



UNITED STATES AIR FORCE

# 2009 DESIGN AWARDS PROGRAM

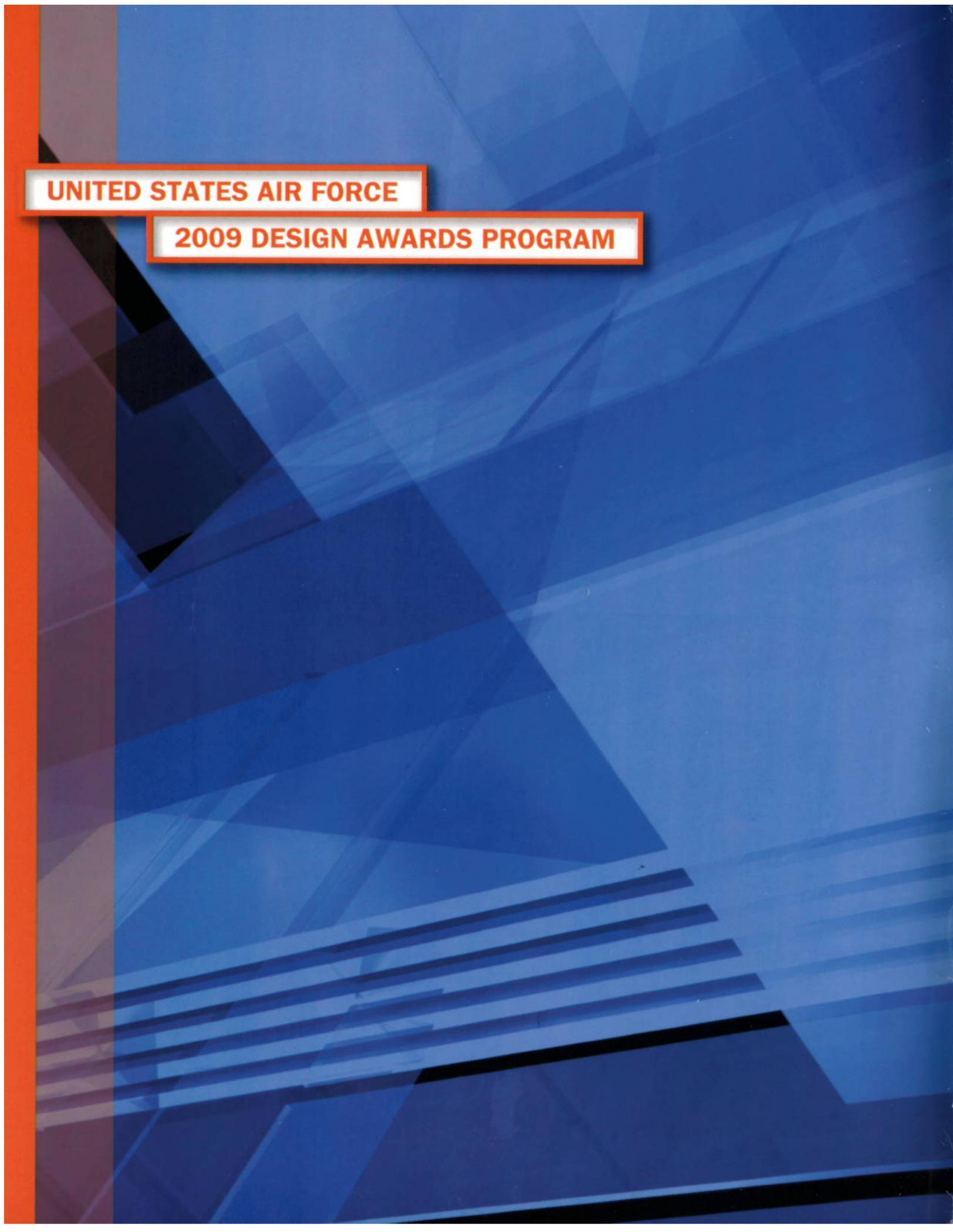
Architecture

Sustainable Design

Interior Design

Landscape Architecture

Planning



**UNITED STATES AIR FORCE**

**2009 DESIGN AWARDS PROGRAM**

For over three decades, the USAF Design Awards Program has recognized the outstanding contributions our design professionals around the world provide to the Air Force mission. This 2009 brochure highlights the teamwork of those professionals who enable us to maintain our reputation for design and facility excellence not only among our Service peers, but in the industry at large.

Throughout this brochure you'll find multiple design principles that allow the Air Force to provide its Airmen with high quality, sustainable facilities and installations while responding to ever tighter budgets and increased energy conservation. As we continue to use our limited resources more efficiently - while reducing detrimental impacts to our environment - we continually look for innovative ways to streamline our design and construction process. We seek new technologies and ideas to not only build responsibly, but to ensure the best care and quality of life for our Airmen.

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 is a tool we use to communicate our standards to the design and construction communities. As we continually strive for superior and innovative facility designs, I congratulate the winners of the 2009 USAF Design Awards Program.



Timothy Byers, Brigadier General, USAF  
The Civil Engineer  
DCS/Installations & Logistics



This Annual Report marks the 34th 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

Architectural Compatibility Plan  
Kirtland Air Force Base, New Mexico

### Sustainable Design

Integrated Natural Resources Management Plan  
Tinker Air Force Base, Oklahoma

Air Force Weather Agency Headquarters  
Offutt Air Force Base, Nebraska

### Interior Design

Army Aviation Support Facility  
Buckley Air Force Base, Colorado

### Facility Design

Physical Fitness Center Addition and Alteration  
Eielson Air Force Base, Alaska

Anti-terrorism/Force Protection Barrier  
McChord Air Force Base, Washington

## MERIT AWARD

### Planning Studies and Design Guides

Air Force Basic Military Training Campus Replacement Plan  
Lackland Air Force Base, Texas

### Concept Design

Fitness Center/Energy Demonstration Center  
Tyndall Air Force Base, Florida

Air Reserve Personnel Center  
Buckley Air Force Base, Colorado

### Interior Design

Fitness Center  
Ramstein Air Base, Germany

Aquatic Center  
Ramstein Air Base, Germany

### Facility Design

C-5 Fuel Cell/Corrosion Control Maintenance Hangar  
Tennessee Air National Guard, Memphis

## CITATION AWARD

### Planning Studies and Design Guides

Town Center Sub-area Development Plan  
Hurlburt Field, Florida

Community Center Sub-area Development Plan  
Cannon Air Force Base, New Mexico

### Concept Design

Family Housing  
Hill Air Force Base, Utah

Office of Special Investigations Facility  
Charleston Air Force Base, South Carolina

