

2010



UNITED STATES AIR FORCE



DESIGN AWARDS



PROGRAM

LANDSCAPE ARCHITECTURE
PLANNING

ARCHITECTURE
SUSTAINABLE DESIGN
INTERIOR DESIGN



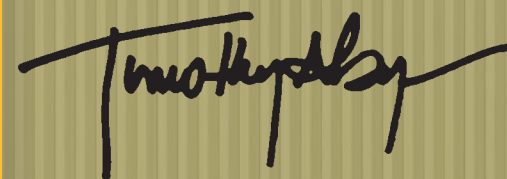
UNITED STATES AIR FORCE

2010 DESIGN AWARDS PROGRAM

For over three decades, the USAF Design Awards Program has been an effective means of recognizing outstanding contributions to the Air Force mission by design professionals around the world. This brochure of 2010 award winners highlights the teamwork of many professionals who enable the Air Force to maintain its reputation for design and facility excellence. Throughout this brochure you will find multiple design principles that allow the Air Force to provide its Airmen with quality facilities and installations, while responding to ever tighter budgets and increased energy conservation.

As the Air Force takes on new challenges in using our resources efficiently while reducing our impact on the environment, the USAF Design Awards Program stands as an effective means of measuring our successes, and recognizes those who stand out among the many design and construction professionals who contribute to our outstanding facilities. We continually look for innovative ways to streamline our design and construction process, and as we look to the future our challenge in the next decade will be using less energy and more recycled materials to ensure the Air Force and the Department of Defense build responsibly.

Much more than just an opportunity to congratulate the winners for a job well done, the USAF Design Awards Program is a measuring stick we use to determine success, and a tool we use to communicate our standards to the design and construction community. As we continually strive for superior and innovative facility designs, I congratulate the winners of the 2010 USAF Design Awards Program.



Timothy Byers, Maj Gen, USAF
The Civil Engineer
DCS/Installations & Logistics



This Annual Report marks the 35th anniversary of the United States Air Force Design Awards Program that was established in 1976 to recognize and promote design excellence. The Air Force sets no limits on the number or type of projects that can compete each year. There are seven project award categories. These include Planning Studies and Design Guides, Sustainable Design, Concept Design, Interior Design, Landscape Architecture, Facility Design, and Military Family Housing.

For each year's competition, an effort is made to secure jurors of the highest professional standards, blending progressive professionals who are knowledgeable of design trends in the private sector with exceptional design professionals currently in government service who understand military terminology and design standards.

The United States Air Force Design Awards Program is a viable and important program that has become institutionalized within the Air Force. It is widely recognized throughout the federal government and is supported by the enthusiastic participation of notable professionals in the private sector. The program is a proud recipient of the 2000 Federal Design Achievement Award, which recognizes exceptional design achievement from all sectors of the federal government.

HONOR AWARD

Planning Studies and Design Guides

2009 Air Force Space Command Facilities Excellence Guide

711th Human Systems Wing Facility
Wright-Patterson Air Force Base, Ohio

Concept Design

Falcon Hill National Aerospace Research Park
Hill Air Force Base, Utah

Fitness Center
Nellis Air Force Base, Nevada

Facility Design

Space Innovation and Development Center
Schriever Air Force Base, Colorado

MERIT AWARD

Planning Studies and Design Guides

Southeast Flightline Subarea Development Plan
Cannon Air Force Base, New Mexico

Master Plan for Installation Development
Ohio Air National Guard, Toledo Express Airport

Concept Design

Buildings 12 & 17 Renovations
Wright-Patterson Air Force Base, Ohio

Information Technology Complex
Wright-Patterson Air Force Base, Ohio

Interior Design

Niwa Room
Yokota Air Base, Japan

Landscape Architecture

Heritage Hill
McChord Air Force Base, Washington

Minuteman Missile Plaza
Peterson Air Force Base, Colorado

Facility Design

Intercontinental Ballistic Missile Propellant Laboratory
Hill Air Force Base, Utah

Aquatics Center
Ramstein Air Base, Germany

Eastern Air Defense Sector Support Facility
New York Air National Guard, Griffiss Air Park, Rome

CITATION AWARD

Concept Design

Security Forces Operations Center
Wright-Patterson Air Force Base, Ohio

Medical Complex
Spangdahlem Air Base, Germany

Interior Design

Sarris Auditorium
Wright-Patterson Air Force Base, Ohio

Facility Design

Air Force Institute of Technology Academic Building
Wright-Patterson Air Force Base, Ohio

Vehicle Maintenance Facility
Nevada Air National Guard, Reno

Air Intelligence Exploitation Facility
Nevada Air National Guard, Reno

Glass House Renovation
Fairchild Air Force Base, Washington

Okuma Seawall
Kadena Air Base, Japan

Planning Studies and Design Guides

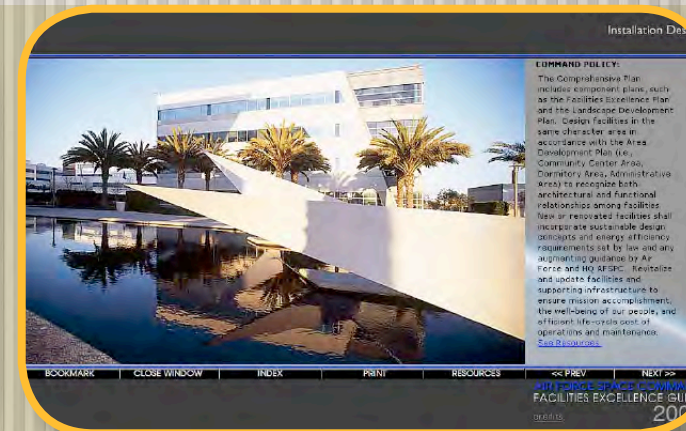
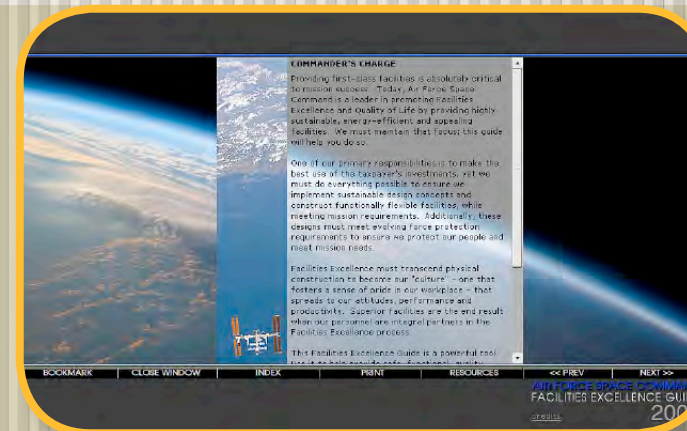
2009 Air Force Space Command Facilities Excellence Guide

Design Organization: Fennell Group
Using Command: Air Force Space Command

The 2009 Edition of the Facilities Excellence Guide emphasizes Air Force Space Command's understanding that sustainability affects every aspect of the mission. The guide is meant to establish policy and guidance for planning of safe and cohesive installations. The guide focuses on sustainable design, Anti-Terrorism/Force Protection, landscaping, grounds, fences, screens, enclosures, and signage.

