Kirtland AFB IFS
02 MARCH 2026

KIRTLAND AIR FORCE BASE
INSTALLATION FACILITIES STANDARDS (IFS)

Installation Elements

Site Development

Facilities Exteriors

Facilities Interiors

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AIR FORCE INSTALLATION FACILITIES STANDARDS

2026

Kirtland Air Force 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 will 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 will 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. Host Nation Facilities: Use the International Building Code(r) (IBC) for planning, design and construction of all facilities built for Host Nation personnel use outside of the United States and its territories and possessions. Use the IBC in conjunction with Status of Forces agreements (SOFA), bilateral agreements or other Host Nation (HN) agreements.
   UFC 1-200-01 DoD Building Code: https://www.wbdg.org/dod/ufc/ufc-1-200-01

◉ 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

Base Standard Materials and Colors

Group 3 Facility

Group 2 Materials

Group 4 Family 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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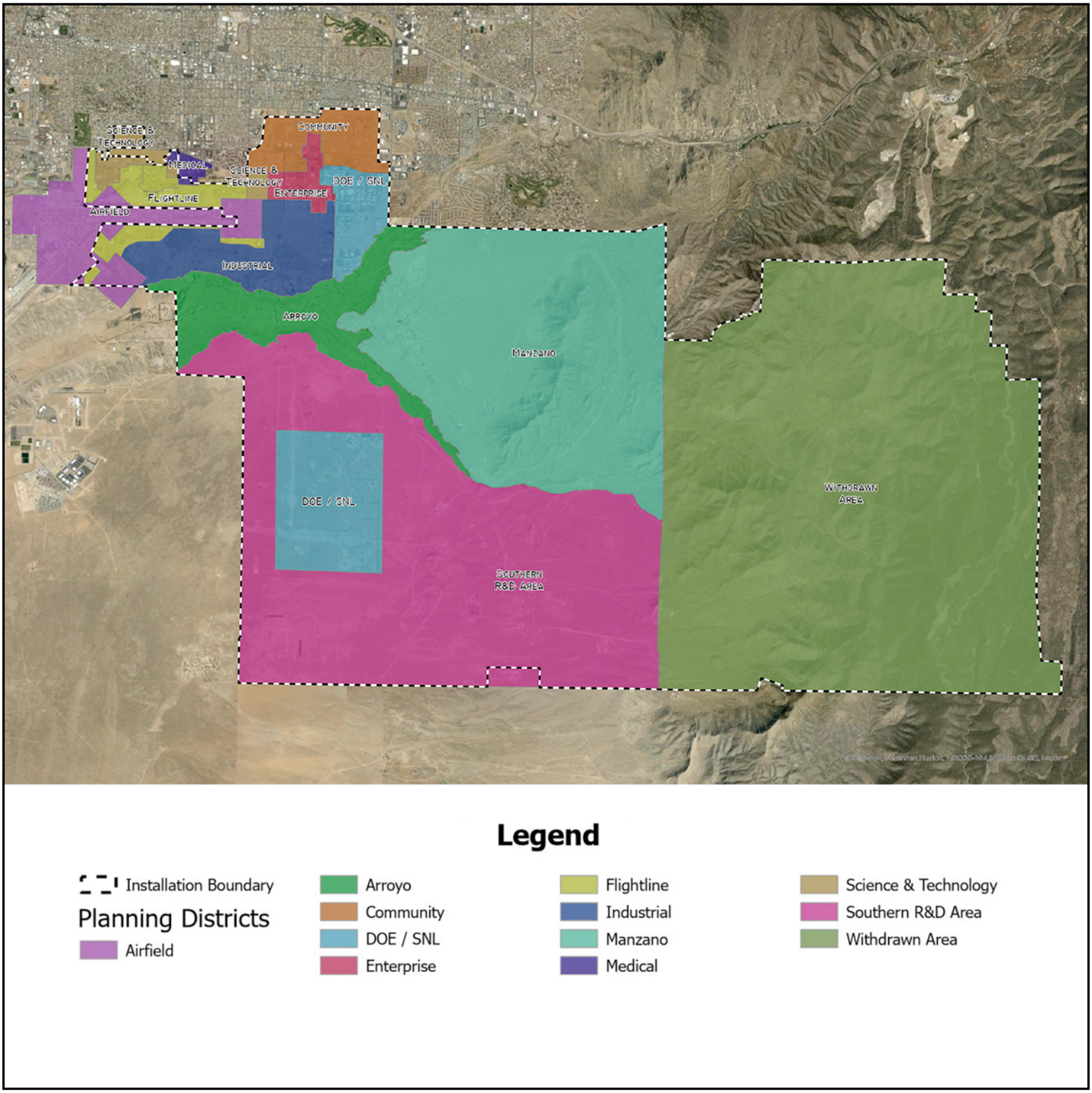


Note: *Apply the base-wide standards in this IFS for Installation Elements, Site Development, Facilities Exteriors and Facilities Interiors (products, materials, color, etc.). Following application of the base-wide standards, refer to the Appendix and apply any additional requirements specifically related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

B. INSTALLATION ELEMENTS

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

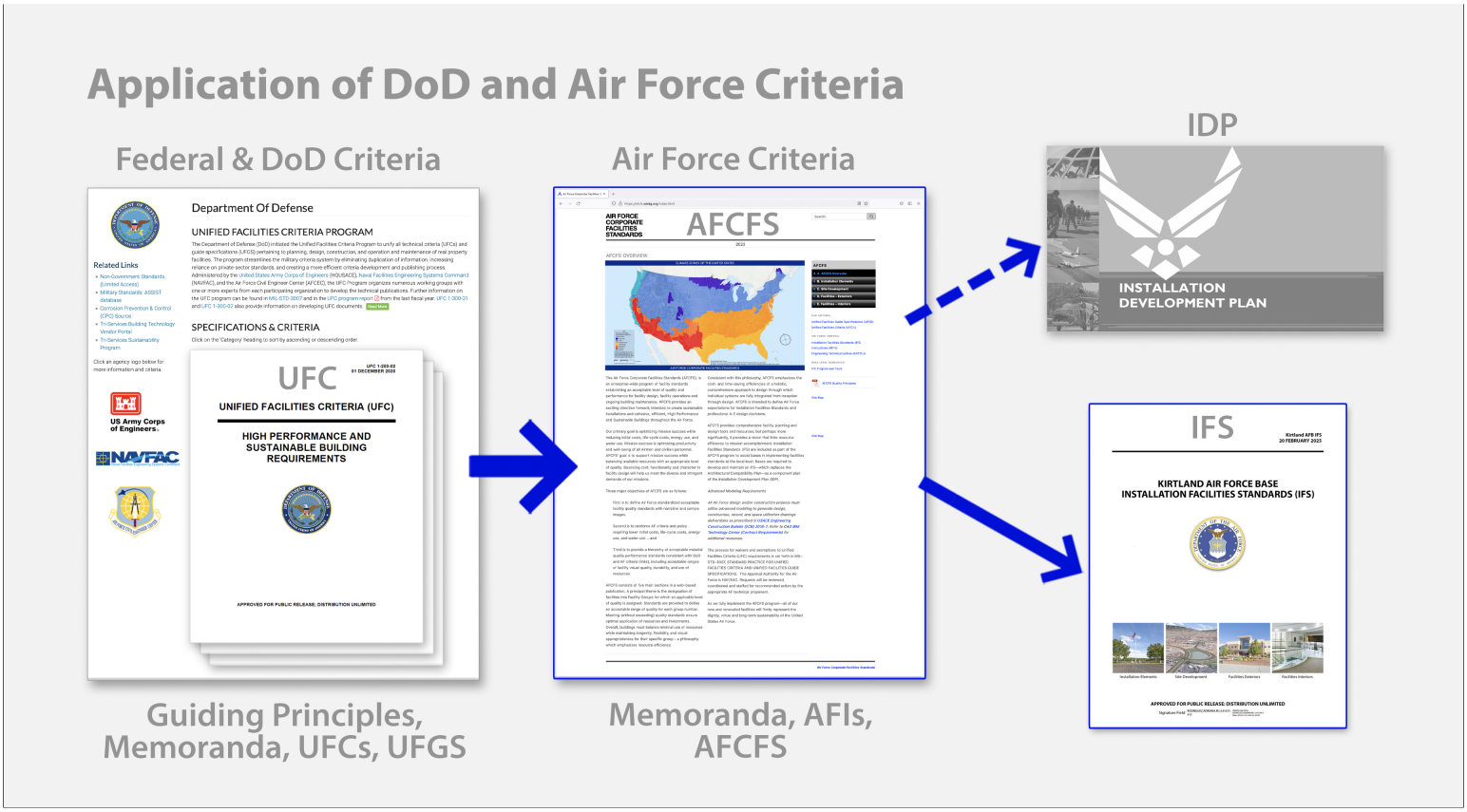
B01. COMPREHENSIVE PLANNING

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's Comprehensive Planning documents and to ensure that the Installation Development Plan (IDP) is prepared, maintained, and implemented following AFI 32-1015.

End of Section

B01.1.1. IFS Requirements and Documents

○ 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

Development Plan Graphic

Site Plan Graphic

Site Plan Detail

1. Maintain this Installation Facilities Standards (IFS) as a Component Plan of the base's Installation Development Plan (IDP).

2. The Architectural Compatibility Review Board (ACRB) is charged with reviewing projects to ensure compliance with the IFS. The board has authority to approve projects that deviate from the standards given in the IFS. It is also responsible for ensuring that the IFS is reviewed and revised at least annually. The board is chaired by an appointee of the Base Civil Engineer (BCE), and its members are architects and planners representing the Base Maintenance Contractor and the Government. Color boards are to be submitted to KAFB Civil Engineering for ACRB review. The ACRB meets monthly. See Appendix G G13 ACRB Supplemental Guidance for additional information.

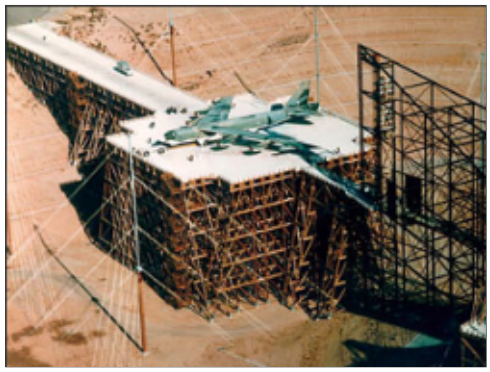
B01.1.2. Brief History of Base

○ 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

Roy C. Kirtland ca. 1913

B36 Peacemaker Displayed to Public ca. 1949



B52 on Trestle Project ca. 1980

The history of Kirtland Air Force Base began with the development of three private airfields from 1928-1939. Subsequently, existing runways and hangars were adapted for military uses. In 1928, Frank G. Speakman and William L. Franklin, two Santa Fe railroad employees, inaugurated an airport as a private venture. Working with the town of Albuquerque, they graded two runways on East Mesa with one approximately 5,300 feet long and the other just under 4,000 feet. Albuquerque Airport was wholly a private venture, irrespective of the town's involvement.

Immediately following construction of the airport, other individuals and promoters became interested in Albuquerque as a crossroads location for southwestern air traffic. James G. Oxnard, a New York entrepreneur, bought Franklin's interest in Albuquerque Airport, expanding the facility toward the end of 1928.

As the decade closed, two airlines initiated competitive passenger, mail and cargo service between the Midwest and California, positioning Albuquerque as an important transcontinental airfield. Shortly after beginning activities, one of the companies, Western Air Express, decided to build its own airport on the West Mesa. This airport became known as Albuquerque Airport—while the former Albuquerque Airport on the East Mesa took on the name Oxnard Field, continuing as a private venture.

As of late 1939, Army and Navy pilots began using Oxnard Field for refueling and maintenance for a variety of military flights. Later that same year, the Army Air Corps leased 2,000 acres neighboring Albuquerque Airport, four miles west of Oxnard Field on the west side of the Rio Grande. The Army eventually condemned the Oxnard Field property for military use, with subsequent transfer to the federal government. Construction of Albuquerque Army Air Base (AAAB) began in January 1941 and was completed in August 1941. Colonel Frank D. Hackett, the first commander of AAAB, arrived in March 1941. The base received its first military aircraft on April 1, 1941, when a lone B-18 bomber, piloted by Lieutenant Sid Young, landed on the north-south runway. With the assignment of five pilots to the aircraft, the day marked the official opening of Albuquerque Army Air Base.

The summer of 1941 saw the arrival of the first troop train, loaded with 500 base support personnel, as well as arrival of the 19th Bombardment Group under the command of Lt. Col. Eugene L. Eubank. Business on the new airfield really began to boom with the arrival of 2,195 pilot, bombardier and navigator trainees for the new B-17 "Flying Fortress." The 19th BG was moved out shortly thereafter for duty in the Philippines and South Pacific, where many crew members went on to be decorated for bravery. Even in the absence of the 19th BG, activity at the base increased. Just a week after the attack on Pearl Harbor, the first class for bombardiers began with the establishment of the Army's first wartime advanced flying school.

In February of 1942, Albuquerque Army Air Base was renamed by General Henry "Hap" Arnold as Kirtland Army Airfield (KAA) in honor of Col. Roy C. Kirtland , one of the Army's earliest aviation pioneers. In 1911, Lt. Kirtland set up and supervised the building of the first Army Aviation School in College Park Maryland. Kirtland was a staunch advocate of safer and better aircraft for military aviation. He later became the first Commandant of Langley Field Virginia.

Meanwhile, in 1942, the U.S. Army Air Forces established a training depot for aircraft support and logistics to the east of Kirtland Field, near the original private airport, Oxnard Field. The depot later became known as Sandia Base. With the completion of the ground crew training program in 1943, Sandia Base was used as a convalescent center for wounded aircrew members, and then as a storage and dismantling facility for war-weary and surplus aircraft as the war ended. Over 2,000 such planes were stripped and melted down, reclaiming some 10 million pounds of aluminum alone.

The war years at Kirtland continued to be filled with distinguished records of training entire flight crews for the B-17 and B-24 bombers and the base's three schools — advanced flying, bombardier training and the multi-engine school — operated at full capacity. In February 1945, Kirtland Field was also engaged in training combat crews for the B-29. This was the "Super Fortress" which eventually brought an end to the hostilities with Japan by dropping the first atomic bombs on Hiroshima and Nagasaki.

The need for extensive flight support and test facilities became apparent and during September 1945, the development, engineering and assembly branches of the Z Division of Los Alamos Laboratory were moved to Sandia Base. The unit was the predecessor of Sandia Corporation, which was organized in 1949. It became and remains (as Sandia National Laboratories) the largest associate unit at Kirtland AFB. It has consistently been involved with development and testing of special weapons and more recently, with research and development of energy sources and systems.

In February 1946, Kirtland was placed under the Air Materiel Command and its flying training activities ceased. Its new job entailed flight test activities for the Manhattan Engineering District, the wartime organization that produced the atomic bomb. The new role for Kirtland was to develop proper aircraft modifications for weapons delivery and to determine ballistic characteristics for these weapons of the future — nuclear weapons.

Kirtland's role in the testing and evaluation of these special weapons increased in 1947, as the Army Air Corps became the U.S. Air Force. At that time, Kirtland Army Airfield, with a population of 972 military and civilian personnel, became Kirtland Air Force Base. Most of the weapon proving was conducted on a 46,000-acre tract in the Manzano Mountains, on the southern part of Kirtland AFB, including Forest Service lands withdrawn for testing purposes. Artillery emplacements were set up; observation stations were built; fragmentation areas were prepared; and two 248-foot oak towers were erected near the Starfire Optical Range. The establishment of such activities at Kirtland was considered ideal because of its proximity to Los Alamos Scientific Laboratory and to Sandia Base, where the Department of Defense had established the Armed Forces Special Weapons Command to direct military employment of the new weapons to be built.

