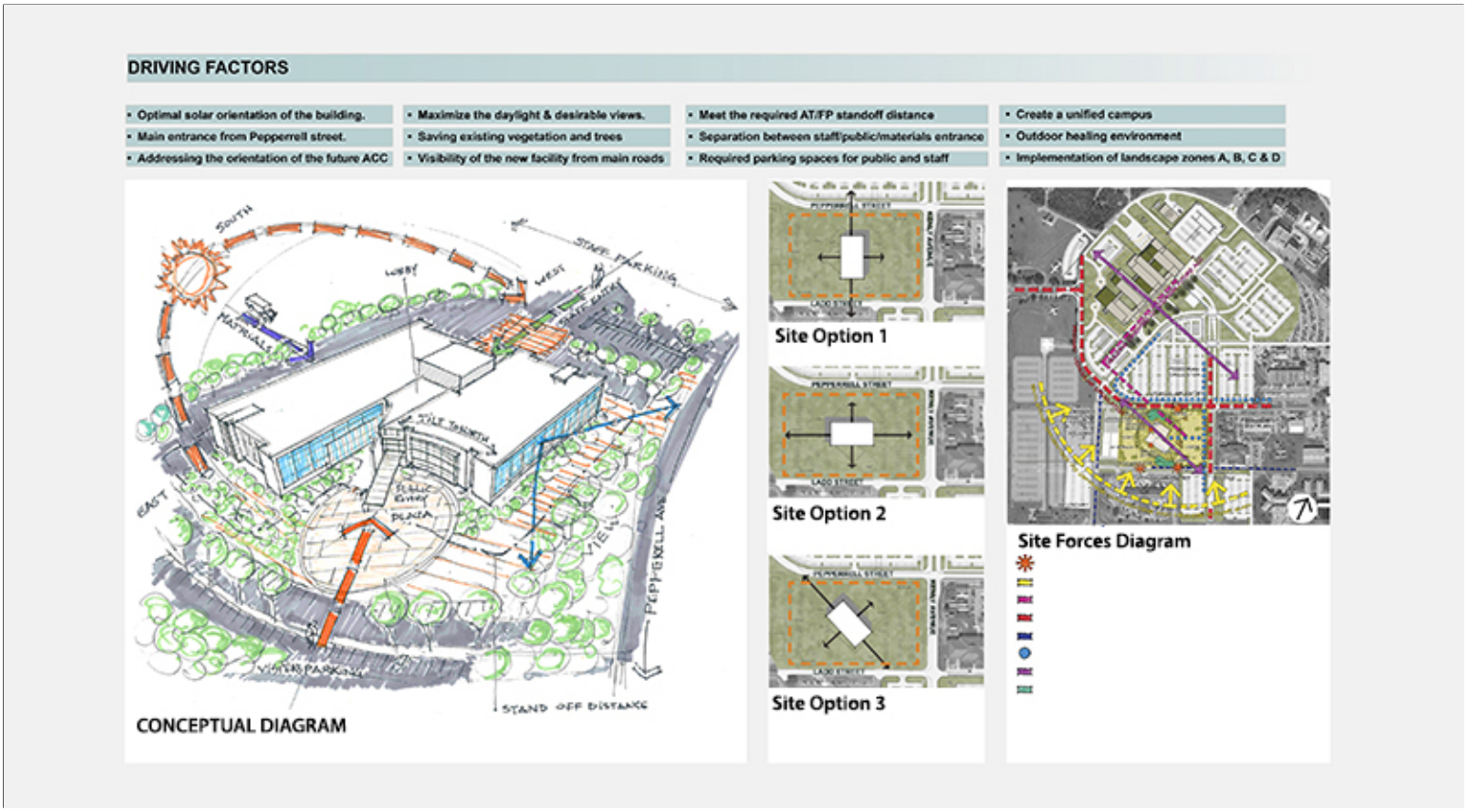
15. Applicably coordinate heat island mitigation in paving and roof designs when implementing an integrated approach to stormwater management.

16. Consider the location of "Designated Tobacco Areas."

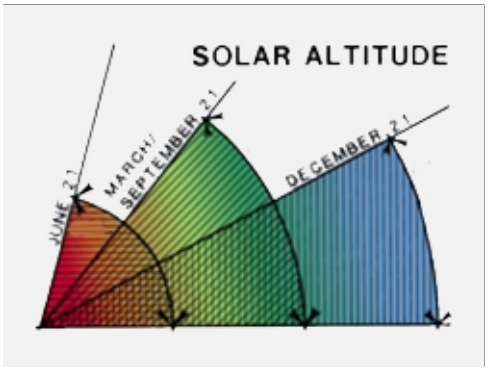
C01.2. Building Orientation

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

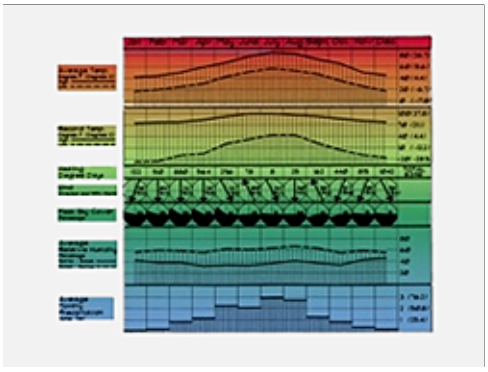
◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 6 Image Tool 250 x 188



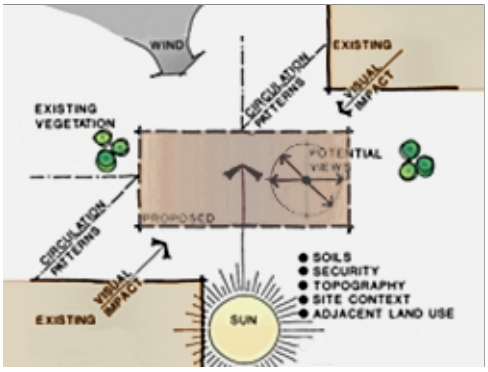
Conceptual Site Analysis and Site Design Diagram



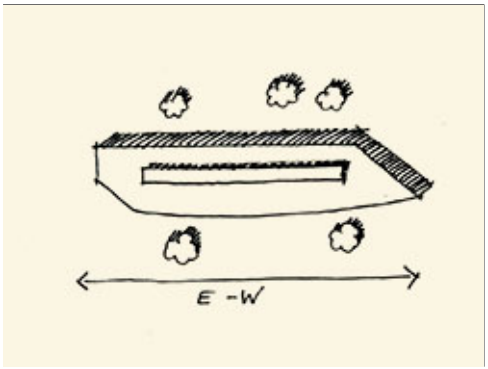
Local Solar Data



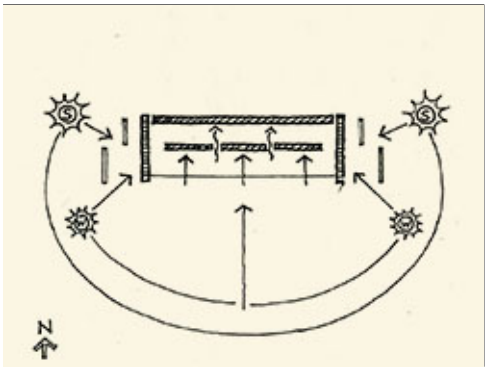
Local Climate Data



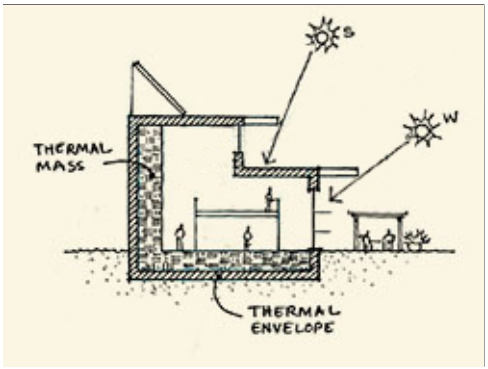
Site Data



East-West Axis



Optimum Solar Control



Maximized Shading

1. Ensure the site will accommodate optimum requirements for building orientation, which is with the long axis parallel to the east/west direction for rectilinear CONUS buildings.

2. Meet Installation Facilities Standards (IFS) requirements for the locations of the building's passive and renewable-energy systems --including geothermal and solar systems --and exterior shading systems.

3. Locate the building(s) and permitted ancillary structures to promote solar gain, solar shading, natural ventilation, rainwater harvesting, wind buffering and other beneficial passive systems. Consider natural ventilation during the design of HVAC systems.

4. Consider relationships to adjacent sites and their facilities and infrastructure, and cost effectively integrate building systems to harvest heat, grey water or other beneficial byproducts.

5. Consider the “public side” of the building, its views and the location of the main entrance.

C02. UTILITIES

Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

Comply with AF Corporate Standards for Utilities:
http://afcfs.wbdg.org/site-development/utilities/index.html

C02.1. Utility Components

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188


Utility Cabinet


Electrical Elements


Elevated Water Storage Tank

1. Provide all on-site utility service lines below grade for Facility Group 1; when mounting elements (such as utility cabinets, communications equipment and water valves) above grade is unavoidable, paint these consistently and provide visual screening following Installation Facilities Standards (IFS).

2. Provide installation of utility infrastructure to support near term and future electric vehicle charging stations.

3. Define all service entry points into the building and route distribution below grade into an interior space within the facility; exposed conduits, cables and wires on exterior walls are not permitted for Facility Group 1.

4. Include consideration of appropriate placement of meters in support of Automated Revenue Management Services (ARMS).

5. Limit exterior mechanical distribution systems such as exterior steam, chilled water, and hot water distribution to Group 3 facilities; when required for Group 1 and 2 facilities integrate with the architecture and provide visual screens following IFS.

6. Direct roof drainage to bioswales or underground collection when feasible or provide splash blocks / paved channels to intercept roof drainage at grade.

C03. PARKING AREAS

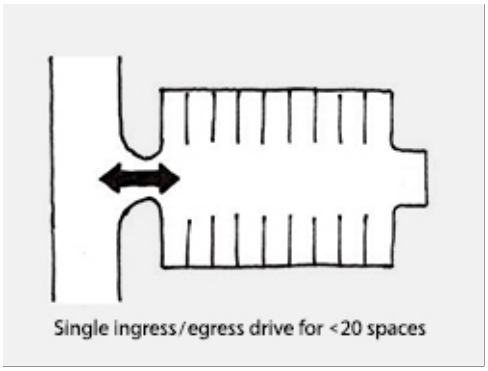
Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

Comply with AF Corporate Standards for Parking Areas:
http://afcfs.wbdg.org/site-development/parking-areas/index.html

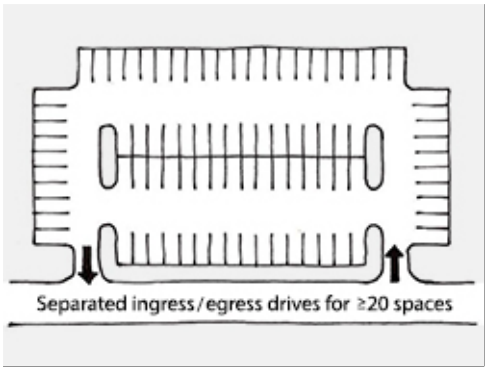
C03.1. Configurations and Design

○ Applicable ◉ N/A Large graphics do not apply

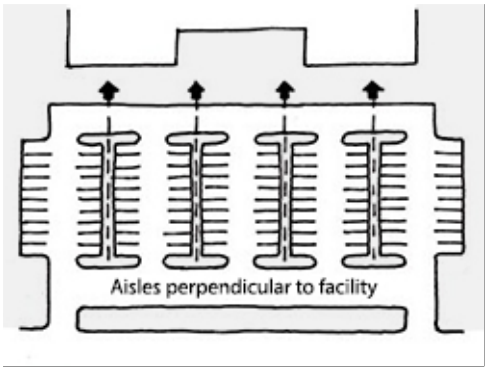
◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188



Small Lot Configuration



Large Lot Configuration



Facility Group 1 Configuration

1. Evaluate adjacent sites and cost-effectively consolidate parking areas to maximize efficient use; ensure that all areas meet accessibility guidelines.

2. Generally, envision on-site parking as a series of small connected singular areas selectively placed around the facility served, rather than a single large area; buffer parking areas from the facility main entrance with a transition space and provide drop-offs to decrease close-in parking. Comply with IFS standards while meeting requirements.

3. Integrate at-grade and raised-profile curbing, permeable paved areas, and parking islands with the stormwater system and direct stormwater to bioswales and rain gardens as source water for regionally appropriate native vegetation. Configure curbing to facilitate snow removal. Ensure snow storage areas are coordinated with the stormwater plan.

4. Define pedestrian access with approved hardscape and provide shading along the primary path from the parking area to the building's main entrance of the building.

5. Coordinate suitable landscape or barriers integrated with walls and fences to ensure adequate force protection.

6. Accessible parking spaces will be marked according to UFC 3-120-01 and its references in ABAAS and the MUTCD.

7. Consider locations and requirements of near term and future electric vehicle charging stations.

8. Designate preferred parking spaces for electric vehicles and carpools near the main entrance.

9. Consider cost-effectively integrating solar photovoltaic arrays into covered parking structures.

10. Reserved parking is discouraged except for Facility Group 1.

11. On-street parking is discouraged except in multi-use areas. When used, provide approved on-street parking configurations following UFC 3-201-01.

12. Access and service drives should accommodate the largest vehicle serving the facility.

13. Parking areas which require backing into a street shall be eliminated as soon as practicable.

C03.1.1. Paving and Striping

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

○ Applicable ◉ N/A Small graphics do not apply

Bituminous Paving and Standard White Striping

Facility Group 1 paving materials shall be as follows.

Primary:	Asphaltic Concrete
Secondary:	Concrete
Accent:	Permeable Pavers

Facility Group 2 paving materials shall be as follows.

Primary:	Asphaltic Concrete
Secondary:	N/A
Accent:	N/A

Facility Group 3 paving materials shall be as follows.

Primary:	Concrete where Operationally Required
Secondary:	Asphaltic Concrete
Accent:	N/A

Facility Group 4 paving materials shall be as follows.

Primary:	Asphaltic Concrete
Secondary:	N/A
Accent:	N/A

1. All new parking lots in Groups 1 and 2 will be constructed of bituminous pavement, or concrete pavement where functionally required, following UFC 3-250-01.

2. Porous paving may be considered on a case-by-case basis.

3. Cost-effectively provide light-colored concrete to reduce heat island effect; otherwise install bituminous pavement. Dirt, gravel, and grass lots are not allowed.

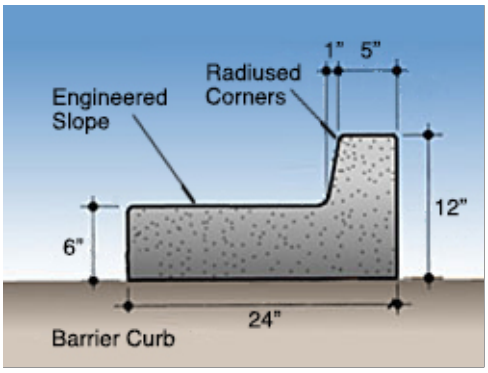
4. Use consistent striping, angles and stall sizes in all parking areas.

5. All parking will be marked with white stripes of paint or applied vinyl coatings. Red or yellow markings will only be used for safety purposes and must be kept to a minimum. All lines will be four inches (4") wide.

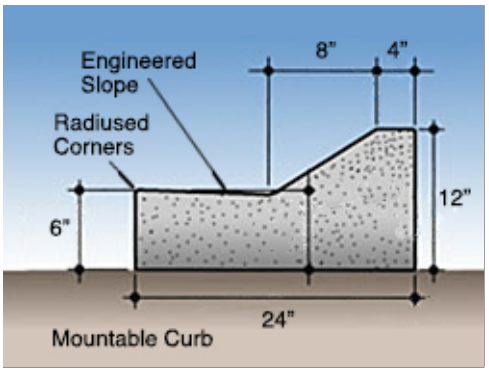
C03.1.2. Curbing

○ Applicable ◉ N/A Large graphics do not apply

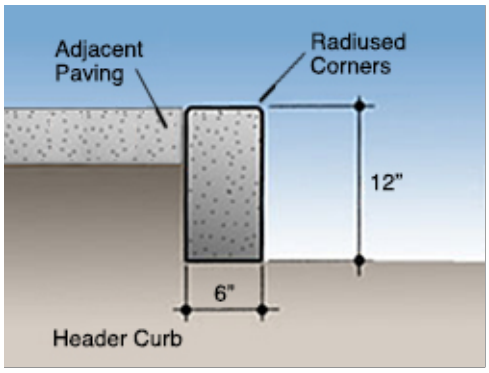
◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188



"Barrier" Curb



"Mountable" Curb



Header Curb

Facility Group 1 curbing / edging materials shall be as follows.

Primary: Precast Concrete

Secondary: N/A

Accent: N/A

Facility Group 2 curbing / edging materials shall be as follows.

Primary: Precast Concrete

Secondary: N/A

Accent: N/A

Facility Group 3 curbing / edging materials shall be as follows.

Primary: Precast Concrete

Secondary: N/A

Accent: N/A

Facility Group 4 curbing / edging materials shall be as follows.

Primary: Precast Concrete

Secondary: N/A

Accent: N/A

1. Define all parking lots with either raised-profile or at-grade curbing to promote drainage and protect paving edges.

2. Integrate curbing to direct stormwater to bioswales and rain gardens as source water for regionally appropriate native vegetation.

3. Wheel stops are not permitted except at locations where car bumpers could contact adjacent items such as poles, signs or pedestrians.

C03.1.3. Internal Islands and Medians

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Island with Grass Planting

Median with Grasses

Island at Group 3 Parking

1. Install landscape islands and medians as visual breaks, to reduce heat island effects and to accommodate bioswales and rain gardens with consideration for snow storage and removal. Coordinate suitable landscape or barriers integrated with walls and fences to ensure adequate force protection.

2. When lighting is necessary, contain fixture bases within medians or internal landscape islands.

C03.2. Parking Structures

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Parking Structure with Interior Ramp Configuration

Exterior Ramp at Parking Garage

Controlled Access at Garage

Ramp Access at Street

1. Parking structures are encouraged in land-constrained locations when economically feasible.

2. Consider near- term and future electric vehicle charging stations and renewable energy generation development during the analysis and design.

3. Consider opportunities for integrating parking structures into multi-use developments with pedestrian-oriented uses located on the ground floor and parking on upper levels; ensure AT guidelines are fully addressed.

4. Structures may be constructed below grade with roofs serving as vegetated areas or plazas.

C03.3. Connectivity

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Alignment with Building Entrance

Access to Main Entrance

Concrete Paving at Group 2

1. Refer to the Installation Development Plan (IDP) for locations of transit stops and pedestrian and cycling networks; provide appropriately sized sidewalks and bike paths to connect facilities and users to these networks.

2. Provide amenities such as rain and shade shelters, trees, and benches to encourage and facilitate use of public transportation.

3. Evaluate the IDP for the current and planned network of roads and optimally develop vehicular access to and from the site.

C04. STORMWATER MANAGEMENT

Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

Comply with AF Corporate Standards for Stormwater Management:
http://afcfs.wbdg.org/site-development/stormwater-management/index.html

C04.1. Stormwater Requirements

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Drainage Basin with Inlets

Swale with Drainage Elements

Vegetated Drainage Swale

1. Design all stormwater systems including retention ponds, detention areas, channels, etc. as on-site amenities that are consistent with natural systems and drainage patterns, that help sustain the base landscape with beneficial functionality and that provide aesthetic appeal; coordinate with the base Stormwater Management Plan. Cost-effectively integrate stormwater systems with AT measures.

2. Incorporate bioswales into the design of all roadway, parking and facility roof systems to enhance water quality and support the overall stormwater system.

3. Permeable paving may be used in areas that are not subjected to severe freeze-thaw cycles.

4. When underground drainage systems are required establish a maintenance program to include removal of sediments and debris; inspect joints seasonally for alignment to prevent leakage and the development of voids and surface failures.

C05. SIDEWALKS, BIKEWAYS AND TRAILS

Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

Comply with AF Corporate Standards for Sidewalks, Bikeways and Trails:
http://afcfs.wbdg.org/site-development/sidewalks-bikeways-trails/index.html

C05.1. Circulation and Paving

(●) Applicable ( ) N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

(●) Applicable ( ) N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Concrete Paving and Lighted Bollards near Group 2

Colored Concrete Paving at Group 1

Alignment with Crosswalk

Attached Concrete Sidewalk at Street

Facility Group 1 sidewalks, plazas, and courtyards paving materials shall be as follows.

Primary:	Permeable Pavers
Secondary:	Concrete Paving and Edging
Accent:	Colored Concrete (Optional)

Facility Group 2 sidewalks, plazas, and courtyards paving materials shall be as follows.