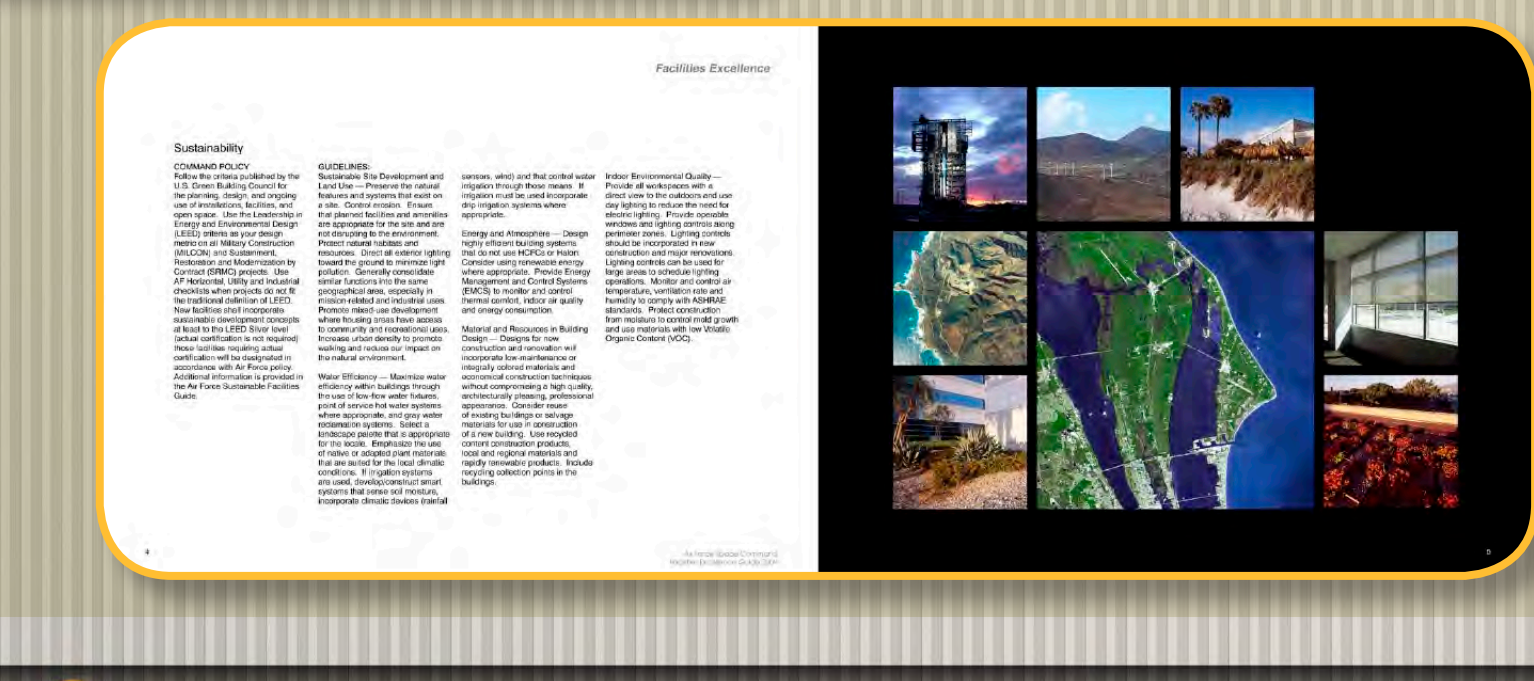
The guide was created as a working tool to assist commanders, project managers, designers, and builders attain the design and development excellence required for the Command's installations. Created as a user-friendly tool with primary access on the World Wide Web, the guide is also sustainably manufactured in limited quantities using eco-friendly 'bio' inks and paper that is 100% post-consumer waste fiber made using non-polluting wind-generated electricity.

The Command's mission integrity has been enhanced by the sustainable execution of the guide in both content and delivery, and by augmenting all aspects of the built environment and the quality of life for families and individuals who serve in Air Force Space Command. The Command's installations are showing exceedingly exceptional improvement as a result of the Facilities Excellence Guide (FEG). The Command Civil Engineer endorses this guide as the archetype for facility plans because it exemplifies design principles for all aspects of the built environment in a creative, accessible, and useful format.



Jurors' Comments

- Beautiful, well constructed document; easy to navigate
- Offers strong guidance for installations
- User-friendly format
- Go-to guide for design concept typologies



Concept Design

711th Human Systems Wing Facility Wright-Patterson AFB, OH

Design Organization: KZF/BWSC

Using Command: Air Force Materiel Command

Design Agent: Louisville District US Army Corps of Engineers

Base Engineering Organization: 88th Civil Engineer Directorate



Jurors' Comments

- Effective use of space fostering collaboration
- Uses whole building design approach
- Synergy between education, research and clinical studies

The 711th Human Performance Wing brings research, training and clinical services together. As part of the Base Realignment and Closure initiative, this facility consolidates functions previously scattered nationwide into a single complex at Wright-Patterson Air Force Base. The intent in combining all the locations into a single complex is to position education, research and clinical studies in such a way that all are benefitted by daily interactions and cross-germination.

Each organization in the facility, the School of Aerospace Medicine, the Air Force Institute of Operational Health, the Navy Aerospace Medical Research Laboratory, and Air Force Research Laboratory donated square footage for "sticky spaces". These spaces take advantage of the synergies of these closely related fields by promoting interaction between building occupants as they traverse the interiors of the facility. Interactions are also encouraged in the way the buildings are sited to create a campus atmosphere. To create a main street for the campus, an under-utilized entry gate and roadway were relocated to minimize traffic and physical separation between the north and south areas of the complex.