Other nuclear-related units were formed at Sandia Base and Kirtland AFB as the west side was re-designated in 1948. The Armed Forces Special Weapons Project operated Sandia Base and provided support to the Secretary of Defense, the Joint Chiefs of Staff, and military departments in matters concerning nuclear weapons, nuclear effects and testing. In December 1949, Kirtland AFB became headquarters for the newly created Special Weapons Command. The nucleus of this organization was composed of the pioneering Air Force agencies, which had located here to determine future employment of nuclear weapons. The command became the Air Force Special Weapons Center on April 1, 1952, and was a unit of the Air Research and Development Command.

The late 1940s and 1950s were expansion years as both Kirtland AFB and Sandia played increasing roles in the nation's defense efforts. New buildings, hangars and the east-west runway (now owned by the city of Albuquerque) resulted.

During that period, air defense, weather and atomic test squadrons operated from Kirtland AFB, and people from both bases took part in the 12 nuclear test series conducted in Nevada and the Pacific. Special Weapons Center pilots flew through nuclear clouds to determine radiation hazards, and its engineers launched sounding rockets to study the effects of high-altitude nuclear explosions and to investigate the upper atmosphere in preparation for future space missions.

In 1958, efforts were underway between the United States and Soviet Union to agree on a moratorium for atmospheric nuclear testing. The anticipated limitations on determining weapons effects inspired efforts by the Special Weapons Center and Sandia National Laboratories to develop methods of simulating nuclear effects with non-nuclear techniques. In 1962, Kirtland AFB and Sandia personnel participated in Operation DOMINIC, a series of atmospheric and subsurface tests in the Pacific. They were the last such tests conducted before the existing Limited Nuclear Test Ban Treaty was signed with the Soviet Union in late 1962, prohibiting testing in the atmosphere, in space and under water.

In the wake of the full-scale tests and signing of the test ban treaty, the Air Force Weapons Laboratory was created from elements of the Special Weapons Center. The Weapons Laboratory built facilities during the 1960s to simulate nuclear effects such as transient radiation, x-rays and electromagnetic pulse. To study the latter, the Trestle, the largest simulation facility ever built, was completed on the east side of Kirtland AFB during the late 1970s.

Kirtland AFB is really the story of three bases, since the merger in 1971 of Kirtland, Manzano and Sandia Bases, which brought the three installations together under one command. Sandia Base was originally created in 1942 as an Air Corps training site for aircraft maintenance people. By late 1943, however, Sandia was in a caretaker status. A year and a half later, the Manhattan Engineering District created the Armed Forces Special Weapons Project at Sandia Base to coordinate military nuclear activities.

Armed Forces Special Weapons Command also constructed two operational sites. One of these sites was known as Site Able, located in the foothills of the Manzano Mountains, just east of Sandia Base. On February 22, 1952, Site Able was renamed Manzano Base, and operated by the Air Force.

The Special Weapons Center took over management of Air Force Systems Command's test and evaluation facilities at Holloman AFB near Alamogordo, New Mexico, during the summer of 1970. Just one year later on July 1, 1971, Kirtland merged with Manzano and Sandia Base, its neighbors to the east, creating a sprawling military complex known as Kirtland Air Force Base.

Twelve months after the merger, Kirtland AFB became home to one of the country's most important industrial management units when the Air Force Contract Management Division (a component of Air Force Systems Command) moved to the base from Los Angeles. Early in 1974, the Air Force Test and Evaluation Center was organized at Kirtland AFB to direct and oversee operational testing of emerging aircraft and systems.

Due to budget restrictions and reorganization, the Special Weapons Center was disestablished during 1976. Its responsibilities as Kirtland AFB's landlord' were transferred to Contract Management Division, and a new support organization, the 4900th Air Base Wing, was created to discharge those responsibilities.

In 1976, as these organizational changes were being made, the Aerospace Rescue and Recovery Service moved its 1550th Aircrew Training and Test Wing (later becoming the 1550th Combat Crew Training Wing) to Kirtland AFB from Hill AFB, Utah. That unit's helicopter and fixed wing training brought regular flight operations to Kirtland AFB in addition to the usual support provided for transient military aircraft.

On July 1, 1977, the base once again changed hands as the 1606th Air Base Wing was created when Military Airlift Command took over responsibility for operating Kirtland AFB from Air Force Systems Command.

Kirtland AFB became the hub of Air Force space technology when the Air Force Space Technology Center was activated October 1, 1982.

The 377th Air Base Wing (377 ABW) at Kirtland Air Force Base was officially reassigned to Air Force Global Strike Command (AFGSC) on October 1, 2015. This transfer placed the wing under the 20th Air Force.

In June 1990, the Air Force Contract Management Division was deactivated as a result of the Defense Management review. In December 1990, the Air Force Space Technology Center and Weapons Laboratory consolidated to become Phillips Laboratory, and later, the Air Force Research Laboratory.

On October 1, 1991, the 1606th Air Base Wing and 1550th Combat Crew Training Wing merged into one “super” wing called the 542nd Crew Training Wing.

On January 1, 1993, the base again changed hands as the newly formed Air Force Materiel Command acquired Kirtland AFB from Air Mobility Command. The 377th Air Base Wing was reactivated to become the base’s host organization.

On March 31, 2006, the Nuclear Weapons Center was created and became the parent organization at Kirtland AFB. The 498th Armament Systems Wing was also created to be the maintenance arm of the NWC, while the 377th ABW remained the host support unit on base.

The 377th Air Base Wing (377 ABW) at Kirtland Air Force Base was officially reassigned to Air Force Global Strike Command (AFGSC) on October 1, 2015. Under this transfer,the wing remains under the 20th Air Force.

Kirtland AFB is the largest installation in the Air Force Global Strike Command and sixth largest in the Air Force. The base occupies 51,558 acres and employs over 23,000 people, including more than 4,200 active duty and 1,000 Guard, plus 3,200 part-time Reserve personnel. Kirtland AFB’s economic impact for FY24 (reported in August 2025) on the City of Albuquerque and surrounding areas was over $7.5 billion. The base's activities supported more than 70,000 personnel, including employees, families, and retirees. $1.079 billion in contracts were awarded to local small businesses.

The missions of Kirtland AFB fall into four major categories: world-class munitions maintenance; readiness and training; research, development and testing; and base operating support to more than 100 federal government and private sector associates.

End of Section

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

Aerial Image of Kirtland AFB

1. Follow AFI 32-1015 for Air Force Comprehensive Planning, the Comprehensive Planning Process, Comprehensive Planning Requirements, and Geospatial Mapping. See G01 Kirtland AFB Guidance for Geospatial Data AFCEC Amendments.pdf in Appendix G.

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

End of Section

B02. STREET ENVELOPE STANDARDS

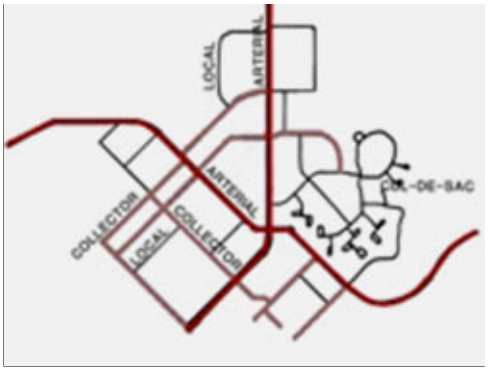
Comply with Air Force Corporate Standards for Installation Elements:
http://afcfs.wbdg.org/installation-elements/index.html

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

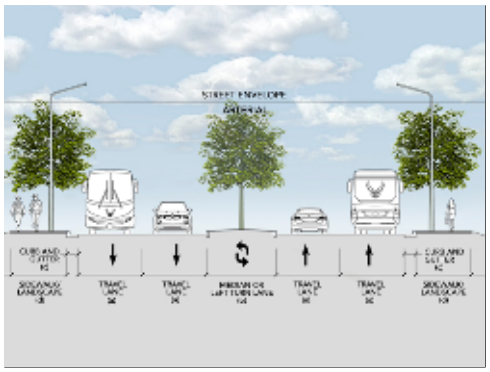
B02.1. Hierarchy of Streets

○ Applicable ◉ N/A Large graphics do not apply

◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 2 Image Tool 250 x 188



Hierarchy of Streets


Street Envelope Section

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 Guest/VIP tour 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 collector 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. Provide illustrations in the Installation Facilities Standards (IFS) to include street cross-sections and plans for every type of street specified on the installation. At a minimum provide dimensions for vehicular traffic-lanes, curb radii, medians, bike lanes, pedestrian buffers, sidewalks, crosswalks, tree planting areas, and on-street parking configurations.

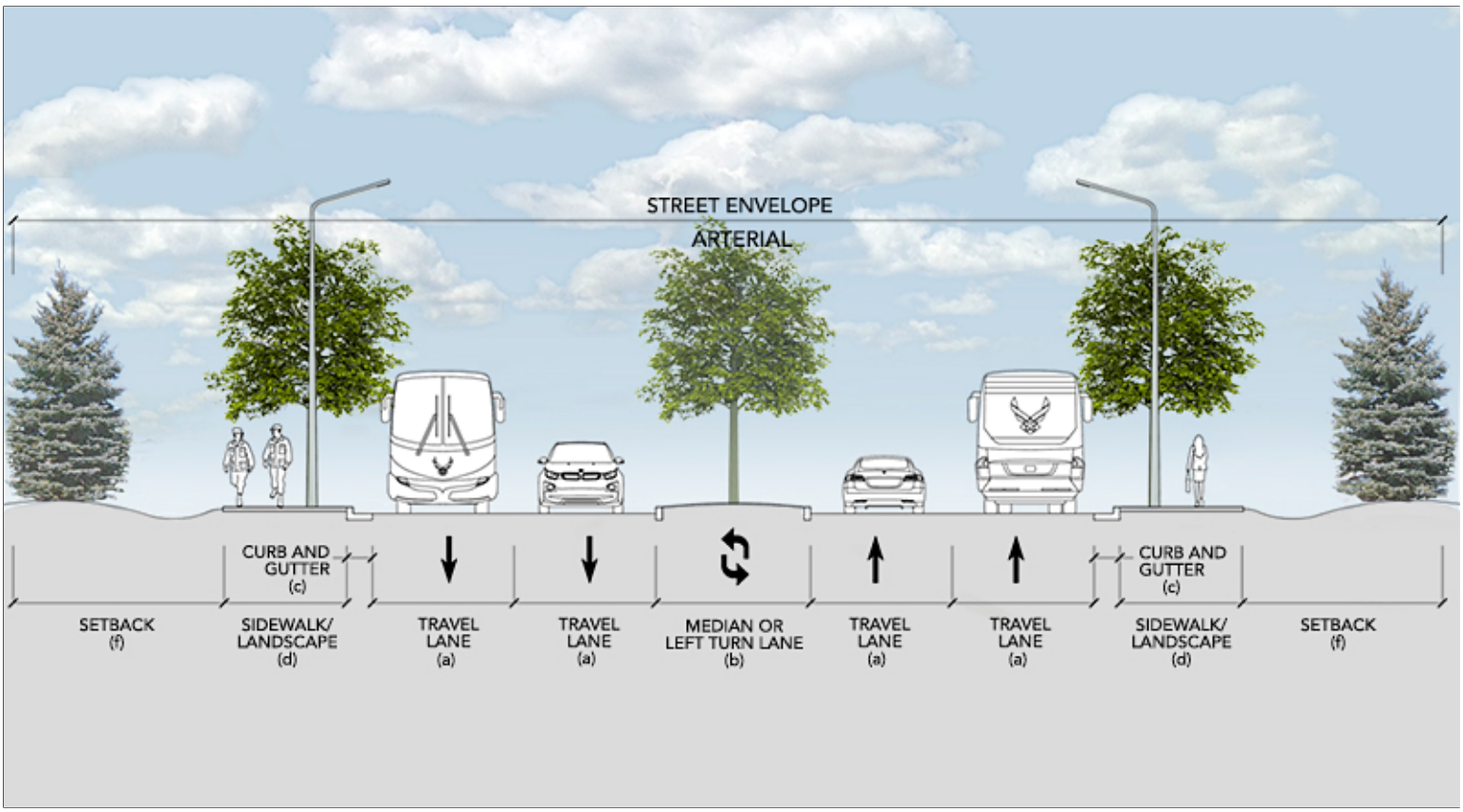
13. Define appropriate force protection features, site furnishings, signs, lighting, utilities, and paving in the IFS.

End of Section

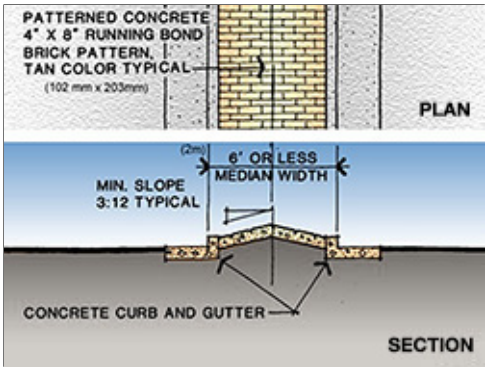
B02.1.1. Arterial Streets

◉ 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 1 Image Tool 250 x 188



Travel Lane (a): 12'; Median (b): 18' if used; Curb and Gutter (c): 2'; Sidewalk / Landscape (d): 12'; Setback (f): Min. 30' or per AT



Paved Median

1. Minimum arterial street dimensions will be as follows:
   a. Travel Lane. 12'
   b. Median (if used). 18'
   c. Curb and Gutter. 2'
   d. Sidewalk. 6'
   e. Parking. 12' setback
   f. Buildings. 30' setback
   g. Obstructions. 6' setback

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

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

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

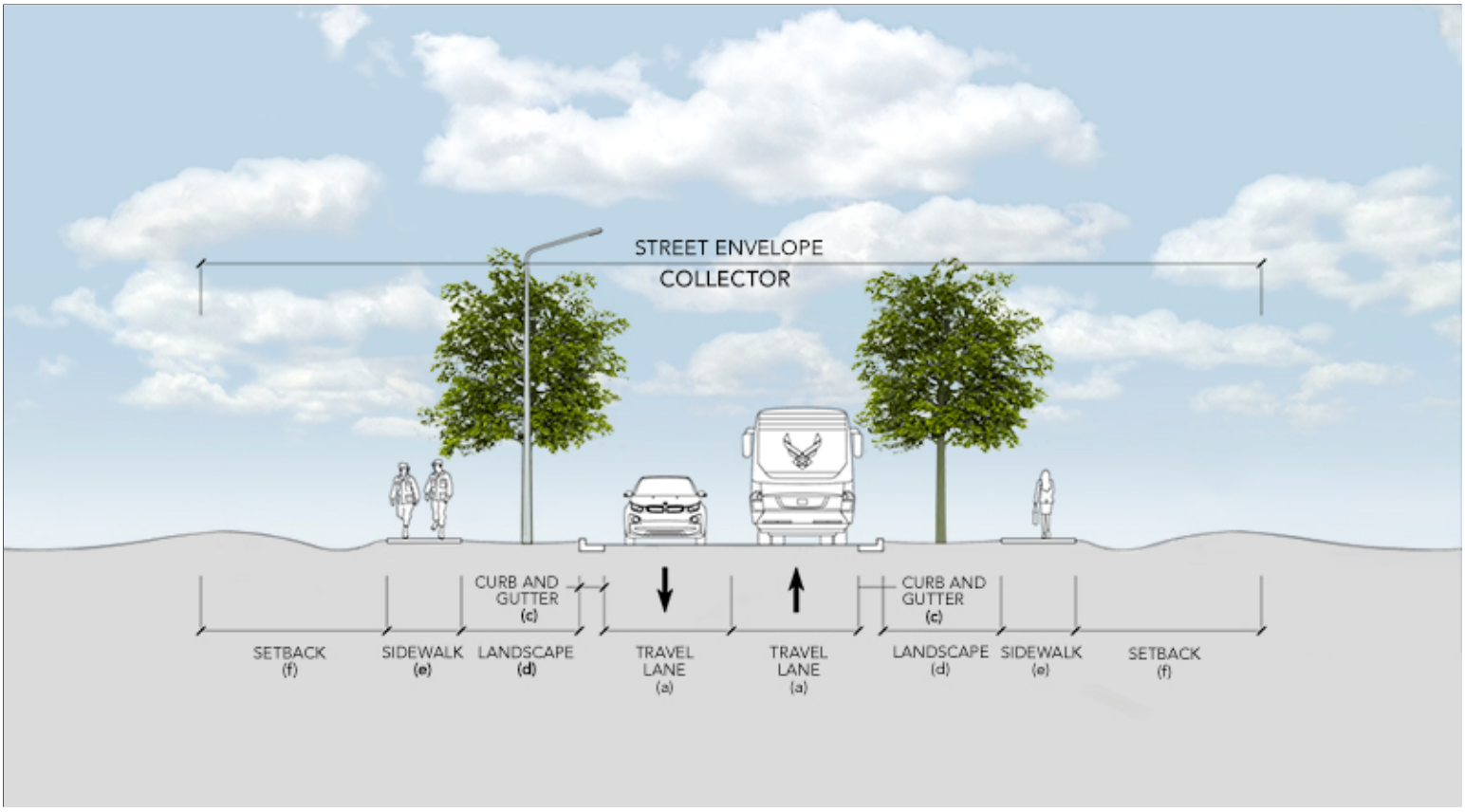
5. Signs, plantings and street lighting should be added to reinforce the importance of arterial streets.