Composite A-10 Maintenance Hangar  
Arkansas Air National Guard, Fort Smith

### Interior Design

GI Java  
Vandenberg Air Force Base, California

### Facility Design

Ground Run-Up Enclosure  
Tennessee Air National Guard, Memphis

## HONOR AWARD

### Planning Studies and Design Guides

#### Architectural Compatibility Plan

Kirtland AFB, NM

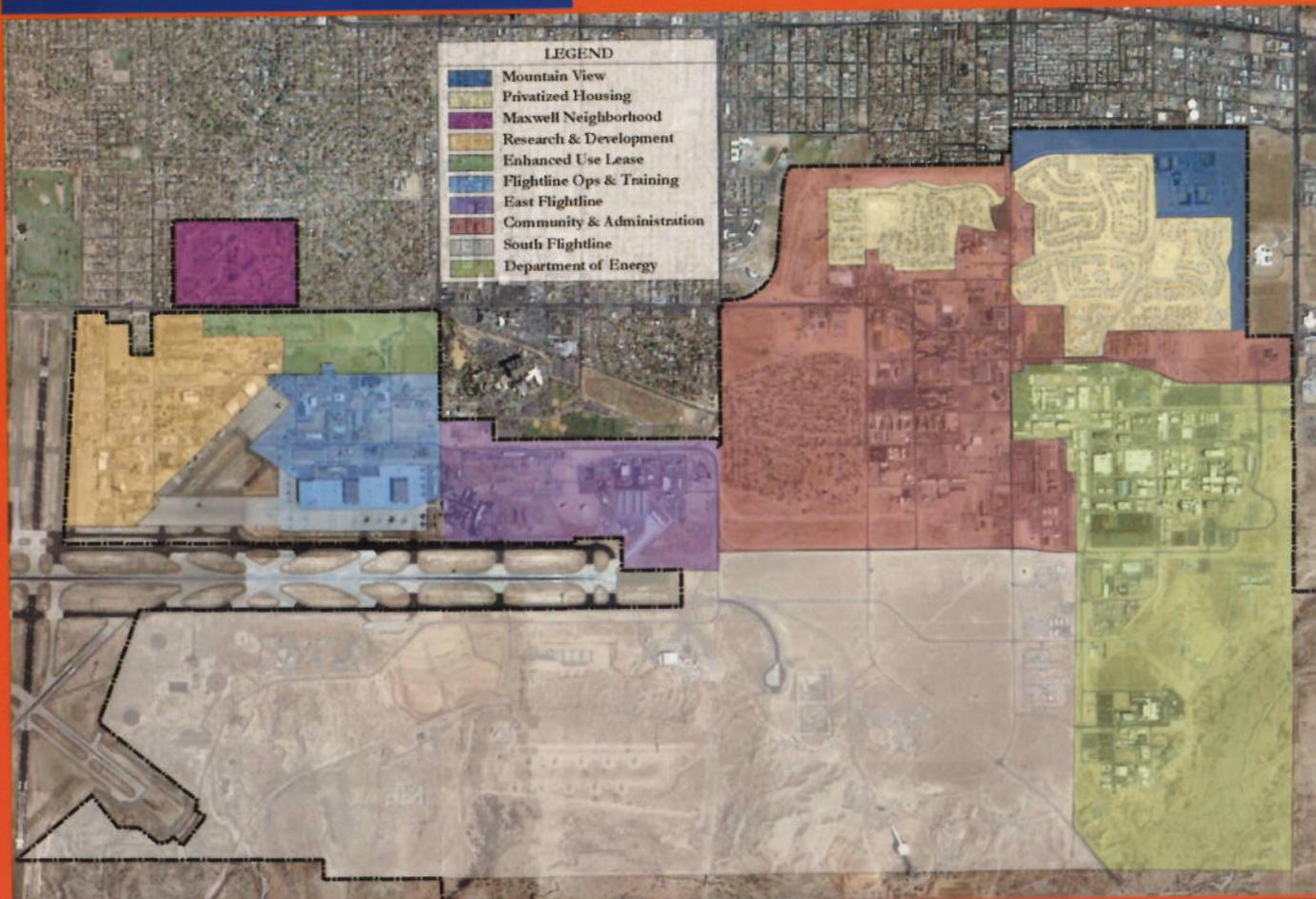
**Design Organization:** 377th Civil Engineer Squadron

**Using Command:** Air Force Materiel Command

#### Jurors' Comments

- *Nice example of how to implement architectural compatibility*
- *Good use of landscape compatibility guidelines and landscape zones to emphasize need for appropriate landscape*
- *Respects contextual environmental elements and design characteristics*

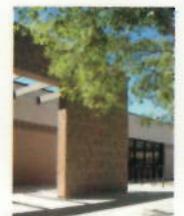
Setting a standard of consistent architectural language, this Architectural Compatibility Plan unifies design throughout the base while acknowledging differing functional and geographical areas. The plan conveys the basic philosophy behind significant building features, clearly identifies each visual district, and encourages conservation and sustainability through site development and landscaping. The guide is very well organized, allowing quick reference to relevant information, and establishes a proficient implementation process. As the plan communicates design expectations, clear insight is given concerning the intent of the design standards for users outside of the design community through introductory paragraphs of each chapter and concept. Each visual district is described in general terms while providing specific requirements for the district. Sustainable design is highlighted in its own chapter and interjected throughout the document. An appendix allows easy access for contractors to identify preferred materials. Due to the scarcity of exemplary vintage buildings to use as models for future construction, guidance often focuses on small, interesting, and unique details as points of departure. These elements create unifying threads throughout the visual districts, and when integrated with the regional Southwestern pueblo style become the compelling design elements supported by the guide.





# KIRTLAND AIR FORCE BASE

*architectural compatibility plan*



## ENHANCING THE NATURAL ENVIRONMENT

Built landscapes are essential to the quality of life at KAFB. They provide shade, beauty, opportunities for gathering, and recreation for residents and base employees. The natural vegetation on the plain and the distant mountain views beyond provide a backdrop that enhances the built landscape and provides a regional reference. Landscaping and grounds are highly visible and a key component to presenting a positive image of the base.



LANDSCAPE DESIGN STANDARDS

# HONOR AWARD

## Sustainable Design

**Integrated Natural Resources Management Plan**  
Tinker AFB, OK

**Design Organization:** 72nd Air Base Wing Civil Engineer  
**Using Command:** Air Force Materiel Command

### Jurors' Comments

- More than meets the design intent of sustainability in terms of improving the built environment to support community, human health and well-being
- Refreshing to see natural resources considered as assets rather than liabilities
- Sustainability in action!
- Sends a great message to Air Force community that sustainability applies to more than just buildings

This comprehensive and visionary plan charts a structured and measurable course which encourages a healthy urban ecosystem in support of the military mission. Its broad scope supports long-range planning while focusing on specific annualized projects to facilitate implementation and measure progress. The plan clearly articulates goals, objectives, projects, tasks, activities, and policies which steer development towards an environmentally sensitive vision. The plan emphasizes how natural areas are assets, not liabilities – opportunities, not constraints – to the military mission. It postures the industrial mega-center for sound and proactive land stewardship amidst aggressive build-out, thereby ensuring sustainable militarization. On-going descriptive historical accounts in each resource area, as well as a compilation of annual reports, aid in maintaining program continuity during personnel transitions. Appendices provide a one-stop-shop for natural resources information. Current conditions and trends are described to cultivate better decision-making. The document is extensively illustrated with actual base images to enhance understanding of program elements.

The Green Infrastructure component plan targets restoration and management of a comprehensive, interconnected network of sensitive environmental features across the base and adjacent off-base land. This investment pays huge dividends in pollution control, military readiness, disaster preparedness, warfighter health and wellness, while meeting flora and fauna diversity, and other sustainability objectives. An urban forest inventory was completed as a baseline element of the Natural Resources Management Plan. In December, 2008, a severe ice storm destroyed over 1,200 of the base's trees and damaged thousands more. The inventory was invaluable in assessing storm damage and estimating cleanup and recovery costs. Instead of complete counts, a rapid damage assessment was accomplished through sampling and extrapolation of findings, saving time and money.

Detailed natural resource strategic planning made it possible to successfully meet state requirements to trans-locate sensitive wildlife species to make way for privatized military family housing. Moreover, three separate large construction projects directly impacting sensitive environmental areas employed the Green Infrastructure plan's guiding principles in their designs to maintain natural interconnected corridors and enhance floodplain functions and values.