The Human Performance Wing used a 'whole building' design approach to provide an efficient and technologically progressive facility. Using this approach resulted in a well designed complex that reduces solar gain, utilizes heat recovery units in its fume hoods and exhaust air vents, employs centrally located heating and cooling equipment, and uses low-flow/consumption fixtures. All of the elements incorporated into this complex using the 'whole building' design approach have helped reduce the life-cycle costs of the facility.



Concept Design

Falcon Hill National Aerospace Research Park Hill AFB, UT

Design Organization: Architectural Nexus
Using Command: Air Force Materiel Command
Base Engineering Organization: 75th Civil Engineer Group

The Falcon Hill National Aerospace Research Park enhanced use lease project essentially eliminates four miles of Interstate blight along the I-15 corridor and replaces it with a vibrant retail, business, and aerospace research park. The park will benefit not only the military but the surrounding communities as well. The combination of pedestrian friendly streets, green park space, and fine retail within walking distance of the park and business facilities makes this a great benefit to this area. It also provides an opportunity for people not otherwise associated with the base to intermingle and develop a stronger sense of connection.

The various massing, sizes, and shapes of the development were carefully planned and modeled to capture the dynamic movement of the area. The mix of business, retail, military, and park space are balanced in scale to create a pedestrian friendly environment.

While we respect the past, we must step toward the future. The colors and materials compliment the surrounding area and existing architecture, while the increased use of modern materials demonstrates the commitment to high technology and high design. A key component in the design of the facilities was the creation of timeless architecture that can be added to for years to come. The cohesive architecture, integrated landscaping, and fostering of a strong sense of community are the highlights of this development.



Jurors' Comments

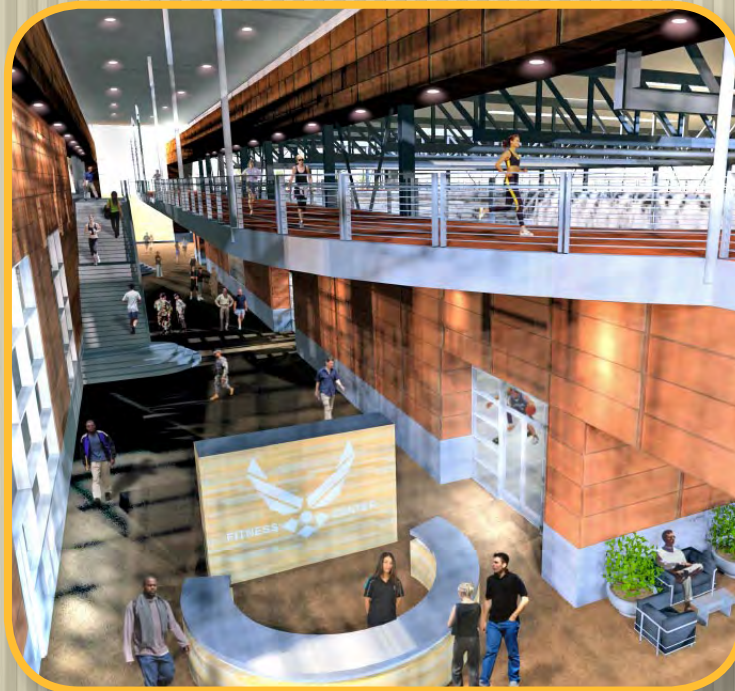
- Creative approach to bring civilian and military communities together within an urban development
- Establishes a sense of place
- Effective integration of landscape and architecture
- Illustrates a new approach by the Air Force toward total site development



Concept Design

Fitness Center
Nellis AFB, NV

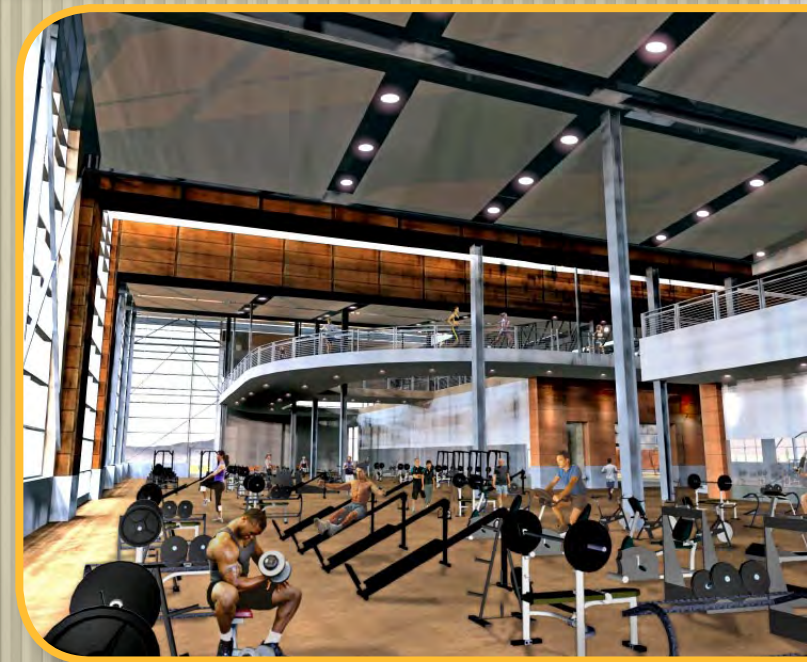
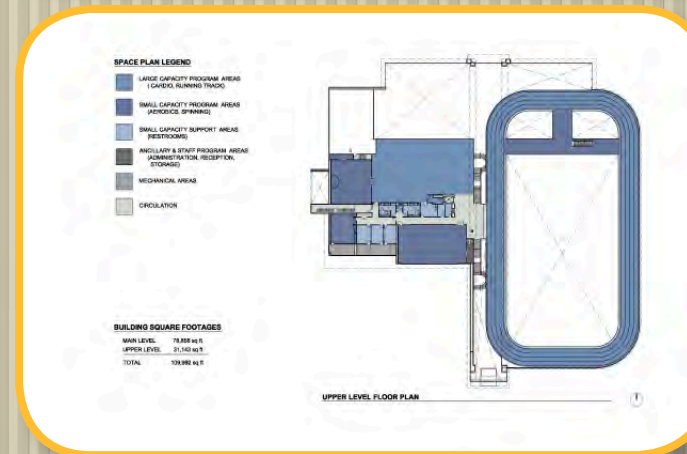
Design Organization: WPH Architecture
Using Command: Air Combat Command
Base Engineering Organization: 99th Civil Engineer Squadron



The purpose of this project is to replace an inefficient and undersized fitness center with a state-of-the-art training facility. The facility design is meant to promote health and fitness and evoke a sense of pride. The facility is a true example of 'form follows function'. The building is a composition of individual forms derived from the program, comprised of several large space-defining components including three basketball courts, a one-eighth mile running track, weight training and equipment room, cardio area, and six lane lap pool.