Primary:	Permeable Pavers
Secondary:	Concrete Paving and Edging
Accent:	Colored Concrete (Optional)

Facility Group 3 sidewalks, plazas, and courtyards paving materials shall be as follows.

Primary:	Concrete Paving
Secondary:	N/A
Accent:	N/A

Facility Group 4 sidewalks, plazas, and courtyards paving materials shall be as follows.

Primary:	Concrete Paving
Secondary:	N/A
Accent:	N/A

1. Maintain efficient geometry and accessibility to connect building entrances to adjacent parking areas and activity areas and to the base transportation system following AT. Efficiently use materials to optimize life-cycle costs and to minimize maintenance.

2. Generally, conform horizontal layouts of sidewalks to the geometric configuration of adjacent buildings, streets, parking lots, and other adjacent related site amenities. Occasional meanders and/or jogs may be included to capture views, to coordinate with landscaping or accommodate site constraints.

3. Walks in parking areas will provide a direct path using "safe islands" and "peninsulas" to encourage safety. Walks parallel to streets will follow streetscape guidelines. Clearly mark pedestrian crossings at vehicular routes.

4. Provide shaded sidewalks. Permeable pavers will be used on all sidewalks, plazas and courtyards in Facility Groups 1 and 2; use concrete in Groups 3 and 4. The designer will incorporate appropriate expansion and construction joints.

5. Only experienced contractors will install permeable pavements.

6. Consider an integrated approach that could include stormwater management (permeable surfaces) and complement the design of the storm drainage system when appropriate.

7. Pedestrian paths should be at least 5' in width to allow for comfortable side-by-side walking.

8. Sidewalks leading to a building main entrance and at the interior of parking lots will be a minimum width of 6'. Walks greater than 10' wide may be used at high-density pedestrian areas where volumes of traffic justify added material.

9. Where vehicles park adjacent and head-in to the sidewalk and wheel stops are not used, such perimeter walks will be increased to a minimum width of 8' to accommodate overhangs of the parked vehicles.

10. All sidewalks will have positive drainage to prevent ponding of water with slopes ranging from 2.1% to 4.2%. Walks with a slope greater than 4.2% will be designed as ramps following accessibility guidelines. All walks will have a minimum cross slope of 2.1%.

11. Pavers will conform to the following range of color: red or tan. Pavers used on walks will typically be 4" x 8" size or interlocking polygon pavers similar in overall length and width.

12. Connect to the bicycle circulation system and provide bicycle parking with a suitable means for securing bicycles following IFS. Consider changing/shower facilities for use by cyclists.

13. Refer to the Installation Development Plan for future trails, bicycle paths, and sidewalks.

C05.1.1. Ramps and Stairs

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Ramp System over Street

Ramp with Railing

Site Stair

1. Use ramps instead of stairs for sidewalks, bikeways and trails and at all buildings where possible. Where steps are unavoidable, follow UFC 1-200-01 and its references to the International Building Code.

C05.1.2. Lighting

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Provide lighting for all stairs and landings where traffic warrants.

2. Refer to the Lighting section for path lighting along sidewalks, bikeways and trails.

C06. LANDSCAPE

Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

Comply with AF Corporate Standards for Landscape:
http://afcfs.wbdg.org/site-development/landscape/index.html

C06.1. Climate-based Materials

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Predominant Use of Native Species

Deciduous and Evergreen Varieties

Use of Trees, Shrubs and Grasses

Trees Defining Space

1. Use only native, naturally occurring, water tolerant indigenous plant species (including grasses) appropriate for the locale to promote energy efficiency and water management, preserve drainage patterns, inhibit erosion, improve air quality, minimize human use impacts, lower maintenance, and add beauty.

2. Follow details and specifications of the Japanese equivalent of the American Standard for Nursery Stock, current edition.

C06.1.1. Landscape Design Concept

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Three-Tier Planting with Trees, Shrubs and Ornamental Trees, and Groundcovers and Grasses

Trees Providing Shade

Pruning for Transparency and Interest

Ornamental Accent Planting

1. Develop, maintain and implement a climate-based plant list with landscape features using a regionally appropriate palette of materials to promote energy efficiency, preserve drainage patterns, inhibit erosion, improve air quality, lower maintenance and add beauty. Follow UFC 3-201-02 Landscape Architecture.

2. Landscaping is required for all newly developed sites and facilities; preserve existing native landscape where possible and avoid overplanting.

3. Concentrate landscaping in Facility Group 1 and along major thoroughfares and integrate these landscaped areas into the base's stormwater management plan. Refer to the Streetscape Envelope Standards in this IFS.

4. All Facility Group 1 and 4 sites will be landscaped at their entire perimeter; limit formal planting arrangements to formal spaces typically associated with Group 1. Landscape public spaces near the main entrances of Group 1 facilities.

5. Facility Group 2 and 3 sites may have a native undisturbed landscape except at the main entrances of Group 2, which should be newly landscaped.

6. Facility plantings will follow the Installation Facilities Standards (IFS) plant list, which is based on the specific microclimates created by the adjacent building: shadow areas, protected areas, zones adjacent to thermal mass, and availability of rainwater and/or grey water.

7. Provide open spaces as transitions between developed and native areas that promote quality of life and provide visual relief and allow walkable connections to the transportation system.

8. Return suitable areas to a natural state to minimize and, whenever possible, eliminate ground maintenance requirements; expand prairie areas where appropriate with native plants to eliminate mowing and maintenance requirements.

9. In tree clusters replace grass with naturalized shrub beds and leaf litter mulch to eliminate mowing requirements.

10. Use plantings in open spaces to reinforce the space as a visual asset.

11. Consider landscape windbreaks when suitable for the local climate.

12. Integrate security requirements into the landscape design. Coordinate the heights of trees and shrubs and note restrictions for plantings following UFC 4-010-01.

13. Berms may be used as an integral part of the overall landscape strategy for screening, security and/or visual interest.

14. Plants and trees shall be located so they can develop to their natural size and shape. Distance from buildings shall be maintained so that they do not create maintenance problems with roofs or foundations. Tall-growing trees shall not be planted under overhead utility lines.

C06.1.2. Xeriscape Design Principles

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

C06.1.3. Minimizing Water Requirements

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Wherever possible utilize rain gardens, detention systems, bioswales and other biological management systems to increase evapotranspiration, increase soil water retention and distribution, and minimize discharge as free flowing stormwater. Additionally, biological ecosystems should be selected for contaminate uptake, resiliency, and self-healing properties.
2. Reasonably reduce demand on potable water while seeking opportunities to increase alternative water sources for irrigation. Reduce or eliminate the use of potable/domestic water for purposes of landscape architecture maintenance, consistent with existing legal or contractual obligations, and prohibit potable-water irrigation in new construction beyond establishment following current DoD and Air Force policy.

C06.1.4. Plant Material Selection

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 6 Image Tool 250 x 188


Evergreen Trees


Flowering Shrub


Color as Focal Point


Compatible Colors


Delicate Blooms


Flowering Trees

1. Use only native, naturally occurring plant materials including grasses or turf suited for the local climatic conditions in the landscape design; potable-water irrigation systems are discouraged beyond the establishment period.

2. New facilities are encouraged to use native plant species as indicated on plant lists available from the Base Civil Engineer.

3. Trees should be the focus of landscape plantings and, where possible, should be a mix of deciduous and evergreen species for variety; provide tree grates when appropriate and use tree guards on smaller trees.

4. Ground covers are only recommended when minimal maintenance is required.

5. Turf areas should be limited to those that can be sustained by natural rainfall or grey water (non-potable) irrigation systems; turf may be defined by at-grade concrete mow strips to lessen maintenance.

6. Analyze soils and provide organic amendments as needed to improve plant growth and conserve water.

7. All plant material will have one-year warranty and is subject to approval by the Base Landscape Architect.

C06.1.5. Water Budgeting (Hydrozones)

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Comply with DoD and Air Force policy on potable-water irrigation systems.

2. Provide irrigation systems in new construction to establish plant materials following "Water for Landscaping" in UFC 1-200-02. Note the climate zone and annual rainfall for the locale.

3. New buildings will cost-effectively integrate a grey-water reclamation system following UFC 1-200-02, which provides source water for an automatic drip irrigation system; connect adaptive plantings adjacent to facilities to a grey-water irrigation system when available and discontinue the use of potable water for irrigation after the establishment period.

4. Provide irrigation design following UFC 3-201-02. Install drip irrigation products and components following UFGS Section 32 84 24 Irrigation Sprinkler Systems. Match the color of valve box lids to the adjacent ground treatment (i.e., green at turf & native seed areas, brown at wood mulch & rock areas).

5. Life cycle cost-effectively equip irrigation systems to sense soil moisture, rainfall and wind to minimize unnecessary watering; incorporate drip irrigation systems as the primary source.

6. Wherever possible utilize rain gardens, detention systems, bioswales and other biological management systems to increase evapotranspiration, increase soil water retention and distribution, and minimize discharge as free flowing stormwater. Additionally, biological ecosystems should be selected for contaminate uptake, resiliency, and self-healing properties.

C06.1.6. Base Entrance Landscaping

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Clear Sight Lines at Streetscape

Trees in Landscape Setback Area

Evergreen and Deciduous Varieties

1. At the main gate, reinforce a sense of arrival through a well-designed concentration of landscape elements consistent in visual quality with Facility Group 1.

2. Ensure landscaping has seasonal features with spring and fall color and a combination of evergreen and deciduous trees and shrubs for winter interest.

3. Integrate base signs and street and pedestrian lighting whenever feasible.

C06.1.7. Streetscape Landscaping

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Street Trees Defining Space and Providing Seasonal Interest

Streetscape Planting at Group 1

Landscape at Group 3

Trees Defining Space

1. Provide landscape designs with plant materials appropriately representing the level of quality of the adjacent Facility Group number. Refer to the Installation Elements section.

2. Select a variety of regionally appropriate streetscape plantings and grading to create a visual interest.

C06.1.8. Pedestrian Circulation Landscaping

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Space Defined and Accented by Tree Canopy

Accent Planting at Memorial Marker

Shrubs Providing Human Scale

Trees for Shading

1. Define walkways with landscaping where appropriate.

2. Provide rest areas along the pedestrian circulation network with human-scaled deciduous shade trees. Supplement tree plantings with finely textured shrubs when appropriate for the climate.

3. Provide wind breaks where required.

C06.1.9. Parking Lot Landscaping

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Landscape Visual Screen at Group 3

Screening and Accent Planting at Group 1

Trees for Shading

Trees Providing Enclosure

1. Integrate appropriate landscaping elements into parking areas to visually soften the appearance at a minimum rate of 5 percent of the total area.

2. Avoid trees that drop sap, fruit, or seeds, and use long-lived species; keep trees trimmed, removing dead and dying trees or branches.

3. Provide planting in islands within parking lots for shade and appeal following IFS and the base stormwater management plan.

4. Rain garden islands will be landscaped to receive snowmelt and rainwater runoff from adjacent impervious parking areas to be absorbed into the ground/planting bed. Native plants and groundcovers are recommended within the rain garden areas, which can survive without supplemental irrigation once established.

C06.1.10. Screen/Accent Landscaping

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188


Visual Screen along Street


Hedge for Screening at Parking Lot


Accent Planting with Ornamental Species

1. Provide complimentary accent landscaping at monuments and static displays.

2. At Facility Group 1, provide landscaping adjacent to all freestanding signs without distracting from the written communication.

3. Provide landscape screening of utility elements adjacent to Facility Group 1.

4. Providing landscaping as visual screening is preferred to the construction of walls and fences; berming and mounding may supplement landscape screening.

C06.1.11. Other

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

C07. SITE FURNISHINGS

Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

Comply with AF Corporate Standards for Site Furnishings:
http://afcfs.wbdg.org/site-development/site-furnishings/index.html

C07.1. Furnishings and Elements

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Consistent and Coordinated Elements

Picnic Pavilion

Fencing and Gate

Screen Wall

1. Provide a coordinated consistent inventory of site furnishings to positively contribute to the visual environment, image, and identity of the base; ensure durability, low maintenance, reduced visual clutter, and compatibility with the adjacent architecture.

2. Remove poorly located or redundant litter / ash receptacles, newspaper and bicycle racks, telephone booths, vending machines, walls and fences to reduce visual clutter and to lessen the requirements for maintenance.

3. Site furnishings will be primarily powder-coated metal. Generally, match the site furniture of adjacent facilities and the facility district.

4. Install needed outdoor seating (benches and low walls) in public gathering spaces near main and secondary building entrances. Low walls will match facility architecture.

5. Benches will be powder coated metal.

6. Integrate functional bicycle racks with the design of the building's main entrance grounds in Facility Groups 1 and 2 while meeting AT requirements.

7. Limit the use of bollards, but when necessary for force protection use dark bronze or black powder-coated, round, dome-top aluminum designs in Groups 1 and 2; clad steel pipe bollards in Group 3; cast iron bollards may be used in parks and trails. Illuminated bollards may be used as approved on a case-by-case basis.

8. Locate architecturally coordinated containers for recycling, litter, ash, vending, etc., to minimize visual clutter and not be visible from the building's main entrance. Minimize the use of freestanding planters.

9. Generally, limit picnic tables, barbeque grills and drinking fountains to lodging, dormitories, housing areas, parks and recreation areas following IFS.

10. The Installation Flagpole location will comply with the guidance for the display of flags in AFI 34-1201. Each Air Force installation is authorized to fly one United States Flag, normally in front of the installation headquarters. Waivers for non-authorized locations must be submitted in accordance with AFI 33-360 and approved waivers (AF Form 679) must be maintained by the installation protocol office.

11. Flagpoles using approved materials may be installed at locations designated by IFS, and in accordance with AFI 34-1201.

12. Refer to the Overview Section "Facility Hierarchy" topic of this AFCFS for guidelines regarding ancillary structures such as pavilions and shade shelters.

13. Bus shelters will be provided only where there is a documented need and when approved on a case-by-case basis. Generally, emulate the designs of adjacent shelters using powder-coated steel or anodized aluminum structures.

14. Monuments and static displays will be limited. New elements are generally discouraged unless these are fully vetted through the base's approval process and designed following IFS.

15. When visual screening is necessary, consider landscaping as the first option; screen walls are permitted only in Group 1 finished with concrete block, metal screen or traditional bamboo screen with BCE approval.

16. For fencing, apply the standards for "Products, Materials and Color" in the following section. Limit those with the highest visual quality to Facility Group 1 where there is sustained maintenance. Define all levels of security and visual quality.

17. Do not use chain-link fencing at Group 1,2 or 4 facilities; Limit the use of barbed-wire outriggers on chain-link fencing at industrial sites, unless required for additional security or protection of assets.

18. Wood fencing may be used in Facility Group 4 and in recreation areas following IFS for material and finish when there is sustained periodic maintenance.

19. Provide trash dumpster enclosures with metal screen or concrete block to match adjacent facilities; all metal screen walls and gates will be metal factory finished to match enclosure.

20. Specify screen wall materials and finishes that do not require painting or maintenance beyond periodic cleaning.

21. Picnic tables and seating will be powder coated metal, except Group 4 and recreational areas will have recycled plastic and metal bases for picnic tables and seating. Generally, limit picnic tables, barbeque grills and drinking fountains to lodging, parks and recreation areas.

22. Limit the use of freestanding planters to areas with ongoing maintenance.

23. Provide kiosks only where there is a documented need for visual communication of posted messages. When used, match adjacent facilities in materials and detailing and consolidate kiosks with other site furnishings within 30 feet of major pedestrian paths. Limit kiosks to facility Groups 1 and 2 and parks.

24. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

C07.2. Site Furnishings Products, Materials and Color

Note: *Apply the below base-wide standards for Site Furnishings (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.*

C07.2.1. Barbeque Grills

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Charcoal**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☑ Other

Mfr: Most Dependable Fountains, Inc.

Color: Natural stainless steel

Finish: Mill

Model #: SS BBQ Grill

Other: Concrete foundation, coordinate with Base Architect

UFGS: N/A

C07.2.2. Benches

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Metal Rectangular Mesh**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: TBD

Color: Dark bronze or green to match adjacent

Finish: Factory powder coat

Model #: Model rectangular mesh

Other: N/A

UFGS: N/A

C07.2.3. Bike Racks

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188

Type: **Style 1**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☑ Other

Mfr: TBD

Color: Silver

Finish: Factory

Model #: Curvilinear to match those in use

Other: N/A

UFGS: N/A

Type: **Style 2**

Applies to: ◉ Group 1 ◉ Group 2 ◉ Group 3 ☐ Group 4 ◉ Other

Mfr: Landscape Structures

Color: Silver

Finish: Factory

Model #: Arches

Other:

UFGS:

C07.2.4. Bike Lockers

◯ Applicable ◉ N/A

C07.2.5. Bollards

◉ Applicable ◯ N/A Number of base standards 2 Image Tool 250 x 188

Type: **Lighted Round Dome Top**

Applies to: ◉ Group 1 ◉ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Lithonia Lighting Products

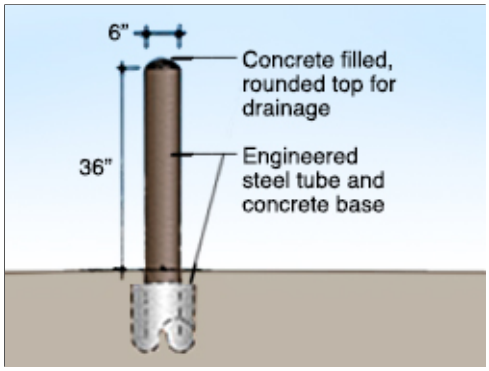
Color: Dark bronze

Finish: Anodized aluminum

Model #: KBA

Other: Flared cone, 3000K LED Lamp

UFGS: N/A



Type: **Building Protection, Steel**

Applies to: ☐ Group 1 ☐ Group 2 ☑ Group 3 ☐ Group 4 ☑ Other

Mfr: (Bollard Cover) Reliance Foundry

Color: Brown cover may be field painted dark bronze

Finish: Factory

Model #: 6" Steel pipe, concrete filled, Cover: R-7173

Other: A 1" (25.4 mm) rigid conduit and box with shroud may be provided at top of bollard with a receiver/key switch application

UFGS: N/A

C07.2.6. Bus Shelters

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Metal**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☑ Group 4 ☑ Other

Mfr: TBD

Color: Light beige with red roof

Finish: Powder coated or anodized

Model #: Match existing with gabled roof

Other: Provide concrete slab and 2 pre-manufactured aluminum benches

UFGS: N/A

C07.2.7. Drinking Fountains

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188

Type: **Pedestal / Bottle Filler**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☑ Other

Mfr: Elkay

Color: Brown

Finish: Stainless steel

Model #: LK4420BF1UFRK

Other: -Elkay Outdoor ezH2O Upper Bottle Filling Station Bi-Level Pedestal Non-Filtered Non-Refrigerated Freeze Resistant
-Accessible

UFGS: N/A

Type: **Pedestal**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☑ Other

Mfr: Elkay or Local Product

Color: Natural

Finish: Stone

Model #: LK4590

Other: Elkay Outdoor ADA Stone Pedestal Fountain Non-Filtered Non-Refrigerated or Local Equivalent

UFGS:

C07.2.8. Dumpster Enclosures / Gates

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **1: Concrete Block**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: TBD

Color: Light beige

Finish: Parge coat

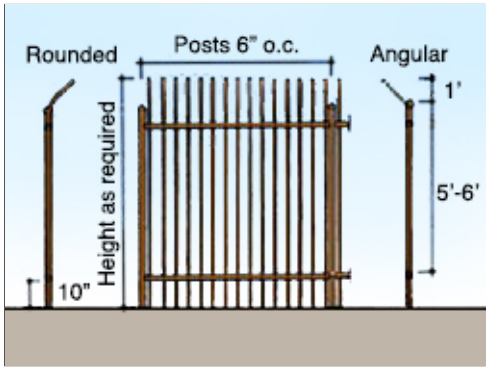
Model #: Custom

Other: Access on two sides; one side fully accessible for collection

UFGS: Section 04 20 00 Unit Masonry

C07.2.9. Fencing

◉ Applicable ○ N/A Number of base standards 4 Image Tool 250 x 188



Type: **Style A Barrier: High Security, High Visibility**

Applies to: ☑ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Custom

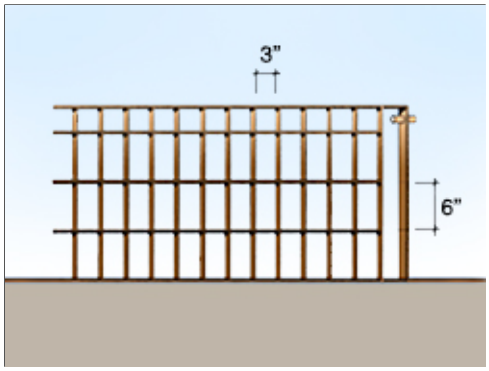
Color: Dark brown

Finish: Powder coated

Model #: Steel posts, rails and pickets (vertical, bent outward at top)