## HONOR AWARD

### Sustainable Design

#### Air Force Weather Agency Headquarters

Offutt AFB, NE

**Design Organization:** Kenneth Hahn Architects

**Using Command:** Air Combat Command

**Design Agent:** Omaha District US Army Corps of Engineers

**Base Engineer Organization:** 55th Civil Engineer Squadron

#### Jurors' Comments

- *Extremely well-developed lobby – a place where people will want to congregate*
- *Successful in its simplicity, particularly with respect to the interiors*
- *Excellent delivery of daylighting throughout facility work areas*
- *Commendable LEED® goals and within budget*



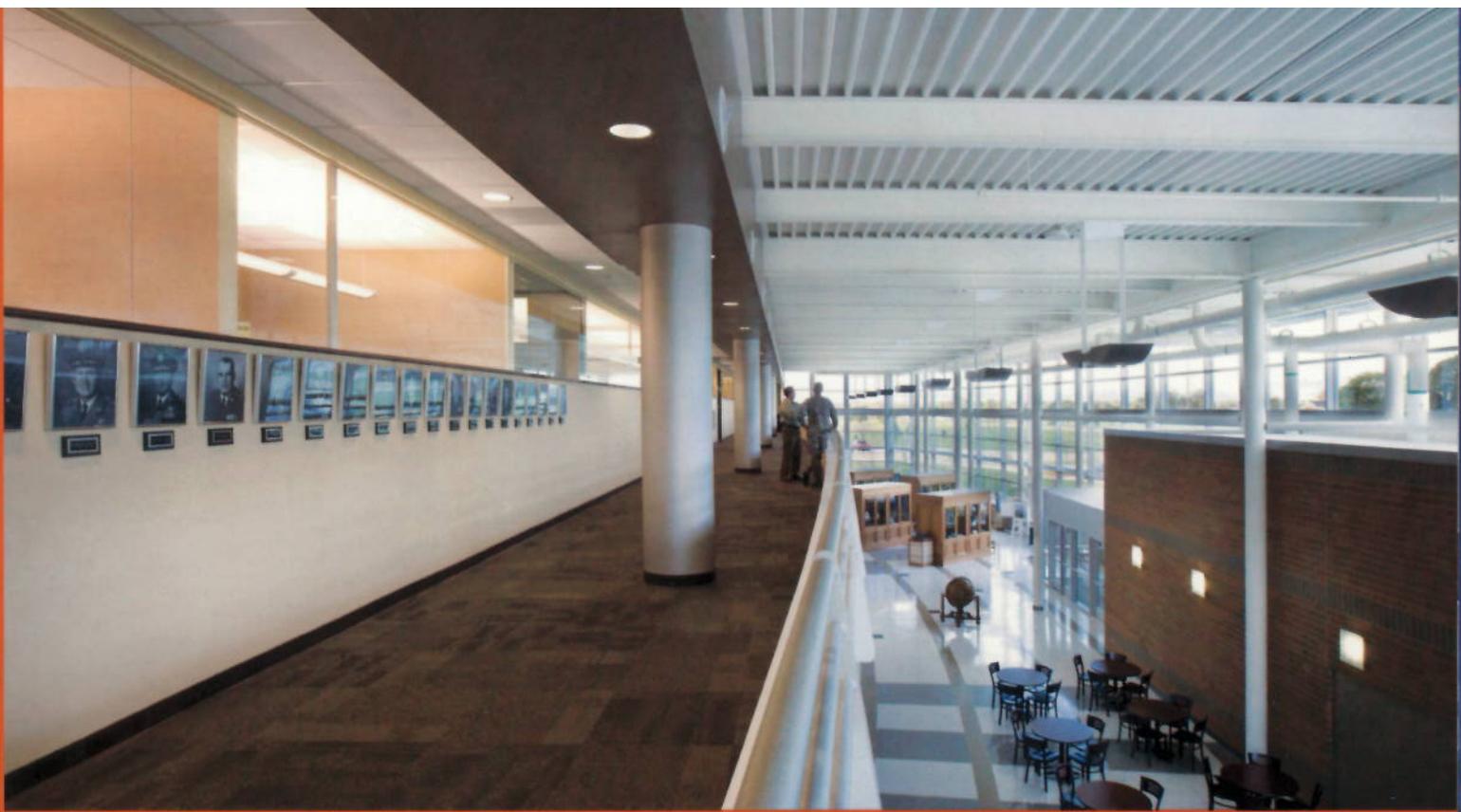
Designed to consume only about half the energy of a typical office building, this agency headquarters facility provides weather products to the Air Force and Army worldwide. A high-performance data center processes incoming satellite feeds to provide weather forecasts and other weather related information to field units and leaders. The building houses 800 staff members working in forecasting centers, a Special Compartmented Information Facility, a broadcast studio, and other research and operations areas. Flexibility was a serious concern, as office configurations have historically required frequent changes. A raised floor system containing mechanical, electrical and communications systems provides this flexibility. Freestanding workstations and demountable walls complete the system.

While originally programmed to receive a basic LEED® certification, the design earned a LEED® Gold certification. It is the sixth Air Force building to be recognized as LEED®-certified, and the first to receive Gold certification. The State of Nebraska has only four other LEED®-certified buildings.

Outdoor irrigation is eliminated by selecting native plants and plants well-adapted to the growing conditions of this region. Indoor water use is reduced by using waterless urinals, low-flow shower heads, and ultra-low-flow lavatory faucets with automatic sensors. Light fixtures use low wattage lamps, energy efficient electronic ballasts, and are controlled by occupancy sensors. When daylight is adequate for illumination, lights can be turned off for energy savings. Daylight penetrates the building through clerestories and other interior windows. During construction, over 95% of the waste generated on-site was diverted from landfills, either through recycling efforts or reuse of products on-site. The reuse of an existing concrete runway for parking contributed greatly to achieving such a high rate of diversion.

Careful siting of the building to optimize sun angle, and the use of sunshades, light shelves, and highly efficient window glazing are part of the overall energy conservation strategy. Energy efficiency is further enhanced by an HVAC system designed for flexibility and individual control. Key to this efficiency is the use of an under floor air distribution system which delivers tempered air to individual floor diffusers located at each work area. The occupant has the ability to easily adjust their own air flow. Use of this system allows lower speed fans and lower velocity air to actually give more comfort with less energy use.





## HONOR AWARD

### Interior Design

#### Army Aviation Support Facility

Buckley AFB, CO

**Design Organization:** Coover-Clark Associates

**Using Command:** National Guard Bureau

**Host Command:** Air Force Space Command

**Design Agent:** US Property and Fiscal Office for Colorado

**Base Engineer Organization:** 460th Civil Engineer Squadron

#### Jurors' Comments

- *Aviation expressed with a sense of flight*
- *Reflects both indoor and outdoor views, while emphasizing the surrounding Colorado topography*
- *Artful application of stained concrete addresses both sustainability and reinforces architectural concepts*
- *This deserves an honor award because it is an artistic solution that solves a functional problem and still came in under budget*

Designed to train guardsmen and women for active duty Blackhawk and Chinook helicopter assignments at home and abroad, this facility successfully integrates three distinct functions: administrative/training, flight operations, and maintenance. Developing a sense of entry, expressing "aviation", and providing a "Colorado" image were all design goals set forth at the onset, and all were fully met by the exceptional interior design. Additionally, anti-terrorism, security, and sustainability requirements were met or exceeded. The facility provides a clear sense of place and a quality work environment to enhance recruitment and retention. This was all accomplished with low-cost, durable materials that impress the eye, and functional workspaces with efficient circulation while exceeding Buckley Air Force Base's Facilities Excellence Plan requirements.

An interactive design approach was employed to develop innovative design solutions to maximize the functionality of each work area within the new facility. Significant savings in circulation square footage was achieved by organizing similar functions around shared spaces. All critical functions are aligned along the day-lit entry spine which is also a historical gallery. This spine helps define the character of Army Aviation and the Colorado Army National Guard. In the main entry, visitors enter a node that offers a comfortable waiting area with display cases, a view of the hangar, and an impressive stained floor, complete with inlaid flight vectors from the Colorado Guard's flight maps. The view of the Chinook hangar projects into the lobby introducing the visitor to the maintenance that occurs in this facility without actually having to enter the maintenance bay. A Native American and Colorado National Guard historical display in the lobby continues down the central day-lit corridor explaining the connection of Native American history to Army Aviation.