The spaces are linked by a central circulation spine that bisects the building, beginning at the entry and terminating at the main workout room. The spine serves as the organizational catalyst for both the interior and exterior form. From the exterior, the spine is the tallest vertical element defining the main building entry. The elevated running track is articulated as a character defining exterior form and becomes a defining element of the interior architecture as well. The expansive glass of the north facing 'wing structure' façade produces a grand space for intensive physical training while offering exhilarating views of athletic fields and the mountains beyond.

The careful assemblage of program requirements creates an interactive synergy of overlapping spaces. This facility has been designed for the 'Fit to Fight' Program. It promotes a fitness culture and shows the importance of health and fitness in mission readiness by providing for the overall fitness and well-being of its users.



Jurors' Comments

- Sleek design reflecting Air Force mission and building function as a fitness center
- Would love to workout in this facility
- Appropriate response to context
- Majestic interior spaces
- Massing clearly reflects interior function
- Elegant, functional floor plan

Facility Design

Space Innovation and Development Center Schriever AFB, CO

Design Organization: MWH in association with Benham, Inc. and
Cromwell Architects

Using Command: Air Force Space Command

Design Agent: Omaha District US Army Corps of Engineers

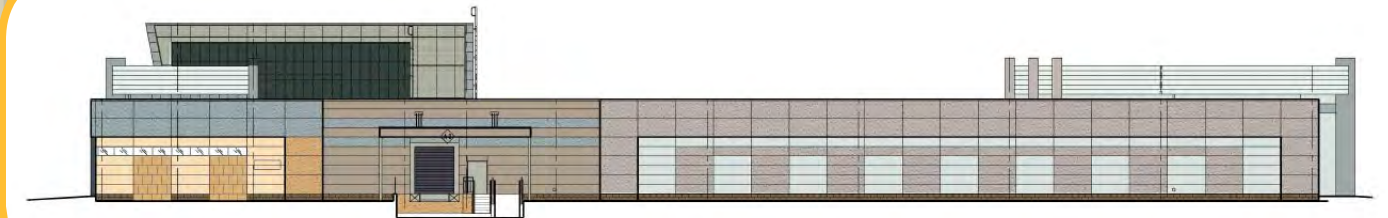
Base Engineering Organization: 50th Civil Engineer Squadron

Jurors' Comments

- Exterior massing and articulation is very exciting and reflective of Command's mission
- Modern materials and design for a modern mission
- Integrated design of building and site
- Well resolved planning for future expansion

The purpose of the Space Test Evaluation Facility project is to provide a functional, visually appealing command facility for the Space Innovation and Development Center. The project presents a high-tech image that reflects the Air Force's reputation for progressive technology.

The facility's site planning, building form and massing, roof slopes, exterior materials, and colors were designed to meet the Facilities Excellence Standards for Schriever Air Force Base. The exterior dimensional stone and insulated metal panels were selected to provide architectural compatibility with other primary facilities on the base while presenting a 21st century appearance. Natural materials are used to provide a more human flavor to this high-tech facility.



Planning Studies and Design Guides

Southeast Flightline Subarea Development Plan

Cannon AFB, NM

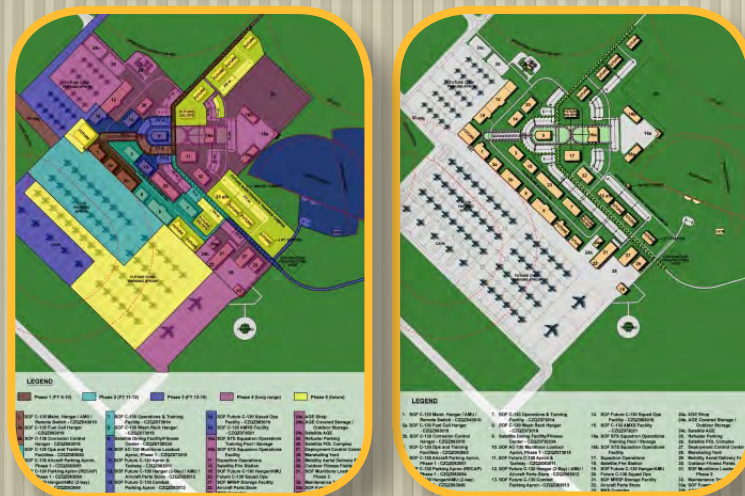
Design Organization: Woolpert

Using Command: Air Force Special Operations Command

Base Engineering Organization: 27th Special Operations Civil Engineer Squadron

Jurors' Comments

- Stellar example of area development planning for a large mission
- Brings sustainability 'out in the open' with clear development policies and planning principles
- Methodology is highly transferable to other installations

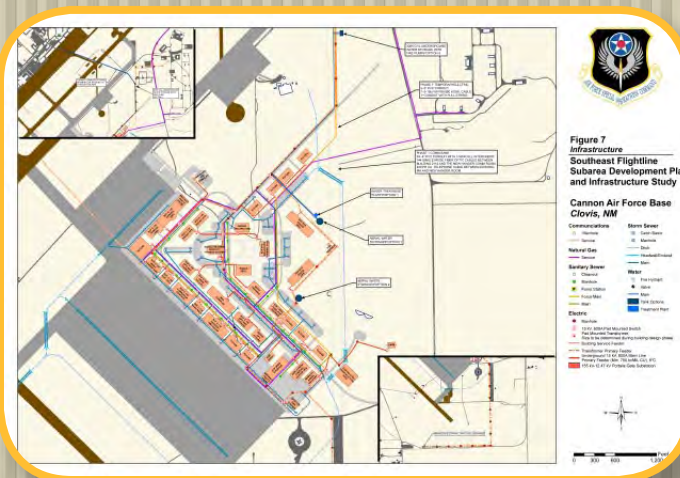


The main objective of the Cannon Air Force Base Southeast Flightline Subarea Development Plan is to provide specific guidance for expansion of the flightline due to the transfer of the base and the Melrose Range from Air Combat Command to Air Force Special Operations Command. The plan provides recommendations for future development of the area to support a variety of flightline operations.

The plan provides strategies to maximize the efficiency of the flightline expansion through proper layout and spatial organization of Air Force Special Operations Command's airfield assets. It fosters a long-term, sustainable development pattern consistent with Air Force planning principles and the Command's design guidelines. These principles are shown by incorporating recommended facility designs that consider the potential long-term use and reuse for future mission changes. The plan also identifies responsible designs that recognize the interrelationships between operational and environmental requirements.