End of Section

B02.1.2. Collector 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 Small graphics do not apply



Travel Lane (a): 12'; Median (b): Not used; Curb and Gutter (c): 2'; Landscape (d): 10'; Sidewalk (e): 6'; Setback (f): Min. 15' or per AT

Collector Leading to the 377 Air Base Wing Headquarters

1. Minimum collector street dimensions will be as follows:
    a. Travel Lane. 12'
    b. Median (Not used).
    c. Curb and Gutter. 2'
    d. Sidewalk. 6'
    e. Parking. 12' setback
    f. Buildings. 15' setback
    g. Obstructions. 3' setback

2. Traffic stops are frequent, and speeds are low on collector streets.

3. 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.

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

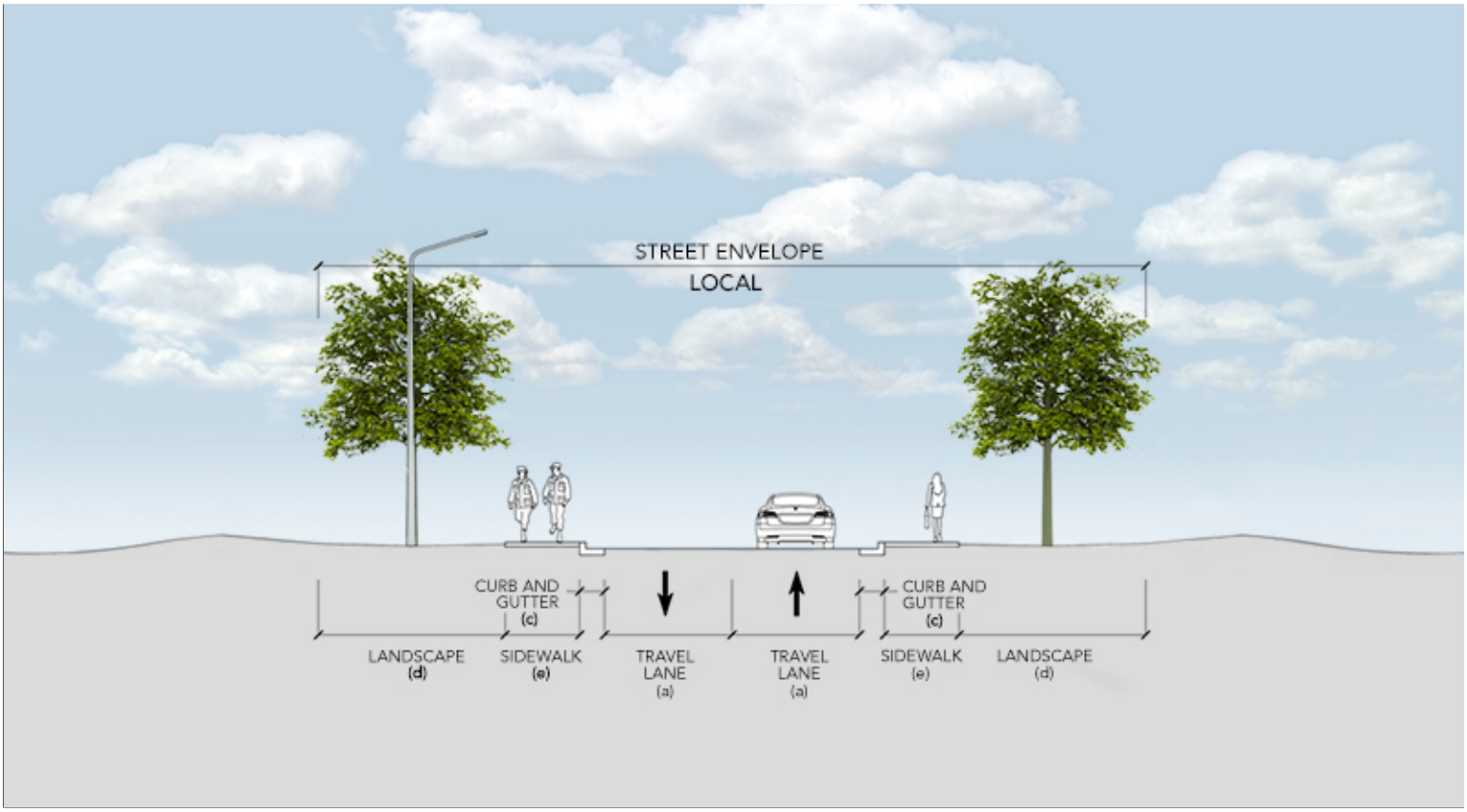
5. Signs, plantings and street lighting should reinforce the designation of collector streets.

End of Section

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 Small graphics do not apply



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

1. Minimum local street dimensions will be as follows:
   a. Travel Lane. 11'
   b. Curb and Gutter. 1.5'
   c. Sidewalk. 6'
   d. Landscape. 15' setback
   e. Buildings. 15' setback
   f. Obstructions. 3' setback

2. Traffic stops are frequent, and speeds are low on local streets.

3. Provide sidewalks on at least one side of local streets. Buffers are preferred but not required on local streets.

4. On street parking may be allowed on one side where secondary roads are over 34 feet wide. Parking must not interfere with intersections or traffic flow.

5. Signs, plantings and street lighting should be added to reinforce the importance of local streets.

6. Cul-de-sacs are to only be used in the military housing area. The minimum radius for cul-de-sacs will be 50'.

End of Section

B02.1.4. Special Routes

○ 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. Hierarchy of Intersections

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

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 Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

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

B02.2.3. Collectors

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

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. Maintain appropriate sight lines at all intersections.

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. Maintain appropriate sight lines at all intersections.

B02.2.5. Street Frontage Requirements

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

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.

2. Maintain a 45-foot clear zone free of visual barriers over 18 inches in height at uncontrolled intersections. Maintain a 15-foot clear zone free of visual barriers over 18 inches in height at controlled intersections with vehicle speeds of 30 mph or less.

End of Section

B02.3. Street 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


Curb, Gutter, Sidewalk and Landscape


Curb, Gutter and Landscape


Curb, Gutter, Sidewalk and Landscape

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 high reflectivity of surfaces, which is appropriate for the local climate.

3. Install at-grade curbing and/or raised-profile curb and gutter as applicable to direct storm-water to bio-swales 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). Provide screen materials to provide 20% visibility for security forces observation. Roof screening will be 0% visibility. See B03.2. Grounds and Perimeter line 7 for further screen requirements.

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

6. Crosswalk markings will follow the MUTCD 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 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 anti-terrorism following UFC 4-010-01, *DoD Minimum Anti-terrorism Standards for Buildings*. Ensure the quality and quantities of lighting and fixtures are appropriate for the adjacent Facility Group number.

End of Section

B02.3.1. Paving

○ 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

Pavement - Arterial Street

Pavement - Parking Lot

Pavement - Local Street

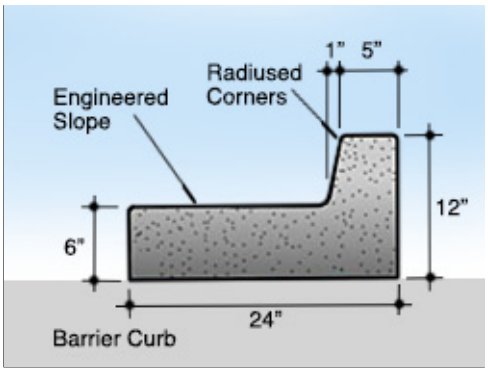
1. Pavement design will comply with UFC 3-250-01, *Pavement Design for Roads and Parking Areas*. Ensure appropriate analysis and design of sub-grade conditions to promote low maintenance, high performance pavements. Apply all applicable best practices from Appendix B of the UFC.

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 1 Image Tool 250 x 188



Barrier Curb

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. Curbs at traffic areas like installation entry inspection require special consideration. See UFC 4-022-01, *Entry Control Facilities Access Control Points* and UFC 4-022-03, *Security Fences and Gates*.

B02.3.3. Utility Service Elements

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Provide all utility service lines below grade when streets are adjacent to Facility Group 1.
2. When mounting elements such as utility cabinets, communications equipment and water valves above grade is unavoidable, paint these items consistently in standard base colors and provide visual screening following Site Development, Landscaping. See B03.2. Grounds and Perimeter line 7 for further screen requirements.
3. Overhead service lines along streets adjacent to Facility Groups 2, 3 and 4 are discouraged.

B02.3.4. Traffic Signs

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

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

B02.3.5. Street Lighting

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

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

Not Applicable.

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

Monumental Plaza at Hardin Field with Installation Flag and Display Cannon

Entrance Plaza


Memorial Plaque on Stone Slab


Ground Mounted AIrcraft Display

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 Small graphics do not apply

Shaded Outdoor Plaza for Breaks, Informal Meetings and Meals

1. Mitigate heat island by providing high-albedo, 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 base standard range of earth tones. Bricks used on plazas will typically be 4" x 8" size.

B03.1.2. Sculptures, Markers and Statuary

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

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. Lighting should be put on an automatic on/off controlled by daylight or solar.

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

DC-3 / C-47 Outdoor Display along Aberdeen Avenue

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 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

Hardin Field Supports Review, Parade Ground, Recreation and Social Functions

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 Anti-terrorism 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. Provide underground utility service lines adjacent to Facility Group 1. If service lines are approved for installation above grade adjacent to any Facility Group, create an ordered, coordinated appearance. When mounting elements above grade is unavoidable, follow Installation Facilities Standards (IFS) requirements.

6. Follow paint and/or visual screening requirements of this IFS, applied to all utility structures and service lines such as, but not limited to, utility cabinets, communications equipment, and water valves located above grade that visually impact the adjacent facility.

7. Where screening of utility equipment and structures is provided, allow adequate and proper clearance for ventilation, safety and maintenance. Screens at ground level will provide 20% visibility to support security forces observation.

Screens of roof top equipment will be opaque visually, but still provide proper clearance for ventilation, 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 which match those respective design elements present at adjacent buildings.

10. Paint above-ground equipment and associated components such as electrical piping and transformers,or exposed plumbing lines, condensing units and cooling towers dark bronze. Avoid ductwork exposed on building walls. If in a renovation exposed ductwork is unavoidable, screen from view using materials already present in building facade, or paint to match adjacent wall surfaces. See also D05.3 (2).

11. Maintain currently 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
    - When not economically feasible, the design will include a life-cycle cost analysis to quantify and justify any potential cost savings by deviating from this guidance. Consider climate resilience and energy resilience in the life-cycle cost analysis.

13. Consolidate and enclose service utility lines in underground utility corridors when feasible. Create routes along the inside edge of parking lot islands. Utility corridors will comply with the Institute of Electrical and Electronics Engineers (IEEE) National Electrical Safety Code (NESC) to include the required separations between supply and communication systems.

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 on-going 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 Small graphics do not apply

Play Equipment and Picnic Table at Playground

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. Recommend adding shade shelters if economically feasible.

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.

End of Section

B03.2.4. Perimeter Fence

◉ 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

Security Gates Giving Access to and from Inspection Stations at Truman Gate

1. Design, install and maintain the base's perimeter fence following UFC 4-022-03.

2. Stringently comply with AT requirements following UFC 04-010-01 for all spaces adjacent to the base's perimeter fence and all gates. Security Gates will have a crash rating of K-12 unless otherwise required by security forces.

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

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

End of Section

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 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 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

Monsoon Rain Storms and Flash Flooding

Hot and Dry Climate

Lightning

High Winds

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 verses base-wide infrastructure; consider open space, natural features, bioswales, building roofs, streets, and paved surfaces.

4. 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.

5. 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, energy management (metering, EMCS).

6. 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.

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

8. 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.

9. 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.

10. 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.

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

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

13. 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.

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

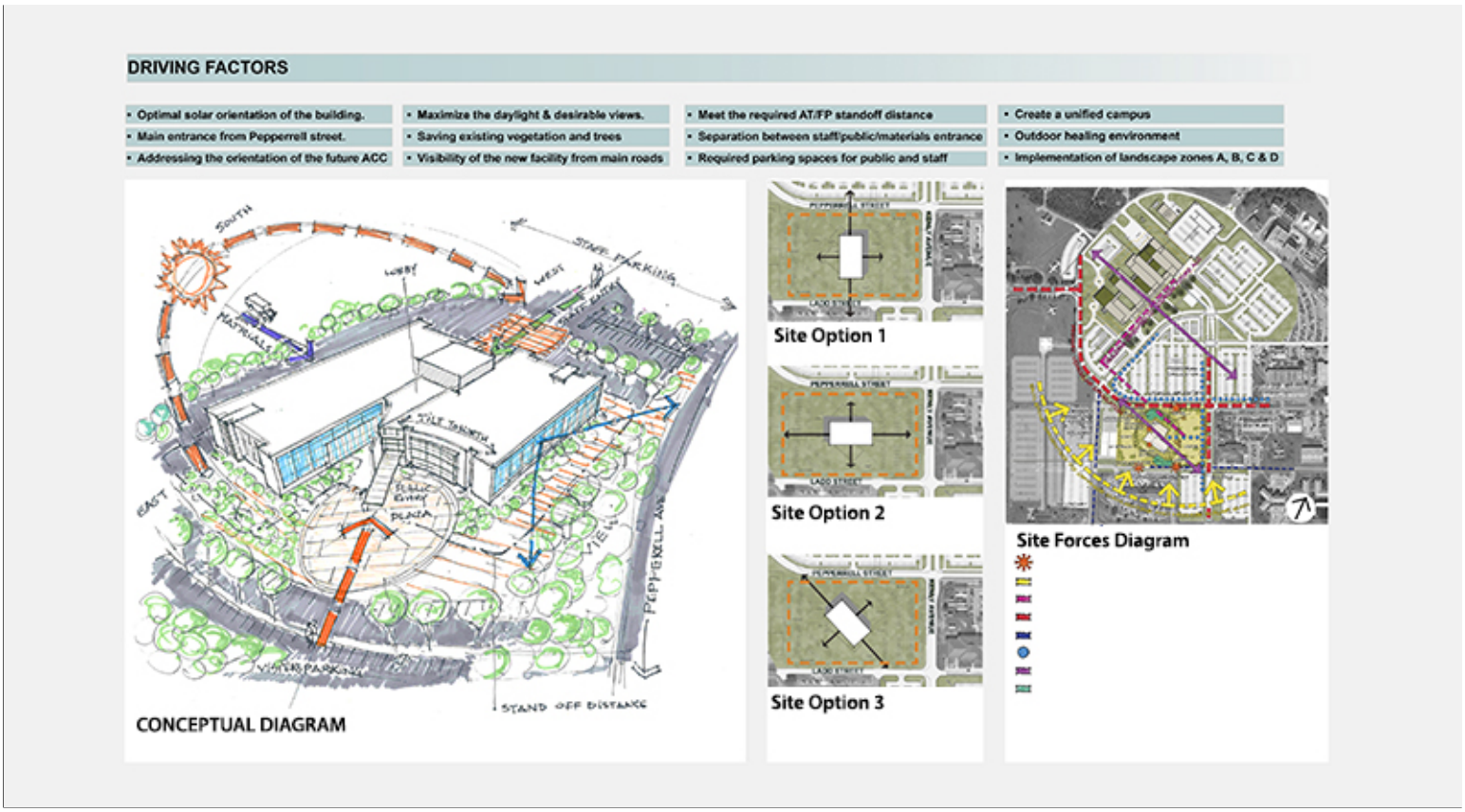
15. Consider the location of “Designated Tobacco Use Areas (DTA).”

