US Army Corps of Engineers
Office of the Chief of Engineers

Design and Environmental Awards 1983

The Chief of Engineers Design and Environmental Awards Program is intended to recognize excellence in the design of, or environmental achievement related to, recently completed structures or area developments by U. S. Army Corps of Engineers offices and their consulting firms.

The program is further intended to provide an incentive for design and environmental professionals to develop new projects which will exhibit excellence in function, economy, resource conservation, aesthetics and creativity, while being in harmony with the environment. The program, which began in 1965, is an important part of the Army's support of the Federal Design Improvement Program.

Recently completed civil works and military construction projects are eligible for entry in one of four competition categories: Architecture, Engineering, Landscape Architecture, or Environment. Entries judged worthy of national recognition by juries of design and environmental professionals can receive one of three awards: an Honor Award, an Award of Merit, or an Honorable Mention.

An Honor Award is given for a truly exceptional design or environmental accomplishment. The Honor Award may, or may not, be given at the discretion of each jury.

An Award of Merit is given for outstanding design or environmental achievement. A maximum of one Honor Award and generally three Awards of Merit are permitted for each competition category. To achieve equity in the judging process, each entry is judged on the fulfillment of the project requirements and the solution of related problems.

An Honorable Mention may be presented to recognize a superior feature or concept of a project which would not otherwise qualify for a higher award.

In addition to the competition category awards, the Chief of Engineers' Award of Excellence may be given for a project that, in addition to its selection for an Honor Award or an Award of Merit in its particular competition category, exhibits excellence from an overall point of view.

This year the judges, who convened Dec. 14 at Corps headquarters in Washington, D.C., reviewed a total of 117 entries Corpswide.

Chief of Engineers Award of Excellence

Mississippi River Locks and Dam #1 Rehabilitation, Minneapolis

Design firm: Harza Engineering Co. Design agency: St. Paul District.

The major rehabilitation of Locks and Dam No. 1 required that new buildings be built to house the new operational functions of the facility. Also included was the development of a new site plan that would allow visitors to penetrate as far into the site as possible. The key to the visitor facilities is that visitors have the unique opportunity to get onto the river wall. The buildings were constructed of cast in place concrete with a cement based coating to match the lock structure and were designed to take advantage of solar energy.

The rehabilitation included the construction of an entirely new filling and emptying system, the replacement of deteriorated concrete, installation of soil and rock anchors for stability, and the complete replacement of the operating machinery, power supply and control systems. The linear construction time was minimized by using fast track procedures, state-of-the-art blasting for concrete removal and prefabricated components and by maintaining good communication among designers, inspectors and contractors.

The design balances the functional requirements of the operators, visitors, boaters and shippers into a facility that is accepted as a functional yet unique solution.

Jurors' comments: The rehabilitation solution effectively brings together architectural, engineering and landscape solutions to enhance the environment and contribute to the public good. The concrete structures are compatible with the existing locks, the architectural massing is energy sensitive, the detailing of the metal bridges and railings integrate accessibility to the handicapped in the heart of the design, and the interpretive use of existing machinery is effectively integrated with the plant materials and other landscape elements.

River wall and dam from viewing platform.

View from control room in central control station.

Entrance road, just downstream of bridge.

View from downstream of lock

Environment

Honor Award: Preservation of Espada Aqueduct, San Antonio, Texas. Design agency: Fort Worth District.

The Espada Acequia represents the best surviving example of the Spanish colonial irrigation systems built in San Antonio in the 18th century. Except for a short span of 10 to 15 years, the Espada Acequia has been functioning since its initial construction around 1731. The aqueduct and acequia are now a part of the Mission Trail route for tourists visiting the mission historic park.

Jurors' comments: The design blends aesthetically, historically and culturally into the surroundings. The project is a unique and imaginative approach, both for historical preservation and practical consideration.

Awards of Merit: Santa Fe Dam Interpretive Nature Trail, Los Angeles County, Calif. Design firm: Kammeyer and Partners Inc. Design agency: Los Angeles District.

The Santa Fe Dam Interpretive Nature Trail is located in the northeast end of the Santa Fe Dam Recreation Area. The trail is part of a 450-acre wildlife management area within the dam basin. It was developed in concert with the local cost sharing sponsor, the Los Angeles County Department of Parks and Recreation.

Jurors' comments: The project is located in a normally dry flood control reservoir. It makes optimal use of onsite materials for benefit of the public. This excellent interpretive system serves diversified populations, providing recreation and plant and animal preservation and enhancement in an aesthetic and pleasing manner.

Lakeshore Management, Wappapello Lake, Mo. Design agency: Memphis District.

The Lakeshore Management Program at Wappapello Lake was developed to curtail the increasing congestion of unauthorized private facilities along the shoreline and to protect and enhance the lakeshore, fish and wildlife habitats, aesthetic quality, natural environmental conditions, and the lake shoreline for recreation by the entire visiting public.