Other: CMU piers may be used: ground-face or standard with stucco finish to match adjacent facilities

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Style B Barrier: High Security, Medium Visibility**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Custom

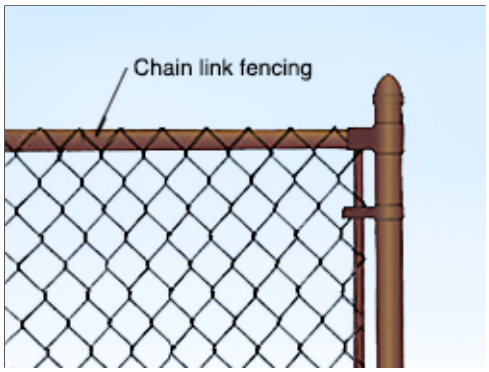
Color: Dark brown

Finish: Powder coat

Model #: Steel grid: flat bar stock verticals, round rod horizontals

Other: Steel posts, horizontal bars, braces, and accessories, in heights, lengths, and gauges as required; Close all ends of tubing

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Style C Barrier: High Security, Low Visibility**

Applies to: ☐ Group 1 ☐ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: General Wire Company

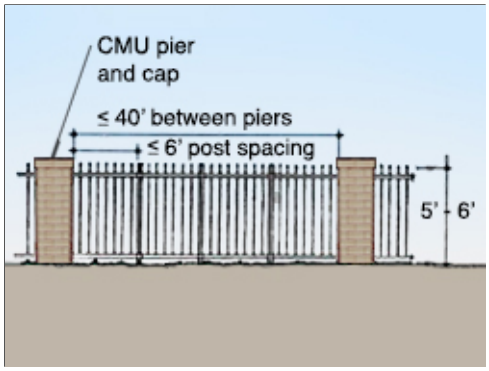
Color: Factory zinc or dark brown powder coat

Finish: Galvanized steel, or powder coat

Model #: Chain link, 2" mesh, steel posts and rails, gates and accessories

Other: Height based on requirements, standard 6'

UFGS: Section 32 31 13 Chain Link Fences and Gates



Type: **Style D Barrier: Low Security, High visibility**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Custom

Color: Beige CMU, dark brown fencing

Finish: Ground face CMU, powder coated metal

Model #: Steel posts, rails and pickets, may have CMU piers

Other: CMU: 2'x2' (Height as required, equally spaced 12' to 40'), Steel posts: 4"x4" (equally spaced), Rails: 2"x2", Pickets: 1"x1" (6"o.c.); close all ends of tubing

UFGS: Section 04 20 00 Unit Masonry, Section 05 50 13 Misc. Metal

C07.2.10. Flagpoles

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **1**

Applies to: ☑ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Eder Flag or Local Equivilant

Color: Natural aluminum

Finish: Satin Lustre

Model #: ECL30 IH, Internal Halyard

Other: 5" butt dia. 33' H (30' exposed)

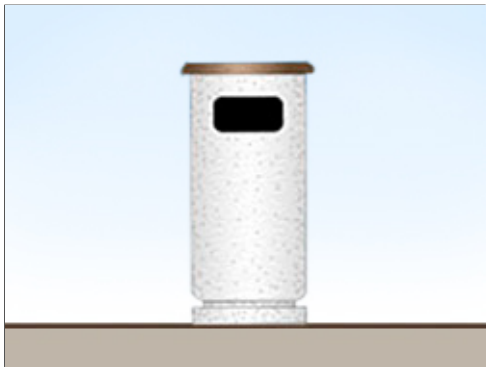
UFGS: N/A

C07.2.11. Lighting – Landscape / Accent

Please refer to the Lighting section.

C07.2.12. Litter and Ash Receptacles

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188



Type: **Style 1: Stone**

Applies to: ☑ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☑ Other

Mfr: Local

Color: Natural

Finish: Factory

Model #:

Other: Match existing

UFGS: N/A

Type: **Metal**

Applies to: ☐ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☑ Other

Mfr: Landscape Structures

Color: Brown

Finish: Coated Metal

Model #: Tender Tuff

Other:

UFGS:

C07.2.13. Picnic Tables

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188

Type: **Metal Rectangular Table with Benches**

Applies to: ☐ Group 1 ☐ Group 2 ☐ Group 3 ☑ Group 4 ☑ Other

Mfr: Belson Outdoors

Color: Wood tone top and bench, black frame

Finish: Recycled top and benches

Model #: Recycled content slatted table with 2 benches

Other: N/A

UFGS: N/A

Type: **Steel Rectangular Table**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Belson Outdoors

Color: Match Existing

Finish: Powder coated metal with thermoplastic coating

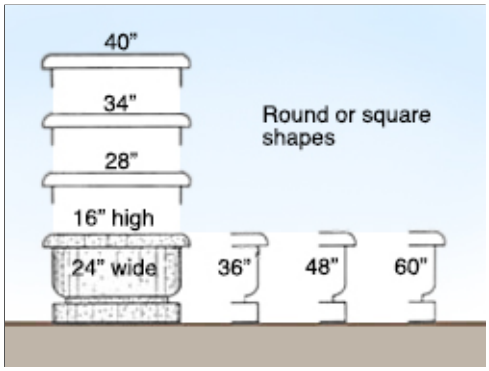
Model #: Metal table with 2 benches

Other: N/A

UFGS: N/A

C07.2.14. Planters

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188



Type: **Precast Concrete**

Applies to: ☑ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Materials, Inc.

Color: Weatherstone Gray

Finish: Smooth

Model #: Santa Fe

Other: N/A

UFGS: N/A

C07.2.15. Play Equipment

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Steel / Plastic**

Applies to: ☐ Group 1 ☐ Group 2 ☐ Group 3 ☑ Group 4 ☑ Other

Mfr: Little Tikes Commercial

Color: Varies

Finish: Powdercoated Steel

Model #: N-R-G Freestyle

Other: Coordinate with Base Architect

UFGS: N/A

C07.2.16. Screen Walls

◉ Applicable ○ N/A Number of base standards 4 Image Tool 250 x 188

Type: **Metal Screen**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: TBD

Color: Beige, brown or red to blend with adjacent structure

Finish: Factory

Model #: Custom, 6' high

Other: Non-rusting, heavy-gauge aluminum or galvanized

UFGS: Section 05 50 13 Miscellaneous Metal

Type: **Metal Slats**

Applies to: ☑ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: TBD

Color: Beige, brown or red to blend with adjacent structure

Finish: Powder-coated

Model #: Custom

Other: N/A

UFGS: Section 05 50 13 Miscellaneous Metal

Type: **Concrete Block**

Applies to: ☑ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: N/A

Color: Light beige or brown

Finish: Split-face, ground-face or parge coat

Model #: Custom, 6' high, concrete cap

Other: Open blocks may be part of enclosure

UFGS: Section 04 20 00 Unit Masonry

Type: **Traditional Bamboo**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☑ Other

Mfr: N/A

Color: Natural

Finish: Natural

Model #: Match existing at Officer's Club

Other: With BCE approval

UFGS: N/A

C07.2.17. Tree Grates

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Cast Iron**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Neenah Enterprises, Inc.

Color: Natural cast iron

Finish: Cast

Model #: 2-Piece, round or square

Other: N/A

UFGS: N/A

C07.2.18. Other

○ Applicable ◉ N/A

C08. EXTERIOR SIGNS

Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

Comply with AF Corporate Standards for Exterior Signs:
http://afcfs.wbdg.org/site-development/exterior-signs/index.html

C08.1. Colors and Types

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Coordinated Signs at Group 1 Gate

Multi-National Traffic Device

Multi-National Fonts

1. Provide concise functional signs as a visually unifying element with consistent colors and types for all Installation and Gate Identification Signs; Building Identification Signs; Traffic Control Devices; Directional and Wayfinding Signs; and Informational and Motivational Signs.

2. Provide signs with the lowest overall life-cycle costs considering initial cost, ongoing maintenance and lifespan while meeting quality standards. Follow IFS for specifications appropriate for the local climate to withstand weathering.

3. Reduce the number of signs, reduce visual clutter and provide only essential signs required for identification, directions, instructions, and customer service following UFC 3-120-01. Remove non-conforming signs during renovation projects.

4. Use clear concise terms for content consistent with UFC 3-120-01.

5. Display of emblems on building exterior walls or other permanent structures is prohibited by UFC.

6. Raised “standout” letters and numbers may be used for Group 1 with approval on a case-by-case basis.

7. Group 2 and 3 facilities will have wall mounted facility signs with sizes and layouts following UFC 3-120-01. Signs are not permitted for Group 4 facilities. Existing buildings with painted facility numbers may have the numbers re-painted. These numbers will be on a prominent corner of each building, letters 8” high, the bottom 5 feet above the ground and 1 foot from the building corner. Use dark brown color. Place on additional building corners only where necessary.

8. Only one identification sign is permitted at each building entrance. Include a building address consistent with US Postal Service protocols following UFC 3-120-01.

9. Traffic Control Devices, which regulate vehicular traffic on the installation, will conform to the standards in the Japanese National Standard and the Manual of Uniform Traffic Control Devices (MUTCD) published by the Federal Highway Administration. Coordinate street signs with this IFS. Signs will be in both English and Japanese where appropriate.

10. Provide Directional and Wayfinding Signs and address both pedestrian and vehicular traffic following UFC 3-120-01 for size, layout and content.

11. Reserved parking signs should be kept to a minimum. When approved, provide curb markings with white letters on a standard brown background.

12. Parking lot identification signs may be used to identify areas or rows within large lots.

13. Follow the guidelines and requirements in ABAAS and the MUTCD for accessible parking signs.

14. Follow UFC 3-120-01 for Informational and Motivational Signs for size, layout and content.

15. Symbols or pictographs (graphic expressions of actual objects) may be used to indicate service, mandatory / prohibitory, sports, and recreation when rapid communication is necessary.

16. Force Protection signage may be applied to glass doors using white vinyl lettering.

17. Refer to UFC 3-120-01 for prohibited signs, which include those with animated, blinking, chasing, flashing, or moving effects.

18. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

19. Provide a sign at bus stops, either free-standing or mounted on a bus shelter. Signs will match those existing and include a black bus symbol on a white background.

C08.1.1. Materials and Color Specifications

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Fabricate sign panels from aluminum sheeting with vinyl sign faces and lettering. Sign posts will be dark bronze anodized aluminum with capped ends in a concrete base.

2. Fence mounted sign panels may be attached with exposed fasteners.

3. All signage will follow Japanese National Standard and the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) using standard colors. Refer to MUTCD color specifications, which provide cross-referenced Pantone Matching System (PMS) numbers. Equivalent colors based on the Japan Paint Manufacturers Assn. Standards may be used.
   a. Standard Blue
   b. Standard Dark Bronze (also Federal Standard Color 30040)
   c. Standard Red
   d. Standard Black (non-reflective)
   e. Standard White

Materials and Color Specifications

◉ Applicable ○ N/A Number of base standards 3 Image Tool 250 x 188

Type: **Typical Sign Face**

Applies to: ◉ Group 1 ◉ Group 2 ◉ Group 3 ☐ Group 4 ◉ Other

Mfr: Custom

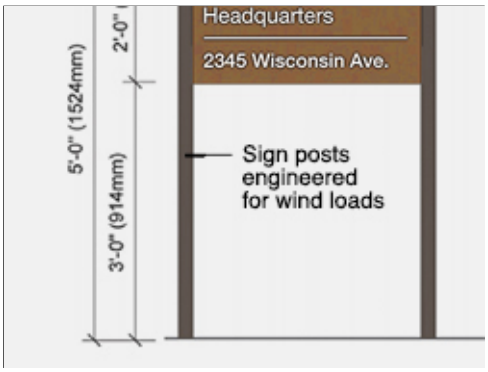
Color: Medium bronze

Finish: Matte vinyl

Model #: Aluminum flat sheet

Other: Mount to square posts. Provide sizes following UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Typical Sign Post**

Applies to: ◉ Group 1 ◉ Group 2 ◉ Group 3 ☐ Group 4 ◉ Other

Mfr: Custom

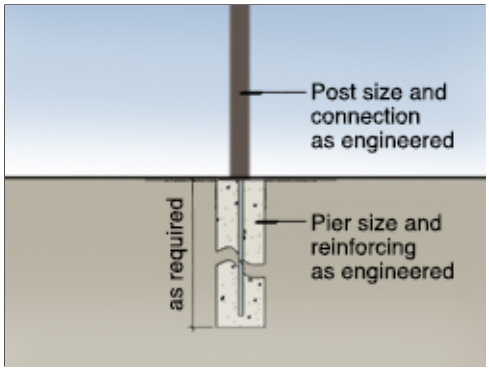
Color: Dark bronze, powder coat finish

Finish: Matte

Model #: Extruded aluminum with capped top ends

Other: Square posts and squared ends. Provide engineered sizes.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Typical Sign Base**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☑ Other

Mfr: Custom

Color: Natural Gray

Finish: Sonotube-formed

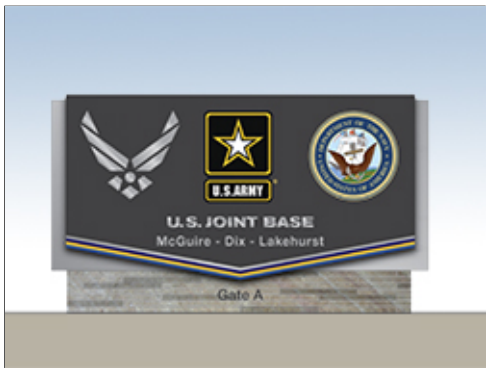
Model #: 24" height x 12" diameter, as engineered.

Other: At grade with 3/4" chamfer. Provide engineered sizes.

UFGS: UFGS 03 30 00 Cast-in-place Concrete

C08.1.2. Installation and Gate Identification Signs

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188



Type: **Primary, Secondary and Tertiary (Uses per UFC)**

Applies to: ☑ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Custom

Color: Dark bronze, brushed aluminum, accents per UFC

Finish: Powder coat or vinyl sign face

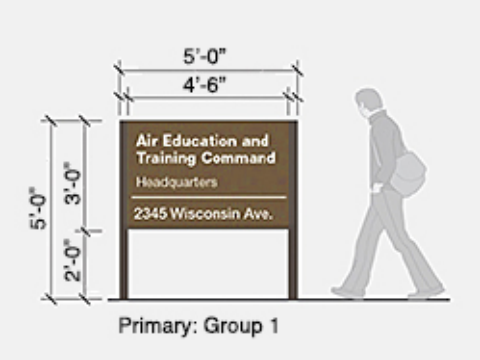
Model #: Metal frame and panels, buff stone base

Other: White vinyl lettering. Provide dimensions per UFC. Secondary signs will match primary sign's materials, but will be smaller in size per UFC. Tertiary signs will follow the UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

C08.1.3. Building Identification Signs

◉ Applicable ○ N/A Number of base standards 5 Image Tool 250 x 188



Primary: Group 1

Type: **Freestanding Primary Sign (Sizes and Uses per UFC)**

Applies to: ◉ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Custom

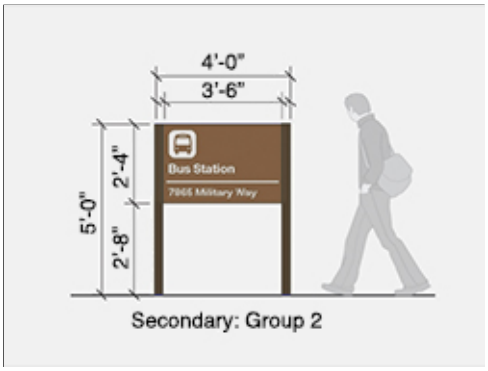
Color: Medium brown face, dark bronze posts, white vinyl lettering

Finish: Powder coat or vinyl sign face

Model #: Aluminum sheet face, extruded aluminum posts

Other: Provide layout and sizes per UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



Secondary: Group 2

Type: **Freestanding Secondary Sign (Sizes and Uses per UFC)**

Applies to: ☐ Group 1 ◉ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Custom

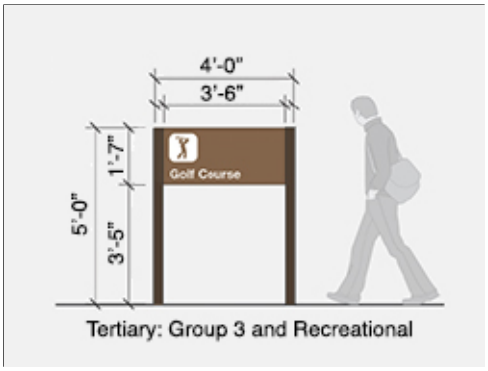
Color: Medium brown face, dark bronze posts, white vinyl lettering

Finish: Powder coat or vinyl sign face

Model #: Aluminum sheet face, extruded aluminum posts

Other: Provide layout and sizes per UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Freestanding Tertiary Sign (Sizes and Uses per UFC)**

Applies to: ☐ Group 1 ☐ Group 2 ☑ Group 3 ☐ Group 4 ☑ Other

Mfr: Custom

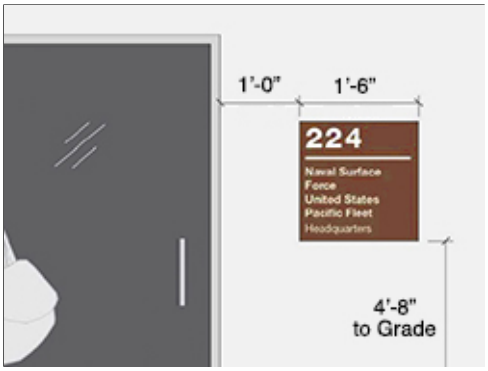
Color: Medium brown face, dark bronze posts, white vinyl lettering

Finish: Powder coat or vinyl sign face

Model #: Aluminum sheet face, extruded aluminum posts

Other: Provide layout and sizes per UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Wall Mounted**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Custom

Color: Medium brown, white lettering

Finish: Satin vinyl applied to aluminum sheet

Model #: Aluminum sheet with vinyl face and vinyl lettering

Other: Provide layout and sizes following UFC.

UFGS: N/A

Type: **Glass Mounted**

Applies to: ◉ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Custom

Color: White vinyl lettering

Finish: Matte vinyl

Model #: Machine-cut sheet vinyl

Other: Apply vinyl lettering to glass. Provide sizes following UFC.

UFGS: N/A

C08.1.4. Traffic Control Devices (Street Signs)

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Street Signs**

Applies to: ◉ Group 1 ◉ Group 2 ◉ Group 3 ◉ Group 4 ☐ Other

Mfr: Custom

Color: White reflective lettering on a Standard Brown background

Finish: Powder coat or vinyl sign face

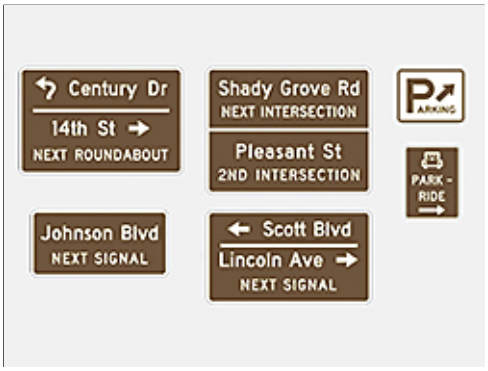
Model #: Aluminum sign face, control arm or pole mounted

Other: Mount 7' above grade minimum, pictographs and logos are prohibited on street name signs per UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

C08.1.5. Directional and Wayfinding Signs

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188



Type: **Vehicular**

Applies to: ◉ Group 1 ◉ Group 2 ◉ Group 3 ◉ Group 4 ◉ Other

Mfr: Custom

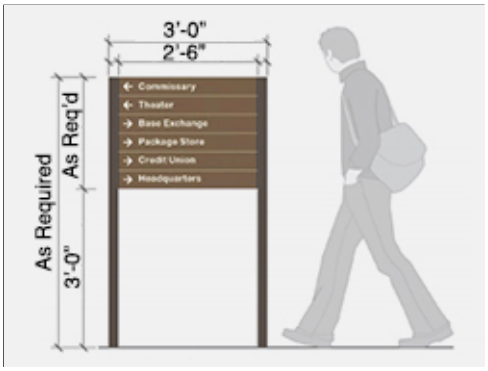
Color: Medium brown face, dark bronze posts, white reflective lettering

Finish: Powder coat or vinyl sign face

Model #: Aluminum sheet face, extruded aluminum posts

Other: Conform to the requirements of the MUTCD and its DoD Supplement. Provide types and sizes where required by UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Pedestrian**

Applies to: ◉ Group 1 ◉ Group 2 ◉ Group 3 ◉ Group 4 ◉ Other

Mfr: Custom

Color: Medium brown face, dark bronze posts

Finish: Powder coat or vinyl sign face

Model #: Aluminum sheet face, extruded aluminum posts

Other: White vinyl lettering. Provide types and sizes where required by UFC.