The plan recommends providing limited yet efficient vehicular connections between facilities to reduce reliance on automobiles. The plan also allows for preservation of open space and more efficient land use while reducing infrastructure and maintenance costs. The use of native plant materials is recommended to minimize maintenance and water usage along with the use of native woody plants as shade relief.

The Wing Commander has stated that this plan identifies the course of action to be followed. The desired course of action for the southeast flightline has directly affected short-term and long-term facility use, demolition, and construction decisions for the rest of the installation.



In response to the 2005 Base Realignment and Closure initiative, the 180th Fighter Wing adopted a new mission. This mission required adaptation of spatial and functional land use configurations to establish an efficient, safe, and professional environment. The specific sequencing of projects and the development of long-term options that consider expansion with and without property acquisitions demonstrates a commitment to thought-out planning and implementation.

This plan furnishes the Fighter Wing with facilities and assets to fulfill its current and future missions by optimizing space for flightline development, providing space for mission expansion, improving functional relationships, and identifying joint use facility locations. The plan advocates realigning primary and secondary roads and parking lots to meet Anti-Terrorism/Force Protection setbacks and enhances overall circulation. By using this realignment and increasing facility density in a central core, a campus environment is produced, turning an installation deficiency into an asset. A central core campus environment also has the added benefits of creating a base identity and being pedestrian friendly.

The plan focuses on the consolidation of like functions with access corridors that encourage walking. The master plan encourages adaptive reuse and joint facility use to minimize demolition, new construction materials, site disturbance, and construction emissions. It has no net impact on significant natural resources while allocating land for future alternative energy developments. The plan uses these sustainable elements to support mission readiness without compromising the ability to adapt to future mission needs or limiting the goals of neighboring communities.



Planning Studies and Design Guides

Master Plan for Installation Development

Ohio Air National Guard, Toledo Express Airport

Design Organization: Woolpert

Using Command: National Guard Bureau

Design Agent: US Property and Fiscal Office for Ohio

Base Engineering Organization: 180th Civil Engineer Squadron

Jurors' Comments

- Excellent case study in comprehensive planning for a small yet complex cantonment area
- Identifies effective development solutions with consideration of diverse resource and planning challenges
- Outlines a vision and a development framework
- Innovative and sound way-ahead... Air National Guard installations, typically built on commercial airports, face unique development and land acquisition challenges



Concept Design

Buildings 12 & 17 Renovations

Wright-Patterson AFB, OH

Design Organization: AztecButt Joint Venture

Using Command: Air Force Materiel Command

Design Agent: Louisville District US Army Corps of Engineers

Base Engineering Organization: 88th Civil Engineer Directorate

Jurors' Comments

- Applaud adaptive reuse of a historic building
- Innovative use of steel deck to achieve Anti-Terrorism/Force Protection requirements while preserving historical character of building
- Effective use of natural lighting within interior space



This design-build project involved the adaptive reuse of Art Deco buildings constructed in 1934. The buildings, which housed the first Air Force Museum, will be reused to create approximately 77,000 square feet of modern acquisition management offices, conference rooms, and support spaces for a crew systems squadron.

A significant design challenge was the proximity to an off-base street that was forty feet from the building. This proximity required a 2880-pound per square foot Anti-Terrorism/Force Protection blast load resistance for walls and windows at this corner of the building and similar high loads on other building elements. These strengthening measures decrease as the distance from the street increases. Difficulty resolving the load protection is compounded by original construction that used clay tile, rather than concrete masonry unit construction as a structural backing of the brick on the exterior walls.

The solution involves the installation of steel deck at the inside of exterior walls to catch shrapnel. Loads are transferred to an internal frame that includes a new second floor, columns and reinforcing channels at the top chords of all trusses, in addition to new x-bracing and foundations. Compatibility of the building with adjacent buildings and its surroundings is improved. The interior of the facility has been redeveloped in a fashion that makes maximum use of open office areas and allows maximum opportunity for reconfiguration to accommodate future mission changes.



Concept Design

Information Technology Complex

Wright-Patterson AFB, OH

Design Organization: CH2M Hill

Using Command: Air Force Materiel Command

Design Agent: Louisville District US Army Corps of Engineers

Base Engineering Organization: 88th Civil Engineer Directorate

Jurors' Comments

- Represents a future approach to planning and design with subarea development and phasing
- Good separation of public and private space in plan
- Massing clearly expresses design concept
- Adaptive reuse of existing developed site



The Information Technology Complex will provide state-of-the-art computing, collaborative modeling, and simulation environments. These will enhance weapon system life-cycle acquisition and support capabilities by enabling the rapid infusion of information technology.

Phase I sets the vocabulary of the campus identity. Despite the fact that two-thirds of the phase is required to be windowless, the use of two layered brick colors provide relief and rhythm while establishing zones that can later be occupied by windows. The facades use brick, glass, and metal to create a distinct Information Technology Complex language that relates to the adjacent Human Performance Wing. While both complexes define volumes clad in contrasting materials, the Information Technology Complex utilizes linear brick volumes wrapped around internal metal volumes with sloped roofs to create a language that reflects the internalized character of the campus.

The design of the integrated technology campus addresses mission requirements while reducing costs and enhancing the master plan vision by developing a specific architectural language. This holistic view and approach recognizes the critical process of addressing specific functional needs and flexibility needed to meet current and future goals. This approach demonstrates an understanding that planning for the future in an orderly, logical, and functional way is important for further development.



Interior Design

Niwa Room

Yokota AB, Japan

Design Organization: 374th Civil Engineer Squadron

Using Command: Pacific Air Forces



The Niwa Room is located in the corner of the Officers' Club at Yokota Air Base, Japan. The existing facility was quite inflexible and in need of updating. To provide this flexibility, an inviting, intimate, refined, and private environment was developed to provide a subdued and timeless multi-use area. The materials, colors, textures, contextually sensitive light fixtures and accessories were selected to improve the ambiance of the space. The spatial relationships and special design elements were defined by using detailing heavily influenced by their use in the days of Japan's samurai warriors in the 17th and 18th centuries. These special elements included the *tokonama* or alcove and the *shoji* or sliding, wood-framed translucent panels.

By using the Sukiya style in both the room and the garden, a visual and physical connection was produced. This Sukiya style of design is considered the highest level of Japan's unique architectural heritage. This style informed and unified the project design by using traditional Japanese configurations that created a continuum between the garden and room while revealing different spatial elements and focal points in sequence as the spaces are experienced.