Jurors' comments: With minimum commitment of funds, the program allows maximum use by the public. It enhances and maintains wildlife habitat, including fish and waterfowl, and enhances the aesthetic and recreational values of the shoreline. A tough diplomatic matter done well.

Harlan County Wildlife Management and Enhancement, Harlan County Lake, Neb. Design firms: Nebraska Game and Parks Commission; University of Nebraska Forestry, Fisheries and Wildlife Department. Design agency: Kansas City District.

Through the cooperation of the three agencies, two major programs have been developed to manage and enhance the wildlife on Corps lands. The agricultural leasing program divides large plots of land with natural grass plots and installs a strict planting and harvesting program. The other portion of the program provides boundary fencing and strip plantings of trees, shrubs and natural grasses.

Jurors' comments: This rehabilitation of wildlife habitat on public lands reduces user and trespass pressure on private lands. The innovative combination of management efforts by federal and non-federal interests brings more land under highly productive wildlife management and provides aesthetic or visual relief.

Honorable Mention: Ouachita Geo-Float Trail, Lake Ouachita, Ark. Design agency: Vicksburg District.

The Ouachita Geo-Float Trail, part of the Corps' Lake Ouachita/Blakely Mountain Dam flood control-hydroelectric project, is located in a region where 250 to 300 million years ago, the earth's surface was bent, twisted, and deformed in ways that still baffle professional geologists. The 16-mile trail guides visitors across Lake Ouachita waters to some of the most unique geologic features in the world.

Jurors' comments: With absolutely minimal dollar commitment, imaginative and skillful use has been made of natural beauty and geological features. The tour by boat is both educational and aesthetically pleasing.

Lakeshore Park, Ashtabula, Ohio. Design agency: Buffalo District.

The Lakeshore Park project involves the construction of three offshore breakwaters and the restoration of an 800-foot-long recreational beach.

Jurors' comments: It contributes to the ecological value of park habitat in terms of density, wildlife, erosion control and aesthetics. It has arrested the continuous destruction or abandonment of a traditionally valuable community resource. Here is revitalized community interest and use of an urban resource.

Environment jury members: Dr. Benjamin C. Dysart III, president, National Wildlife Federation, professor of Environmental Engineering, Clemson University, Clemson, S.C.; Dr. James A. Timmerman Jr., immediate past president, International Association of Fish and Wildlife Agencies, executive director, South Carolina Wildlife and Marine Resources Department, Columbia, S.C.; and Dr. Evan C. Vlachos, director, Environmental Resources Center, Colorado State University, Fort Collins, Colo.

Environment Award of Merit: Santa Fe Dam Interpretive Nature Trail, Los Angeles County, Calif.

Environment Award of Merit: Lakeshore Management, Wappapello Lake, Mo.

Environment Award of Merit: Harlan County Wildlife Management and Enhancement, Harlan County Lake, Neb.

Environment Honor Award: Preservation of Espada Aqueduct, San Antonio, Texas

Architecture

Honor Award: Addition and Alterations to Cadet Library, U.S. Air Force Academy, Colo. Design firm: Henningson, Durham & Richardson Inc. Design agency: Omaha District.

The project consists of a major expansion and significant renovations to the U.S. Air Force Academy library to increase its capacity and upgrade it to accommodate state-of-the-art technology. The library is one element of a complex that is historically significant and thus poses special design considerations.

Jurors' comments: The project is a positive response to the challenge to create an exciting new expression within a very strong existing order. Sensitive use of detailing to achieve a more intimate scale and an effective use of glass to create a high level of ambient light captures the breathtaking view.

Awards of Merit: Tactical Equipment Shops, Fort Carson, Colo. Design firm: Clifford S. Nakata & Associates, P.C. Design agency: Omaha District.

The Tactical Equipment Shops contain work spaces for vehicle service bays, repair shops, offices and storage. The metal exterior of the building expresses its industrial nature, while the graphic identification of service bays and the use of color were important design elements.

Jurors' comments: The project is an excellent expression of function which skillfully uses low cost materials. There is a clarity of order, and systems are well articulated through both form and color. A sense of excitement is created in a light, airy and pleasant work environment.

Mississippi River Locks and Dam #1 Rehabilitation, Minneapolis. Design firm: Harza Engineering Co. Design agency: St. Paul District.

See Award of Excellence, page 5, for project description.

Jurors' comments: A wonderful project to reintroduce the public to experiencing the river and the related activities at the locks. The two functional facets of the project (operational and public) are well handled. The building structure is appropriately designed in concrete as an integral part of the dam. Landscaping plants and elements relate to the human scale.