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications

C08.1.6. Informational Signs

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Minimize informational signs such as static display signs, hours of operation, and project signs to reduce visual clutter.

2. Static display signs will have standard brass plaque on a stone or concrete base.

3. Hours of operation signs will have a level of quality equivalent to the Facility Group number.

4. Temporary / Project Signage will be judiciously placed to avoid visual clutter. Schedule and arrange for the removal of these signs prior to installation.

C08.1.7. Motivational Signage

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Provide professionally produced motivational signs as important elements of campaigns to boost morale, improve safety, aid in recruiting, and accomplish other motivational objectives. Consolidate this signage to reduce visual clutter.

2. Motivational signs will be limited to an electronic "marquee" type changeable sign near each gate. Temporary signs are not permitted. Motivational information may also be posted in a small, printed format on kiosks in specified, high pedestrian use areas. Refer to kiosks under Site Furnishings.

3. Follow UFC 3-120-01 for color and layout. Note that animated, blinking, chasing, flashing, or moving effects are prohibited by the UFC.

4. Mount marquee signs on reinforced concrete bases with a natural warm gray color.

C08.1.8. Parking Lot Signs

○ Applicable ◉ N/A

1. Follow UFC 3-120-01 and AFCFS.

C08.1.9. Regulatory Signs

◉ Applicable ○ N/A Number of base standards 3 Image Tool 250 x 188

Type: **Base Warning Signs**

Applies to: ☐ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ◉ Other

Mfr: TBD

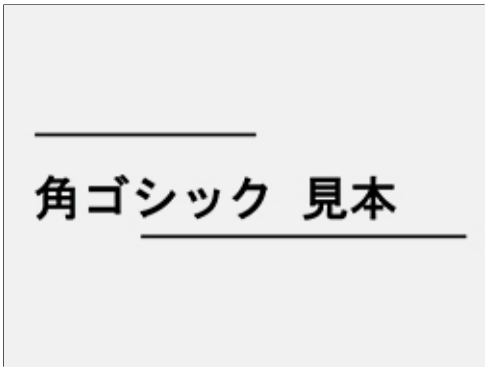
Color: Black font except red for Warning, Danger, Caution; white background

Finish: Factory

Model #: Custom

Other: At perimeter with interval not to exceed 100 meters

UFGS: N/A



Type: **Japanese "Kaku Gothic" Font**

Applies to: ● Group 1 ● Group 2 ● Group 3 ☐ Group 4 ● Other

Mfr: TBD

Color: Per standards

Finish: Factory

Model #: Custom

Other: Use where Japanese wording is provided on signs

UFGS: N/A

Type: **Force Protection Signage**

Applies to: ● Group 1 ● Group 2 ● Group 3 ☐ Group 4 ● Other

Mfr: TBD

Color: White on clear or white on brown

Finish: Factory

Model #: Custom

Other: Clear background on glass; brown background elsewhere

UFGS: N/A

1. Regulatory signage, which restricts, warns and advises, will be limited to those mandated under Highway/Traffic, Government Warning, and/or Parking Regulation. Follow UFC 3-120-01 and its industry references and Japanese National Standard for color and layout.

2. Provide a comprehensive, systematic approach to regulatory signage to avoid clutter and confusion from “over signage.”

3. Maintain base warning signs for safety and security at the base perimeter and at specific secure areas. Use these to notify visitors of restrictions governing conduct on the base, as well as other security procedures.

4. Perimeter Force Protection Condition (FPCON) signs will be approximately 8.5” x 11” and display botrh real-world and exercise FPCON. There are two color variations: white letters with clear background for glass doors and white letters with standard brown background for solid non-transparent doors. All Alpha, Bravo, Charlie and Delta “patches” will be removable pieces that are placed on the larger FPCON sign. Kanji lettering will be utilized where feasible. Place signs on interior of doors possessing glass windows and on the exterior of solid non-transparent doors.

C08.1.10. Other

◉ Applicable ○ N/A Number of base standards 3 Image Tool 250 x 188

Type: **Torii-Gate**

Applies to: ☐ Group 1 ◉ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Custom, TBD

Color: Dark brown structure with white letters on red background

Finish: Factory powder-coated

Model #: Match existing signage

Other: Use to identify tower apartments

UFGS: N/A

Type: **Above-ground Storage Tank**

Applies to: ☐ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ◉ Other

Mfr: TBD

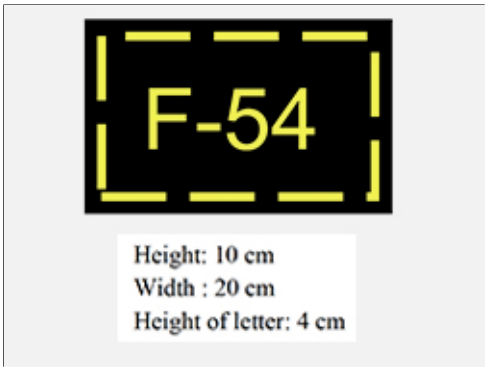
Color: Match existing

Finish: Factory

Model #: Match existing, 60 cm high by 30 cm wide

Other: Provide NATO symbol near fuel inlet.; see CES for further guideance

UFGS: N/A



Type: **NATO Symbol**

Applies to: ☐ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: TBD

Color: Match existing

Finish: Factory

Model #: Match existing, 10 cm high by 20 cm wide; 4 cm high letters

Other: Provide symbol near fuel inlet; see CES for further guidance

UFGS: N/A

C09. LIGHTING

Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

Comply with AF Corporate Standards for Lighting:
http://afcfs.wbdg.org/site-development/lighting/index.html

C09.1. Fixtures and Lamping

(●) Applicable ( ) N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

(●) Applicable ( ) N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Standard Street Lighting

Street Lighting in Group 4

Parking Lot Lighting

Lighted Bollards

1. Provide, coordinate and efficiently install street, parking lot, sidewalk and facility lighting with appropriate luminaires, lamping, placement and spacing following UFC 3-530-01 and Installation Facilities Standards (IFS); ensure the level of quality is consistent with the adjacent facility group number. Pole-mounted, wall-mounted and bollard fixtures are permitted.

2. Integrate controls to automatically reduce lighting power during periods of non-activity; automatically turn off power when sufficient daylight is available.

3. Ensure continuity and consistency of lighting elements. In new construction generally match post types, fixture types, styles, heights, sizes, materials, colors, and lamp types of adjacent facilities and the facility district.

4. Economically provide renewable-energy power sources such as solar photovoltaic when feasible.

5. Use appropriately designed or shielded luminaires to direct light downward to minimize light pollution and intrusion onto adjacent sites and to facilitate night training.

6. Calculate illuminant levels for all lighting applications following UFC 3-530-01 and ensure compliance with pre-curfew maximum brightness level requirements.

7. Sufficiently address environmental factors to prevent corrosion and weathering of fixtures, plinths and other components.

8. Wall mounted fixtures should respond to the architectural character of the facility.

9. Efficient accent lighting of architectural and landscape features may be provided for Group 1, lodging and historical applications. Accent lights in ground-mounted locations may be provided for static displays and signs when these do not conflict or cause hazards with overhead aircraft.

10. Comply with UFC 3-530-01 for light source technology and lamp types. High efficiency lamping such as LED is preferred for most applications.

11. Provide round tapered, square non-tapered, or round non-tapered aluminum poles and aluminum fixtures with square, rectangular or circular housings in colors and shapes to match adjacent facilities and the facility district.

12. Install lighted bollards only at Group 1 and high-traffic Group 2 facilities. Generally, match materials, colors and shapes of adjacent facilities and the facility district.

13. Install natural warm gray color, smooth finished concrete bases for all poles in heights appropriate for the facility group and application. Generally, Groups 1 and 2 will have at-grade bases. Group 3 will have taller bases for added durability.

14. When parking lot lighting is necessary, provide an illuminated path to the building's main entrance. Pole bases should be contained within an internal landscape median or island.

15. Consistently install lighting for sidewalks, bikeways and trails to match adjacent facilities.

16. Landscape accent lighting may be used in public gathering spaces and in Group 1 facilities. Coordinate the design, luminaire selection, and placement with the location of trees, shrubs, and site furnishings.

17. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

C09.2. Light Fixture Types

Note: *Apply the below base-wide standards for Light Fixtures (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.*

C09.2.1. Street Lighting

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **LED Street**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☑ Group 4 ☑ Other

Mfr: Hubbell, Beacon Viper luminaire

Color: Dark bronze, gray or clear anodized aluminum as approved by BCE

Finish: Factory

Model #: VPL/ 80NB-180/4K/T3/UNV/GYS

Other: Lamp LED. Roadway – Poles will be 25' clear anodized, round tapered seamless aluminum with matching 8' up swept mounting arm, brushed aluminum finish. Pole will be rated for 100 MPH wind with a 1.3 factor

UFGS: N/A

C09.2.2. Parking Lot Lighting

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188

Type: **LED Parking Lot**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☑ Other

Mfr: Hubbell, Beacon Viper luminaire

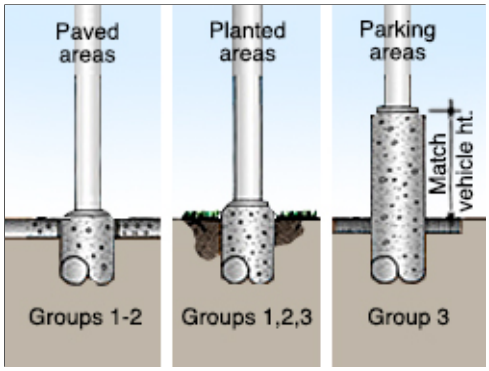
Color: Dark bronze or clear anodized as approved by BCE

Finish: Factory

Model #: Rectilinear Cutoff, Single Arm or Dual Arm Mount

Other: Lamp: LED. Parking Lot – Poles will be 25' square straight extruded aluminum, 5" cross section, with 6" matching mounting arm, dark bronze anodized finish. Pole will be rated for 100 MPH wind, 1.3 factor

UFGS: N/A



Type: **Parking Lot Fixture Base**

Applies to: ◉ Group 1 ◉ Group 2 ◉ Group 3 ☐ Group 4 ◉ Other

Mfr: Custom

Color: Natural gray

Finish: Trowel

Model #: Form-cast, round

Other: N/A

UFGS: Section 03 33 00 Cast-In-Place Architectural Concrete

C09.2.3. Lighted Bollards

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188

Type: **Lighted Round Dome Top**

Applies to: ◉ Group 1 ◉ Group 2 ☐ Group 3 ☐ Group 4 ◉ Other

Mfr: Lithonia Lighting Products

Color: Dark bronze

Finish: Anodized aluminum

Model #: KBA

Other: Flared cone, 3000K LED Lamp. Follow manufacturer's recommendations for fixture base.

UFGS: N/A

Type: **Lighted Square Sloped Top**

Applies to: ◉ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Kim Lighting

Color: Platinum Silver

Finish: Anodized aluminum

Model #: VSB1 Square

Other: 3000K LED Lamp, 360° downlighting

UFGS: N/A

C09.2.4. Sidewalk Lighting

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **LED Sidewalk, Direct**

Applies to: ◉ Group 1 ◉ Group 2 ☐ Group 3 ☐ Group 4 ◉ Other

Mfr: Hubbell, Kim Lighting

Color: Dark bronze anodized or clear anodized as approved by BCE

Finish: Anodized aluminum

Model #: Rectilinear Cutoff, Single Arm or Dual Arm Mount

Other: Lamp: LED; follow manufacturer's recommendations for fixture base

UFGS: N/A

C09.2.5. Walls / Stairs Lighting

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Wall and Step Light**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Vista Lighting

Color: Dark bronze anodized

Finish: Smooth

Model #: Aluminum Step and Brick Lights, 5230 round louvered

Other: Lamp: LED

UFGS: N/A

C09.2.6. Other

○ Applicable ◉ N/A

D. FACILITIES EXTERIORS

Comply with Air Force Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteriors/index.html

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Exterior Materials and Details with Solar Shading Devices on South-Facing Facade

Group 1 Chapel

Group 2 Materials and Color

Group 3 Materials and Color

D01. SUPPORTING THE MISSION

Comply with AF Corporate Standards for Supporting the Mission:
http://afcfs.wbdg.org/facilities-exteriors/supporting-the-mission/index.html

D02. SUSTAINABILITY

Comply with Air Force Corporate Standards for Sustainability:
http://afcfs.wbdg.org/facilities-exteriors/supporting-the-mission/index.html

D03. ARCHITECTURAL FEATURES

Comply with AF Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteriors/index.html

Comply with AF Corporate Standards for Architectural Features:
http://afcfs.wbdg.org/facilities-exteriors/architectural-features/index.html

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1


Group 2



Group 3



Group 4



D03.1. Orientation, Massing and Scale

1. Orient new buildings to maximize energy efficiency, passive solar and daylighting potential of the building; narrow buildings oriented along an east-west axis are preferred to minimize heat gain in the summer months and maximize heat gain in the winter months resulting in less overall energy usage.

(●) Applicable ( ) N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

(●) Applicable ( ) N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Massing to Create a Human Scale

Openings and Balconies Providing Scale

Orientation for Solar Considerations

Functional Massing Based on Operations

2. Provide orthogonal geometry for principal building form; angular geometry may be used sparingly for Group 1 and used only for emphasis at specific areas such as building entrances and stairwells.

3. Maintain a human scale and reduce the visual scale of large buildings with sub-massing related to interior functional operations; create consistent form and scale in adjacent buildings with compatible profiles or silhouettes.

4. Building heights will not be limited; however, building heights over 2 stories will be considered on a case-by-case basis.

5. Combine functions where practical to avoid a proliferation of small, independent structures.

D03.2. Architectural Character

1. Develop architectural features, materials and detailing appropriate for the Facility Group designation. Refer to Building Entrances, Wall Systems and Roof Systems.

2. Respond to the local climate with environmentally functional architectural features. Understated references to the historical architecture may be made, but avoid directly reproducing features and ornamental detailing.

3. For new facilities design generally maintain consistency and visual unity in the character of the adjacent buildings through compatible architectural features: repeated use of similar forms such as roofs, and through recurring elements such as doors, windows, materials and colors.

4. Reinforce the existing Japan Facility Improvement Program (JFIP) building character for new construction which is generally simple massing of concrete construction, usually with 'flat' roofs with extended fascia or parapet design. Existing building character can be followed for renovations. Renovation and rehabilitation are part of the O&M program.

5. All facilities will express sustainability through their orientation, massing, shape, form, materials, and detailing. Provide roof overhangs, louvers, fins and other shading devices to control heat gain and glare and to and improve energy efficiency. Use only low-maintenance and highly durable materials.

6. Strive for economical construction without compromising a high-quality, professional appearance.

(●) Applicable ( ) N/A Select number of graphics / images (large: 800 px x 440 px) to insert 2 Image Tool 800 x 440

(●) Applicable ( ) N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Simplicity in Massing and Expression of Structure in Elements of the Facade

Repetitive Roof Elements

Stair Conveyed Visually as a Feature

Indication of Structure

Use of Color to Define Massing

D03.3. Details and Color

1. Provide a palette of earth-tone colors related to the native landscape in concrete, CMU, masonry and powder-coated non-ferrous metals. Refer to wall systems and roof systems for detailed material listings.

2. Relate the level of architectural detailing to the Facility Group number. Group 1 is reserved for the highest quality detailing.

3. Use only integrally colored materials or factory finished materials as the predominant exterior building material; do not use materials that require field painting and ongoing maintenance.

◉ Applicable ○ N/A Select number of graphics / images (large: 800 px x 440 px) to insert 1 Image Tool 800 x 440

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188

Entrance Defined through Massing and in Change of Materials

Stairwell Expressed as Element

Visual Texture Created in Massing

Contrasting Color

4. Materials that have been previously painted may be repainted following the colors prescribed in Appendix G.

5. Provide consistent and compatible colors for every exterior building feature, including walls, roofs, doors, windows, gutters, downspouts, utility and mechanical elements, and other visible elements.

6. Noncorrosive metals with factory applied color finishes are required.

7. Combine details and color with orientation, massing, scale and architectural character to maintain base compatibility.

8. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

D03.3.1. Climate-based Data and Life-Cycle Cost-Effective Passive and Natural Design Strategies:

- ○ Climate dominated by mechanical cooling
- ◉ Climate dominated by mechanical heating
- ○ Climate with similar mechanical cooling / heating needs
- ○ Climate with minimal mechanical cooling / heating needs

- ◉ Climate with high humidity
- ○ Climate with moderate humidity
- ○ Climate with low humidity

- ○ High Solar Insolation
- ○ Moderate Solar Insolation
- ◉ Low Solar Insolation

- ○ Soils with High Thermal Conductivity
- ◉ Soils with Average Thermal Conductivity
- ○ Soils with Low Thermal Conductivity

Other: Consider seismic design elements for thermal mass

Other: Consider wind loads visually in features and elements and for thermal mass and shading

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Facility: Narrow buildings along E-W axis are preferred

Wall: Integral shading features and devices / interior masonry thermal mass walls (for cooling)

Doors: Recessed are preferred

Windows: Provide insulating glazing on north-facing windows / maximize shading for windows on south façades

Roof: Low to medium albedo, minimal to moderate slope

Structure: Do not expose ferrous metals. Provide factory finished non-ferrous metals or concrete

MEP: Ground-source, radiant heating and heat recovery following LCCA

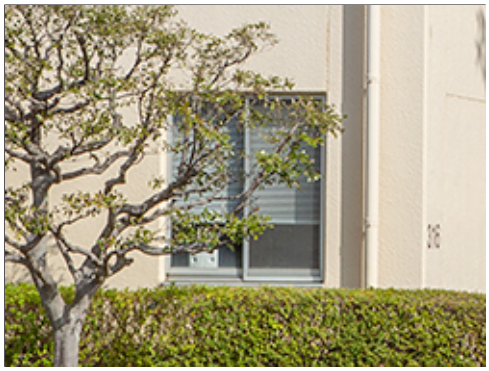
Other: Optimize shading devices to allow appropriate levels of solar heat gain year round

Other: Internal thermal mass walls to supplement radiant heat systems following LCCA

Note: *Apply the below base-wide standards for Architectural Features (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.*

D03.3.2. Natural Ventilation System

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188



Type: **Aluminum Windows**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☑ Group 4 ☐ Other

Mfr: Kawneer (or equivalent)

Color: Dark bronze (or clear anodized as approved by BCE)

Finish: Anodized

Model #: 2x4, slider or awning type

Other: Provide thermally broken frames.

UFGS: Section 08 41 13 Aluminum-Framed Entrances and Storefronts

D03.3.3. Thermal Mass

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Interior Wall Material**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Custom, TBD

Color: Beige

Finish: Light texture

Model #: Concrete with stucco finish

Other: Provide with BCE approval following LCCA

UFGS: Section 09 96 63 Elastomeric Stucco Finish (Not in UFGS)

D03.3.4. Thermal Shading

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Wall Devices - Aluminum**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Kawneer (or equivalent) or custom

Color: Match color of wall or frame to which the unit is attached

Finish: Factory

Model #: Louver, anodized

Other: Shading devices may be attached to frames or structure

UFGS: Section 08 41 13 Aluminum-Framed Entrances and Storefronts

D03.3.5. Renewable Heating/Cooling

○ Applicable ◉ N/A

D03.3.6. Solar Photovoltaic System

○ Applicable ◉ N/A

D03.3.7. Solar Thermal System

○ Applicable ◉ N/A

D04. BUILDING ENTRANCES

Comply with AF Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteriors/index.html

Comply with AF Corporate Standards for Building Entrances:
http://afcfs.wbdg.org/facilities-exteriors/building-entrances/index.html

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2


Group 3



Group 4



D04.1. Primary Entrances

1. Emphasize the primary entrance in the overall building design with a projected or recessed covering for weather protection in a color to contrast with the overall facade. Generally provide roofs that will endure without degradation due to weathering and with zero to very low maintenance requirements. Ensure an appropriate level of quality consistent with the Facility Group designation.

2. Provide a roof over all entrances to shed snow and ice away from pedestrians. Covered arcade elements may be used for Facility Group 1.

3. Provide vestibules at entries in Groups 1, 2 and 3 unless used infrequently or serving unconditioned space following ASHRAE 90.1. 1. Design vestibules (air locks) to minimize heat loss during the action of opening and closing doors.

4. Fully integrate all elements including the design of handicap ramps in the overall design of the primary entrance in an organized, uncluttered appearance.

5. Install paved transitional spaces sized for the building function and occupancy.

6. Install appropriate lighting and site furniture following AT and IFS.

7. Protect entrances from falling ice and snow. Develop roof form and slopes to minimize the need for gutters and to prevent water from discharging onto sidewalks.

8. Provide porte cocheres or covered drop-offs when justified for lodging and medical facilities; do not use for prestige or architectural accents.