In traditional Japanese architecture, there is a substantial difference in ground and interior floor-level elevations. This includes a veranda-like transitional element, known as an *engawa*, between the interior and the garden. The *engawa* commonly has a wood plank floor and protective roof making the sequential entry experience inherently inviting and attractive. The size and proportion of the reception room and its features provide an intimate and flexible room that can be furnished as the occasion requires. Although now sized and configured for the foreseeable future, the facility could be expanded or have another room added around the garden. Additions would need to be configured to retain a similar relationship and connection between the garden and interior spaces.

Jurors' Comments

- Light was used successfully in design
- Good articulation of detail
- Scale quite good and well executed
- Transition from exterior to interior very pleasing



Landscape Architecture

Heritage Hill

McChord AFB, WA

Design Organization: Chugach Industries, Inc.

Using Command: Air Mobility Command

Heritage Hill is an outdoor museum that forms the southern edge of the base's historic district. The site was chosen in accordance with the base master plan and architectural design guide. The entire site is an example of a 'cool' community, capturing the feel of a historic grassy airfield hewn from the forest. On display are ten historic aircraft formerly assigned to McChord Air Force Base that were carefully restored by dedicated volunteers. Each aircraft is set up as an exhibit with a bronze plaque that explains its history. The sidewalk layout was developed using the shape of the aircraft viewed from above.

The setback of the aircraft from the trees was critical because of the detrimental effect of tree sap on aircraft paint. The result of the setback was the massing of the forest wall wrapping the field and creating a visually striking backdrop, while minimizing aircraft maintenance requirements. Construction materials and techniques were kept simple to avoid competing visually with the aircraft on display. This outdoor museum features well-coordinated concrete paths, benches, water fountains, signage, and lighting. From the hill there are impressive views of the active runway, Mt. Rainer, and the adjacent historic district.



Jurors' Comments

- A display that shows more than just airplanes... puts the aircraft in context... enhances Air Force heritage
- Simple, straightforward approach allows visitors to touch and feel the aircraft while viewing magnificent scenery around the base
- Simple, elegant design solution to an "outdoor Air Force museum"
- Fits into natural landscape setting and grows with it
- Paved aircraft shapes on ground plane reflects shape of historic aircraft... a center point of the display



Landscape Architecture

Minuteman Missile Plaza

Peterson AFB, CO

Design Organization: 21st Civil Engineer Squadron

Using Command: Air Force Space Command

Jurors' Comments

- Plaza and display fits well into its surroundings
- Planting and detailing are understated yet well-executed
- Appropriate plaza anchor area used for tall missile focal point
- Landscape plan is simple and compliments the hardscape design



The Minuteman III Missile, the only active system in the land-based missile force, was selected to showcase the proud heritage of Air Force Space Command. The missile is used to commemorate this heritage in an urban setting by exemplifying military and warrior roles. A plaza was created to showcase the missile, communicating the heritage of a unique Air Force era, and creating a sense of respect and awe.

A street corner was determined to be the best site because it not only offered ample setback but also because of its visual prominence. Though the missile is 62' tall, the site allows it to blend with the scale of the community streetscape. The site has been developed into a pleasant plaza that is appreciated by pedestrians and motorists alike. The missile is positioned in front of a grove of trees. This backdrop accommodates the missile and influences how the scale is perceived. Bordered by several areas of the base with differing architectural character, the plaza design relates to each area as well as the historic district several blocks away.

The plaza echoes the Space Command shield with the delta formed by paver patterns and the 'stars in space' represented by 3-dimensional stone elements. The remaining surface is comprised of mulch selected from the base xeriscape plant palette. An enlightened approach to a visually significant public space resulted in the generous use of sustainable site design components. LEED® points could be obtained for water efficient landscaping and a reduction for non-roof heat island effect strategies.



Facility Design

Intercontinental Ballistic Missile Propellant Laboratory

Hill AFB, UT

Design Organization: Cooper, Roberts, Simonsen Associates

Using Command: Air Force Materiel Command

Design Agent: Sacramento District US Army Corps of Engineers

Base Engineering Organization: 75th Civil Engineer Group

The Intercontinental Ballistic Missile Propellant Laboratory has been configured to accommodate administration, laboratory, and destructive test facilities. The most prominent feature of this facility is the massing of the exterior concrete walls, designed into a unique architectural expression that illustrates the mission requirements of the facility. The Base Architectural Standards and massing were incorporated into the building design to express strength and enhance the existing aesthetic.

On the exterior concrete massing, split face concrete masonry unit and standing seam metal components were used to produce character-defining features. To create a unified and functional work environment in the interior of the facility, the color schemes were carried throughout the entire facility, from administrative areas to the laboratory space.

This challenging design meets explosive safety requirements for Intercontinental Ballistic Missile propellant while providing a striking and functional building. The walls in the testing area had to be designed to deflect explosions upward rather than horizontally in order to protect other areas and occupants, and all the mechanical and electrical systems had to be inherently explosion proof. Laboratory spaces had to be accessible from the destructive test facilities yet separate and protected. These essential design elements revealed an opportunity to develop a beautiful and functional design.



Jurors' Comments

- Elegant articulation of a functional facility, consistent from exterior to interior
- Expresses blast resistant criteria in architectural design
- Great working environment for utilitarian mission

Facility Design

Aquatics Center

Ramstein AB, Germany

Design Organization: Marx and Stegner, Architects

Using Command: United States Air Forces in Europe

Design Agent: LBB Kaiserslautern

Base Engineering Organization: 435th Civil Engineer Group

Jurors' Comments

- Design reflects the activity of swimming
- Brings outdoors into the building
- Strong and original design concept

The idea for the Aquatics Center came from a design charrette concept of a sea shell. The floor plan has clearly separate areas that are easily identifiable and are also reflected in the interior finishes and façade. The sea shell motif was transferred to the interior and manifests in the roof structure using wooden laminated beams and ceiling tiles. The pool area is welcoming with its glass façade allowing unobstructed views of the open patios, inviting green lawns, and the golf course beyond.

The Aquatics Center is located in a community area near the Northside Fitness Center and the Woodlawn Golf Course. The golf course provides the Aquatic Center with terrific views of trees and green space. The colors used on the Aquatic Center's standing seam metal roof, sandstone accents, and stucco comply with the base standards and can be seen in other nearby areas.

LEED® points were achieved in several ways. All of the concrete surfaces fit together like puzzle pieces and were manufactured using partially recycled material. Additionally, all the mechanical systems were designed using the latest technologies available and all water fixtures are equipped with water saving aerators and automatic shut-offs. The whole ventilation system and the pool water temperature are controlled by a state-of-the-art Direct Digital Control system to save energy and resources.