End of Section

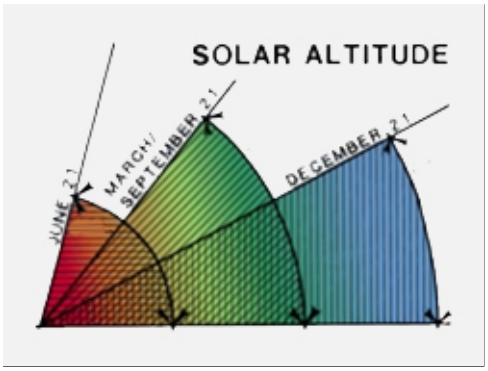
C01.2. Building Orientation

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

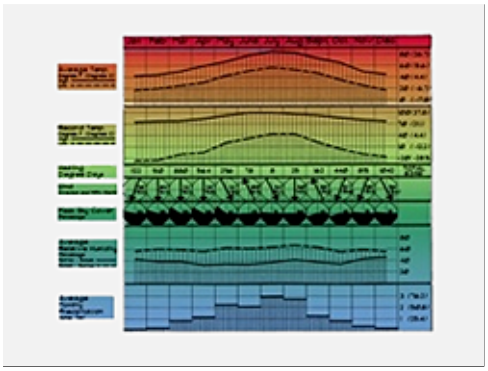
◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 6 Image Tool 250 x 188



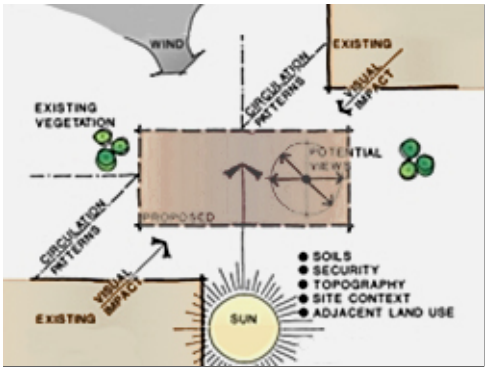
Conceptual Site Analysis and Site Design Diagram



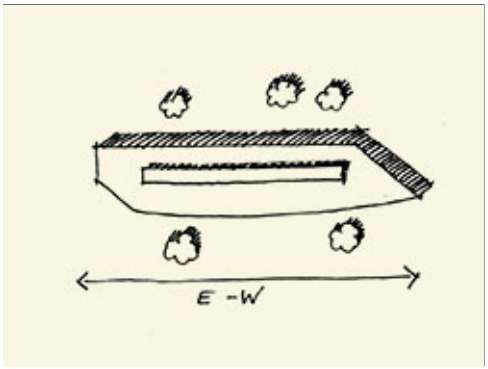
Local Solar Data



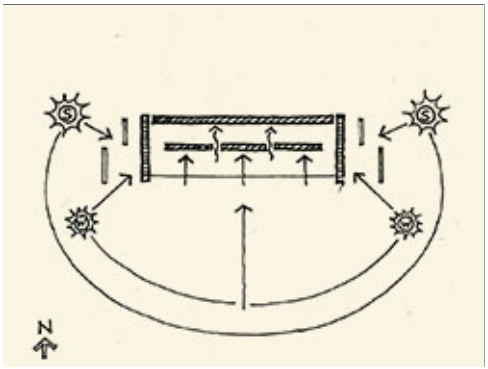
Local Climate Data



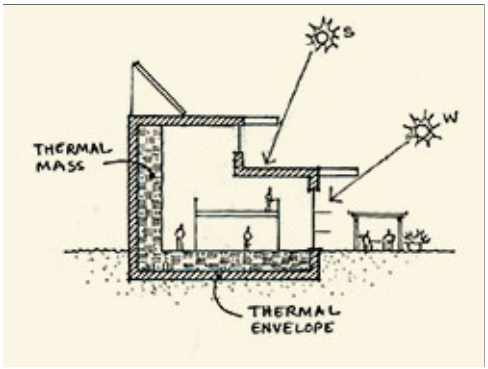
Site Data



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 Small graphics do not apply

1. Provide all on-site utility service lines below grade for Facility Group 1; Locate new on-site electrical power lines and utilities in Groups 2, 3 and 4 underground whenever possible. If the designer proposes to bring lines above grade, for Facility Groups 2-4, the proposal will include a life-cycle cost analysis to quantify and justify any expected cost savings. See B03.2. line 5 for Base-wide utility infrastructure requirements.

2. 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).

3. Existing utilities must be field located by Ground Penetrating Radar (GPR) during site survey in the pre-design phase.

4. 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. See Appendix G: G02 Kirtland AFB S&C Electric PMH Switch Models, G03 Kirtland AFB Low and Medium Voltage Design & Equipment Requirements and G09 Kirtland AFB Communications Specifications.

5. Include consideration of appropriate placement of meters in support of Advanced Meter Reading System (AMRS).

6. 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.

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

C03. PARKING AREAS

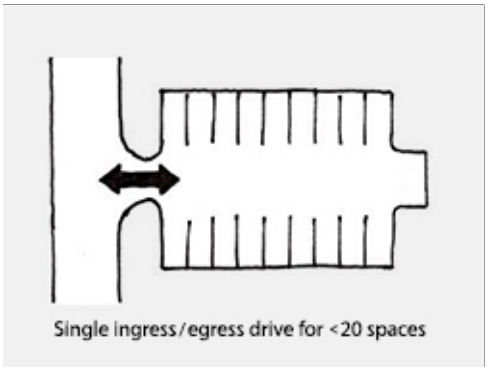
Comply with AF Corporate Standards for Site Development:
http://afcfs.wbdg.org/site-development/index.html

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

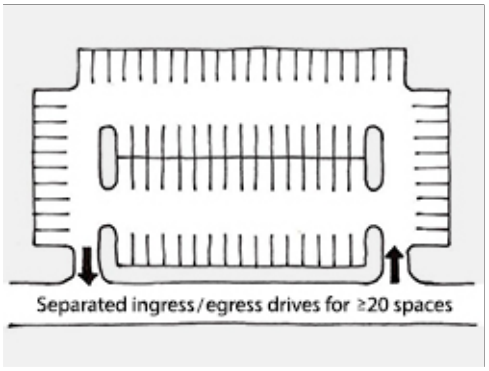
C03.1. Configurations and Design

○ Applicable ◉ N/A Large graphics do not apply

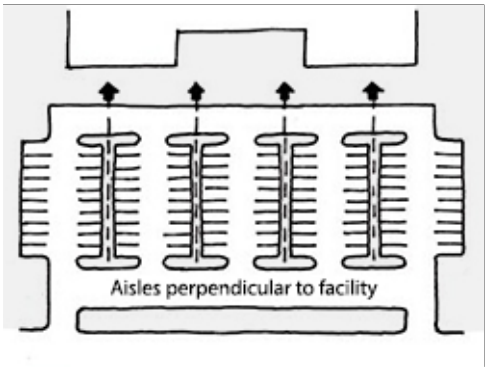
◉ Applicable ○ N/A Select number of graphics / images (small: 250 px x 188 px) to insert 3 Image Tool 250 x 188



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 AT 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.

4. Define pedestrian access with approved hardscape and provide shading along the primary path from the parking area to the 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. Follow this link for Facility Group definitions: https://afcfs.wbdg.org/facility-hierarchy/facility-groups/index.html.

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.

End of Section

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

Typical Paving/Striping

Facility Group 1 paving materials will be as follows.

Primary:	Asphaltic Concrete
Secondary:	Portland Cement Concrete (PCC)
Accent:	Decorative PCC or Permeable Pavers

Facility Group 2 paving materials will be as follows.

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

Facility Group 3 paving materials will be as follows.

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

Facility Group 4 paving materials will be as follows.

Primary:	PCC at Single Family Unit Driveways
Secondary:	Asphaltic Concrete streets
Accent:	Decorative PCC or Permeable Pavers (Optional)

1. All new parking lots in Groups 1 and 2 will be constructed of asphaltic concrete pavement or Portland cement concrete pavement following UFC 3-250-01.

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

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

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

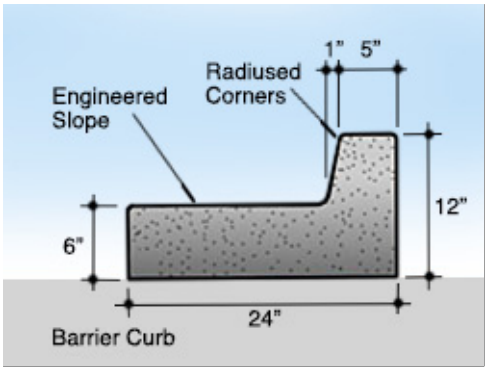
5. All parking will be marked with white stripes of paint or applied vinyl coatings. Red or yellow markings will only be used for safety purposes and must be kept to a minimum. All lines will be four inches (4") wide.

End of Section

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 1 Image Tool 250 x 188



"Barrier" Curb

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

Primary: Concrete

Secondary: N/A

Accent: N/A

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

Primary: Concrete

Secondary: N/A

Accent: N/A

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

Primary: Concrete

Secondary: N/A

Accent: N/A

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

Primary: 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. All raised curbs will be the Barrier Curb unless existing adjacent curbs are the rolled (mountable) type.

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 1 Image Tool 250 x 188

Landscape Island in Parking Lot

1. Install landscape islands and medians as visual breaks, to reduce heat island effects and to accommodate bioswales and rain gardens. 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.

End of Section

C03.2. Parking Structures

◯ Applicable ◉ N/A Large graphics do not apply

◯ Applicable ◉ N/A Small graphics do not apply

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

2. Consider 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 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

Gibson and Pennsylvania Intersection with Landscape, Park and Commercial Facilities

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


Drain to Curb from Scupper


Drain to Retention Pond


Flow Accommodation under Sidewalk

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.

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. Provide rainwater harvesting and storage that is attached to the building's roof drain systems to support grey water irrigation; consider winter temperatures in the design.

5. 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.

6. Cost-effectively integrate stormwater systems with AT measures.

End of Section

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 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

Typical Sidewalk

Sidewalk with Integrated Drainage

Typical Paved Walking Path

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

Primary:	Permeable Pavers
Secondary:	Concrete Edging
Accent:	N/A

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

Primary:	Permeable Pavers
Secondary:	Concrete Edging
Accent:	N/A

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

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

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

Primary:	Permeable Concrete
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 must follow streetscape guidelines. Clearly mark pedestrian crossings at vehicular routes.

4. Mitigate heat island by providing high-albedo, shaded sidewalks. Pervious pavers will be used on all sidewalks, 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.

5. Only experienced contractors will install pervious pavements.

6. Consider an integrated approach that could include storm water 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 cars 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. Walking surfaces will have positive drainage to prevent ponding of water. Slopes of walking surfaces will follow the adjacent finish grade up to a slope not steeper than 1:20. Walking surfaces with a slope greater than or equal to 1:20 must be designed as ramps following accessibility guidelines. All walking surfaces will have a cross slope not steeper than 1:48.

11. Pavers will conform to the following range of color: earth tone concrete. Pavers used on walks will typically be 4”x8” in size. Other sizes and shapes may be approved by Contracting Officer.

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 2 Image Tool 250 x 188

Stairs to Building Entrance

Accessible Ramp to Building Entrance

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.

End of Section

C05.1.2. Lighting

○ 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

Building 942 Soffit Lighting at Entry

Parking Lot Pole Lighting with LED luminaires

Building 942 Soffit and Sconce Lighting

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.

End of Section

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

Drought Tolerant Plants, Climate Appropriate Trees, Xeriscape Materials

Xeriscape with Ornamental Plants

Deciduous and Evergreen Tree mix

Xeriscape with Flowering Plants

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

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

3. See Appendix G32 Kirtland AFB IFS Exterior Improvements 32 93 00 Plant List.

C06.1.1. Landscape Design Concept

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Develop, maintain and implement a climate-based facility plant list in accordance with G32 Kirtland AFB IFS Exterior Improvements 32 93 00 Plant List with landscape features 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.

End of Section

C06.1.2. Xeriscape Design Principles

◉ 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

Variety of Plants and Materials Available in Xeric Landscape Palettes Providing Visual Interest

1. Apply xeriscape principles following UFC 3-201-02, Appendix B, and Air Force Corporate Facilities Standards.

2. Facility plantings are required comply with G32 Kirtland AFB IFS 32 93 00 Plant List and to consider specific micro-climates created by the adjacent building: shadow areas, protected areas, zones adjacent to thermal mass, and availability of rainwater and/or grey water.

C06.1.3. Minimizing Water Requirements

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. 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.

End of Section

C06.1.4. Plant Material Selection

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

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 the 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.

C06.1.6. Base Entrance Landscaping

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

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 Small graphics do not apply

Trees Providing Shade along Streets and Walkways Surrounding Parade Ground

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.

End of Section

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 Small graphics do not apply

Landscape at Pedestrian Circulation - Walkway Shaded by Trees

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.

End of Section

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 Small graphics do not apply

Landscape Interspersed in Parking Lot Providing Shade and Visual Interest

1. Integrate appropriate landscaping elements into parking areas to visually soften the appearance at a minimum rate of 10-15 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 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.

End of Section

C06.1.10. Screen/Accent 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 Small graphics do not apply

Xeric Landscape Used as Accents and Screening

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

1. Not applicable

End of Section

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 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


Screened Enclosure


Bike Rack


Bench on Concrete Pad

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. Group 1 and 2 site furnishings will be concrete, recycled plastic, or metal with factory applied earth tone colors. Accent colors may be appropriate in select areas as approved by 377MSG/CENE. Group 3 and 4 site furnishings will be constructed of concrete or metal with factory applied earth tone colors. 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 in Groups 1, 2 and 3 will be metal with factory applied earth tone colors. Accent colors may be appropriate in select areas as approved by 377MSG/CENE. Provide benches constructed of concrete or metal with factory applied earth tone colors in Group 4 and parks. Place seating along walkways, building entries, courtyards and plazas. Place benches on concrete pads or paved surface.

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 a 6-inch diameter, steel round top bollard as the standard. For force protection use 8-inch diameter, concrete filled, steel pipe. Paint dark brown and apply 3-inch wide yellow and black striped reflective tape around the bollard 6 inches from the top. Feature/accent bollards should be precast concrete with integral beige color to match surrounding facilities. Bollards at the flight line and industrial areas will be painted safety yellow with reflective beads for high visibility. 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 visible from the building's main entrance. Minimize the use of freestanding planters.