D04.2. Secondary Entrances

1. Provide vestibules at entries in Groups 1, 2 and 3 unless used infrequently or serving unconditioned space following ASHRAE 90.1; use of stair towers as vestibules for multi-story buildings is encouraged when building and / or energy codes are satisfied.

2. Reflect the character of the primary entrance to a lesser extent with a smaller scale and to blend with the adjacent wall using a matching color.

3. Include a recess or projection for weather protection and shading.

4. Integrate service and egress doors and loading areas with the building design by matching the materials and detailing and reflect the overall quality of the facility.

5. Incorporate egress structures such as stair towers into the facility design.

6. Canopies may be used for service and loading areas when there is a documented need; provide weatherstripping and appropriate insulation for all doors including those used only for life safety egress.

7. Develop building massing and orientation to minimize the appearance of service and loading areas; physically and visually separate these from primary entrances.

8. Loading areas must be organized, orderly and have an uncluttered appearance.

D05. WALL SYSTEMS

Comply with AF Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteriors/index.html

Comply with AF Corporate Standards for Wall Systems:
http://afcfs.wbdg.org/facilities-exteriors/wall-systems/index.html

Comply with AFCFS Recommended Materials:
http://afcfs.wbdg.org/facilities-exteriors/wall-systems/materials/index.html

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1


Group 2



Group 3



Group 4



D05.1. Hierarchy of Materials

1. Group 1 facilities may have more refined detailing than Group 2 and Group 2 may have more definition than Group 3.

2. Group 1 facilities will be predominantly light or medium beige integrally colored architectural precast panels; do not paint integrally colored panels. Integrally colored beige ground face concrete masonry units (CMU) may be used in orderly patterns as accent walls or wainscots; do not paint integrally colored CMU. Natural stone and brick may be used only with BCE approval. Fascias and top panels adjacent to copings may be finished brown.

3. Group 2 facilities will be predominantly light beige synthetic stucco finish coat over precast or cast-in-place natural concrete panels or bearing walls. If concrete structural framing is exposed, concrete panels or natural colored CMU may be used as infill, and all of these elements will receive a light beige synthetic stucco finish coat. Medium beige synthetic stucco may be used as a visual base and accent to contrast upper walls. Fascias and the top wall panels adjacent to copings may be finished brown. Dark brown factory finished metal sheeting may be used as an accent material with BCE approval.

4. Group 3 facilities will be predominantly light beige ribbed metal sheeting. Concrete foundation walls may receive a beige synthetic stucco finish coat or, with BCE approval, a clear sealer to create a visual base.

5. Group 4 will be predominantly beige synthetic stucco finish with parapets of dark beige or brown.

6. Multi-story Group 1, 2 and 3 facilities may include a transition in material, color or detailing to create a visual base. Generally, limit these facilities to three field colors and Group 3 facilities to two field colors.

7. Use high-performance building envelopes following UFC 1-200-02.

8. Use detailing that is not subject to excessive weathering. Generally provide wall accents consistently throughout the base for each facility group. Where CMU is used, ensure thru-wall flashing installation and detailing is per SMACNA (or host nation equivalent standard) to prevent efflorescence.

9. Use integrally colored concrete and masonry with clear sealers when recommended by the manufacturer. Do not paint concrete or concrete masonry units (CMU).

10. Translucent wall panels may be used in Facility Groups 1, 2 and 3 when protected from direct solar gain. Provide insulating panels and shading appropriate for the orientation and exposure.

11. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

D05.2. Layout, Organization and Durability

1. Organize wall components including doors, windows, accents, shading devices, control joints, etc., to provide an ordered, professional appearance.

2. Integrate shading devices into the overall composition of the wall.

3. Integrate fixed shading devices to reduce glare and promote daylighting in interiors. Generally promote solar gain into interiors as a passive design measure to reduce energy use. Ensure adequate shading at west entrances. Deciduous trees may be used for shading.

4. Shading systems may be included as part of a manufacturer's window system or may be custom systems integrated into the wall.

5. Provide appropriate transitions between dissimilar materials to mitigate effects of thermal expansion and galvanic action per UFGS 07 60 00 Flashing and Sheet Metal.

6. All joint sealants will be slightly darker than adjacent surfaces.

7. Materials requiring regular maintenance are not permitted; do not use exposed structural steel, exposed glued laminated construction or other materials that require field painting.

8. Refer to C07.2.16. Screen Walls for materials and colors of freestanding walls.

9. Refer to D07. Roofs for parapets.

10. Application of polymer-based stucco over concrete finishes will follow UFGS.
    a. Provide concrete surface coatings per Section 09 96 00 High-Performance Coatings.
    b. Prepare concrete surfaces per Section 09 96 00 High-Performance Coatings and Section 09 90 00 Paints and Coatings following the most stringent requirements of each and following product manufacturer recommendations to maintain full warranty.

D05.3. Equipment, Vents and Devices

1. Arrange all mechanical, electrical, fire alarm, lightning protection and other system components to create an orderly appearance that integrates with the wall system.

2. Do not expose conduits, cables, piping, lightning protection components, etc. on exterior walls; if unavoidable in renovations, finish these elements to match the adjacent wall surface.

3. Avoid visual clutter and where surface-mounted elements are required they will match the wall color.

D05.4 Wall Systems Materials

Facility Group 1 wall materials shall be as follows.

Primary:	Architectural Precast Panel System
Secondary:	Stone, Brick
Accent:	Optional: Alternate Color of Precast

Facility Group 2 wall materials shall be as follows.

Primary:	Cast-in Place Concrete System
Secondary:	Concrete or CMU Infill
Accent:	Optional: Metal Panels

Facility Group 3 wall materials shall be as follows.

Primary:	Ribbed Metal Sheeting or Concrete / Stucco
Secondary:	Cast-In-Place Concrete with Stucco Finish
Accent:	Optional: Alternate Color of Metal Sheeting

Facility Group 4 wall materials shall be as follows.

Primary:	Stucco Finish
Secondary:	N/A
Accent:	Optional: Alternate Color of Stucco

Note: *Apply the below base-wide standards for Wall Systems (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.*

D05.4.1. Flat Metal Panels

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Insulated Metal Panel System**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Alucobond

Model #: Alucobond Classic Rainscreen 1

Color: Silver, medium bronze or other neutral color with BCE approval

Finish: Factory red, or anodized silver or medium bronze

Other: Route and return dry seal

UFGS: Section 07 42 13 Metal Wall Panels:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 13.pdf
Section 07 42 63 Fabricated Wall Panel Assemblies:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 63.pdf

D05.4.2. Brick Veneer

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188

Type: **Modular Face Brick - Smooth**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Local, TBD

Model #: Modular face brick, Japan dimensional standard

Color: Beige

Finish: Straight edges, smooth texture

Other: N/A

UFGS: Section 04 20 00 Unit Masonry:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 04 20 00.pdf

Type: **Modular Face Brick - Textured**

Applies to: ◉ Group 1 ◉ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Local, TBD

Model #: Modular face brick, Japan dimensional standard

Color: Light beige

Finish: Straight edges, moderate texture

Other: N/A

UFGS: Section 04 20 00 Unit Masonry:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 04 20 00.pdf

D05.4.3. Architectural Precast

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188

Type: **Architectural Precast Wall Panel System - Factory Integral Color**

Applies to: ◉ Group 1 ◉ Group 2 ◉ Group 3 ☐ Group 4 ☐ Other

Mfr: Local, TBD

Model #: Smooth casting

Color: Light beige, medium beige or red

Finish: Very light texture

Other: Decorative integral relief patterns must be approved by the BCE

UFGS: Section 03 45 00 Precast Architectural Concrete:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 03 45 00.pdf

Type: **Architectural Precast Wall Panel System – Synthetic Stucco Finish**

Applies to: ◉ Group 1 ◉ Group 2 ◉ Group 3 ☐ Group 4 ☐ Other

Mfr: Local, TBD

Model #: Smooth casting

Color: Light beige, medium beige or red

Finish: Sand finish, integrally colored finish coat

Other: Accent colors must be approved by the BCE

UFGS: Section 03 45 00 Precast Architectural Concrete:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 03 45 00.pdf

D05.4.4. Stucco Over Sheathing

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188

Type: **Synthetic Stucco Finish over Concrete - Beige**

Applies to: ◉ Group 1 ◉ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: La Habra

Model #: Integrally colored synthetic finish coat, with required bonding

Color: Light or medium beige

Finish: Sand

Other: Accent color may be used; integrally colored

UFGS: Section 09 24 23 Cement Stucco:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 24 23.pdf

Type: **Synthetic Stucco Finish over Concrete**

Applies to: ☐ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: La Habra

Model #: Integrally colored synthetic finish coat, with required bonding

Color: Brown

Finish: Sand

Other: Accent color may be used; integrally colored

UFGS: Section 09 24 23 Cement Stucco:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 24 23.pdf

D05.4.5. Curtain Wall

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Traditional Component System**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Kawneer (or equivalent)

Model #: Exposed or concealed framing

Color: Dark bronze or clear anodized per BCE

Finish: Factory

Other: Comply with UFCs for thermal performance

UFGS: Section 08 44 00 Curtain Wall and Glazed Assemblies:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 44 00.pdf

D05.4.6. Cast-In-Place Concrete

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Formed Bearing Walls - Synthetic Stucco Finish Coat**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☑ Group 4 ☐ Other

Mfr: Custom

Model #: Smooth or liner-formed

Color: Natural gray concrete

Finish: No exposed form ties, with bonding to receive synthetic stucco finish

Other: Clear sealer may be applied in lieu of stucco with BCE approval

UFGS: Section 03 33 00 Cast-In-Place Architectural Concrete:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 03 33 00.pdf

D05.4.7. Tilt-Up Concrete

○ Applicable ◉ N/A

D05.4.8. Ribbed Metal Sheeting

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Lap Seam Metal Panel System**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Berridge

Model #: Lap seam panel

Color: Beige

Finish: Embossed texture, factory finished

Other: 24 gauge steel

UFGS: Section 07 42 13 Metal Wall Panels:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 42 13.pdf

D05.4.9. EIFS

○ Applicable ◉ N/A

D05.4.10. GFRC

○ Applicable ◉ N/A

D05.4.11. Concrete Block

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188

Type: **Concrete Masonry Unit (CMU) - Ground Face**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Local TBD

Model #: Japan Standard Dimensions, face and corner units

Color: Light or medium beige

Finish: Honed smooth texture

Other: Confirm class of system with the BCE

UFGS: Section 04 20 00 Unit Masonry:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 04 20 00.pdf

Type: **Concrete Masonry Unit (CMU) - Synthetic Stucco Finish Coat**

Applies to: ☐ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Local TBD

Model #: Japan Standard Dimensions, face and corner units

Color: Natural gray CMU

Finish: Smooth face, with bonding to receive synthetic stucco finish

Other: Confirm class of system with the BCE

UFGS: Section 04 20 00 Unit Masonry:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 04 20 00.pdf

D05.4.12. Fiber Cement Siding

○ Applicable ◉ N/A

D05.4.13. Other

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188

Type: **Stone Veneer**

Applies to: ☑ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: TBD

Model #: Stone with attached anchors, rectangular form

Color: Natural stone

Finish: TBD

Other: Per BCE approval; sealed or water-shedding joints

UFGS: SECTION 04 20 00 Unit Masonry

Type: **Failure of Elastomeric Stucco**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☑ Group 4 ☐ Other

Mfr: All

Model #: Direct application of polymer-based elastomeric stucco over concrete

Color: All

Finish: All

Other: Follow manufacturer requirements for surface preparation and bonding

UFGS: Provide concrete surface coatings per Section 09 96 00 High-Performance Coatings; prepare concrete surfaces per Section 09 90 00 Paints and Coatings

D06. DOORS AND WINDOWS

Comply with AF Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteriors/index.html

Comply with AF Corporate Standards for Doors and Windows:
http://afcfs.wbdg.org/facilities-exteriors/doors-and-windows/index.html

Comply with AFCFS Recommended Materials:
http://afcfs.wbdg.org/facilities-exteriors/doors-and-windows/materials/index.html

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2


Group 3



Group 4



D06.1. Types

1. Clear anodized aluminum doors, windows and frames with thermal breaks are preferred for Facility Groups 1, 2 and 4 because they show less wear and weathering than dark anodized finishes; match the color of the door and frame. For renovation projects the color of new windows, doors and frames may match existing.

2. Power coated hollow metal doors and frames are preferred at Group3. Limit hollow metal doors and frames in Groups 1 and 2 to security doors, utility rooms and mechanical rooms. Louvered doors at utility rooms shall match hollow metal doors. Neutral or dark bronze color may be used.

3. Standard-sized hinged doors are preferred. Use sliding, folding, overhead, sectional and other door configurations only to support mission operations. Hinged doors serving occupied areas must swing outwards.

4. Automatic doors are allowed only where functionally necessary.

5. Utility and emergency egress doors will match or be harmonious with the wall color.

6. Passive thermal comfort methods of ventilation are encouraged where life cycle cost justified.

7. Operable windows will be slider or awning type. Double-hung units may be used to match adjacent existing condition. Windows must meet force protection requirements.

8. Adjacent joint sealants should be slightly darker than the frame color.

9. Make efforts to contain noise at its source with properly gasketed doors per UFC 3-450-01 Noise and Vibration Control.

10. Japanese windows shall have a `Top Runner' rating, and those from the U.S. shall be `Energy Star' rated.

11. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

D06.2. Layout and Geometry

1. Visually and functionally compose openings in walls for the climate-specific exposure.

2. Consistently use opening type, size, placement, mullion pattern, and color to reinforce the overall architectural design.

3. Openings will augment interior lighting and space conditioning needs.

4. Protect against vandalism and intrusion.

D06.3. Glazing and Shading

1. Tinted, energy-efficient, low-e, double-pane glazing is encouraged; provide triple-pane glazing in extreme environments.

2. Glazing color will follow Installation Facilities Standards (IFS).

3. Translucent wall panels may be integrated into wall systems.

4. Do not use mirrored glazing.

5. Fully integrate applicable shading designs for overhangs, louvers, light shelves and grilles.

6. Where appropriate for the facility use, install window screens to take advantage of natural ventilation.

D06.4. Hardware

1. Provide hardware appropriate for the Facility Group while considering activity and frequency of use and local climate; hardware may be of higher visual quality for Facility Group 1.

2. Ensure hardware will perform throughout the facility's lifespan without showing extreme wear.

3. Select finishes that will not degrade by intensity of operation or exposure to the elements.

4. Use consistent finishes and color on window and door systems throughout a facility. For renovation projects the color of new hardware may match the existing hardware.

5. Design building systems to eliminate the need for security screens whenever possible.

6. Hardware requirements:
    a. Main hangar door: Megadoor; ASSA ABLOY Entrance Systems
    b. General purpose: U9 Cylinder (rotary cylinder) with inter-changeable cylinder; Miwa Lock Co., Ltd.
    c. Cipher lock: Keylex 4000 (K423CM); Nagasawa Manuf. Co., Ltd.
    d. Padlock: 11B772; Best Co., Ltd.

D06.5. Doors and Windows Materials

Note: *Apply the below base-wide standards for Doors and Windows (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.*

D06.5.1. Anodized Aluminum

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Anodized Aluminum Doors, Windows and Frames**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☑ Group 4 ☐ Other

Mfr: Local

Color: Clear or dark bronze anodized per BCE

Finish: Matte

Model #: 2x4

Other: Provide thermally broken frames

UFGS: Section 08 41 13 Aluminum-Framed Entrances and Storefronts:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 41 13.pdf

D06.5.2. Hollow Metal

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Hollow Metal Doors, Windows and Frames**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Hollow Metal Doors, Windows and Frames

Color: Dark bronze or match wall

Finish: Powder coated, satin

Model #: 2x4 frame

Other: Provide thermally broken frames

UFGS: Section 08 11 13 Steel Doors and Frames:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 11 13.pdf

D06.5.3. Aluminum-clad Wood

○ Applicable ◉ N/A

D06.5.4. Other

○ Applicable ◉ N/A

D07. ROOF SYSTEMS

Comply with AF Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteriors/index.html

Comply with AF Corporate Standards for Roof Systems:
http://afcfs.wbdg.org/facilities-exteriors/roof-systems/index.html

Comply with AFCFS Recommended Materials:
http://afcfs.wbdg.org/facilities-exteriors/roof-systems/materials/index.html

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2



Group 3



Group 4



D07.1. Roof Type and Form

1. Use proven, cost-effective roof systems with high durability, weather resistance, and low maintenance that are compatible with Installation Facilities Standards (IFS) and requirements for the designated Facility Group.

2. Generally match the roof type and form of existing adjacent facilities in new construction.

3. Facilities of simple geometry under a 5,000 sf footprint and/or narrow in plan geometry may use shed, gabled or hipped standing seam metal roofs. These and other facilities may also use minimal-sloped "flat" membrane roofs with or without sloped-roof features.

4. Generally follow local practices for “Cold Roof” design, which optimizes venting and air movement with appropriate coordination of the thermal envelope. Provide roof configurations that minimize or eliminate snow management requirements.

5. Provide screens for roof-mounted appendages and equipment which are clad to match standing seam roofs or parapet walls.

6. Roof translucent panels and skylights are not permitted in roofs.

7. Roof eaves will extend beyond the exterior wall for roof drainage and shading. Provide overhangs for shading in response to local climatic conditions; these should be sized and proportioned to the height of the facility and to the window openings being shaded.

8. South-facing eaves will coordinate with adjacent wall-mounted shading devices.

9. The color, shape and slope of the eave and soffit will be compatible with adjacent facilities.

10. Keep roofs uncluttered and minimize penetrations.

11. Diminish massive roofs into coordinated smaller components consistent with adjacent facilities; avoid random, arbitrary changes.

12. Increase the insulation value of existing roofing systems during renovations if supported by life-cycle cost and structural analysis.

13. Roofs will be maintained for the life of the system and replaced in accordance with UFC 3-110-04 and AFI 32-1051. A warranty is required on all new roofs.

14. Apply acrylic-resin rubber coating waterproofing on metal roofs as needed for maintenance.

15. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

D07.2. Roof Slope

1. Conform with JFIP practices on new construction and/or to match existing conditions on renovation projects.

2. Ensure adequate drainage and connect to the subsurface rain collection system where available.

3. Provide underlayments as required for the roofing type as directed by the UFC.

D07.3. Parapets and Copings

1. Extend wall materials vertically above the roofline and provide metal copings to match the wall. Ensure copings are properly flashed and detailed to avoid roof leaks.

D07.4. Color and Reflectivity

1. Groups 1 and 2 and smaller facilities in Group 3 will be brown to match adjacent facilities and follow requirements of IFS.

2. All minimal-slope membrane roofs may use low-albedo surface because heat island effect is not applicable.

3. Comply with UFC 3-110-03 and ASHRAE 90.1 for Solar Reflectance Index (SRI) and thermal requirements. The top surface shall be thermally reflective.

4. All roof flashing will match the color of the predominant background material.

D07.5. Gutters, Downspouts, Scuppers, Drains

1. All sloped roofs shall use gutters and downspouts. Locate gutters outside the fascia.

2. Internal roof drainage systems are allowed for minimal-slope applications with BCE approval. Minimal-sloped roofs with parapets will be sloped to drain to the building perimeter through scuppers into downspouts. Any internal roof drains must have secondary drains as required by applicable building codes.

3. All gutters and fascias will match the roof color.

4. Size the roof drainage system per IBC and standards based on historical climate records (SMACNA for the region).

5. Use scuppers as required in parapet walls. Arrange scuppers in an orderly manner consistent with other elements of the wall system.

6. When open scuppers are connected to downspouts, provide transitions consistent with adjacent facilities.

7. Integrate downspouts with the architectural details of the wall system and arrange in an orderly, non-prominent appearance. Generally blend downspouts with the color of the wall (not contrasting it).

8. Fabricate downspouts from non-corrosive materials such as aluminum or zinc-coated steel. Provide powder-coated finishes.

9. All downspouts will be solid.

10. Provide angled transitional pieces for downspouts to fit closely against the wall for their entire length.

11. Coordinate locations of downspouts to conceal control joints in masonry walls when possible.

12. Place downspouts away from building entries. Water discharged should not run across sidewalks.

D07.6. Roof Vents and Elements

1. Minimize and consolidate roof penetrations into a single, inconspicuous point whenever possible.

2. On sloped roofs clad pipe penetrations to match the roofing material.

3. Avoid the use of rooftop mechanical equipment; however, for renovations and unavoidable configurations, ensure units are screened.

4. Provide access points and service routes to equipment that protect the roof.

5. Screen all large vents.

6. Ensure attic spaces are properly vented at ridges and soffits.

7. Match roof color for all exposed equipment and vents.

8. Avoid roof-mounted antenna systems.

9. Arrange Lightning Protection Systems (LPS) components in an ordered, uncluttered and inconspicuous appearance; integrate components into the organization of the roof and wall systems.