## HONOR AWARD

### Facility Design

#### Physical Fitness Center Addition and Alteration

Eielson AFB, AK

**Design Organization:** Alcan General, Inc.

**Using Command:** Pacific Air Forces

**Design Agent:** Alaska District US Army Corps of Engineers

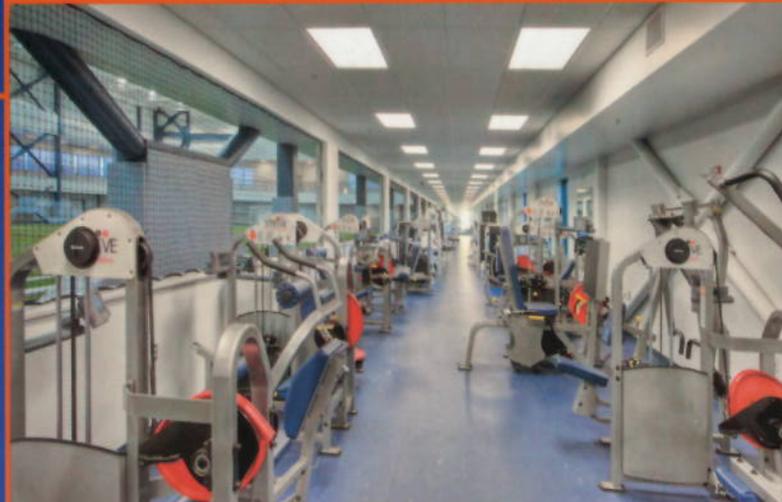
**Base Engineer Organization:** 354th Civil Engineer Squadron

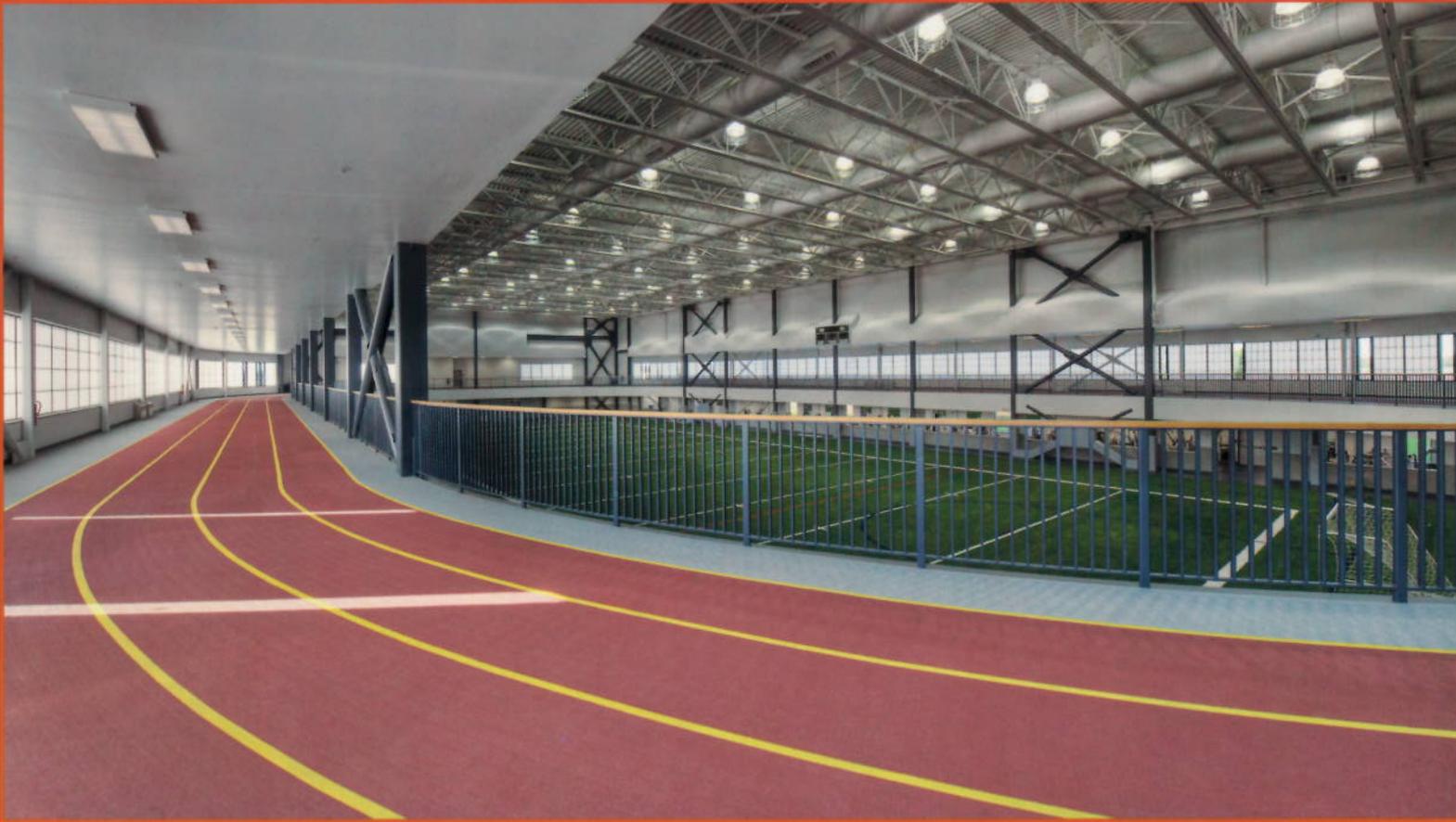
#### Jurors' Comments

- *Great concept plan well-transformed to the elevations*
- *Commendable sustainability strategies*
- *A very elemental structure with a well-conceived plan characterized by a density appropriate to the harsh climate*
- *No "accordion" of plan to unduly expose wall surface to temperature extremes*
- *Pleasant interiors filled with diffused light*



Located in the Alaskan interior where -40 degree winter temperatures are coupled with limited daylight, this new fitness center provides high-performance indoor facilities where outdoor exercise is difficult. This renovation and addition increases the size and functionality of the existing fitness center and features a health and wellness center, an oversize artificial turf exercise field encircled by an elevated 1/8th mile running track, administrative offices, and a weight room. The track is the most prominent architectural feature of the building as it flows in and out of the main building form, creating a distinct identity. The track is enclosed by super insulated, translucent panels which provide diffused daylight to the track and indoor field below. During dark winter nights, light shines through the panels as an inviting beacon. Elevating the track allows personnel to perform aerobic activity indoors without conflicting with intramural sports or calisthenics classes. Heating high-volume buildings is particularly expensive in this climate and the design for the fitness center addresses this by including high ceilings in necessary areas only, such as the field. The rest of the building was designed with low ceilings. The elevated indoor track enhances this design by allowing for more efficient use of the structure and exterior envelope. The fitness center was deliberately designed to use colors and materials that not only complement the surrounding environment, but also add more contemporary elements to the building and the overall installation. This is achieved through metal siding that changes in color and orientation according to its location on the mass of the building, and in the appearance of the curving form of the track flowing in and out of the building. The size required for the facility and the design itself visually exhibits a sense of strength that relates directly to the building's use. The facility is designed to meet LEED® Silver guidelines while including both a remodel of an existing facility and a 40,000 SF addition. The reuse of the existing facility diverted tons of material from the landfill and saved resources. The addition takes advantage of extensive day-lighting with the translucent panels, which are constructed with 20% recycled content materials. Excavated material from the foundations was used on-site for landscaping and force protection, saving the energy required for hauling and disposal.





## HONOR AWARD

### Facility Design

#### Anti-terrorism/Force Protection Barrier

McChord AFB, WA

**Design Organization:** 62nd Civil Engineer Squadron

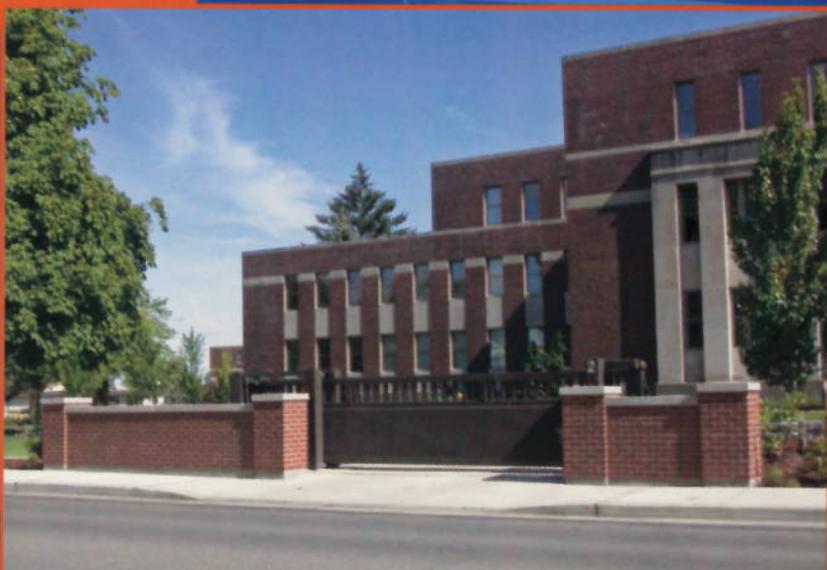
**Using Command:** Air Mobility Command

#### Jurors' Comments

- *Very good choice of materials matching historical character of building*
- *Appropriately understated design*
- *Good use of plantings to hide cables*