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

10. The Installation Flagpole location must 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. Refer to the Overview Section “Facility Hierarchy” topic of the AFCFS for guidelines regarding ancillary structures such as pavilions and shade shelters.

12. 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 dark bronze aluminum anodized finish.

13. 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.

14. When visual screening is necessary, consider landscaping, berms or combinations of these as the first option. Use landscaping to soften walls and dumpster enclosures. Split-faced is the standard texture for CMU screens or enclosures. Metal screening with a factory applied finish with 20% free spacing in perforations, louvers, slats or other configurations to be used for utility and equipment areas. Ensure screens are high enough to conceal equipment, vending machines and utilities. Comply with applicable AT requirements.

15. 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.

16. 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.

17. 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.

18. Provide trash dumpster constructed with Split face or ribbed CMU. to match adjacent facilities. Height will be 76” above finish grade. Walls will have a pointed and integrally colored block top matching block color. Locate dumpster enclosures to minimize visual impact. In high-visibility areas provide factory finished metal gates to screen dumpsters. Concrete slab within the enclosure will have positive drainage to exterior.

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

20. Group 1, 2 and 3 picnic tables and seating will be metal with factory applied earth tone colors. Accent colors may be appropriate in select areas as approved by 377MSG/CENE. Group 4 and recreational areas will have concrete or metal with factory applied earth tone colors picnic tables and seating. Generally, limit picnic tables, barbeque grills and drinking fountains to lodging, dormitories, housing areas, parks and recreation areas.

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

22. 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.

23. Motorcycle Parking that is approved by the Facility Board must conform to the following:

    a. Coordinate appearance with the building's motif that it serves. Create an architectural character using matching detailing but avoid excessive ornamentation.

    b. Parking shelter will be maintained in perpetuity by the user organization.

c. Number of spaces when allowed are to be provided per the following table.

Total Off- Street Parking Spaces	Allowable Motorcycle Parking
1-25	3
26-50	4
51-100	5
101-150	6
151-300	7
301-500	8
501-750	9
751-1,000	10

More than 1,000: 10 plus 1 for each additional 500 spaces

d. Parking spaces to be 4' by 8' and designated by parking space stripping in white.

e. These spaces must be designated in a clearly visible way with painted verbiage in white on the asphalt paving in front of the motorcycle paving which states “MOTORCYCLE PARKING ONLY” in Helvetica Neue - 65 Medium 8 inches in height.

f. Design is to be submitted to CE Engineering for review and approval before producing construction documents.

g. Provide a minimum 4” concrete pad with 12” deep x 12” wide thickened edge. Finished slab elevation to meet adjacent asphalt paving.

h. Structure is to be designed to resist an UL 90 uplift.

i. Foundation for canopy is to be at the back of the motorcycle parking pad and be with a cantilevered frame to be open to the drive aisle.

j. Construction documents are to be submitted to CE Engineering for review and approval before construction begins.

k. Energy efficient lighting that is provided is to be focused under the structure and contained to not splay more than 4' outside dripline.

l. Structure to be located away from any trees.

m. Structure must not allow bird nesting.

24. Manufacturers listed in sections C07.2.1. - C07.2.18. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

End of Section

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 2 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

Type: **Natural Gas**

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

Mfr: BBQ Coach

Color: Natural stainless steel

Finish: Mill

Model #: 32" 4-Burner

Other: Built-in Concrete or masonry, 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: **Slatted Metal**

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

Mfr: Belson

Color: Black

Finish: Powder Coat

Model #: CBPB-6SB-BK

Other: Concrete/Paved Mount

UFGS: N/A

C07.2.3. Bike Racks

◉ 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: Brandir International Inc.

Color: Black or Dark Brown

Finish: Factory

Model #: The Ribbon Bike Rack, RB-07

Other: N/A

UFGS: N/A

C07.2.4. Bike Lockers

○ Applicable ◉ N/A

C07.2.5. Bollards

◉ Applicable ○ N/A Number of base standards 3 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: **Force Protection, Building Protection**

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

Mfr: Custom

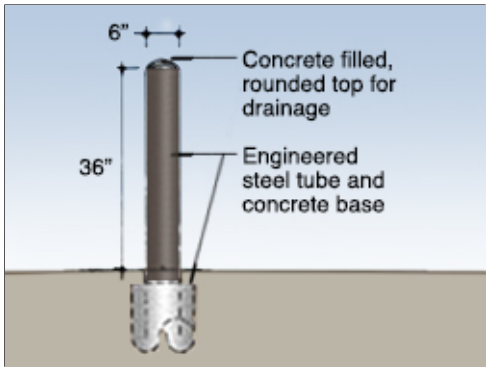
Color: Dark Bronze

Finish: Powder coat

Model #: 6" steel, flat top

Other: For Group 3, use only in high visibility areas

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

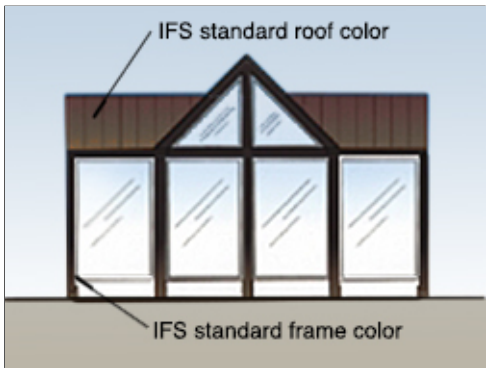
Model #: 6" Steel pipe, concrete filled, Cover: R-7173

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: **1**

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

Mfr: Custom

Color: Dark Bronze

Finish: Powder coated

Model #: Flat roof

Other: Provide concrete slab and 2 pre-manufactured benches

UFGS: N/A

C07.2.7. Drinking Fountains

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

Type: **Pedestal**

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

Mfr: Most Dependable Fountains, Inc.

Color: Natural

Finish: Stainless Steel

Model #: MDF 440 SMSS

Other: Accessible

UFGS: N/A

C07.2.8. Dumpster Enclosures / Gates

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

Type: **1: Split Face CMU**

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

Mfr: Custom

Color: Dark brown doors

Finish: Split face, powder coated doors

Model #: Match adjacent building

Other: Steel gates and hardware, dark brown, dumpsters will be painted dark brown

UFGS: Section 04 20 00 Unit Masonry

Type: **2. Vinyl Fencing**

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

Mfr: Custom

Color: White

Finish: Factory finish

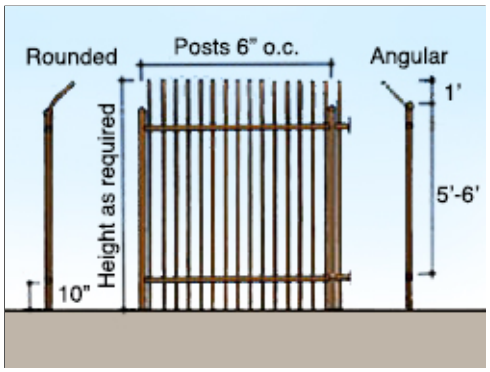
Model #: N/A

Other: For residential trash bins

UFGS:

C07.2.9. Fencing

◉ Applicable ○ N/A Number of base standards 3 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

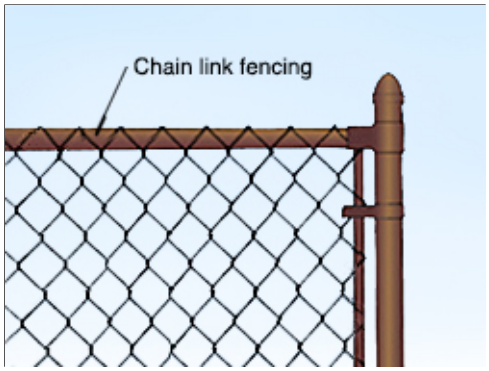
Color: Black or dark bronze

Finish: Powder coated

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

Other: Split Face, beige CMU piers may be used

UFGS: Section 05 50 13 Miscellaneous Metal Fabrications



Type: **Style B Barrier: High security, low visibility**

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

Mfr: Custom

Color: Galvanized

Finish: Powder coated galvanized steel

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

Other: Posts and rails in heights, lengths and gauges as required, (see Appendix for Facility Districts requirements)

UFGS: Section 32 31 13 Chain Link Fences and Gates

Type: **Style C Barrier (Alternate): Very low security, high visibility**

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

Mfr: James Hardie Building Products, Inc.

Color: Off white and Earth tones

Finish: Factory

Model #: Post and rail with vertical boards

Other: Posts: Height as required, 8’ max. spacing; apply boards to outside face.

UFGS: Not Available (SECTION 074646 Fiber Cement Siding)

C07.2.10. Flagpoles

◉ 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: Eder Flag

Color: Natural aluminum

Finish: Satin Lustre

Model #: ECL30 IH, Internal Halyard

Other: 5" Butt Dia. 33' H (30' Exposed)

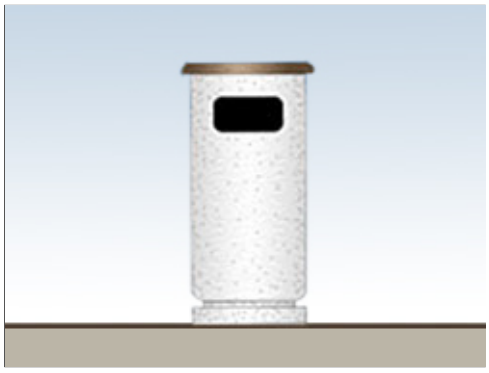
UFGS: N/A

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: Precast concrete**

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

Mfr: Materials, Inc.

Color: Weatherstone Gray

Finish: Smooth

Model #: TR-3225 Sante Fe (round or square)

Other: Rigid plastic internal liner,
http://materialsinc.com/wp-content/uploads/2017/07/TR-3225_SANTA_FE_COMBO.pdf

UFGS: N/A

Type: **Style 2: Metal**

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

Mfr: Wabash Valley

Color: Black or as approved

Finish: Powder Coated

Model #: Urbanscape "J" with liner, 32 Gallon

Other: Flat Top

UFGS: N/A

C07.2.13. Picnic Tables

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

Type: **Metal, vinyl coated**

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

Mfr: Wabash Valley

Color: Brown or as approved

Finish: Factory vinyl coated

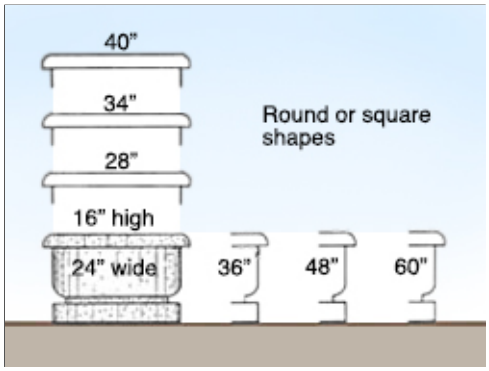
Model #: Tables with Bench Seats

Other: Perforated Pattern, In-ground mount

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: http://materialsinc.com/wp-content/uploads/2017/07/SANTA_FE_PLANTERS.pdf

UFGS: N/A

C07.2.15. Play Equipment

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

Type: **Steel**

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 1 Image Tool 250 x 188

Type: **CMU Walls**

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

Mfr: Custom

Color: Earth Tones

Finish: Split Face CMU

Model #: CMU

Other: N/A

UFGS: Section 04 20 00 Unit Masonry

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

Standard Buidling Sign

Custom Building Sign

Monument Sign

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, *Design: Sign Standards*. 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.

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.

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, must conform to the standards in the Manual of Uniform Traffic Control Devices (MUTCD) published by the Federal Highway Administration. Coordinate street signs with this IFS.

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 post-mounted sign faces in base standard materials and colors. Consider "bracketing" a designated area with a single sign at each end.

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 in sections C08.1.1. - C08.1.10. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

C08.1.1. Materials and Color Specifications

○ Applicable ◉ N/A Large graphics do not apply

○ Applicable ◉ N/A Small graphics do not apply

1. Exterior Regulatory Signs: Fabricate sign panels from 0.08 inch high grade aluminum allow, laminated with a high intensity diamond prismatic grade vinyl. Text will be electro-cut reflective engineer grade vinyl or ink jet factory printed (if purchased). Sign posts will be 2”x2” square hot dipped galvanized perforated steel posts, preferably powder coated anodized bronze. Sign posts will be set in an 18” long by 2.5” galvanized perforated breakaway sleeve set in a 12”x24” concrete footing, with 3” of the sleeve above grade (2”x2” inside) with capped ends in a concrete base.

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

3. All signage must follow 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.

    a. Standard Blue
    b. Standard Dark Bronze (also Federal Standard Color 30040)
    c. Standard Red
    d. Standard Black (non-reflective)
    e. Standard White
    f. Standard Brown

Continue to the next page.

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

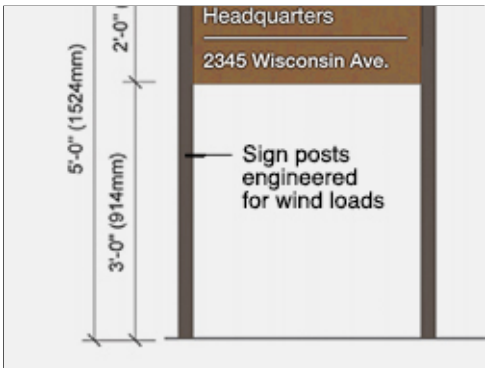
Color: Medium bronze

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

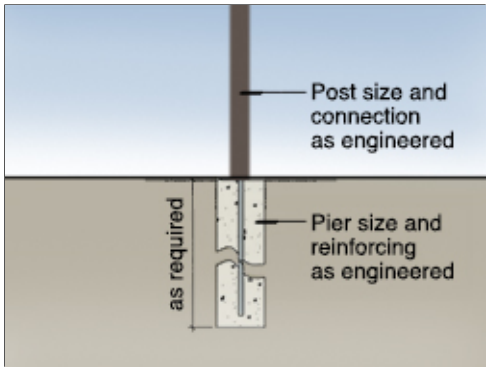
Color: Dark bronze, powder coat finish

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

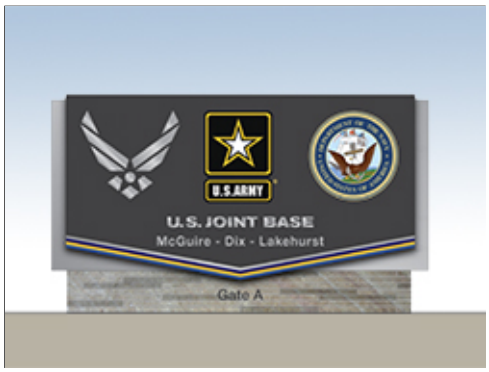
Model #: 24" height x 12" diameter, as engineered.