10. Ensure that LPS roof mounting systems are approved by the roofing manufacturer.

11. Additions to a roof will not interfere with LPS or other rooftop systems that may be required.

12. Include permanent fall protection with any addition to a roof with a slope above 3:12 per UFC 3-110-03.

D07.7. Clerestories and Skylights

1. Clerestories are permitted in Group 1, 2 and 3 facilities only when serving passive systems and are justifiable by life-cycle analysis.

2. Design clerestories using the same principles for seasonal shading that are required for walls and roof overhangs.

3. Translucent panel systems are preferred in clerestory applications due to lack of window cleaning.

4. Clerestories must comply with UFC 4-10-01.

5. Skylights are not permitted.

D07.8. Vegetated Roof

1. Vegetated roofs are permitted on a case-by-case basis and must be approved by the BCE.

D07.9. Roof Systems Materials

Note: *Apply the below base-wide standards for Roof Systems (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.*

D07.9.1. Standing Seam Metal

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Low to Moderate Slope Roofs**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Berridge

Color: Brown to match existing, color 09-30D, Japan Paint Makers Assn.

Finish: Matte, thermally reflective

Model #: Tee-Panel

Other: Shed, gabled or hipped standing seam metal

UFGS: Section 07 61 14 Steel Standing Seam Roofing
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 61 14.00 20.pdf

D07.9.2. Membrane Single-ply

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Minimal Slope Roofs (EPDM)**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☑ Group 4 ☐ Other

Mfr: Carlisle Syntec Systems

Color: Off-white

Finish: Smooth

Model #: Single-ply, “flat” minimal slope

Other: N/A

UFGS: Section 07 53 23 Ethylene-Propylene-Diene-Monomer Roofing
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 53 23.pdf
Section 07 54 50 TPO Thermoplastic Single-Ply Roofing
(Not Available on UFGS)

D07.9.3. Built-up Multi-ply

○ Applicable ◉ N/A

D07.9.4. Concrete Tile

○ Applicable ◉ N/A

D07.9.5. Clay Tile

○ Applicable ◉ N/A

D07.9.6. Slate Shingles

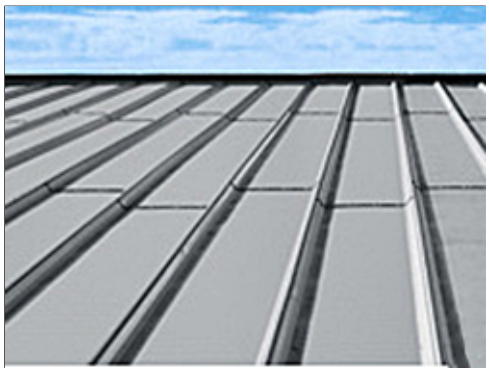
○ Applicable ◉ N/A

D07.9.7. Vegetated System

○ Applicable ◉ N/A

D07.9.8. Ribbed Metal Sheeting

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188



Type: **Low Sloped or Barrel**

Applies to: ☐ Group 1 ☐ Group 2 ◉ Group 3 ☐ Group 4 ☐ Other

Mfr: Berridge

Color: Brown to match existing, color 09-30D, Japan Paint Makers Assn.

Finish: Factory, matte, thermally reflective

Model #: High Seam Tee-Panel

Other: 24 gauge steel, mechanically seamed system; refer to Section 07 61 14 Steel Standing Seam Roofing

UFGS: Section 07 41 13.19 Batten-Seam Metal Roof Panels
(Not Available on UFGS)

D07.9.9. Composite Shingles

○ Applicable ◉ N/A

D07.9.10. Other

○ Applicable ◉ N/A

D08. STRUCTURAL SYSTEMS

Comply with AF Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteriors/index.html

Comply with AF Corporate Standards for Structural Systems:
http://afcfs.wbdg.org/facilities-exteriors/structural-systems/index.html

Comply with AFCFS Recommended Materials:
http://afcfs.wbdg.org/facilities-exteriors/structural-systems/materials/index.html

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2



Group 3



Group 4



D08.1. Systems and Layouts

1. Pre-engineered structural steel framing may be used for Groups 1, 2 and 3 facilities; Installation-appropriate thermal envelopes, materials and detailing are required.

2. Rigid frame steel systems and concrete systems may be used following a LCCA.

3. Select economical structural systems that integrate roof and wall systems.

4. Narrow buildings 60' or less in width with column-free interiors are preferred for office, administrative and personnel spaces; when interior columns are required optimize the structural grid layout for open-plan arrangements.

5. Fully coordinate structural grids with exterior window systems to align columns with window frames or wall systems.

6. When structure is exposed on building exteriors, it must be made of concrete or non-ferrous metals such as aluminum or stainless steel. Exposed non-ferrous metals are only permitted with weatherproof non-ferrous metal cladding or precast concrete cladding. Metal cladding must be factory finished and will not be field painted.

7. When structure is exposed on building interiors, provide an organized appearance and coordinate with mechanical, electrical, plumbing, fire protection, information technology, and communications systems.

8. Limit the use of specialty systems (such as space frames, vaults or domes) and of structure as a visual feature.

9. Cost-effectively design interior bearing walls as thermal mass.

10. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

D08.2. Structural Systems Materials

Note: *Apply the below base-wide standards for Structural Systems (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.*

D08.2.1. Concrete

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Cast-In-Place**

Applies to: ◉ Group 1 ◉ Group 2 ◉ Group 3 ◉ Group 4 ☐ Other

Mfr: Local, TBD

Color: Natural gray or light beige

Finish: Light texture

Model #: Post and beam and/or waffle slab

Other: N/A

UFGS: Section 03 30 53 Miscellaneous Cast-In-Place Concrete
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 03 30 53.pdf
Section 03 33 00 Cast-In-Place Architectural Concrete
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 03 33 00.pdf
Section 03 47 13 Tilt-Up Concrete
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 03 47 13.pdf

D08.2.2. Insulated Concrete Forming (ICF)

○ Applicable ◉ N/A

D08.2.3. Steel

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Rigid Framing**

Applies to: ◉ Group 1 ◉ Group 2 ◉ Group 3 ☐ Group 4 ☐ Other

Mfr: US Steel

Color: Shop primed

Finish: Matte

Model #: Structural steel shapes

Other: N/A

UFGS: Section 05 12 00 Structural Steel
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 05 12 00.pdf

D08.2.4. Pre-Engineered Steel

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Moment Frame**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Behlen Building Systems

Color: Factory primed

Finish: Matte

Model #: Moment frame

Other: Draped insulation may be used behind wall system;
Behlen standing seam roof system may be used for Group 3

UFGS: Section 13 12 00 Steel Building Systems
(Not Available on UFGS)
Section 13 34 19 Metal Building Systems
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 13 34 19.pdf

D08.2.5. Masonry

○ Applicable ◉ N/A

D08.2.6. Heavy Timber

○ Applicable ◉ N/A

D08.2.7. Light-gauge Steel

○ Applicable ◉ N/A

D08.2.8. Lumber Framing

○ Applicable ◉ N/A

D08.2.9. Other

○ Applicable ◉ N/A

D09. MECHANICAL, ELECTRICAL AND PLUMBING

Comply with AF Corporate Standards for Facilities Exteriors:
http://afcfs.wbdg.org/facilities-exteriors/index.html

Comply with AF Corporate Standards for Mechanical, Electrical and Plumbing:
http://afcfs.wbdg.org/facilities-exteriors/mechanical-electrical-and-plumbing/index.html

Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2



Group 3



Group 4



D09.1. Passive and Active Systems

1. Fully integrate passive heating and cooling systems into facility designs whenever practical for the local climate prior to the design of active mechanical systems.

2. Provide optimized passive and active systems, and include heat recovery measures to improve efficiency; design active mechanical systems to supplement thermal mass walls and floors where applicable.

3. Develop renewable-energy systems including geo-exchange (ground source heat pumps) when life cycle cost effective.

4. Performance display screens, which report energy performance and utility savings, are encouraged; when provided, locate these in building lobbies or common areas.

5. Solar domestic hot water systems are required when life-cycle cost effective for the climate.

6. Integrate shading into building exteriors to reduce solar heat gain as applicable for the exposure.

D09.2. Functionality and Efficiency

1. Fully coordinate mechanical, electrical, plumbing (MEP) and fire protection systems with each other and with the building structure, enclosure, thermal envelope and interior design.

2. Ensure direct exterior access is provided (for CE) to main mechanical and electrical rooms.

3. Screen exterior equipment from primary views (landscape, building masses, screen walls) and comply with AT requirements.

4. Keep equipment away from main building entrances; locate service area/yard on least visible side of a building.

5. Coordinate the location of all exterior meters, equipment and devices to provide convenient access and an overall coordinated and orderly appearance.

6. Design emergency generator systems integrally with all other building systems and avoid incompatible building additions; locate generators near service areas and ensure they are not visible from primary entrances.

7. When structure is exposed as a finished ceiling, fully integrate MEP and fire protection systems to provide an organized, uncluttered appearance.

8. Conceal ducts, piping, conduits, devices, etc., when permanent walls, suspended ceilings or raised floors are provided; locate sprinkler heads in orderly configuration.

9. Limit interior wall-mounted equipment in occupied personnel spaces; avoid surface-mounted conduit and pipes.

10. Provide efficient utility rooms with layouts to facilitate system performance and maintenance; provide convenient access to controls, clearly label systems and include operating and maintenance instructions.

11. Separate mechanical and electrical and communications rooms.

12. Integrate recessed and wall-mounted fixtures such as fire standpipe cabinets and drinking fountains within permanent walls.

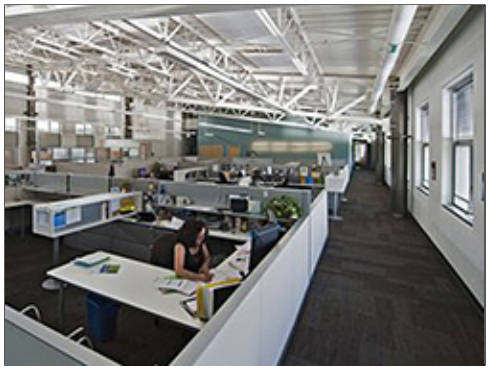
E. FACILITIES INTERIORS

Comply with Air Force Corporate Standards for Facilities Interiors:
http://afcfs.wbdg.org/facilities-interiors/index.html

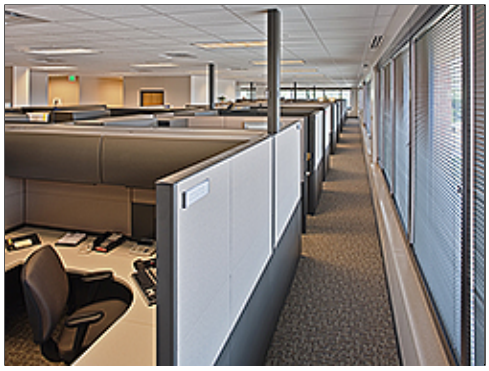
Insert 3 photos for each facility group.

Image Tool 250 x 188

Group 1



Group 2



Group 3



Group 4



E01. Building Configurations

Comply with Air Force Corporate Standards for Building Configurations:
http://afcfs.wbdg.org/facilities-interiors/buildings-configurations/index.html

1. Provide open-plan configurations for office, administrative, operational and related activities and spaces for maximum flexibility. Use a "core and shell" approach in which all building systems, infrastructure and permanent interior partitions anticipate two or more uses (operations) during a facility's life span.

2. Create flexible interior configurations using Furniture, Fixtures & Equipment (FF&E) and limit private offices and private rooms. Refer to AFMAN 32-1084 for space requirements. To the greatest extent, limit permanent partitions to core areas such as toilet rooms, stairs, mechanical and utility rooms.

3. Use more durable long-lasting finishes in core areas for walls, ceilings, floor coverings and built-in casework. Coordinate interior FF&E layouts with structural grids during space planning.

4. Provide high-performance building configurations following UFC 1-200-02. Ensure passive design strategies are cost effectively incorporated before active mechanical systems are designed.

5. Comply with UFC 1-200-01, general building requirements. UFC 1-200-01 provides applicability of model building codes and government unique criteria for typical design disciplines and building systems, as well as for accessibility, antiterrorism, security, high performance and sustainability requirements, and safety.

6. Meet security and force protection requirements in UFC 4-010-01: DoD Minimum Antiterrorism Standards for Buildings.

7. Comply with AFCFS for supporting mission requirements, addressing human comfort and well being, and creating highly flexible interiors while satisfying metrics for high performance and sustainable buildings.

8. Provide a level of quality for interior features, materials and finishes that is appropriate for the Facility Group number. Group 1 may receive higher quality than Groups 2 thru 4. Refer to Facility Hierarchy.

9. Through open-plan configurations, preserve all passive and natural design strategies and fully integrate facility interiors with overall building systems.

10. Professional interior designers, or architects with significant interior design experience, must accomplish the design and review of applicable new construction, renovations and maintenance projects.

11. Maintain architectural compatibility following AFCFS and this Installation Facilities Standards (IFS) document to create continuity while avoiding monotony.

E01.1. Layout and Common Areas

Comply with Air Force Corporate Standards for Layout and Common Areas:
http://afcfs.wbdg.org/facilities-interiors/buildings-configurations/layout-and-common-areas/index.html

1. Create open-plan interior environments to accommodate changes.

2. Limit interior partitions, private offices and rooms; use furniture or modular systems to provide privacy and acoustic control.

3. When partitions are functionally justified such as for conference rooms, use systems furniture and moveable (demountable) floor-to-ceiling wall systems for acoustical or visual privacy.

4. Proportion lobbies and common spaces based on type of function, activity and facility group.

5. Allow no direct sight lines into restrooms.

6. Situate utility and core areas to minimize impact on daylighting and to maximize use as thermal buffers.

7. Ensure electrical, lighting and communications system can be adaptable to configuration changes.

8. Avoid power poles to the maximum extent; when poles are necessary minimize the number and coordinate locations with furniture placement and other elements.

9. Avoid sloping floors to maintain flexibility and eliminate future structural changes.

10. Special consideration may apply to Sensitive Compartmented Information Facilities (SCIFs).

E01.1.1. Interior Design Process

1. Comply with UFC 3-120-10 for the Comprehensive Interior Design (CID,) which includes both Structural Interior Design (SID) and Furniture, Fixtures & Equipment (FF&E) design services.

2. Use a collaborative, integrated planning and design team, composed of user, government support staff, and appropriate professionals. Integrate architectural features using simple detailing to create a professional appearance; avoid extravagant or excessive detailing.

3. Ensure interior designs satisfy the functional requirements within the context of flexibility, sustainability and the building's energy performance.

4. Base space planning on square foot allocations from AFM 32-1084. Identify special requirements if any, such as privacy separation, VIP areas, gathering spaces and storage. Note: The occupant's rank and position will influence the square footage and selection of materials.

5. Provide clear circulation and pathway finding for both horizontal and vertical directions that accommodate the number of personnel in the facility.

6. Maximize efficiencies in the space plan for functional relationships and adjacencies for all facility users. Efficiently create and situate rooms and support rooms such as conference / meeting rooms and break rooms.

7. Provide interior design building-related illustrations, drawings, schedules, materials selections, specifications and cost estimates as listed in UFC 3-120-10. Refer to Furnishings in this IFS also.

8. SID Format will follow UFC 3-120-10.

9. Base the FF&E package on the furniture footprint developed in the SID. Identify all new or existing equipment needed and its users within each facility or each area of the facility. Provide specific information on: equipment sizes, electrical requirements, ventilation requirements, weight (if heavy), quantity, and security level if required. Presume all administrative spaces have computers and supporting equipment.

10. Incorporate Japanese materials, products and construction methods. The use of Japanese materials, products and construction methods ensures that the project can be maintained with local materials/supplies by the local workforce.

11.There are several important exceptions when Japanese materials and products shall not be used. The exceptions include, but are not limited to, fire and life safety devices and elevator items that do not meet U.S. code and criteria. Refer to USACE Japan District Design Guide for further details. All items that are to be purchased from the United States must be documented in the design analysis.

12. Where finishing materials are to be in accordance with American standards, the equivalent Japanese standard may be used subject to the approval of the Contracting Officer. The Contractor shall be responsible for proving the equivalency of the Japanese standard.

E01.1.2. Codes and Regulations

1. Refer to UFC 1-200-01 for modifications to the International Building Code (IBC) to determine applicable sections of the IBC. Both the IBC Chapter 3 and UFC 3-600-01 govern "Use and Occupancy Classification" for example.

2. Fire code requirements will be as defined in the International Building Code (IBC) and must be used where dictated by UFC 1-200-01 DoD Building Code (General Building Requirements) except where noted in UFC 3-600-01 (Fire Protection Engineering For Facilities).

3. National Fire Protection Association (NFPA) 101 must be utilized to determine the occupancy classification as it relates to fire/ smoke resistance rating of interior non-load bearing partitions (other than occupancy separation), means of egress, interior finish, features of fire protection (including vertical openings) and associated requirements.

E01.2. Quality and Comfort

Comply with Air Force Corporate Standards for Quality and Comfort:
http://afcfs.wbdg.org/facilities-interiors/buildings-configurations/quality-and-comfort/index.html

1. Include durability in the life-cycle cost analysis for best-value material selections with long life expectancies that do not show excessive wearing.

2. Select long-lasting materials and finishes for permanent core areas such as lobbies, restrooms and stairs.

3. Select low-maintenance materials and products that reduce ongoing servicing and repair and that are easy to clean.

4. Relate the visual quality of finishes to the Facility Group number.

5. Building and interior configurations should address both operations and climatic responses.

6. Convey a professional image; avoid trendy patterns and textures.

7. Use materials and finishes that provide a healthy indoor environment.

8. Orient interior spaces toward views while maintaining cost-effective building performance and efficiency.

9. Promote air movement and daylighting for human health and wellbeing.

E02. Floors

Comply with Air Force Corporate Standards for Floors:
http://afcfs.wbdg.org/facilities-interiors/floors/index.html

E02.1. Floor Materials

Facility Group 1 floor materials shall be as follows.

Primary:	Prepared Slabs (Ground, Polished)
Secondary:	Porcelain Tile
Tertiary:	Carpet, Rubber Stair Treads

Facility Group 2 floor materials shall be as follows.

Primary:	Prepared Slabs (Ground, Polished)
Secondary:	Ceramic Tile
Tertiary:	Carpet, Rubber Stair Treads

Facility Group 3 floor materials shall be as follows.

Primary:	Prepared Slabs (Ground)
Secondary:	Prepared Slabs (Sealer)
Tertiary:	N/A

Facility Group 4 floor materials shall be as follows.

Primary:	Vinyl Plank Flooring
Secondary:	Composite Vinyl Tile (LVT)
Tertiary:	Ceramic Tile

1. Natural stone and terrazzo flooring may be used in high traffic areas of Group 1 as approved on a case-by-case basis.

2. Resilient flooring may be used in low traffic areas in Group 1, 2 and 4.

3. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

4. Carpet is not to be used in Military Family Housing on Yokota Air Base.

Note: *Apply the below base-wide standards for Floors (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.*

E02.1.1. Prepared Slabs

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188

Type: **Style 1, Ground and Polished**

Applies to: ☑ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Local (TBD)

Color: Natural gray cement, light to dark beige aggregates

Finish: Fine polished texture

Model #: Medium to small aggregate

Other: N/A

UFGS: Section 03 35 45 Polished Concrete Finishing
(Not Available on UFGS)

Type: **Style 2, Medium Polished**

Applies to: ◉ Group 1 ◉ Group 2 ◉ Group 3 ☐ Group 4 ☐ Other

Mfr: Local (TBD)

Color: Natural gray cement, light to dark beige aggregates

Finish: Medium polished texture, slip resistant

Model #: Medium to small aggregate

Other: N/A

UFGS: Section 03 35 45 Polished Concrete Finishing
(Not Available on UFGS)

E02.1.2. Natural Stone and Terrazzo

◯ Applicable ◉ N/A

E02.1.3. Quarry Tile

◉ Applicable ◯ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Style 1**

Applies to: ☐ Group 1 ◉ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Local

Color: Earth tones

Finish: Matte, slip resistant

Model #: N/A

Other: Use in commercial kitchen flooring.

UFGS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 30 10.pdf

E02.1.4. Ceramic Tile

(•) Applicable ( ) N/A Number of base standards 2 Image Tool 250 x 188

Type: **Style 1 Porcelain**

Applies to: [•] Group 1 [ ] Group 2 [ ] Group 3 [•] Group 4 [ ] Other

Mfr: Local

Color: Earth tones

Finish: Matte, slip resistant

Model #: Porcelain tile

Other: Use in high traffic areas. Epoxy grout is recommended.