Facility Design

Eastern Air Defense Sector Support Facility

New York Air National Guard,
Griffiss Air Park, Rome

Design Organization: QPK Design

Using Command: National Guard Bureau

Design Agent: US Property and Fiscal Office for New York

Jurors' Comments

- Design well-integrated into sloping site
- Simple but elegant design solution
- Good use of daylighting
- Highly efficient and functional plan

The new Eastern Air Defense Sector Support Facility originated out of need to consolidate administration, security, and command forces into an existing Secure Operations Control Center (SOCC) at former Griffiss Air Force Base, now Griffiss Air Park. The new facility is energy efficient and supports a user friendly work environment. There are two phases to this facility and the interior configurations differ between them.

The first phase is designed for security and mobilization and has an interior configuration that was programmed to house an introverted work group with local traffic. The exterior is composed of a mix of masonry, metal, and glass symbolizing the technical nature of this facility phase. The interior finishes, lighting, and spatial arrangements promote wellness and productivity and have been well received by the facility users.

The second phase has an interior configuration that was programmed to house multiple command and administration groups in an open office environment. The added benefit of interactive assembly areas was also included in the configuration. The barrel shaped metal roof includes a large external 'built in' gutter to supplement a snow retention system necessary in the Rome, New York area because of significant winter snowfall. This facility features shared natural light with window walls along the north and south facing exposures. These 12 foot high windows promote natural light penetration into the building interior.



Concept Design

Security Forces Operations Center
Wright-Patterson AFB, OH**Design Organization:** AEC Emersion Joint Venture**Using Command:** Air Force Materiel Command**Design Agent:** Louisville District US Army Corps of Engineers**Base Engineering Organization:** 88th Civil Engineer Directorate**Jurors' Comments**

- Great contextual response to adjacent structure
- Efficient, functional plan



The 52,000 square foot Security Forces Operations Facility was constructed to consolidate security forces into a centralized base location. The new building is located near the existing Combat Arms Training and Maintenance facility and adjacent to a main gate into Wright-Patterson Air Force Base. High bay warehouse space is arranged adjacent to the existing service yard, while office operations and training spaces line a tall, daylit circulation spine that borders the courtyard.

The location of the facility promotes efficiency in operations and response. The configuration creates a shared courtyard, shields the building from a potential explosion event at the gate, and establishes a strong formal presence at a main entrance to the base. The two story office wing and the high bay warehouse match heights on the existing Combat Arms Training and Maintenance facility to create cohesive massing and presentation in two directions. Primary field operations spaces, such as the guard mount room, armory and locker rooms, are located adjacent to the government vehicle parking area to allow for rapid deployment.

The office wing features an entry tower that mirrors the entry tower on the Combat Arms Training and Maintenance facility, creating a pair of anchors that frame the main courtyard. The warehouse and administration building are simply organized to support adaptability in the future. This project continues and extends a highly developed architectural language that integrates the new and existing structure into a coherent complex. The language integrates with program elements to respond to function and context, while the massing and internal spatial character reflects functional organization as well as urban design priorities.

Concept Design

Medical Complex
Spangdahlem AB, Germany**Design Organization:** Landesbaubetrieb Liegenschafts- u. Baubetreuung LBB**Using Command:** United States Air Forces in Europe**Design Agent:** Europe Division US Army Corps of Engineers**Base Engineering Organization:** 52nd Civil Engineer Squadron

This modern outpatient facility will consolidate medical services currently split between the Bitburg Annex and Spangdahlem Air Base. The clinic will provide basic healthcare services to the entire active-duty and dependent population assigned to Spangdahlem Air Base as well as its geographically separated units. The new facility includes a primary care center coupled with ancillary services and all necessary administration and support functions. The design incorporates both an environmentally friendly green roof and modern Anti-Terrorism/Force Protection measures including raised curbs, ample standoff distance, and automatic bollards.

A green roof is incorporated to reduce water discharge into the storm drain system. Situated in a manner to exceed minimum blast protection requirements for the façade, no additional reinforcement of the facility is required. The 25 meter standoff and raised curbs form an effective perimeter preventing vehicle approaches from all angles, while the parking entrance is protected via electronically retractable bollards. By replicating the basic geometry and the finished texture of neighboring buildings, the design is in harmony and compatible with adjacent Spangdahlem Air Base facilities.

**Jurors' Comments**

- Successfully merges medical mission with sustainable concepts in response to climate zone

Interior Design

Sarris Auditorium

Wright-Patterson AFB, OH

Design Organization: 88th Civil Engineer Directorate

Using Command: Air Force Materiel Command

Jurors' Comments

- Ceiling space very creative, meeting its challenges
- Good use of materials and form to represent the space
- Design form flows naturally to the front podium



The ceiling design for this auditorium addressed two primary objectives. The first was to improve the acoustical properties of the space. The second objective was to improve the lighting quality. Additionally, the auditorium perimeter needed to sustain a sound transmission reduction of 500 decibels. The design of the ceiling structure had to be very precise. The clearance between the new and existing structure was less than 1 inch in many locations. New angular members attached to existing arched members and formed a 3-dimensional puzzle that proved very difficult to execute.

The lighting arrangement allows for a number of different pre-set scenarios that was not provided under the old configuration. The ever-changing technology arena drove the mechanical, electrical, and communications systems to be designed with a high degree of expansion capability. Due to the unique acoustical properties of the auditorium envelope, future highly secure or specialized functions will be able to occur in this auditorium. The auditorium size and sound transmission reduction is matched by very few large assembly spaces within the Air Force. Not only are the angles within the room functional acoustically, but they also follow the contemporary stealth motif within the Air Force. Sharp angles and clean lines are the staple of cutting-edge design that define the United States Air Force.



Facility Design

Air Force Institute of Technology Academic Building

Wright-Patterson AFB, OH

Design Organization: Edge Tinney Architects

Using Command: Air Education and Training Command

Using Command: Air Force Materiel Command

Design Agent: Louisville District US Army Corps of Engineers

Base Engineering Organization: 88th Civil Engineer Directorate

Jurors' Comments

- Simple and functional organization clearly expressed in building massing
- As the installation's first LEED® Silver certified project, reflects sustainable design in an educational facility

This new academic building provides new classrooms, offices, two secure classrooms, a secure conference room, a 75-seat tiered presentation room, studio and seminar spaces, lounge areas, and support spaces of all types. The building supports the Air Force Institute of Technology curriculum, houses the faculty of the Air Force Center for Systems Engineering, and provides facilities that enable students to conduct state-of-the-art, interdisciplinary research.