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

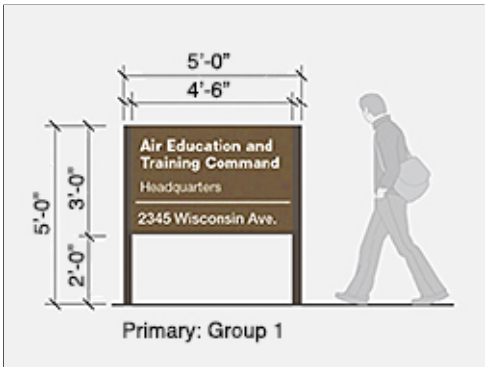
Model #: Metal frame and panels, buff stone base

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 must 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

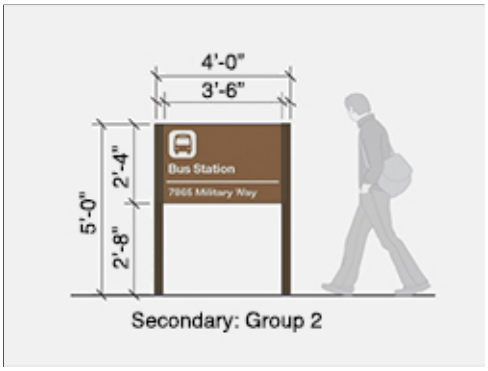
Color: Medium brown face, dark bronze posts, white vinyl lettering

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

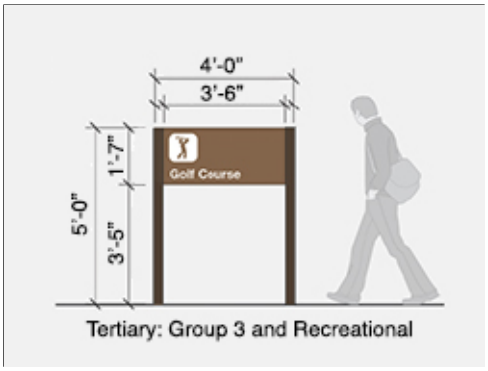
Color: Medium brown face, dark bronze posts, white vinyl lettering

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

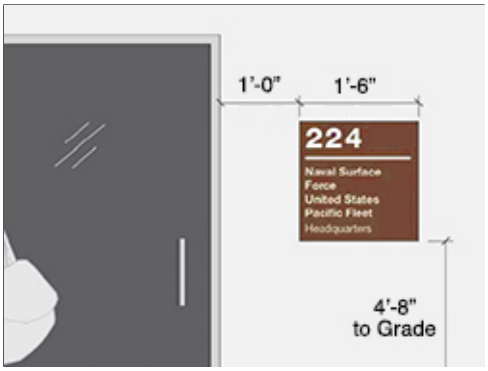
Color: Medium brown face, dark bronze posts, white vinyl lettering

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

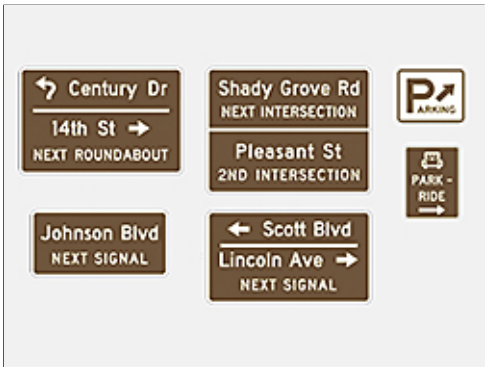
Model #: Aluminum sign face, control arm or pole mounted

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

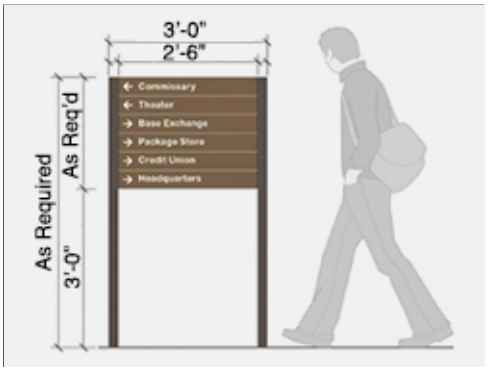
Color: Medium brown face, dark bronze posts, white reflective lettering

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 medium brown face, dark bronze posts, and white vinyl lettering.

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. 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 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.

C08.1.9. Regulatory Signs

◯ Applicable ◉ N/A

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, 2 and 4 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 in sections C08.1.1. - C08.1.10. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

C08.1.10. Other

○ Applicable ◉ N/A

1. Not applicable.

End of Section

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 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

Ambient Lighting and Downlighting


Multi-Purpose Lighting


Coordinated Site and Building Lighting

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. Comply with the requirements of the Bernalillo County Dark Skies ordinance: 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, 2 and 4 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 in sections C09.2.1. - C09.2.6. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

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: **Style 1**

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: Factory

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

Other: Lamp: LED. Follow manufacturer's recommendations for fixture base.

UFGS: N/A

C09.2.2. Parking Lot Lighting

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

Type: **Parking Lot Style 1**

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

Mfr: Hubbell, Kim Lighting

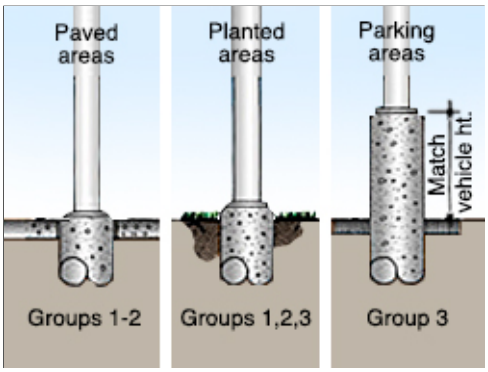
Color: Dark Bronze Anodized (or Clear Anodized as approved by BCE)

Finish: Factory

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

Other: Lamp: LED. Follow manufacturer's recommendations for fixture base.

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 1 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

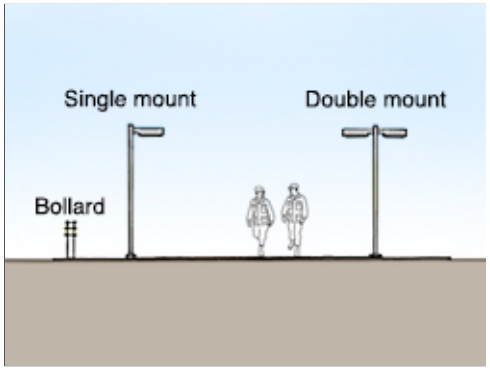
Model #: KBA

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

UFGS: N/A

C09.2.4. Sidewalk Lighting

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



Type: **Rectilinear Cutoff**

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: **Style 1**

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

Entry Plaza Integrated with Facility Entry Facade Creating a Sense of Place and Visual Interest while Meeting AT Security Requirements

Massing Based on Operations

Entrance Feature at Group 2

Group 4 Features

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.

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.

◉ 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

Orientation Optimizing Functionality


Horizontally Developed Massing


Massing Used to Define Entrance


Massing Used to Distinguish Function

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.

6. Use and coordinate shading devices with orientation and for function.

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 and regional influences with environmentally functional architectural features.

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 campus environment and educational themes with architecture expressive of innovation and technology that represents the current Air Force and Space Force missions and compliant with district requirements of KAFB IDP. The installation partners at KAFB, such as Air Force Education and Training Command (AETC), or Air Force Research Laboratories (AFRL), or Defense Threat Reduction Agency (DTRA), each have their own missions their facilities' designs will express.

End of Section

◉ 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

Architectural Features, Materials and Details Expressive of the Air Force Research Laboratories

Character Expressive of the Education Theme with Compatible Materials and Color

Entrance Detailed as a Focal Point

Overhangs Providing Shade

Standard Colors

5. All facilities will express sustainability through their orientation, massing, shape, form, materials, and detailing. Provide louvers, fins and other shading devices to control heat gain and glare and to improve energy efficiency.

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

D03.3. Details and Color

1. Provide a palette of earth-tone colors related to the native landscape in brick, block, stucco and powder-coated metals. Refer to wall systems for detailed material listings.

2. Relate the level of architectural detailing to the Facility Group number.

3. Use only integrally colored 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 Feature Using an Accenting Color

Shading Devices Contrasting the Wall Color

Color Used to Accent Relief in Facade

Human Scale Details at Group 4

4. 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.

5. Noncorrosive metals with factory applied color finishes are required unless specified otherwise.

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

7. Manufacturers listed in sections D03.3.2. - D03.3.7. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

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 the potential for flooding and corrosion

Other: None at this time

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 facades

Roof: High to medium albedo, moderate slope for all buildings except hangars / large industrial facilities

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

MEP: Ground-source following LCCA

Other: Internal thermal mass walls may be used for cooling following LCCA

Other: None at this time

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: **Style 1 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: **Style 1 Interior Wall Material**

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

Mfr: Custom, TBD

Color: Red brick blend

Finish: Light texture

Model #: Coursed unit masonry

Other: Brick is preferred. Concrete block may only be used in Group 3 when approved by the BCE.

UFGS: Section 04 20 00 Unit Masonry

D03.3.4. Thermal Shading

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

Type: **Style 1 Wall Devices**

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

Mfr: Kawneer (or equivalent) or custom

Color: Dark bronze

Finish: Factory, to match frames

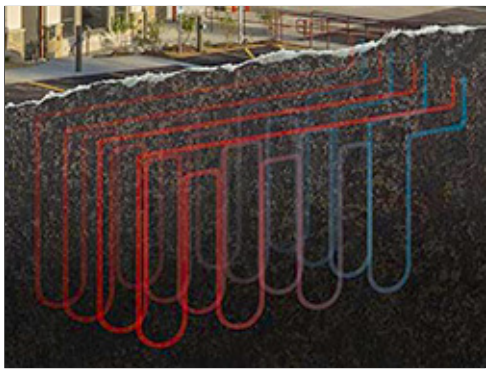
Model #: Louver

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 Number of base standards 1 Image Tool 250 x 188



Type: **Style 1 Geothermal (Ground Source)**

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

Mfr: Climate Master

Color: N/A

Finish: N/A

Model #: N/A

Other: Vertical ground loop well field

UFGS: Section 23 81 47 Water-Loop and Ground-Loop Heat Pump Systems

D03.3.6. Solar Photovoltaic System

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

Type: **Ground Mounted or Roof Mounted Array**

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

Mfr: To Be Determined

Color: Aluminum frame, factory panels

Finish: Factory

Model #: Fixed flat plate collector

Other: PV (photo voltaic) arrays on base need review by FAA and KAFB regarding Glare Hazards. The POC at the local FAA Mr. David Jones, Albuquerque Flight Standards Office (505) 764-1211.

UFGS: 26-31-00 Facility-Scale Photovoltaic (PV) Systems

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 projecting or recessed covering for weather protection following Installation Facilities Standards (IFS) for Facility Group designations.

2. Provide vestibules at entries in Groups 1, 2 and 3 unless used infrequently or serving unconditioned space following ASHRAE 90.1.

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

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

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

6. Protect entrances from direct sun. North-facing entrances are preferred.

7. Provide a single telephone line at vestibules of facilities that are secured/locked during normal business hours. This includes facilities with access control systems.

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.

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; weather protection beyond weatherstripping is not required at doors 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.

End of Section

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. Group 2 may have more refined detailing than Group 3.

2. Group 2 facilities will be predominantly CMU or traditional 3-coat stucco system or exterior insulation and finish system (EIFS) with control joints that accentuate architectural features; architectural pre-cast may be used as an accent material.

3. Group 3 facilities will be predominantly insulated Flat Metal Panel wall systems with accents of CMU. CMU construction is preferred to wood frame construction due to possible termite exposure.

4. Group 4 wall systems will be a traditional 3-coat stucco or EIFS system. CMU construction is preferred to wood frame construction due to possible termite exposure.

5. Multi-story Group 1 facilities may include a transition in material, color or detailing to create a visual base. Generally, limit finish to a single color or material on Group 3 and 4 facilities.

6. Use high-performance building envelopes following UFC 1-200-02, *High Performance and Sustainable Building Requirements* and UFC 3-101-01, *Architecture*.

7. Use detailing not subject to excessive weathering. Provide wall accents consistently throughout the base.

8. Use integrally colored materials and factory-finished metals. Do not paint concrete block.

9. Translucent wall panels may be used in Facility Group 1 and recreational uses in Group 2 when protected from direct solar gain. Provide insulating panels and shading appropriate for the orientation and exposure.

10. Manufacturers listed in sections D05.4.1. - D05.4.13. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

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 as at all exterior glazing exposed to summer UV heat gain 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.

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 or other materials that require painting.

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

9. Refer to D07. Roofs for downspouts.

10. Meet security and force protection requirements in UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*. See also G10 Kirtland AFB Design Basis Threat in Appendix G.

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, ductwork, etc. on exterior walls; if unavoidable in renovations, finish these elements to match the adjacent wall surface. See also B03.2 (10) .

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

End of Section

D05.4 Wall Systems Materials

Facility Group 1 wall materials will be as follows.

Primary:	CMU or Flat Metal Panels
Secondary:	Cast-in-Place Concrete
Accent:	Alternate Coursing and Relief

Facility Group 2 wall materials will be as follows.

Primary:	CMU, EIFS, 3-Coat Cementitious Stucco
Secondary:	Architectural Precast
Accent:	Cast-in-Place Concrete or Flat Metal Panels

Facility Group 3 wall materials will be as follows.

Primary:	Ribbed Metal Sheeting
Secondary:	Ribbed Metal Sheeting in Alternate Color or CMU
Accent:	CMU

Facility Group 4 wall materials will be as follows.

Primary:	3-Coat Stucco, Fiber Cement Siding, EIFS
Secondary:	Fiber Cement Siding, Trim Boards
Accent:	CMU

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 3 Image Tool 250 x 188

Type: **Insulated Metal Panel System - Kynar Finish, Light**

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

Mfr: Metl-Span

Model #: CF Santa Fe Insulated Metal Wall System

Color: Off-white

Finish: Heavy stucco-embossed

Other: N/A

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

Type: **Insulated Metal Panel System - Kynar Finish, Dark**

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

Mfr: Metl-Span

Model #: CF Santa Fe Insulated Metal Wall System

Color: Medium Bronze

Finish: Heavy stucco-embossed

Other: N/A

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

Type: **Flat Seam Panel - Weathering Steel**

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

Mfr: US Steel

Model #: Flat-seam cladding

Color: Natural weathered steel

Finish: Natural

Other: N/A

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

D05.4.3. Architectural Precast

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

Type: **Coursed precast**

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

Mfr: Local, TBD

Model #:

Color: Use EIFS color coat or stain, DO NOT USE COLORED CONCRETE.

Finish: Very Light ("sand") texture or exposed aggregate

Other: N/A

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 1 Image Tool 250 x 188

Type: **3-Coat Cementitious Stucco**

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

Mfr: La Habra

Model #: Traditional 3-coat system

Color: Beige

Finish: Sand

Other: Accent color may be used

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

D05.4.6. Cast-In-Place Concrete

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

Type: **Board-Formed or Sheet-Formed Bearing Walls**

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

Mfr: Custom

Model #: Rough-sawn dimensional lumber or liner forming

Color: Natural gray concrete

Finish: Board-formed or liner-formed texture exposed

Other: Board-formed texture has no exposed form ties

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**

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

Mfr: TBD

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 Number of base standards 1 Image Tool 250 x 188

Type: **"Wall Drainage" EIFS**

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

Mfr: STO, PAREX, DRYVIT or approved equal

Model #: TBD

Color: TBD

Finish: TBD

Other: Class of system depends upon the location and adjacent user activity.

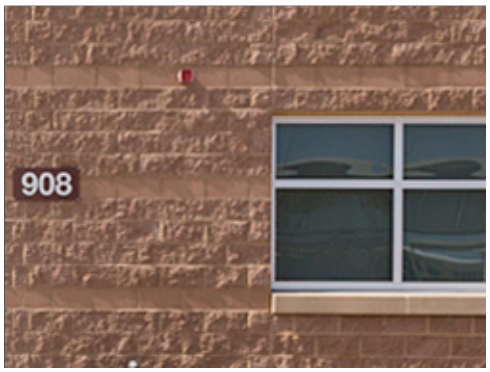
UFGS: Section 07 24 00 Exterior Insulation and Finish Systems:
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 24 00.pdf

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) Split Face**

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

Mfr: Local TBD

Model #: 8x8x16 Nominal, face and corner units

Color: Light or medium beige

Finish: Heavy Texture

Other: N/A

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

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

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

Mfr: Local TBD

Model #: 8x8x16 nominal, face and corner units

Color: Light or medium beige

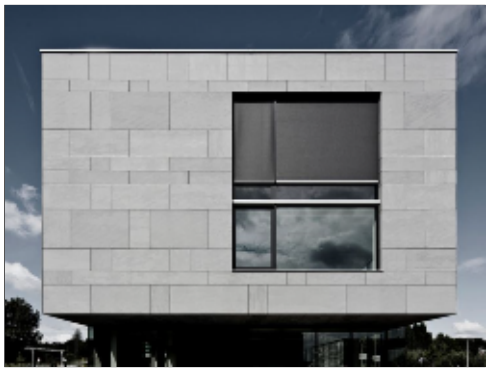
Finish: Ground with exposed aggregate

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 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: James Hardie Building Products, Inc. or Allura

Model #: Horizontal Lap Siding, Smooth Lap

Color: Earth Tones

Finish: Smooth

Other: Hardie Plank and manufactured units. Finished edges

UFGS: SECTION 074646 Fiber Cement Siding:
(Not Available on UFGS)

D05.4.13. Other

○ Applicable ◉ N/A

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 1-3 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 the existing ones.