This challenging project required implementation of anti-terrorism/force protection controls surrounding a historical architectural icon at McChord Air Force Base known locally as "The Castle". The barrier system provides the required level of protection by sensitively integrating both masonry and cable structure into the historical landscape. A 2-strand cable system surrounds the entire site with integrated masonry buttresses at select intervals providing a compatible brick reference to the existing historic brick facility. Controlled vehicle access to secure parking areas is achieved through the use of cantilevered "crash" gates at driveway openings, all operable from multiple sources such as hand-held remotes, pedestal-mounted key pads, and master control panels within the facility. Meandering landscape planting beds follow the line of the cable barrier and incorporate flowering rhododendrons and ground-hugging heather. These natural elements visually soften the formidable cable structure and add color during the spring and fall. Architectural bollards at the expansive pedestrian plaza provide protection while allowing pedestrians to freely circulate. This understated design is exceptional due to its clear compatibility with the historic structure it protects. Functional requirements were fully achieved without creating an overly imposing presence.





## MERIT AWARD

### Planning Studies and Design Guides

#### Air Force Basic Military Training Campus Replacement Plan

Lackland AFB, TX

**Design Organization:** J.M. Waller Associates with Michael Baker Jr., Inc.

**Using Command:** Air Education and Training Command

**Design Agent:** Air Force Center for Engineering and the Environment

**Base Engineering Organization:** 37th Civil Engineer Squadron

#### Jurors' Comments

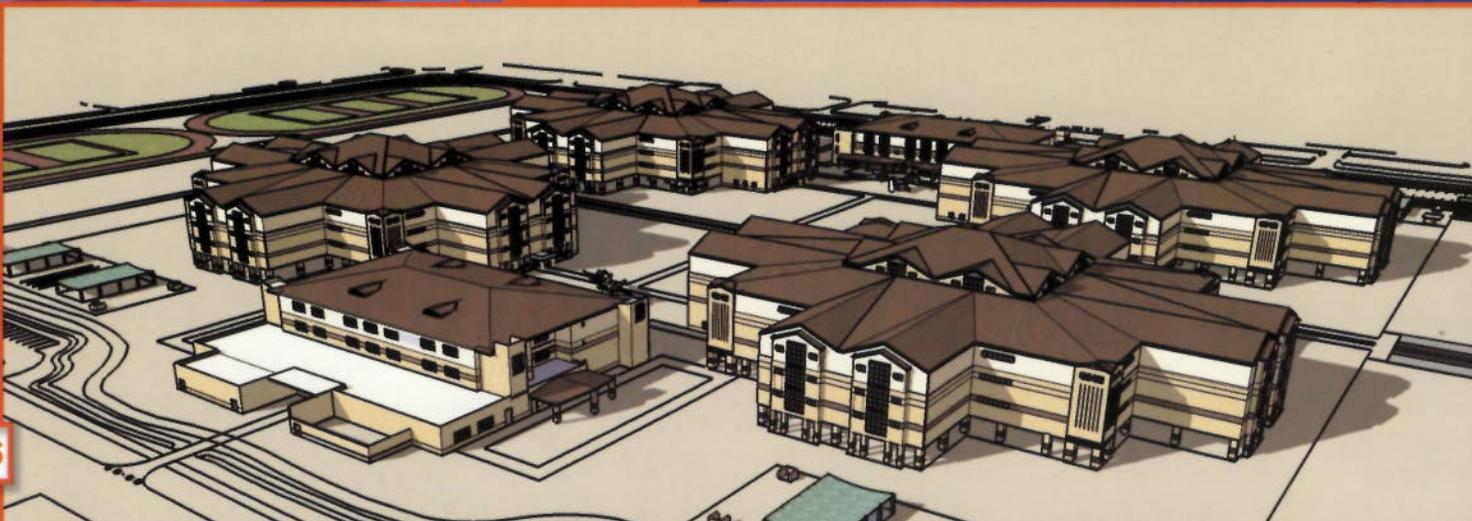
- Huge undertaking made very understandable and workable through very thorough phasing plans
- Good roadmap for plan implementation
- Great phasing to incorporate old with new



#### LACKLAND AFB... ...PLANNING FOR THE FUTURE



This planning study creates an efficient plan for replacing the Air Force's aging Basic Military Training facilities. Developing increased warrior skills established the need to reconfigure training spaces into a compact campus. This massive undertaking creates two distinct, equal campuses of four squadrons each, located near all training support facilities. By executing a six-phase plan, Basic Military Planning campus transformation replaces deteriorated facilities and failing infrastructure, improves troop training efficiency, and supports Lackland's 2030 master plan while maintaining troop production. Through application of an arduous, objective process of analyzing training programs and facility needs, the study addressed more efficient recruit training. Each dormitory will include a dedicated physical training area, drill pad, and combat skills development area. On-site combat skills training allows for immediate application of techniques learned in the classroom, thus improving war skills training. Space planning took into account proper training flight size as well as gender separation, unit integrity, and surge conditions. At the center of each training complex is a covered atrium that eliminates weather-related training restrictions. After the initial campus plan was developed, a new team of planners was commissioned to perform a Utility and Traffic Study to ensure that the basic plan was executable within the existing conditions. Next, they began creating an overall campus feel to the area development plan as they coordinated the pedestrian, troop, and vehicular circulation into the concept. The planners were able to develop an innovative construction phasing plan, including incremental utility construction. They demonstrated that a construction-free zone could be created and maintained throughout the campus transformation as a cost savings measure. Lastly, they included features of a walking campus, with ceremonial entrances and courtyards to bolster campus image.



## MERIT AWARD

### Concept Design

#### Fitness Center/Energy Demonstration Center

Tyndall AFB, FL

**Design Organization:** PBSJ

**Using Command:** Air Education and Training Command

**Design Agent:** Mobile District US Army Corps of Engineers

**Base Engineering Organization:** 325th Civil Engineer Squadron

#### Jurors' Comments

- Good use of scale and interesting exterior features
- Well-executed LEED® project
- Central spine with plenty of daylighting used to connect various activities
- Very open and flexible plan
- Massing avoids the "run-on" appearance of many fitness centers
- Sets the standard for Air Force LEED® Platinum design



This new energy demonstration fitness center is designed to exceed the requirements of the Energy Policy Act of 2005. This act requires facilities to achieve a 30% reduction in their annual consumption of power and this facility is expected to exceed this goal by approximately 12%. The fitness center is also targeted to achieve a LEED® Platinum level certification through the U.S. Green Building Council while serving as a prime example of the Air Force's initiative to promote sustainable design and responsible management of our natural resources.

In addition to its primary role as a fitness center, this exemplary project will play an educational role as well through interactive displays for users to learn about sustainability and green building design.

The site was chosen to reduce transportation requirements, and the roof was designed to reduce the urban heat island effect. Both exterior and interior lighting is designed to minimize light trespass, reduce sky-glow and increase night sky access. The harvesting of natural lighting provides for a reduction in the amount of artificial lighting required, reducing the heat load of the facility and ultimately a reduction in energy consumption. The design was carefully analyzed to minimize window exposure to the high summer sun, while allowing the low winter sun to enter the building and decrease the heating load.

The main lobby corridor is a dynamic, open space that emphasizes the connection between indoor and outdoor spaces with subtle curves and fluid structural components. The transparency of the interior glazing will guide users throughout the interconnected spaces.