UFGS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 30 10.pdf

Type: **Style 2 Ceramic**

Applies to: [•] Group 1 [•] Group 2 [•] Group 3 [•] Group 4 [ ] Other

Mfr: Local

Color: Earth tones

Finish: Matte, slip resistant

Model #: Ceramic tile

Other: Use in low traffic area toilet rooms.

UFGS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 30 10.pdf

E02.1.5. Resilient Floor

◉ Applicable ○ N/A Number of base standards 3 Image Tool 250 x 188

Type: **Style 1 Stair Treads**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Roppe

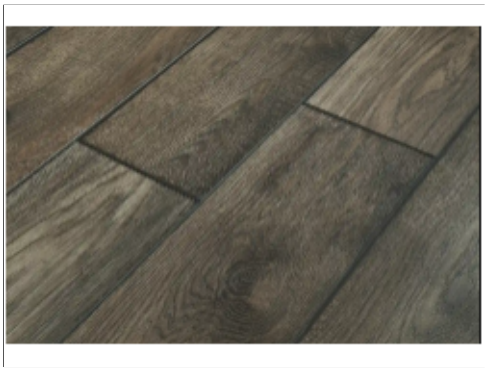
Color: Neutral tones

Finish: Factory

Model #: Raised design rubber tread

Other: Stair treads material

UFGS: Section 09 65 00 Resilient Flooring
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 65 00.pdf



Type: **Vinyl Plank**

Applies to: ☐ Group 1 ☐ Group 2 ☐ Group 3 ☑ Group 4 ☐ Other

Mfr: Sangetsu, Co., Ltd.

Color: TBD

Finish: Factory

Model #: 914.4 mm x 152.4 mm

Other: Family Housing Common Areas, Light Brown.

UFGS: Section 09 65 00 Resilient Flooring
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 65 00.pdf

Type: **Vinyl Tile**

Applies to: ☐ Group 1 ☐ Group 2 ☐ Group 3 ☑ Group 4 ☐ Other

Mfr: ADVAN

Color: Mineral P White / Beige / Grey / Brown

Finish: Factory

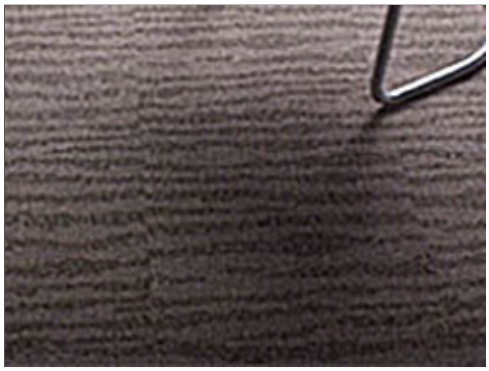
Model #: PMR-3011M4

Other: Size: 457.2mm x 457.2mm x 3mm

UFGS: Section 09 65 00 Resilient Flooring
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 65 00.pdf

E02.1.6. Carpet

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188



Type: **Style 1**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Shaw Contract

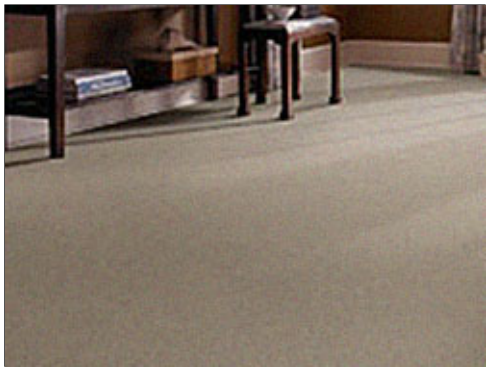
Color: Neutral multi-colored tones/patterned/solid

Finish: Yarn: Nylon 6 or 6.6/cut pile or loop pile

Model #: Broadloom, 6' wide rolled, carpet tiles, entry walk-off carpet

Other: N/A

UFGS: UFGS 09 68 00 Carpeting
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 68 00.pdf



Type: **Style 2**

Applies to: ☐ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Shaw Contract

Color: Earth tones

Finish: Factory

Model #: Broadloom, residential loop, "Smartstrand"

Other: Limit use to DV quarters.

UFGS: UFGS 09 68 00 Carpeting
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 68 00.pdf

E02.1.7. Rapidly-Renewable Products

○ Applicable ◉ N/A

E02.1.8. Other

○ Applicable ◉ N/A

E03. Walls

Comply with Air Force Corporate Standards for Walls:
http://afcfs.wbdg.org/facilities-interiors/walls/index.html

E03.1. Wall Materials

Facility Group 1 wall materials shall be as follows.

Primary:	Cement Plaster (or as Approved by the BCE)
Secondary:	Gypsum Board (Painted)
Tertiary:	Ceramic Tile (Restrooms)

Facility Group 2 wall materials shall be as follows.

Primary:	Gypsum Board (Painted)
Secondary:	N/A
Tertiary:	Ceramic Tile (Restrooms)

Facility Group 3 wall materials shall be as follows.

Primary:	Concrete
Secondary:	Ground Face CMU, Sealed (Do Not Paint)
Tertiary:	Ceramic Tile (Restrooms)

Facility Group 4 wall materials shall be as follows.

Primary:	Gypsum Board (Painted)
Secondary:	N/A
Tertiary:	Ceramic Tile (Restrooms, Kitchen Backsplash)

1. Follow UFC 3-450-01 (Vibration and Noise Control) for acoustic design issues including speech privacy, sound isolation or sound masking.

2. Select and apply paint with sheens (gloss levels) appropriate for the application following UFGS Section 09 90 00 Paints and Coatings.

3. Provide ceramic tile on wet walls of kitchens, toilet rooms, locker rooms, etc., in all facility groups.

4. Neutral split-face or ground-face integrally colored block with a clear sealer may be used in Group 3. Do not paint block.

5. Provide rubber / vinyl base on drywall partitions in Groups 1, 2 and 4.

6. Hardwood base may only be used in Group 1 as approved on a case-by-case basis.

7. Hardwood chair rails / bumper rails may be used in high-use areas of Groups 1 and 2; aqueous clear finishes are preferred to reduce maintenance; plastic chair rails are permitted only in medical applications.

8. Decorative moldings may be used only in Group 1 when approved on a case basis.

9. Corner guards are permitted only in high traffic spaces with wheeled or cart use such as private service areas in Groups 1 and 2; stainless steel corners guards with a brushed finish may be judiciously used in Group 3.

10. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

Note: *Apply the below base-wide standards for Walls (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.*

E03.1.1. Concrete

○ Applicable ◉ N/A

E03.1.2. Masonry

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Cement over Concrete**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Local (TBD)

Color: Beige

Finish: Light texture

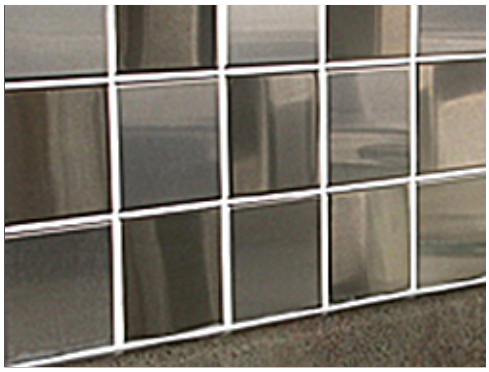
Model #: Cement or synthetic stucco finish coat

Other: Exposed concrete may be used in Group 3 when approved by the BCE

UFGS: Section 04 20 00 Unit Masonry
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 04 20 00.pdf

E03.1.3. Ceramic Tile

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188



Type: **Style 1**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Local

Color: Earth tones

Finish: Gloss, Semi-gloss

Model #: Ceramic wall tile

Other: Located on wet walls in restrooms

UFGS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 30 10.pdf

Type: **Ceramic Tile**

Applies to: ☐ Group 1 ☐ Group 2 ☐ Group 3 ☑ Group 4 ☐ Other

Mfr: Local

Color: White

Finish: Factory

Model #: Subway

Other: For Kitchen backsplash and Bathroom walls.

UFGS: Section 09 30 10 Ceramic, Quarry, and Glass Tiling
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 30 10.pdf

E03.1.4. Gypsum Board

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Style 1**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☑ Group 4 ☐ Other

Mfr: US Gypsum

Color: Solid Earth tone colors

Finish: Paint (Sheen per UFGS)

Model #: Tapered edge

Other: N/A

UFGS: Section 09 29 00 Gypsum Board
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 29 00.pdf
Section 09 90 00 Paints and Coatings
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 90 00.pdf

E03.1.5. Metal Panels

○ Applicable ◉ N/A

E03.1.6. Wood Paneling

○ Applicable ◉ N/A

E03.1.7. Rapidly-Renewable Products

◯ Applicable ◉ N/A

E03.1.8. Other

◯ Applicable ◉ N/A

E04. Ceilings

Comply with Air Force Corporate Standards for Ceilings:
http://afcfs.wbdg.org/facilities-interiors/ceilings/index.html

E04.1. Ceiling Materials

Facility Group 1 ceiling materials shall be as follows.

Primary:	Exposed Framing (Roof / Floor Structure Above)
Secondary:	Grid and Acoustical Tile
Tertiary:	Gypsum Board (Painted)

Facility Group 2 ceiling materials shall be as follows.

Primary:	Exposed Framing (Roof / Floor Structure Above)
Secondary:	Grid and Acoustical Tile
Tertiary:	Gypsum Board (Painted)

Facility Group 3 ceiling materials shall be as follows.

Primary:	Exposed Framing (Roof / Floor Structure Above)
Secondary:	Exposed Framing (Roof / Floor Structure Above)
Tertiary:	Gypsum Board (Painted)

Facility Group 4 ceiling materials shall be as follows.

Primary:	Gypsum Board (Painted)
Secondary:	N/A
Tertiary:	N/A

1. Accent ceiling materials such as metal, wood, and rapidly renewable may be used in Group 1 as approved on a case-by-case basis.

2. Follow UFC 3-450-01 (Vibration and Noise Control) for acoustic design issues including speech privacy, sound isolation or sound masking.

3. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

Note: *Apply the below base-wide standards for Ceilings (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.*

E04.1.1. Exposed Framing (Roof / Floor Structure Above)

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Style 1**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Vulcraft

Color: Neutral colors reviewed on a case-by-case basis

Finish: Field painted (Sheen per UFGS)

Model #: Formlok floor and roof decking

Other: N/A

UFGS: Section 05 30 00 Steel Decks
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 05 30 00.pdf

E04.1.2. Exposed Concrete

○ Applicable ◉ N/A

E04.1.3. Grid and Acoustical Tile

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Style 1**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Local

Color: White

Finish: Factory

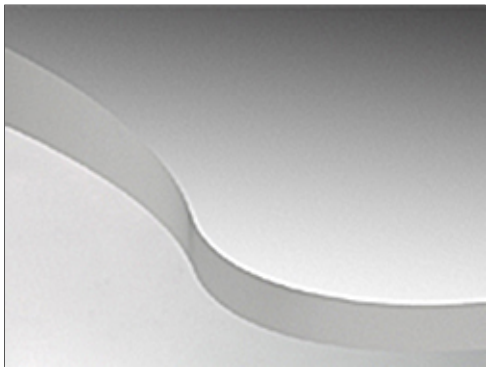
Model #: 2'x2'

Other: Performance characteristics are Class A; NRC-0.70; CAC-40; LR-0.86; minimum recycled content 82%.

UFGS: Section 09 51 00 Acoustical Ceilings
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 51 00.pdf

E04.1.4. Gypsum Board

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188



Type: **Style 1**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☑ Group 4 ☐ Other

Mfr: Local

Color: Solid neutral colors

Finish: Paint (sheen per UFGS)

Model #: Tapered edge

Other: N/A

UFGS: Section 09 29 00 Gypsum Board
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 29 00.pdf
Section 09 90 00 Paints and Coatings
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 90 00.pdf

E04.1.5. Metal Panels

○ Applicable ◉ N/A

E04.1.6. Wood

○ Applicable ◉ N/A

E04.1.7. Rapidly-Renewable Products

○ Applicable ◉ N/A

E04.1.8. Other

○ Applicable ◉ N/A

E05. Doors and Windows

Comply with Air Force Corporate Standards for Doors and Windows:
http://afcfs.wbdg.org/facilities-interiors/doors-and-windows/index.html

E05.1. Doors and Windows and Frames Materials

Facility Group 1
door (frame) and window frame materials shall be as follows.

Primary:	Aluminum, Clear Anodized
Secondary:	Hollow Metal (Painted)
Tertiary:	N/A

Facility Group 1
door (leaf) materials shall be as follows.

Primary:	Hardwood Veneer
Secondary:	Hollow Metal (Painted)
Tertiary:	N/A

Facility Group 2
door (frame) and window frame materials shall be as follows.

Primary:	Aluminum, Clear Anodized
Secondary:	Hollow Metal (Painted)
Tertiary:	N/A

Facility Group 2
door (leaf) materials shall be as follows.

Primary:	Hardwood Veneer
Secondary:	Hollow Metal (Painted)
Tertiary:	N/A

Facility Group 3
door (frame) and window frame materials shall be as follows.

Primary:	Hollow Metal (Galvanized, Painted)
Secondary:	Hollow Metal (Galvanized, Painted)
Tertiary:	N/A

Facility Group 3
door (leaf) materials shall be as follows.

Primary:	Hollow Metal (Galvanized, Painted)
Secondary:	Hollow Metal (Galvanized, Painted)
Tertiary:	N/A

Facility Group 4
door (frame) and window frame materials shall be as follows.

Primary:	Aluminum
Secondary:	Hollow Metal (Tower Units Only)
Tertiary:	N/A

Facility Group 4
door (leaf) materials shall be as follows.

Primary:	Wood Solid Core
Secondary:	Composite Solid Core
Tertiary:	Wood Louver Doors

1. Hardwood casings may be provided over metal frames in Group 1 as approved on a case-by-case basis.
2. Do not use hollow-core wood doors.
3. Generally match original hardware in renovations.
4. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.
5.

Note: *Apply the below base-wide standards for Doors and Windows (products, materials and color). Then refer to the Appendix and apply any additional requirements specifically related to the Facility District in which the project is located.*

E05.1.1. Aluminum

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Style 1**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Local

Color: Clear anodized

Finish: Factory

Model #:

Other: Satin stainless steel hardware

UFGS: Section 08 41 13 Aluminum-Framed Entrances and Storefronts
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 41 13.pdf
Section 08 71 00 Door Hardware
https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf

E05.1.2. Hollow Metal

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188

Type: **Steel Doors**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Steelcraft

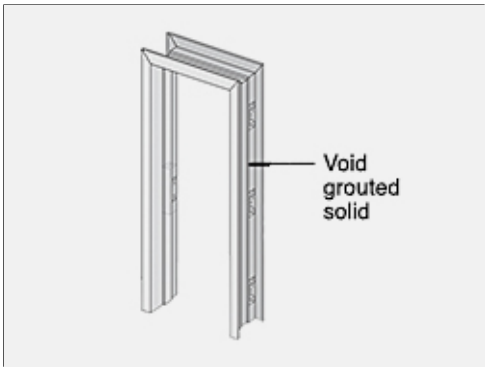
Color: Neutral colors

Finish: Paint (Sheen per UFGS)

Model #: Hollow metal, 2" w. frames, 16 gauge (welded corners) grouted solid

Other: Provide in Group 3 and in utility areas of Group 1 and 2. Provide A25 "galvannealed" coating. All interior steel doors will have a factory applied primer finish. Provide satin stainless steel hardware.

UFGS: Section 08 11 13 Steel Doors and Frames
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 11 13.pdf
Section 08 71 00 Door Hardware
https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf



Type: **Steel Frames**

Applies to: ◉ Group 1 ◉ Group 2 ◉ Group 3 ◉ Group 4 ☐ Other

Mfr: Steelcraft

Color: Neutral colors

Finish: Paint (Sheen per UFGS)

Model #: Hollow metal, frame grouted solid

Other: Satin stainless steel hardware

UFGS: Section 08 11 13 Steel Doors and Frames
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 11 13.pdf
Section 08 71 00 Door Hardware
https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf

E05.1.3. Wood

◉ Applicable ○ N/A Number of base standards 2 Image Tool 250 x 188

Type: **Style 1, Administrative**

Applies to: ◉ Group 1 ◉ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Local

Color: Natural hardwood veneer

Finish: Clear Sealer, satin (aqueous)

Model #: 3'x7'x 1 ¾", solid core

Other: Satin stainless steel hardware, Glass lites may be used. Stained birch veneer face, 5 ply construction, rotary cut finish.

UFGS: Section 08 14 00 Wood Doors
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 14 00.pdf
Section 08 71 00 Door Hardware
https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf

Type: **Style 2, Residential**

Applies to: ☐ Group 1 ☐ Group 2 ☐ Group 3 ☑ Group 4 ☐ Other

Mfr: Local or US

Color: Paint Grade (Brown, Beige or White)

Finish: Paint, satin (aqueous)

Model #: Full slab or panels

Other: Satin nickel hardware; limit panel doors to DV quarters.

UFGS: Section 08 14 00 Wood Doors
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 14 00.pdf
Section 08 71 00 Door Hardware
https://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 71 00.pdf

E05.1.4. Other

○ Applicable ◉ N/A

E06. Casework Systems

Comply with Air Force Corporate Standards for Casework Systems:
http://afcfs.wbdg.org/facilities-interiors/casework-systems/index.html

E06.1. Casework Materials

1. Select casework systems and materials considering durability, maintenance requirements and LCCA.

2. Natural stone and cast stone countertops may only be used in Group 1 with approval on a case-by-case basis.

3. Metal cabinets and countertops will be provided in heavy-use operations and in Group 3.

4. Refer to AFCFS for approved materials.

5. Manufacturers listed below are only provided to establish a baseline of equivalency among all applicable manufacturers.

E06.1.1. Plastic Laminate

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Style 1, Low Use Areas**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Formica

Color: Light to Medium Earth tones and neutral colors

Finish: Light textured

Model #: High pressure laminate

Other: Combine with matching solid-surface banding on casework edges.