2. Aluminum clad wood windows are preferred for Facility Group 4.

3. Standard-sized hinged doors are preferred. Use sliding, folding, overhead, sectional and other door configurations only to support mission operations.

4. Automatic doors are allowed only where functionally necessary.

5. Limit hollow metal doors and frames to security doors, utility rooms and mechanical rooms in Groups 1 and 2 and to any application in Group 3 facilities.

6. Utility and emergency egress doors will match the wall color.

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

8. Windows must meet force protection requirements.

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

10. Manufacturers listed in sections D06.5.1. - D06.5.4. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

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. Natural light from openings will augment interior lighting and space conditioning needs.

4. Protect against vandalism, intrusion and coordinate sound ratings.

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, 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. In buildings considered historically significant by NMSHPO which also have steel casement windows, 'Winco Series 3250' thermally broken aluminum frames were considered acceptable replacements. See succeeding paragraph for guidance on proprietary citations.

End of Section

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: Kawneer (or equivalent)

Color: Natural aluminum

Finish: Clear anodized aluminum

Model #: 2x4, thermally broken framing

Other: Group 1 may use larger openings with larger framing sections

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: Steelcraft

Color: Medium Bronze

Finish: Powder Coated, Satin

Model #: 2x4, thermally broken framing

Other: Group 1 use only for secondary entrances or emergency egress

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 Number of base standards 1 Image Tool 250 x 188

Type: **Aluminum-clad Residential**

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

Mfr: Marvin

Color: White or light Earth tones

Finish: Powder coated, satin

Model #: Aluminum-clad wood doors and windows

Other: Double hung windows

UFGS: Section 08 14 00 Wood Doors
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 08 14 00.pdf

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. Group 1 and 2 buildings will use sloped standing seam metal roofs. Group 3 facilities will use sloped mechanically-seamed batten metal roofing. Minimal-sloped roofs may be used as approved on a case-by-case basis.

4. Provide screens for roof-mounted appendages and equipment of the same materials, which are used predominantly in the building's roof systems.

5. Group 2 and 3 facilities under 5,000 sf and narrow in plan geometry, may use low-sloped shed, gabled or hipped standing seam metal roofs. Larger facilities may use sloped-roof features in conjunction with predominantly minimal-sloped “flat” membrane roofs. Comply with the requirements and recommendations of UFC 3 110-03, *Roofing* for thickness, 20 year no dollar limit water tight warranty and uplift as calculated in accordance with the requirements of ASCE 7 - 22 (American Society of Civil Engineers) Minimum Design Loads and Associated Criteria for Buildings and Other Structures.

6. Group 4 facilities will have gabled or hipped composite shingle 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, 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 3-110-03 and AFI 32-1051. A 20 year no dollar limit warranty is required on all new roofs and will not have "wind riders" less than the current design wind speed. Signage is required indicating roof under warranty and no repairs or alterations are allowed except by the warrantor (See Appendix G G04 ROOF INFORMATION CARD).

14. Do not use ballasted roof systems: BUR, EPDM, PVC, TPO, etc.

15. Manufacturers listed in sections D07.9.1. - D07.9.10. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

D07.2. Roof Slope

1. Groups 1 and 2 buildings will use min. 3:12 sloped roofs for standing seam metal roof systems (SSMR).

2. Low-sloped roofs are allowed for larger structures or to match existing conditions on renovation projects. Minimal-sloped roofs may also be used for Group 3 facilities in high-visibility areas.

3. Group 4 facilities will use 4:12 to 6:12 roof slopes.

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

5. Provide roof slopes to accommodate passive systems and daylighting when applicable following UFC 1-200-02.

6. Provide underlayments as required for the roofing type as directed by UFC 3 110-03

D07.3. Parapets and Copings

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

2. Comply UFGS Section 01 35 26 Governmental Safety Requirements particularly with regard to fall protection.

D07.4. Color and Reflectivity

1. Sloped roofs in Groups 1 and 2 and smaller facilities in Group 3 will match adjacent facilities and follow requirements of IFS. See D07.9.1. Standing Seam Metal Styles 1 through 4 for color requirements.

2. All minimal-slope membrane roofs will use only use high-albedo, high reflectivity color to help decrease the temperature around the buildings and minimize damage to human and wildlife habitat.

3. Sloped roofs in Group 4 will be earth tones.

4. For building additions match the color of existing roof.

5. Comply with UFC 3-110-03 and ASHRAE 90.1 for Solar Reflectance Index (SRI) and thermal requirements.

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

D07.5. Gutters, Downspouts, Scuppers, Drains

1. All sloped roofs will use gutters and downspouts. Gutters must be outside the fascia.

2. Internal roof drainage systems are not permitted in new construction. Minimal-sloped roofs will be sloped to drain to the building perimeter through scuppers into downspouts.

3. All gutters and fascia will match the standing seam metal roof color - See 07.9.1 Standing Seam Metal Styles 1 through 4.

4. Size the roof drainage system per IBC and 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 with it).

8. Fabricate downspouts from non-corrosive materials such as aluminum or zinc-coated steel. Provide factory painted Kynar-500 or equal finishes.

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.

End of Section

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. Minimize roof-mounted antenna systems.

9. Arrange Lightning Protection Systems (LPS) components in an ordered, uncluttered, inconspicuous appearance and integrated 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. Permanent fall protection will be considered with any new or addition to a roof with a slope above 3:12 per UFC 3-110-03.

D07.7. Clerestories and Skylights

1. Translucent panelized wall system clerestories and tubular daylight-type skylights are permitted in Group 1, 2 and 3 facilities. These are allowed in Group 3 facilities only when serving passive systems and are justifiable by life-cycle cost analysis.

2. Clerestories are preferred to skylights to avoid roof penetrations. Skylights, when permitted, must be simple in shape and integrated with the roof system to eliminate leakage.

3. Design clerestories and skylights using the same principles for seasonal shading that are required for walls and roof overhangs.

4. Translucent panel systems are preferred in clerestory applications due to lack of window cleaning.

5. Clerestories and skylights must comply with UFC 4-10-01.

D07.8. Vegetated Roof

1. Not allowable at KAFB.

End of Section

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 4 Image Tool 250 x 188

Type: **Style 1**

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

Mfr: Berridge, See D07.1 (14)

Color: Copper Brown

Finish: Matte

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

Type: **Style 2**

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

Mfr: ATAS International, Inc. , See D07.1 (14)

Color: Chocolate Brown

Finish: Kynar 500/Hylar 5000

Model #: Field Lok 2" Seam

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

Type: **Style 3**

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

Mfr: Englert, See D07.1 (14)

Color: Mansard Brown

Finish: Ultra Cool Low Gloss

Model #: S25000 Mechanically Seamed, 90 Degree seam, No Ribs

Other: N/A

UFGS: Section 07 61 14 Steel Standing Seam Roofing
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 61 14.00 20.pdf

Type: **Style 4**

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

Mfr: Fabral, See D07.1 (14)

Color: Mansard Brown

Finish: Kynar 500/Hylar 5000

Model #: Stan N' Seam

Other: N/A

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 2 Image Tool 250 x 188

Type: **Style 1**

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

Mfr: GAF, See D07.1 (14)

Color: White

Finish: Smooth

Model #: Single-ply: PVC 60 mm; TPO 72 mm; minimum slope 1/2:12

Other: Fastening: Fully adhered. NOTE: Manufacturers may determine more robust systems specifications are required in order to comply with the 20 year NDL warranty and uplift pressure requirements.

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)

Type: **Style 2**

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

Mfr: Johns Manville, See D07.1 (14)

Color: White

Finish: Smooth

Model #: Single-ply: PVC 60 mm; TPO s72 mm; minimum slope 1/2:12

Other: Fastening: Fully adhered. NOTE: Manufacturers may determine more robust systems specifications are required in order to comply with the 20 year NDL warranty and uplift pressure requirements.

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: **Style 1**

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

Mfr: Berridge, See D07.1 (14)

Color: Complementary colors with building colors

Finish: Factory, matte

Model #: High Seam Tee-Panel

Other: Mechanically seamed system, 24 gauge steel, Width: 16" Batten height: 1-3/4"

UFGS: Section 07 41 13.19 Batten-Seam Metal Roof Panels
(Not Available on UFGS)

D07.9.9. Composite Shingles

◉ 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: Tamko, See D07.1 (14)

Color: Earth Tones

Finish: Factory

Model #: Heritage

Other: Gabled or hipped with transverse gable or hipped features

UFGS: Section 07 31 13 Glass-fiber-reinforced Asphalt Shingles
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 07 31 13.pdf

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. Select economical structural systems that integrate roof and wall systems.

3. 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.

4. Fully coordinate structural grids with exterior window systems to align columns with window frames or wall systems.

5. When structure is exposed provide an organized appearance and coordinate with mechanical, electrical, plumbing, fire protection, information technology, and communications systems.

6. Limit the use of specialty systems (such as space frames, vaults or domes) and of structure as a visual feature.

7. Cost-effectively design interior bearing walls as thermal mass.

8. Design Footing Bottoms around a minimum frost depth of 18 inches.

9. Manufacturers listed in sections D08.2.1. - D08.2.9. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

End of Section

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: Custom

Color: Natural gray

Finish: Light texture

Model #: Post and beam and/or waffle slab

Other: Coordinate with mechanical for chilled beam technologies

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 finish 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 Number of base standards 1 Image Tool 250 x 188

Type: **Steel Framing**

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

Mfr: Steelrite

Color: Factory

Finish: Galvanized

Model #: Structural framing shapes

Other: N/A

UFGS: Section 05 45 00 Light Gauge Steel Framing System
(Not Available on UFGS)

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; design active mechanical systems to supplement thermal mass walls and floors.

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 during hot seasons.

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. See B03.2 comment 10.

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. Avoid nonstandard panelboards (including but not limited to those with more than 42 spaces) to the maximum extent feasible.

12. Separate mechanical and electrical and communications rooms.

13. Integrate recessed and wall-mounted fixtures such as fire standpipe cabinets and drinking fountains within permanent walls.
    a. In all but Facility Group 4 provide wall mounted water closets for ease of cleaning operations.

14. Ensure a minimum of 3ft of work area around all sides of individual telecommunications racks/cabinets, and around rows/ collections of racks.

15. Add hyperlink to AF Category Management tool: https://usaf.dps.mil/sites/CE-DASH-Tools/CMT/Module/Home.aspx?page=installation&installationId=69. This is the repository of KAFB's equipment standardization memorandums..

16. Utilize Elster AMCO building water meters. Meters are to be provided with a battery- powered Energy Axis Water Module capable of connecting to the base wide advanced metering infrastructure (AMI) by operating at a 902 MHz to 928 MHz radio frequency. Water meters to be included in all mechanical make up water systems.

17. Gas meters will be installed on new construction projects. Utilize Elster American Gas Meters. Meters are to be diaphragm or rotary type gas type meters. Meters are to be provided with a battery-powered Energy Axis Gas Module capable of connecting to the base wide advanced metering infrastructure (AMI) by operating at a 902 MHz to 928 MHz radio frequency. Natural gas regulators are to be designed around Elster/American Meter.

18. Per 377MSG/CEI-CI (Industrial Control Systems). Direct Digital Control (DDC) HVAC Installation
Provide systems compatible with Kirtland AFB's Kirtland Engineering and Operations Services (KEOS) in order to integrate into Kirtland's most current controller or newer front end with full read and write capabilities on all of the data points to enable monitoring functionality. All new DDC control hardware/software must have permission to operate under the current Kirtland ATO (Authorization to Operate).

19. G26 Kirtland AFB IFS Electrical for specific guidance on electrical pad mounted switch gear.

20. G26 Kirtland AFB IFS Electrical for specific guidance on low and medium voltage electrical design and equipment requirements.

21. Fire Alarm systems for each facility will be designed and installed using Monaco MAAP-X control panels. Existing devices must be wired so as to be addressable by the new control panel. Add hyperlink to AF Category Management tool: https://usaf.dps.mil/sites/CE-DASH-Tools/CMT/Module/Home.aspx?page=installation &installation Id=69 . This is the repository of KAFB's equipment stadardization memorandums.

22. The calculated demand of a fire sprinkler system must not be less than 10 PSI below the supply curve.

23. Electrical luminaires and lighting controls will comply with the requirements of UFC 3 530-01, *Interior and Exterior Lighting Systems* and UFGS Section 23 51 00 Interior Lighting. KAFB requires a five (5) year minimum warranty for luminaires and lighting controls.

24. Comply with the latest edition of the Kirtland Air Force Base Communications Specification (see Appendix G09) which covers all aspects of Base Communications including exterior and interior telecommunications considerations. Kirtland Air Force Base Comm Spec provides design criteria for planning, telecommunicatons cabling and distribution systems in building construction and renovation efforts.

End of Section

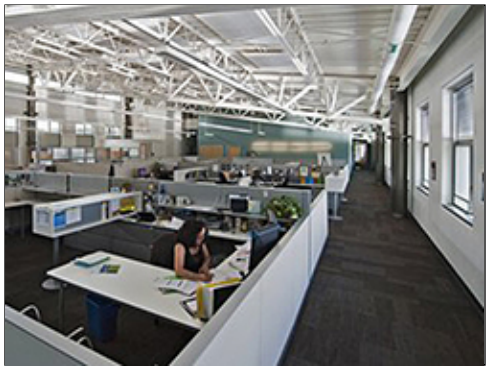
E. FACILITIES INTERIORS

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

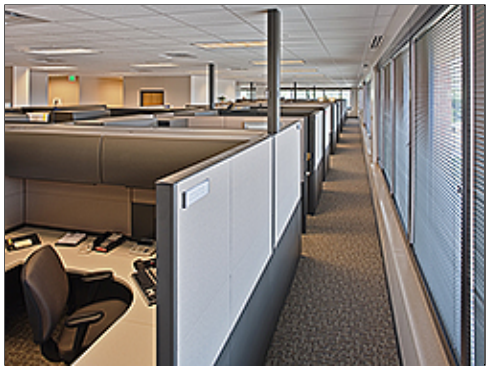
Insert 3 photos for each facility group.

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 lifespan.

2. Create flexible interior configurations using Furniture, Fixtures & Equipment (FF&E) and limit private offices and private rooms. Refer to DAFMAN 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, *High Performance and Sustainable Building Requirements*. Ensure passive design strategies are cost effectively incorporated before active mechanical systems are designed.

5. Comply with UFC 1-200-01, *DoD Building Code*, 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*. See also *G10 Kirtland AFB Design Basis Threat* in Appendix G.

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. Consult with the State Historic Preservation Officer (SHPO) and base-level Historic Preservation offices regarding proposed changes to properties listed on or eligible for listing on the National Register of Historic Places. Follow requirements of The National Historic Preservation Act and Secretary of the Interior Standards for the Treatment of Historic Properties.

12. Maintain architectural compatibility following AFCFS and this Installation Facilities Standards (IFS) document to create continuity while avoiding monotony.