The fitness center will generate approximately 10% of its own electrical power through the use of photovoltaic film placed directly over the south-facing curved metal roof panels over the main lobby. This harvested "sunlight energy" will be used to supplement the electrical system of the building, and is connected to the Tyndall AFB electrical grid so that any power generated and not used by the fitness center is sent out on the base grid to be used by other facilities. The fitness center also features a passive solar panel array that will provide the hot water service to the showers, lavatories, sinks and laundry services.



# MERIT AWARD

## Concept Design

### Air Reserve Personnel Center

Buckley AFB, CO

**Design Organization:** Frankfurt-Short-Bruza Associates, P.C.

**Using Command:** Air Force Reserve Command

**Host Command:** Air Force Space Command

**Design Agent:** Louisville District US Army Corps of Engineers

**Base Engineering Organization:** 460th Civil Engineer Squadron

### Jurors' Comments

- Responds well to regional context
- Reduction in space requirements while meeting functional requirements shows major design innovation
- Significant architectural presence yet highly compatible design
- Simplicity in its organization that is quite successful
- Plan consolidation efforts rewarded by programming efficiency

Supporting the training, storage, security, and administrative requirements for the Air Force Reserve Personnel Center, this new structure will be integrated into a campus setting with another Air Force Reserve facility. The design solution balances the contextual and security challenges of the site with the functional and image goals established during the collaborative design charrette. By maximizing planning efficiency, using open office system principles, and consolidating common use spaces, a solution was developed which reduced the facility square footage by 24%.

The design solution capitalizes on the mountain views, but also minimizes the impact on views from the adjacent Wing Headquarters building. In accordance with the Buckley Air Force Base Facilities Excellence Plan, the exterior palette of materials consists of split face and smooth face CMU, native stone at exterior columns and stair enclosures, blue tinted glass in clear anodized aluminum frames, and a "champagne" colored metal roof. The scale and massing have been carefully proportioned to provide a significant architectural presence that is distinctive but still respectful of neighboring structures. The floor plan is highly functional and flexible, able to accommodate a variety of administrative functions in either an open office configuration or in more traditional layouts. The workstations are located along the outer structural bays and hard wall offices and support spaces in the center. This LEED®-focused design strategy allows natural light to penetrate farther into the floor plate which minimizes artificial lighting needs. LEED® Silver certification is anticipated.

The most prominent feature of this project is the massing. Two dramatic wings flanking a central entry axis reflect both the administrative functions within and create a distinctive entrance for visitors and staff. Internal circulation to key destination points is straight forward and intuitive for visitors. Major departments are located directly off the central corridor with directorate and command suites in the building corners.



## MERIT AWARD

### Interior Design

#### Fitness Center

Ramstein AB, Germany

**Design Organization:** Cammisar, Architect

**Using Command:** United States Air Forces Europe

**Design Agent:** LBB Kaiserslautern

**Base Engineering Organization:** 435th Civil Engineer Squadron

#### Jurors' Comments

- Architectural concepts are realized by interior forms and use of color
- Architecture visually expresses activities and energies inherent in fitness centers
- Strong use of natural lighting and open views

Serving 1,200 patrons each day, this new facility was designed to visually express the activities and energy inherent in fitness centers. The design process started with an initial design charrette and continued through monthly meetings between all the stakeholders. This process ensured constant feedback, user buy-in, and quality design throughout the facility. Careful coordination was required to incorporate the latest fitness equipment in the different workout areas. The final design showcases strong, durable construction materials with eye-catching architecture blending the best of German design and US Air Force needs. The final product is a fitness center that users take pleasure in visiting and draws people back because of its openness and ambiance. The use of natural lighting and an abundance of open views to both the outside, as well as internal activities, leads to a feeling that the customer is part of every activity. All the specialized fitness rooms have an open and airy feel. The colors and materials were carefully selected to provide a bright and friendly atmosphere. Modern and well-appointed locker/dressing and shower areas add to the overall feel of excitement and vitality. The careful selection of durable materials and equipment throughout the facility minimizes maintenance costs. Many of the locally procured products used in the design are manufactured with partly recycled materials to reduce costs and conserve resources throughout the world. The concept of sustainable design is thoroughly incorporated into this project.



## MERIT AWARD

### Interior Design

#### Aquatic Center

Ramstein AB, Germany

**Design Organization:** Marx and Stegner, Architects

**Using Command:** United States Air Forces Europe

**Design Agent:** LBB Kaiserslautern

**Base Engineering Organization:** 435th Civil Engineer Squadron

#### Jurors' Comments

- *Architectural structure enhances both daylight and shadow*
- *Successfully accomplished use of seashell concept throughout facility*
- *Wooden ceiling structure addresses both acoustics and durability*

The seashell shape of this building was first proposed during the design charrette and was retained throughout the design and construction process. The seashell concept was transferred to the inside of the pool and is reflected in the roof structure with its laminated wood beams and wooden ceiling panels. The facility presents an inviting space with an open, airy feeling by bringing the outside in.

The roof forms a half circle and its laminated trusses fan out radially. Fish-bellied trusses were used to optimize the statically required spans. The wooden ceiling structure eliminates the corrosion problems which arise in pool designs with metal structures and interior materials. The pool is perfectly illuminated with natural daylight which enters through window walls and large windows on all sides. In the center of the pool, the wood trusses fan out from a central trunk-like column protruding from the main wall. The column grows wider at the top, and the branch-like supports for the trusses provide a flowing transition from the floor to the ceiling. Above the tree-like column, roof windows, again in the shape of a seashell, bring in more daylight creating interesting shadow patterns when filtered through the "branches". Wall and floor tiles create a colorful wave-like pattern that adds to the relaxing atmosphere.



## MERIT AWARD

### Facility Design

#### C-5 Fuel Cell/Corrosion Control Maintenance Hangar

Tennessee ANG, Memphis

**Design Organization:** Frankfurt-Short-Bruza Associates, P.C.

**Using Command:** National Guard Bureau

**Design Agent:** US Property and Fiscal Office for Tennessee

**Base Engineering Organization:** Civil Engineer Squadron

#### Jurors' Comments

- *Multiple roof lines and building angles reduce the building size and scale*
- *Pleasing facility fits site well*
- *Good handling of immense scale*



The most prominent feature of this project is the building envelope, providing efficient shelter for these colossal aircraft while softening the sheer size, volume, and massing of the structure. This was accomplished by the application of human-scale materials to lessen the impact of the large buildings, particularly at grade level. Through the use of masonry block, brick, and strong horizontal lines of cast stone, the enormous heights and volumes were visually reduced. The efficient plan places people, services, and materials directly adjacent to the aircraft. This project had unique structural design challenges due to the sheer size of the aircraft bays, high seismic requirements, and poor soils.

While the hangar buildings utilize an approved base-wide palette of architectural materials, the manner in which the materials are applied is unique, aesthetically pleasing, durable, and appropriate for the scale of these industrial facilities. Serving the primary function of the facility, the hangar bays are the most prominent feature. The volume, massing, and material selections of the hangar bays provide an identity that reflects the importance of the functions housed within. Support functions, which wrap the hangar bays, are designed to reflect a more human scale. Personnel entries are well defined and wayfinding is enhanced by the use of full-height glazing and architectural sun screens. Large areas of white metal wall panels are articulated with horizontal bands of insulated, translucent wall panels and champagne colored accent wall panels. Sustainable features incorporated into this project include measures to reduce light pollution: strategically located, insulated, translucent wall panels allow filtered natural light into the aircraft servicing areas, reducing the amount of artificial light required during daylight hours. Other measures include a 20% reduction in water use, meeting or exceeding minimum energy performance requirements, construction waste management, use of recycled content and low emitting materials, including adhesives, paints, carpet and composite wood, and the use of LEED® Accredited Professionals on the design team.