The 3-story building responds to programmatic requirements, the available site, and adjacent 3-story facilities. Similarly, building detailing responds to, yet does not mimic, adjacent construction. Exterior detailing and massing of the façade also attempted to coordinate well with the adjacent structures. The new academic building did not replicate the existing campus kit of architectural parts but morphed them into a new composition that is successful on both macro and micro scales.



Facility Design

Vehicle Maintenance Facility

Nevada Air National Guard, Reno

Design Organization: Hershenow Klippenstein Architects**Using Command:** National Guard Bureau**Design Agent:** US Property and Fiscal Office for Nevada**Base Engineering Organization:** 152nd Civil Engineer Squadron**Jurors' Comments**

- Contextual response with attractive use of durable, low maintenance materials
- Design creates an inviting workplace

This new Vehicle Maintenance Facility is integrated with vehicle storage and a secured maintenance yard to create a new vehicle maintenance complex. The project integrates the new facility into the existing Nevada Air National Guard Master Plan, which promotes quality architecture, outdoor spaces, and pedestrian friendly base development. The design incorporates a high level of recognized sustainable practices including daylighting, drought-tolerant landscaping, high-efficiency mechanical systems, energy efficient lighting, and sustainable site development practices.

The concept is an expression of the building as more than a simple industrial building. The building's design communicates an articulation of the various components so that each function of the building is expressed with distinctive forms. The objective of the site plan is to ensure that the Guard Base provides a very professional appearance to the public at the main entry to Reno-Tahoe International Airport. This is made possible through building massing, sensitive site planning, solid masonry screening of storage areas, and strong architectural forms. The complex's design provides the base the ability to meet mission requirements in a flexible, user friendly, highly efficient, sustainable, and low maintenance manner. The solution applies attractive architecture to a function that is typically more utilitarian in nature.

The challenge to make an industrial building attractive and interesting is accomplished by articulating the building form to express various functions of the building. One of the most sustainable portions of the building is what was not done. Many surfaces were left in their natural condition saving on primers and painting. Ceiling treatments and other finishes are not required due to the function of the building. Many materials including concrete and masonry were regionally manufactured, reducing or nearly eliminating energy consumed in transportation.



Facility Design

Air Intelligence Exploitation Facility

Nevada Air National Guard, Reno

Design Organization: Burns and McDonnell**Using Command:** National Guard Bureau**Design Agent:** US Property and Fiscal Office for Nevada**Base Engineering Organization:** 152nd Civil Engineer Squadron

The building forms and exterior materials of this Air Intelligence Exploitation Facility are consistent with the Base Architectural Standards and present a unique architectural image that projects an enhanced visual sense of solidity, security consistent with the facility's mission. The site, building forms, and materials selected for the new two-story building are consistent with the design intent set forth in the base master plan and the base's architectural design guide. Exterior materials consist of curved standing seam metal roofing, split face concrete block, and pre-finished composite metal wall panels. Exterior wall surfaces are accented with punched windows, texture, color changes, and architectural elements such as pilasters, canopies, and shading devices. Variation of exterior materials and surfaces between the first and second floors provide a human scale along the street front and relate to the adjacent single story buildings to the south.

The building is specifically designed for maximum flexibility and future reconfiguration. The use of open floor plans, generous structural spacing, large open floor in the operations area, easily reconfigured tiered auditorium, and the use of raised floor systems for the entire second floor all contribute to future flexibility and function.

**Jurors' Comments**

- Design carries out a consistent design concept within a community of buildings
- Contextual response with an attractive use of durable, low maintenance materials
- Uses massing and fenestration to establish itself as the most important building in the complex



Facility Design

Glass House Renovation

Fairchild AFB, WA

Design Organization: C.H. Guernsey Company

Using Command: Air Mobility Command

Base Engineering Organization: 92nd Civil Engineer Squadron

Jurors' Comments

- Successful adaptive reuse built well under original budget
- Elegant, clean and simple design solution



The design objectives of this project focused on providing an exterior renovation to the "Glass House" Facility. The resulting design maintains the existing unique characteristics of the facility while creating a new, modern, aesthetically pleasing, more energy efficient and weather tight exterior envelope. The final design required compatibility with the installation's Base Design Standards and adherence to its Architectural Compatibility Plan. The composition met these requirements while further refining a new standard for renovations of existing WWII Industrial Zone facilities. The "Glass House" was only the second building on the installation to receive such a renovation.

As the second 1940s era facility in the Industrial Zone of the base to receive a full exterior renovation, this design transformed an unsightly concrete and steel framed industrial facility into a streamlined façade comprised of low maintenance and environmentally sensible materials. The construction of this project utilized steel studs and metal panel products containing recycled content materials. Split face concrete masonry units used for the exterior wainscot and infill were supplied by local manufacturers. The contractor employed conscientious methods in providing a full exterior renovation in lieu of demolishing and reconstructing a new facility, which resulted in tremendous reduction of waste generation.



Facility Design

Okuma Seawall

Kadena AB, Japan

Design Organization: Okinawa Defense Bureau

Host Command: Pacific Air Forces

Design Agent: Japan District US Army Corps of Engineers

Base Engineering Organization: 718th Civil Engineer Squadron

The construction of seawalls at the Okuma Recreational Center located 77 kilometers north of Kadena Air Base was an environmentally friendly project. The seawalls will protect the environment by controlling red soil erosion and runoff onto the beaches and into the ocean. Severe erosion can destroy the usable land of the recreational center. Shotcrete was used to construct the seawalls. Its application uses compressed air to force concrete through a hose and nozzle onto a surface at a high velocity to form structural concrete.

To provide slope protection and stability against red soil erosion, the Government of Japan chose shotcrete over cast-in-place or pre-cast concrete. This material, whether using wet or dry material feed, does not require forming or compaction, thereby enhancing design creativity and application flexibility, resulting in a savings of time and money. The life-cycle cost analysis determined that shotcrete was the most economical choice due to its low initial cost, durability, flexibility, longevity, ease of repair, and maintainability. Outdoor environmental quality has been greatly enhanced. The seawalls will protect live corals and fisheries in the immediate areas of the ocean from red soil erosion contamination.

**Jurors' Comments**

- Unique approach to erosion control
- Elegant, clean and simple design solution
- Nicely blends the manmade with the natural terrain
- Controls, but does not dominate the landscape
- Effective, sustainable, creative, innovative, cost-conscious

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