13. Comply with Kirtland Air Force Base Comm Spec regarding appropriate sizing of communications rooms to account for current equipment and future sizing needs. See Appendix *G09 KAFB Communications Specifications*, Page 12, section 9.4.

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, *Interior Design* 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.

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.

4. References to equipment being listed by UL or FM should be modified to equipment listed by a Nationally Recognized Testing Laboratory (NRTL). Listed at: https://www.osha.gov/nationally-recognized-testing-laboratory-program/current-list-of-nrtls

5. Here is the link to the list of products that require listing/approval by a NRTL: https://www.osha.gov/nationally-recognized-testing-laboratory-program/products-requiring-approval

6. Asbestos Containing Materials are found throughout the installation in existing buildings. When these are encountered follow Appendix G07 Guidance for Generation and Disposal of Special Waste on KAFB.

7. Comply with Kirtland Air Force Base Comm Spec (see reference G09) which covers all aspects of Base Communications to include exterior and interior telecom consideration. Kirtland Air Force Base Comm Spec provides design criteria for planning, telecommunicatons cabling and distribution systems in building construction and renovation efforts. See Appendix G09.

8. Comply with Kirtland Air Force Base Comm Spec (see Appendix G09) in reference to appropriate sizing of communications rooms to account for current equipment and future sizing needs. See G09, Page 12, section 9.4.

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.
   a. except for Facility Group 4, provide wall hung water closets for ease of cleaning.

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.

End of Section

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 will be as follows.

Primary:	Prepared Slabs (Ground, Polished)
Secondary:	Porcelain Tile
Tertiary:	Carpet, Rubber Stair Treads

Facility Group 2 floor materials will be as follows.

Primary:	Prepared Slabs (Ground, Polished)
Secondary:	Ceramic Tile
Tertiary:	Carpet, Rubber Stair Treads

Facility Group 3 floor materials will be as follows.

Primary:	Prepared Slabs (Ground)
Secondary:	Prepared Slabs (Sealer)
Tertiary:	N/A

Facility Group 4 floor materials will be as follows.

Primary:	Carpet
Secondary:	Ceramic Tile
Tertiary:	N/A

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 and rapidly renewable flooring may be used in low traffic areas in Group 1, 2 and 4.

3. Manufacturers listed in sections E02.1.1. - E02.1.8. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

Continue to the Next Page

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: **Finished Concrete**

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: Daltile

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: Daltile

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: Daltile

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 1 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

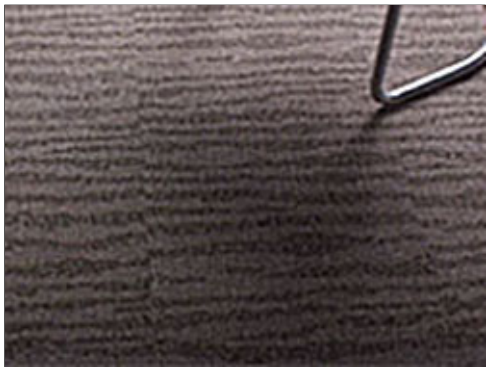
Model #: Raised design rubber tread

Other: Stair treads material

UFGS: Section 09 65 00 Resilient Flooring
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 09 65 00.pdf

E02.1.6. Carpet

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



Type: **Style 1: Carpet Tile**

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

Mfr: Mohawk Group

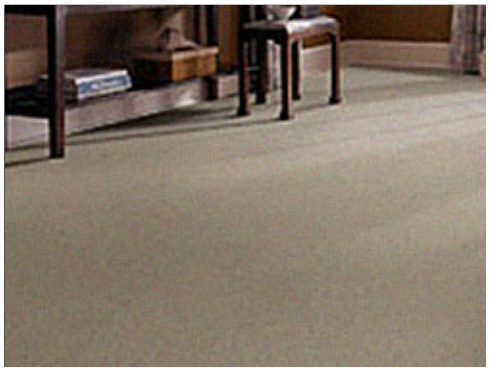
Color: Neutral multi-colored tones/patterned/solid

Finish: Yarn: Nylon 6 or 6.6/cut pile or loop pile

Model #: Broadloom, 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: Rolled Carpet**

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

Mfr: Mohawk Group

Color: Earth tones

Finish: Factory

Model #: Broadloom, residential loop, “Smartstrand”

Other: N/A

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 will be as follows.

Primary:	Brick (or otheras approved by the BCE)
Secondary:	Gypsum board (painted)
Tertiary:	Ceramic tile (restrooms)

Facility Group 2 wall materials will be as follows.

Primary:	Brick
Secondary:	Gypsum board (painted)
Tertiary:	Ceramic tile (restrooms)

Facility Group 3 wall materials will be as follows.

Primary:	Ground face block, sealed (do not paint)
Secondary:	N/A
Tertiary:	Ceramic tile (restrooms)

Facility Group 4 wall materials will be as follows.

Primary:	Gypsum board (painted)
Secondary:	N/A
Tertiary:	Ceramic tile (restrooms)

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 base on drywall partitions in Groups 1 and 2.
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-by-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. Group 4 may use painted composite wood base.
11. Manufacturers listed in sections E03.1.1. - E03.1.8. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

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: **Modular Face Brick**

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

Mfr: Local (TBD)

Color: Earth Tones or Gray

Finish: Light texture

Model #: Coursed unit masonry

Other: Brick is preferred. Concrete block may only be used in Group 3 when approved by the CENE.

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 1 Image Tool 250 x 188

Type: **Style 1**

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

Mfr: Daltile

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

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: Finished to Level 0-5 (See Gypsum Association's GA-214 "Levels of Finish for Gypsum Panel Products.") This is dependent upon project requirements but Level 3 is typical. Medium texture.

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

Not Applicable.

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 will be as follows.

Primary:	Exposed Framing (Roof / Floor Structure Above)
Secondary:	Grid and Acoustical Tile
Tertiary:	N/A

Facility Group 2 ceiling materials will be as follows.

Primary:	Exposed Framing (Roof / Floor Structure Above)
Secondary:	Grid and Acoustical Tile
Tertiary:	Gypsum board (painted)

Facility Group 3 ceiling materials will 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 will 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 approved in Group 1 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 in sections E04.1.1. - E04.1.8. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

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: Armstrong

Color: White

Finish: Factory

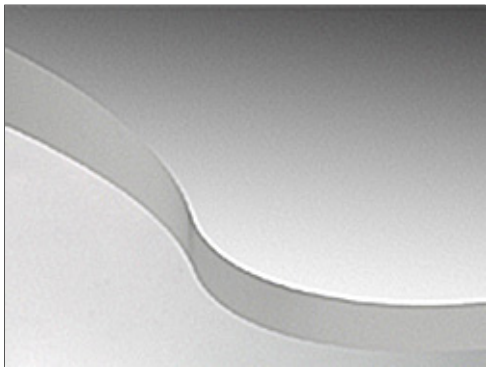
Model #: 2'x2' Tegular with reveal edge and fine texture, grid 15/16"

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: US Gypsum

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

1. Not applicable.

End of Section

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 will be as follows.

Primary:	Aluminum, Clear Anodized
Secondary:	Hollow Metal (Painted)
Tertiary:	N/A

Facility Group 1
door (leaf) materials will be as follows.

Primary:	Hardwood Veneer
Secondary:	Hollow Metal (Painted)
Tertiary:	N/A

Facility Group 2
door (frame) and window frame materials will be as follows.

Primary:	Aluminum, Clear Anodized clear anodized
Secondary:	Hollow Metal (Painted)
Tertiary:	N/A

Facility Group 2
door (leaf) materials will be as follows.

Primary:	Hardwood Veneer
Secondary:	Hollow Metal (Painted)
Tertiary:	N/A

Facility Group 3
door (frame) and window frame materials will be as follows.

Primary:	Hollow Metal (Galvanized, Painted)
Secondary:	Hollow Metal (Galvanized, Painted)
Tertiary:	N/A

Facility Group 3
door (leaf) materials will 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 will be as follows.

Primary:	Wood
Secondary:	N/A
Tertiary:	N/A

Facility Group 4
door (leaf) materials will be as follows.

Primary:	Wood Solid Core
Secondary:	Composite Solid Core
Tertiary:	N/A

1. Hardwood casings may be provided over metal frames in Group 1 as approved on a case-by-case basis.

2. Paneled textured doors are preferred in Group 4.

3. Do not use hollow-core wood doors.

4. Generally, match original hardware in renovations.

5. When New Mexico State Historic Preservation Office (SHPO) liaison at KAFB determines that a building or features thereof are historically significant, replacements and upgrades must maintain the general appearance of the original. For instance, the existing steel casement windows of a building must be replaced with similar profile and width of mullions. In building 20685 and Hangar 1002 a manufacturer whose product was found acceptable was "Winco Series 3250" 3 ¼" thermal

barriers aluminum frame windows. The approved Kynar painted finish of this manufacturer's frames was "Sage Brown". See note 5 above regarding use of proprietary manufacturers and model numbers.

6. Manufacturers listed in sections E05.1.1. - E05.1.4. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

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: Kawneer

Color: Clear anodized

Finish: Factory

Model #: InFrame Interior Framing, (2x4 nominal framing)

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

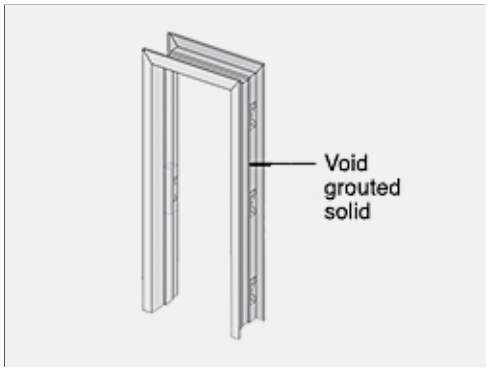
Color: Neutral colors

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: Simpson

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: Simpson

Color: Natural hardwood veneer or paint grade

Finish: Clear Sealer or paint, satin (aqueous)

Model #: Full slab or panels

Other: Satin nickel hardware

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

1. Not applicable.

End of Section

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 Life Cycle Cost Analysis (LCCA).

2. Natural stone and cast stone counter-tops may only be used in Group 1 with approval on a case-by-case basis.

3. Metal cabinets and counter-tops will be provided in heavy-use operations and in Group 3.

4. Refer to AFCFS for approved materials.

5. Manufacturers listed in sections E06.1.1. - E06.1.5. and E06.2.1. - E06.2.6. are provided only to establish a level of quality for use when designers write the salient characteristics of the brand-name item in project specifications following Federal Acquisition Regulations (FAR).

End of Section

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: Medium Earth tones and neutral tones

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

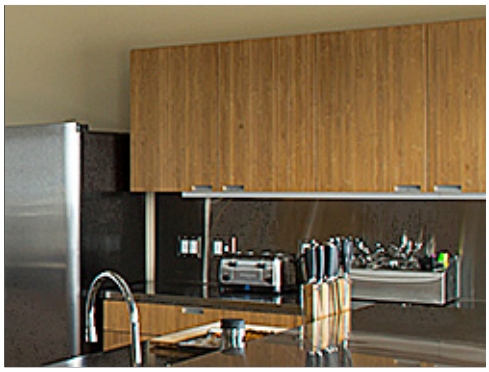
Model #: Solid Surface

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 neutral 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

1. Not applicable.

End of Section

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

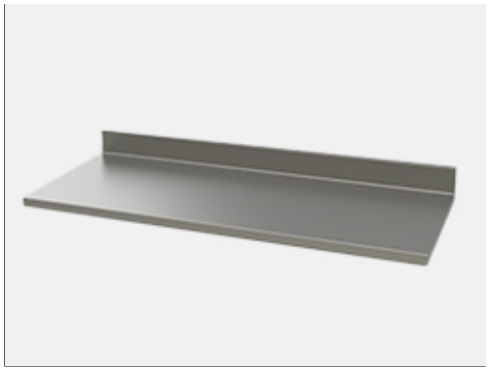
UFGS: Section 12 36 00 Countertops
http://www.wbdg.org/FFC/DOD/UFGS/UFGS 12 36 00.pdf

E06.2.4. Cast Stone

○ Applicable ◉ N/A

E06.2.5. Metal

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



Type: **Style 1: Metal**

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

1. Not applicable.

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. Refer to 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.

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. Use LED lighting where appropriate.

2. All lighting fixtures should provide a warm color spectrum, 3000K or less.

End of Section

F. APPENDIX - Facility Districts

- ○ Applicable
- ◉ N/A

G. APPENDIX - References

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

The below listed documents are supplements to this IFS. If there are any discrepancies between the requirements of this IFS and the Supplemental Documents, the IFS will govern.

G01 Kirtland AFB IFS General Requirements
https://www.wbdg.org/FFC/AF/AFIFS/G01_Kirtland_AFB_IFS_General_Requirements.pdf
Includes Design Basis Threat, Architectural Compatibility Review Board (ACRB) Guidelines, Air Force Research Laboratories (AFRL) Guidelines, SHPO AF Fact Sheet, Geospatial Data Requirements Local Codes, Standards and Regulations, Civil Engineering, Roof Sign Installation, Environmental Procedures, Construction Demolition Waste Management

G02 Kirtland AFB IFS Existing Conditions
https://www.wbdg.org/FFC/AF/AFIFS/G02_Kirtland_AFB_IFS_Existing_Conditions.pdf
Includes Special Waste Disposal Guidance

G09 Kirtland AFB IFS Finishes
https://www.wbdg.org/FFC/AF/AFIFS/G09_Kirtland_AFB_IFS_Finishes.pdf
Includes Carpet Mandatory Program, Guidelines for Selecting or Specifying Carpet, Technical Carpet Specifications

G26 Kirtland AFB IFS Electrical
https://www.wbdg.org/FFC/AF/AFIFS/G26_Kirtland_AFB_IFS_Electrical.pdf
Includes Operation and Maintenance, Medium-Voltage Electrical Distribution, Low-Voltage Electrical Distribution, Engine Generators, Lightning Protection, Interior Lighting, Exterior Lighting, PMH Switches

G27 Kirtland AFB IFS Communications
https://www.wbdg.org/FFC/AF/AFIFS/G27_Kirtland_AFB_IFS_Communications.pdf
Includes Roles / Requirements, Security, Critical End Buildings (CEBs), Geospatial Mapping / Surveying, Classified Systems, Modular Furniture, Periodic Inspections, Final Inspections, Testing and Documentation, Exterior Communications Plant, Underground Copper Installation, Underground Fiber Installation, Manholes and Duct Systems, Building / Vault Entrance, Telecommunications (COMM) Rooms, Interior / Premise Wiring (Copper, CAT 6, Fiber), Switches, Telecommunications Outlets, Example Manhole & Neck/Lid Specifications, Guidance for Geospatial Data, Typical Primary Tele-Comm Room (PTR) Arrangement, Example Vault Closure End – Plate Designs, Glossary

G28 Kirtland AFB IFS Electronic Safety Security
https://www.wbdg.org/FFC/AF/AFIFS/G28_Kirtland_AFB_IFS_Electronic_Safety_Security.pdf
Includes Fire Detection and Alarm, Mass Notification (Reserved)

G32 Kirtland AFB IFS Exterior Improvements
https://www.wbdg.org/FFC/AF/AFIFS/G32_Kirtland_AFB_IFS_Exterior_Improvements.pdf
Includes Bases, Ballasts, and Paving for Roads and Parking Lots (Reserved), Turf and Grasses Seeding, Plant List (Ground Covers, Plants and Bulbs, Shrubs, Trees)

G33 Kirtland AFB IFS Utilities
https://www.wbdg.org/FFC/AF/AFIFS/G33_Kirtland_AFB_IFS_Utilities.pdf
Includes Water Distribution, Onsite Wastewater Disposal, Stormwater Management, Natural Gas Distribution, Petroleum Storage Tanks, Electrical Utilities (Reserved)