## CITATION AWARD

### Planning Studies and Design Guides

#### Town Center Sub-area Development Plan

Hurlburt Field, FL

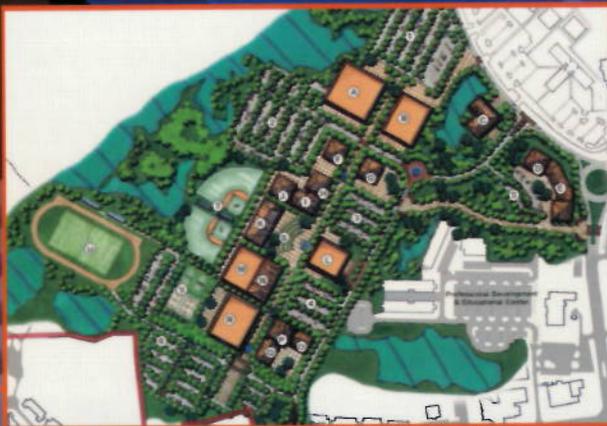
**Design Organization:** Woolpert, Inc.

**Using Command:** Air Force Special Operations Command

**Base Engineer Organization:** 1st Special Operations  
Civil Engineer Squadron

#### Jurors' Comments

- *Strong, pedestrian-oriented plan*
- *Well organized and clearly presented*
- *Clear explanation of planning process*



This well-designed, sustainable Town Center establishes a central location for commercial activities, dining, and family and employee services while freeing land in administrative and industrial core areas for mission-related uses. This vision for growth provides recommendations concerning facility requirements, site layout, utility system upgrades, vehicle parking areas, and landscape improvements. The design specifically addresses how the Town Center environment relates to a range of potential users: the younger airman population, the family housing community, and base administration functions to ensure 24-hour use. The plan fosters sustainable development by enhancing walkability and connectivity while implementing a mix of land uses, increased density, and environmental sensitivity. To create a sense of place, these elements establish a center of activity that encourages social interaction and strengthens professional bonds while maximizing land use relationships and network connectivity through innovative design. Encouraging pedestrian traffic through the increased density of mixed uses will allow the installation to realize a more harmonious, neighborly environment that addresses efficient land management. One very unique aspect of this plan is that development will occur in close coordination with the Headquarters Facilities Sub-area Development Plan. These two plans are largely dependant upon one another as the Town Center Plan was formulated with the intention of freeing space in the Headquarters area to accommodate future expansion. As the official programming process begins its initial stages, decision making will continue to be significantly based on the many details laid out in this thorough, innovative plan.

## CITATION AWARD

### Planning Studies and Design Guides

**Community Center Sub-area Development Plan**  
Cannon AFB, NM

**Design Organization:** Woolpert, Inc.

**Using Command:** Air Force Special Operations Command

**Base Engineer Organization:** 27th Special Operations Civil Engineer Squadron

#### **Jurors' Comments**

- *Commendable inclusion of LEED® checklist*
- *Very well organized*
- *Clear, executable recommendations*

Guiding the facility planning for the beddown of Air Force Special Operations Command assets at Cannon Air Force Base, this plan addresses the change in mission and provides an excellent opportunity to improve the quality of life on the installation while re-establishing a sense of community. This plan identifies constraints and creates an optimal site layout for a Community Center. With an emphasis on developing a center of activity with a strong sense of community, the plan utilizes smart growth tactics to create a sustainable development pattern consistent with Air Force planning principles. To improve the quality of life on the installation, the plan envisions a Community Center filled with a broad mix of uses, green spaces, and a variety of activities once offered in communities prior to post-World War II sub-urbanization. An emphasis on dense, mixed-use development encourages an active lifestyle and addresses smart, efficient growth. With exemplary demonstration of sustainable development, the project should be certifiable under the LEED® Neighborhood Development rating system. The plan incorporates a multitude of green practices such as pollution prevention, green buildings, compact development, diversity of uses and housing types, walkability, access to public spaces, energy efficiency, reduced water usage, and renewable energy resources, among many others. The plan will serve as a valuable resource to meet the demands of the population as the programming process continues, guiding decision making from initial stages through implementation. This roadmap will not only maximize efficient land use and provide the population with adequate facilities, but will also foster long-term, consistent development as Cannon's mission evolves.



## CITATION AWARD

### Concept Design

#### Family Housing

Hill AFB, UT

**Design Organization:** Boyer Hill Military Housing LLC

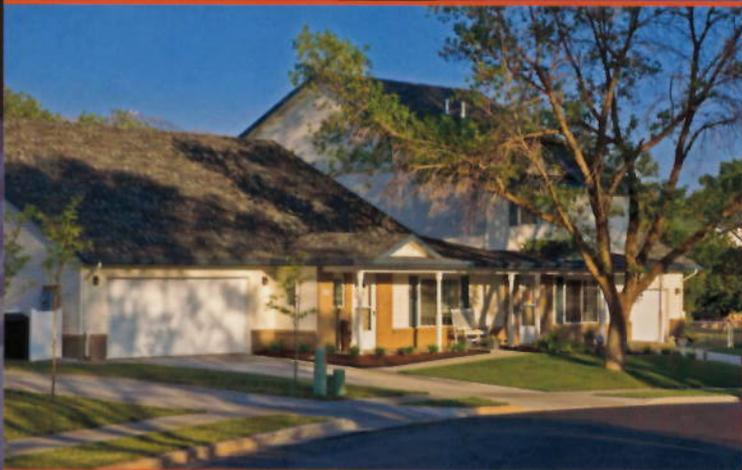
**Using Command:** Air Force Materiel Command

**Base Engineering Organization:** 775th Civil Engineer Group

#### Jurors' Comments

- *Good neighborhood plan*
- *Competes well with private sector housing*
- *Warm, inviting interiors*
- *Duplexes are well designed to avoid typical mirror image*

This privatized neighborhood reinforces connections between Air Force families and their community by employing principles of community planning to create an integrated, sustainable, and walkable community. The new design reconfigured the existing site into clusters of housing that create a sense of belonging, an essential step in establishing a community. Open space was planned between the clusters, allowing the creation of outdoor spaces. Walking, jogging, and bike paths create a network of connectivity throughout the housing clusters. The greatest challenge for the designer and construction contractor was working in an existing, occupied housing development, requiring careful coordination and phasing. The master plan maintains architectural compatibility between the old and new housing in a variety of ways. New housing, built with modern construction methods, is grouped to avoid scale conflict with older, existing homes. Where new homes had to be inserted in the existing fabric, a low scale rambler design was used. Materials chosen were consistent with existing materials in an effort to balance the old and new housing. Construction was carefully sited to preserve existing, mature trees and other landscape elements. Existing utility service corridors, both to individual units and serving the entire housing area, were also preserved to avoid disruption of the existing landscape. The most prominent feature of the new housing is the relationship of the house to the street. Houses are set closer to the street and the dominant design element of the elevation is the front door, not the garage. In addition, all new houses have front porches that are spacious and useable.



## CITATION AWARD

### Concept Design

**Office of Special Investigations Facility**  
Charleston AFB, SC

**Design Organization:** Glick Boehm Associates, Inc.  
**Using Command:** Air Mobility Command  
**Base Engineering Organization:** 437th Civil Engineer Squadron

#### **Jurors' Comments**

- *Dramatic improvement of existing facility*
- *Good compatibility with nearby buildings*
- *Great sustainability in retaining original structure*

This renovation of an existing 4,500 SF, non-descript one-story building includes a 1,000 square foot addition to house a new Investigative OSI Detachment Facility. The existing building is very close to, and somewhat dwarfed by, an adjacent facility. The designers compensated for this by increasing the scale of the OSI building. Spandrel banding is used to establish a relationship with the larger building, but the spandrel on the OSI facility is only half the height of the larger structure. Simple brick massing with similar banding, window lintels, and roof eave details accent an interesting façade, where two areas of curved roof meet to form a clerestory, giving the building an aerodynamic feel and bringing natural light into the interior. The most prominent feature of this project is the integration of the new function of the building with the form expressed in the building's exterior. The curved roof elements give the building visual continuity with the nearby, newly renovated base theatre.