UFGS: Section 06 41 16.00 10 Plastic-Laminate-Clad Architectural Cabinets
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 06 41 16.00 10.pdf

E06.1.2. Solid Polymer Surface

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Style 1, High Use Areas**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Corian

Color: Medium Earth tones and neutral tones

Finish: Light textured

Model #: Solid Surface

Other: Faces and edge banding

UFGS: Section 12 36 00 Countertops
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 36 00.pdf

E06.1.3. Rapidly-Renewable Products

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Style 1 Moderate Use Areas**

Applies to: ☑ Group 1 ☑ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Plyboo

Color: Natural or amber

Finish: Satin

Model #: Flat grain bamboo plywood

Other: FSC® Certified 100%

UFGS: Section 12 32 00 Manufactured Wood Casework
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 32 00.pdf

E06.1.4. Metal

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Style 1**

Applies to: ☐ Group 1 ☐ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Steel Sentry

Color: Natural stainless steel or neural colors (steel)

Finish: Mill (stainless) or Powder coated (steel)

Model #: Lab, workbench, computer workstation

Other: Provide highly durable fabrications and finishes in Group 3 which are subjected to heavy use

UFGS: Section 12 31 00 Manufactured Metal Casework
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 31 00.pdf

E06.1.5. Other

○ Applicable ◉ N/A

E06.2. Countertop Materials

E06.2.1. Plastic Laminate

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Style 1, Low Use Areas**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Formica

Color: Medium Earth tones and neutral tones

Finish: Light textured

Model #: High pressure laminate

Other: Only use rounded half or full bullnose and integral backsplash; do not use plastic laminate edge banding on front edges

UFGS: Section 06 41 16.00 10 Plastic-Laminate-Clad Architectural Cabinets
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 06 41 16.00 10.pdf

E06.2.2. Solid Polymer Surface

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Style 1, High Use Areas**

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☑ Group 4 ☐ Other

Mfr: Corian

Color: Medium Earth tones and neutral tones

Finish: Light textured

Model #: Solid Surface

Other: Faces and edges

UFGS: Section 12 36 00 Countertops
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 36 00.pdf

E06.2.3. Natural Stone

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188

Type: **Style 1, Group 1 High Visibility, Heavy Use**

Applies to: ☑ Group 1 ☐ Group 2 ☐ Group 3 ☐ Group 4 ☐ Other

Mfr: Local (TBD)

Color: Neutral tones

Finish: High polish, sealer

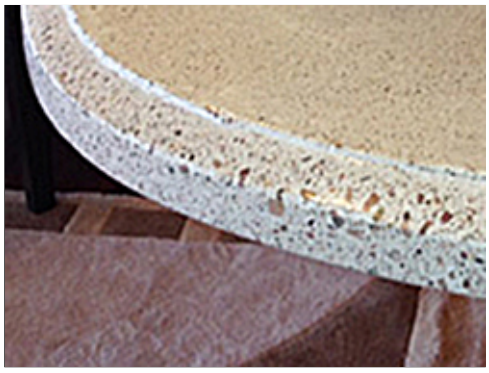
Model #: Custom cut slabs

Other: N/A

UFGS: Section 12 36 00 Countertops
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 36 00.pdf

E06.2.4. Cast Stone

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188



Type: **Style 1, Group 1 High Visibility, Heavy Use**

Applies to: ☑ Group 1 ☐ Group 2 ☐ Group 3 ☑ Group 4 ☐ Other

Mfr: Local

Color: Neutral tones

Finish: High polish, sealer

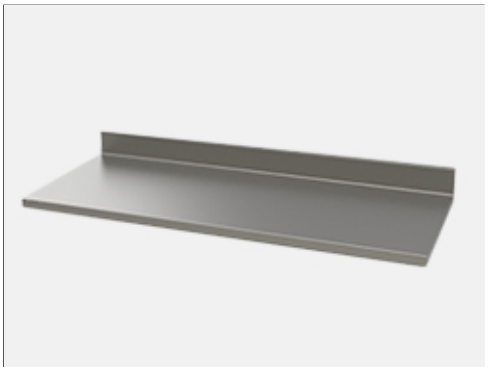
Model #: Custom cast or cut slabs

Other: N/A

UFGS: Section 12 36 00 Countertops
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 36 00.pdf

E06.2.5. Metal

◉ Applicable ○ N/A Number of base standards 1 Image Tool 250 x 188



Type:

Applies to: ☑ Group 1 ☑ Group 2 ☑ Group 3 ☐ Group 4 ☐ Other

Mfr: Local (TBD)

Color: Natural stainless steel

Finish: Mill

Model #: Custom fabricated countertops

Other: Provide integral fronts, sides and backsplash

UFGS: Section 12 31 00 Manufactured Metal Casework
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 31 00.pdf

E06.2.6. Other

○ Applicable ◉ N/A

E07. Furnishings

Comply with Air Force Corporate Standards for Furnishings:
http://afcfs.wbdg.org/facilities-interiors/furnishings/index.html

E07.1. Durability and Serviceability

Comply with AF Corporate Standards for Durability and Serviceability:
http://afcfs.wbdg.org/facilities-interiors/furnishings/durability-and-serviceability/index.html

E07.2. Accessories

Comply with AF Corporate Standards for Accessories:
http://afcfs.wbdg.org/facilities-interiors/furnishings/accessories/index.html

1. Comply with AFCFS.

E08. Interior Signs

Comply with Air Force Corporate Standards for Interior Signs:
http://afcfs.wbdg.org/facilities-interiors/interior-signs/index.html

E08.1 Types and Color

Comply with Air Force Corporate Standards for Types and Color:
http://afcfs.wbdg.org/facilities-interiors/interior-signs/types-and-color/index.html

E08.2. Interior Signs Materials

1. Natural stone, masonry and cast stone signs may only be used in Group 1 with approval on a case-by-case basis.

2. Comply with AFCFS.

E09. Lighting, Power and Communication

http://afcfs.wbdg.org/facilities-interiors/lighting-power-and-communication/index.html

E09.1. Functionality and Efficiency

Comply with Air Force Corporate Standards for Functionality and Efficiency:
http://afcfs.wbdg.org/facilities-interiors/lighting-power-and-communication/functionality-and-efficiency/index.html

E09.2. Types and Color

1. Comply with AFCFS.

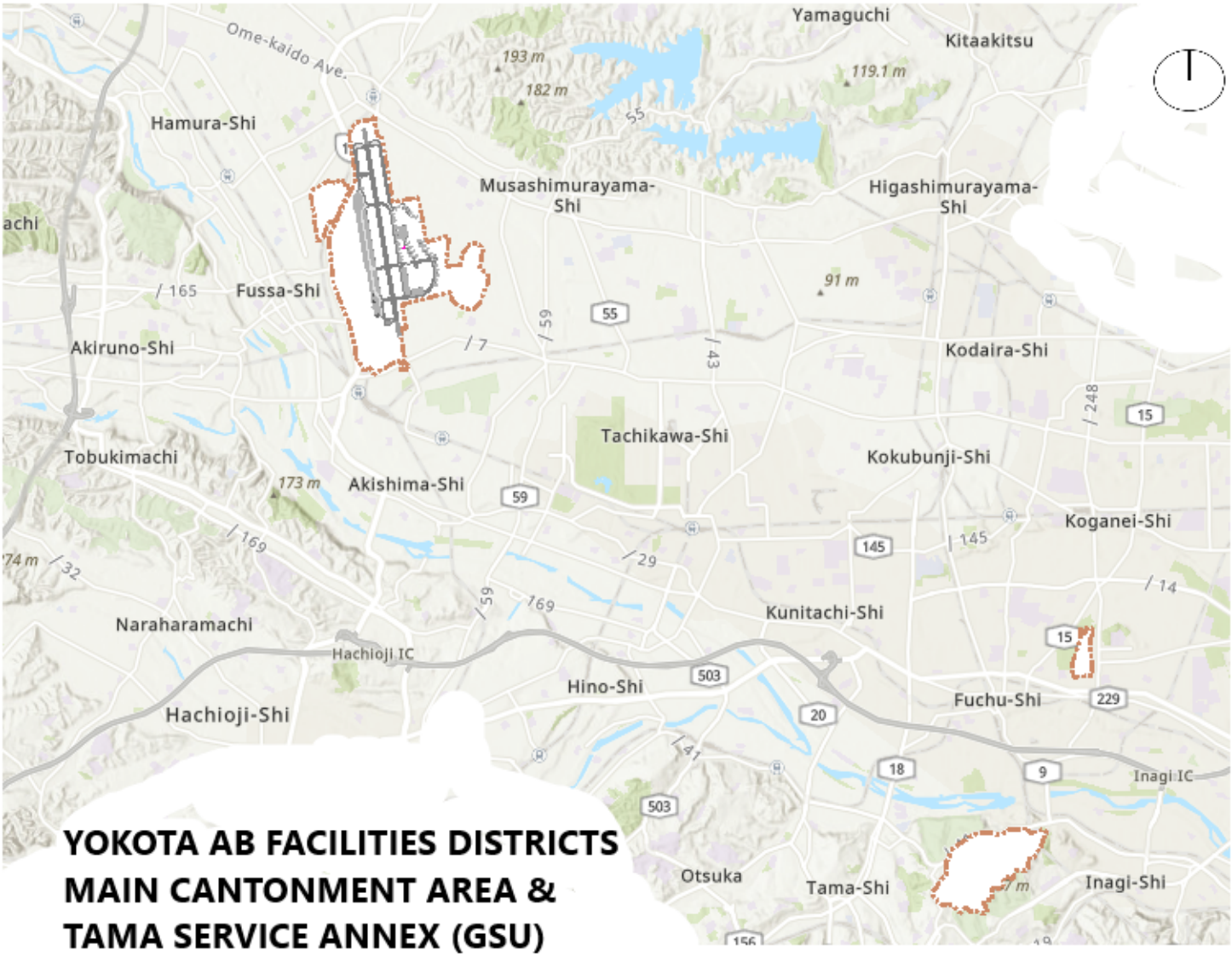
F. APPENDIX - Facility Districts

- (•) Applicable
- ( ) N/A

Comply with Air Force Corporate Standards for Facility Districts:
http://afcfs.wbdg.org/facility-districts/index.html

Facilities Districts Overview Map:

Image Tool 800 x 600



Note: *Apply the base-wide standards in this IFS for Installation Elements, Site Development, Facilities Exteriors and Facilities Interiors (products, materials, color, etc.). Following application of the base-wide standards, refer to the Appendix and apply any additional requirements specifically related to the Facility District.*

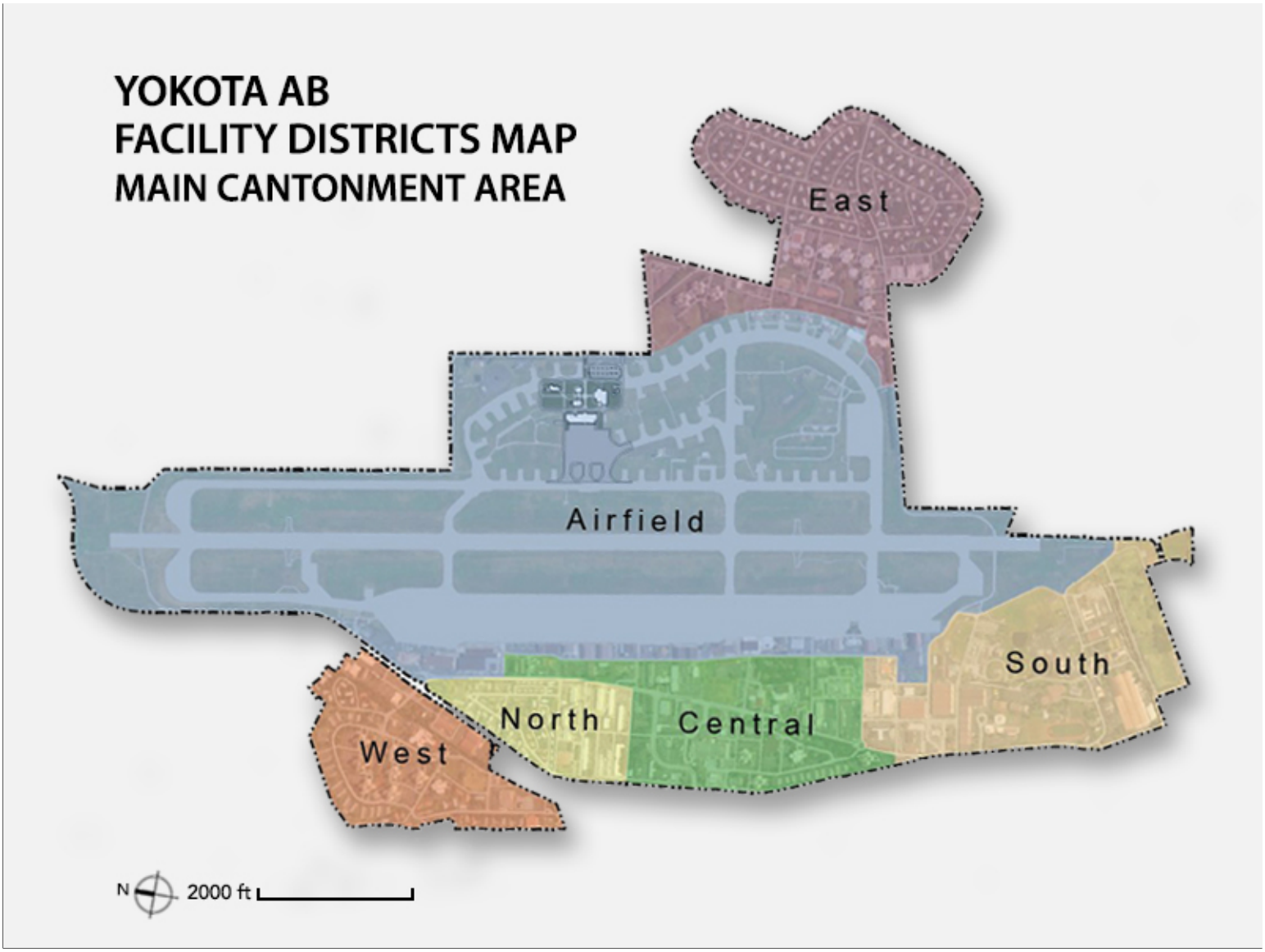
Enter No. of Facility Districts 2

The following Facility Districts list exceptions to the base standards that are unique to each district. Please refer to the Site Development, Facilities Exteriors, and Facilities Interiors sections of this IFS for base standards.

Name of District: MAIN CANTONMENT AREA

Image Tool 800 x 600

Map of District



Photos for each facility group within the Facility District as applicable.

Image Tool 250 x 188

Group 1	○ Applicable	◉ N/A
Group 2	○ Applicable	◉ N/A
Group 3	○ Applicable	◉ N/A
Group 4	○ Applicable	◉ N/A
Other	○ Applicable	◉ N/A

FACILITY DISTRICTS

Yokota Air Base is divided into districts that align with land use zones as defined in the Installation Development Plan. Each district has designated uses that support the base's operations. Generally, match adjacent facilities in new construction to promote architectural compatibility throughout the installation. Please refer to Section D03.2. and contact the Base Civil Engineer for additional information. Brief descriptions and general requirements for each district follow.

1. Airfield
The Airfield district includes facilities that are industrial in nature and may support flightline operations. Alternative uses include warehouses for various base activities such as maintenance, storage, utility functions, industrial services, transportation storage, communications, civil engineering, supply and equipment, fuel storage, vehicle maintenance/ motor pool complex, open storage, emergency/disaster response facilities, ordnance and weapons storage areas, and other industrial uses. Facilities in this district are industrial in nature, should be complementary with adjacent buildings to ensure architectural compatibility, and will follow standards for Facility Group 3 as defined in this IFS.

2. East
The East district is primarily family housing and community support facilities with a small number of flying-mission-related facilities along the adjoining airfield district. Group 2 facilities should continue to be pedestrian scale with dimensions related to the pedestrians, who are using these, and will integrate the prevailing Japan Facility Improvement Program (JFIP) building character in major renovations or for new construction as appropriate. Group 3 industrial facilities may be a pedestrian scale, to match adjacent; Group 3 facilities may be monumental in scale, which is dimensionally much larger that the pedestrian scale, if necessary to match adjacent. Group 4 facilities may be pedestrian scale or monumental scale to match adjacent and should maintain the established JFIP or residential character. Facilities will follow applicable standards for Facility Group 2, 3 or 4 as defined in this IFS.

3. South
The South district is the base's industrial district but also includes the Yokota High School and golf course. Group 2 and 3 facilities may be pedestrian scale or monumental scale to match adjacent and should maintain the established JFIP or residential character. Facilities will follow applicable standards for Facility Group 2 or 3 as defined in this IFS.

4. Central
The Central district includes the majority of the base's community services, administrative facilities, and headquarters facilities. This district also includes Japan Air Self Defense Force (JASDF) facilities, family housing, and the base's fitness center. Group 1, 2, 3, and 4 facilities may be pedestrian scale or monumental scale to match adjacent. Application of the installation prevailing architectural theme, JFIP building character, should be implemented during major renovations or new construction as appropriate. Group 4 facilities may have residential character when matching adjacent. Facilities will follow applicable standards for Facility Group 1, 2, 3, or 4 as defined in this IFS.

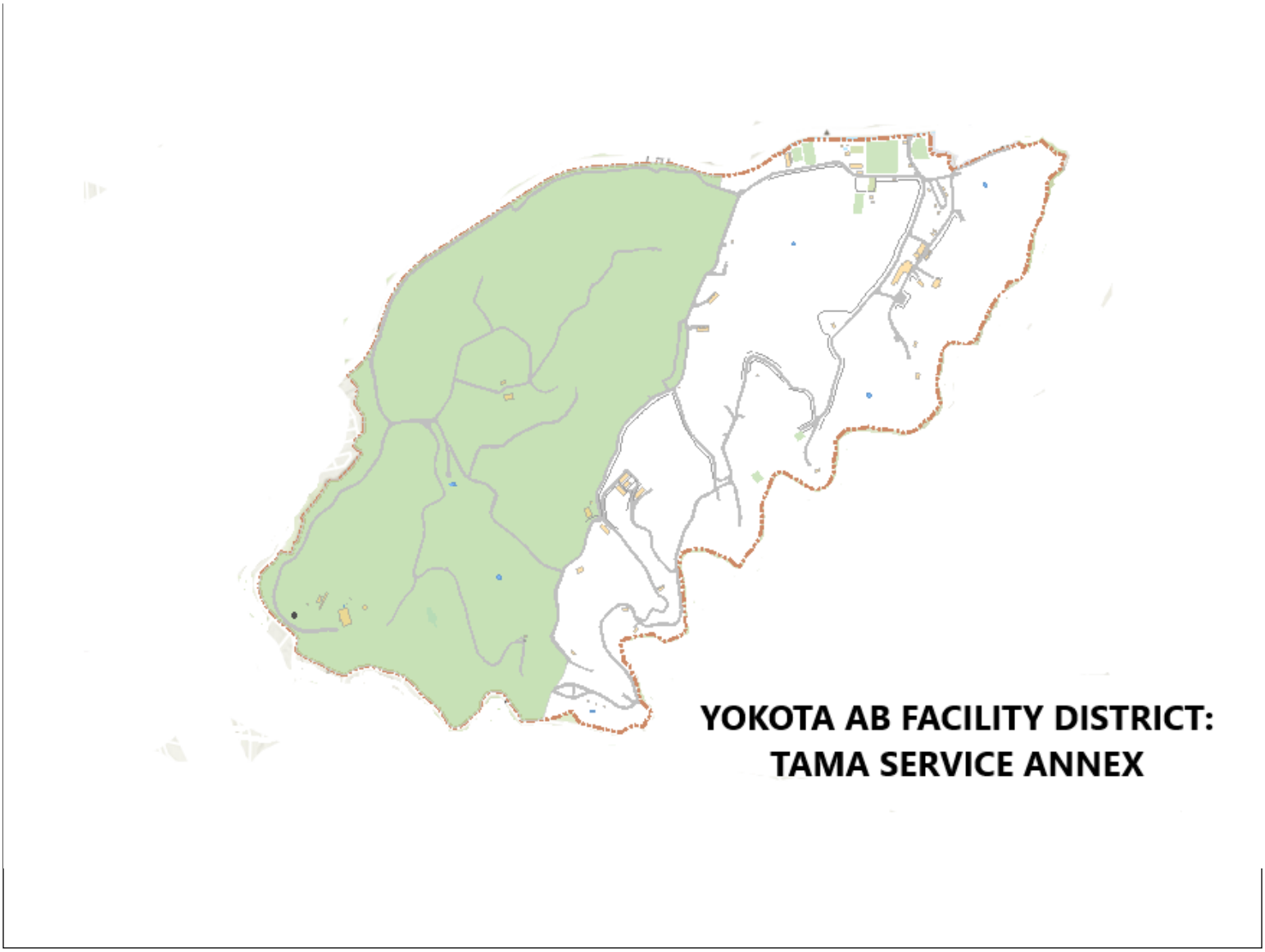
5. North
The North district is primarily family housing and unaccompanied housing with a small number of community service facilities including the Officer's Club and the Kanto Lodge. Application of the installation prevailing architectural theme, JFIP building character, should be implemented during major renovations or new construction as appropriate. Group 4 facilities may have residential character when matching adjacent. Facilities will follow applicable standards for Facility Group 2 or 4 as defined in this IFS.

6. West
The West district is primarily family housing and community support facilities. Group 2 facilities in this area should continue to be pedestrian scale and will integrate the prevailing JFIP building character in major renovations or for new construction as appropriate. Group 4 facilities may be pedestrian scale with residential character or monumental scale with JFIP building character to match adjacent facilities.

Name of District: 2. EAST

Image Tool 800 x 600

Map of District



Photos for each facility group within the Facility District as applicable.

Image Tool 250 x 188

Group 1	◯ Applicable	◉ N/A
Group 2	◯ Applicable	◉ N/A
Group 3	◯ Applicable	◉ N/A
Group 4	◯ Applicable	◉ N/A
Other	◯ Applicable	◉ N/A

7. Tama Service Annex

The Tama Service Annex district is primarily a recreation area with community support facilities. Tama Service Annex is a geographically separated unit (GSU) often refer to as Tama Hills Recreation Area. Service facilities include an 18 hole golf course with club house, a lodge, rustic cabins, yurts, and barns. Facilities will follow applicable standards for Facility Group 2. Group 2 facilities in this area should continue to be pedestrian scale and will integrate the prevailing building character in major renovations or for new construction as appropriate to match adjacent facilities.

G. APPENDIX - References

Comply with Air Force Corporate Standards:
http://afcfs.wbdg.org/index.html

Note: The below listed Supplementary Documents are provided as supplements to this IFS. If there are any discrepancies between the requirements of this IFS and the Supplementary Documents, the IFS will govern.

USACE Japan Design Guide
Available from U.S. Army Corps of Engineers

374th CIVIL ENGINEER SQUADRON

G01 Yokota AB Storm Water Pollution Prevention Plan
https://www.wbdg.org/FFC/AF/AFIFS/G01_Yokota_AB_Storm_Water_Pollution_Prevention_Plan.pdf

G02 Yokota AB Species List
http://www.wbdg.org/FFC/AF/AFIFS/G02_Yokota_AB_Species_List.xlsx

G03 Yokota AB Family Housing Interior Finishes Guidelines
(Link to be provided)

G04 Yokota AB Paint Guidelines
(Link to be provided)

G05 Yokota AB Plumbing Requirements
(Link to be provided)

G06 Yokota AB Mechanical Standard
(Link to be provided)

G07 Yokota AB Electrical Standard
(Link to be provided)

G08 Yokota AB Telecommunications Systems
(Link to be provided)

G09 Yokota AB
(Link to be provided)

G06 Yokota AB
(Link to be provided)