## CITATION AWARD

### Concept Design

#### Composite A-10 Maintenance Hangar

Arkansas ANG, Ft. Smith

**Design Organization:** Pond and Company - SSI Design Build Team

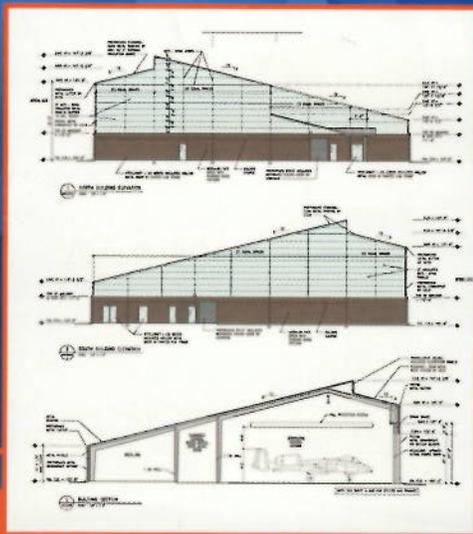
**Using Command:** National Guard Bureau

**Design Agent:** US Property and Fiscal Office

**Base Engineering Organization:** 188th Civil Engineer Squadron

#### Jurors' Comments

- *Simple, elegant design*
- *Straight-forward, functional plan*
- *Nice departure from typical hangars*



This multi-use hangar will support corrosion control, fuel cell maintenance, and weapons loading training for the A-10 aircraft. As a LEED® Silver certified aircraft hangar, the designers were faced with challenges in efficiently ventilating the large, open hangar bays, which typically require great amounts of energy, making it very difficult to comply with the minimum energy cost savings required for all LEED®-certified projects. To overcome this challenge, a detailed analysis of actual building usage was performed and the resulting data led the design of the ventilation system. The end result was an energy cost savings greater than what is required by LEED®. The building exterior color palette and material types were selected to be compatible with the newly constructed Vehicle Maintenance Facility, which has been established as the architectural standard for the base. Some deviations from the standard were incorporated into this project in order to meet LEED® requirements. These included changing the roof color from dark bronze to a lighter shade to increase the Solar Reflectance Index, and adding translucent panels to the exterior to introduce natural light into the building. The facility will be the Air National Guard's first aircraft hangar to receive an actual LEED® certification from the U.S. Green Building Council. A 59% water use reduction will be achieved through the use of waterless urinals and low-flow fixtures, and a 20.4% energy cost savings will be realized through the use of building usage analysis and ventilation system design. Daylight was introduced into the hangar bays through the use of translucent panels in the clerestory and in the upward acting fabric doors, and is enhanced by using a reflective floor coating.



## CITATION AWARD

### Interior Design

#### GI Java

Vandenberg AFB, CA

**Design Organization:** 30th Civil Engineer Squadron

**Using Command:** Air Force Space Command

#### Jurors' Comments

- *Excellent use of excess space that has a nice ambiance for young airmen*
- *Use of wood and curvilinear ceiling elements provide an inviting environment that separates itself from adjoining dormitory*



Designed as a community gathering place, GI Java instills a strong sense of community for our young Airmen. This vibrant meeting space in an existing dormitory complex provides refreshments, Internet access, a video gaming center, and an upscale TV lounge. The key objective was to use existing available space in a central location easily accessible to all of the dorm residents. The space needed to accommodate a small kitchen/serving area while providing separate spaces for other functions. Vandenberg's in-house design team used a standard dorm room module to accommodate the relocated GI Java in a central location. This centralized relocation also helped to reduce the number of surplus dorm rooms by providing an alternate use for surplus space. At less than half the size of the original GI Java, the new location presented challenges in meeting the same functional requirement in a smaller footprint. The need for a vibrant, active atmosphere drove the color palette selection for the GI Java while compliance with the Base Facilities Excellence Standards was achieved through the use of materials appropriate to the uses. Interior colors were chosen to coordinate with the rest of the dorm modules, ensuring that GI Java would be fully integrated into the dorm complex. Vinyl flooring was used in areas of heavy traffic not only for durability and ease of cleaning but also to provide the opportunity to use brighter colors in the more active areas, such as the video gaming room, Internet café, and coffee lounge. Special attention was given to lighting and ceiling treatment in the coffee lounge area. Carpet with more subdued coloring was used in the TV lounge where activities are lower key. The use of sleek, contemporary materials provides the finishing touches to GI Java. All materials were chosen for their sustainability characteristics. The carpet has 13% recycled content and both the carpet and its backing are fully recyclable. The vinyl flooring has 20% recycled content and is a regionally manufactured material. Fluorescent and low voltage lighting on dimmer switches were used throughout.



## CITATION AWARD

### Facility Design

#### Ground Run-Up Enclosure

Tennessee ANG, Memphis

**Design Organization:** Pond and Company

**Using Command:** National Guard Bureau

**Design Agent:** US Property and Fiscal Office for Tennessee

**Base Engineering Organization:** 164th Civil Engineer Squadron

#### Jurors' Comments

- Beautiful example of form following function
- Has a sculptural quality with its bent walls
- Highly utilitarian structure attained real beauty through a few simple, formal gestures
- Elegantly detailed skin
- Overcame challenges of scale, complexity and compatibility to deliver a unique and fully functional facility

As part of the 164th Airlift Wing's conversion to C-5 aircraft, the Memphis-Shelby County Airport Authority gave permission to perform ground run-up exercises, provided appropriate noise suppression was achieved. An acoustic study was performed to ensure the Ground Run-Up Enclosure would meet prescribed noise exposure limitations. Due to its enormous size, a mat foundation system was used to limit re-routing existing utilities. The specifications were written to allow competition, but limited to bidders that could construct an enclosure of this size while meeting the acoustic and aerodynamic performance requirements. As one of the world's largest Ground Run-Up Enclosures, it can easily accommodate any aircraft in the Air Force inventory. Careful site analysis for the location of the enclosure was necessary to minimize utility conflicts and stay within airfield clearance limitations. The exterior cladding for the panels on the enclosure was chosen to be compatible with the surrounding buildings while easily changeable to meet future aesthetics. The sleek, high tech look of the Ground Run-Up Enclosure fits in well, aesthetically, with the new maintenance hangars.

Although not eligible for LEED® certification, there were sustainable aspects of the project. The acoustic panels were assembled on-site, saving shipping costs and fuel, and the enclosure footprint was designed to limit the amount of excavation as much as possible. Constructed to allow the Tennessee Air National Guard to perform engine tests on aircraft on their own apron eliminates the cumbersome process of taxiing the aircraft to the airport's designated run-up area, saving fuel and reducing emissions.





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HB&A  
*Planner*  
Colorado Springs, CO

**Mr. Jerry Smith**

MSI  
*Landscape Architect*  
Columbus, OH

**Ms. Anne Munkres**

Air Force Center for Engineering  
and the Environment  
*Planner*  
San Antonio, TX

### Interior Design Sub-Jury

**Ms. Lynda Anderson, IIDA (Chair)**

RATIO Architects  
*Interior Designer*  
Indianapolis, IN

**Ms. Sandra W. Warner, IIDA**

Air Force Center for Engineering  
and the Environment  
*Interior Designer*  
San Antonio, TX

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Office of the Air Force Civil Engineer  
Washington, DC

**Lt Col Benjamin Kindt, P.E.**

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and the Environment  
*Engineer*  
San Antonio, TX

**Mr. Tony Luetkenhaus**

RVK Architects  
*Associate Architect*  
San Antonio, TX

**Mr. Bob Woodson, R.A.**

Air Force Center for Engineering  
and the Environment  
*Architect*  
San Antonio, TX

**Mr. James Andrews, RIBA,  
AIA Int'l Assoc., LEED® AP**

Overland Partners  
*Architect*  
San Antonio, TX

**Mr. Ronald Reed, FAIA, IIDA**

WRL Design  
*Architect*  
Cleveland, OH

## ACKNOWLEDGMENTS

### **The Civil Engineer**

Brigadier General Timothy Byers

**The Air Force Center for Engineering and the Environment prepared this Annual Report.**

### **AFCEE Director**

Dennis Firman

### **Graphic Design**

HOK Visual Communications  
Houston, TX

### **United States Air Force Design Awards Program Manager and Editor**

David M. Duncan, R.A., LEED® AP



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