Unaccompanied Enlisted Personnel Housing, Loring Air Force Base, Maine. Design firm: Ellenzweig, Moore and Associates Inc. Design agency: New York District.

This project is a housing facility to accommodate 450 unaccompanied enlisted personnel in a space of approximately 75,000 square feet.

Architecture Award of Merit: Tactical Equipment Shops, Fort Carson, Colo

Design goals included providing the client with a beautiful, durable and energy-efficient building, and preserving and using the wooded site most efficiently.

Jurors' comments: The project has a sensitive plan and siting which provides an appropriate human scale. The project also *utilizes the heavy woods to protect the severe northwest exposure and the structure to protect the south and east entrances. A regional expression is achieved through window scale, pitched metal clad roofs, and simple brick masonry walls. Rich, but low cost, materials are utilized in an effective but unpretentious manner.*

Architecture jury members: George Notter, president and fellow, American Institute of Architects, Anderson, Notter and Finegold, Boston; Robert Broshar, past president and fellow, American Institute of Architects, Thorson, Brom, Broshar, Snyder, Architects, Waterloo, Iowa; and Judith Chafee, fellow, American Institute of Architects, Judith Chafee, Architect, Tucson, Ariz.

Architecture Award of Merit: Mississippi River Locks and Dam # 1 Rehabilitation, Minneapolis.

Architecture Award of Merit: Unaccompanied Enlisted Personnel Housing, Loring Air Force Base, Maine.

Landscape Architecture

Honor Award: Fort Clinch Fishing Pier, Fla. Design firm: Gee and Jensen Engineers-Architects-Planners Inc. Design agency: Jacksonville District.

The major feature of the project is a concrete fishing pier projecting 2,500 feet into the Atlantic Ocean, paralleling an existing stone jetty. The existing natural features are enhanced by the boardwalk that crosses, and protects, the fragile dunes.

Jurors' comments: The design resulted in excellent preservation of the site and integration of the development within it. Existing parking was expanded to serve increased use with minimum site disturbances, and trails and support facilities were sensitively added to provide controlled access to pier and protect the dunes and natural systems. Natural construction materials were effective/y used, and construction details resulted in excellent integration of structures.

Awards of Merit: Indian Bend Wash Interceptor Channel Interpretive Area, Scottsdale, Ariz. Design firm: RGA Consulting Engineers. Design agency: Los Angeles District.

The interpretive area is an example of sensitive site planning and landscape design which accomplish the dual purpose of environmental mitigation and recreational enjoyment. The two-acre interpretive area was designed to educate the general public about the native vegetation and wildlife habitat in their community as well as to preserve the natural environment.

*Jurors' comments: The design process involved a comprehensive team planning effort in cooperation with the community. The project was effec*tively *integrated into the site with minimal disruption of natural features. Effective use is made of natural construction materials-i.e., stones for riparian wash to control storm water, wood for the ramada, and colored concrete to help blend accessible walks with the site.*

Hart-tish Park, Applegate Lake, Jackson County, Ore. Design agency: Portland District.

Hart-tish Park is the major recreation site on Applegate Lake, a unit of the Rogue River Basin Project in southwestern Oregon. The 988-acre lake is located primarily in the Rogue River National Forest. The Corps developed the park and other facilities around the lake; the Forest Service manages the land and water resources, including the park.

Jurors' comments: Project displays an effective integration of the required uses and facilities with minimal site disturbance, especially considering the steepness of the site (20% slope). The disturbance which was created was *ameliorated through the use of natural or natural-appearing materials-i.e., rocks, rip-rap, stone wall overlooks and turf blocks to stabilize the shoreline.*

Lake Rebecca Park and Natural Area, Hastings, Minn. Design agency: St. Paul District.

Lake Rebecca is a 72-acre spring-fed backwater lake adjacent to Lock and Dam 2 on the Mississippi River. Under cooperative cost-sharing agreements between the Corps and the city of Hastings, the project established a viable fishery, provided for wildlife enhancement, and developed needed day-use recreation facilities.

Jurors' comments: Basic site design and application of conservation and restoration concepts in controlling non-native fish entry, keeping storm sewer effluent out, and establishing an effective transition from natural to recreation zones was excellent.

Honorable Mention: Harry S. Truman Visitor Center, Benton County, Mo. Design firm: Linscott-Haylett and Associates. Design agency: Kansas City District.

The Visitor Center is located on top of a majestic limestone bluff overlooking the dam. Great care was taken to retain the natural beauty of the bluff, yet provide an overlook and facilities required.

Jurors' comments: Project was honored for excellence of site selection and effective site development, which enhanced the excellent design of the building and complemented the drama of the site.

Landscape Architecture jury members: Darwina L. Neal, president, American Society of Landscape Architects, National Park Service, Washington, D.C.; J. Steve Ownby, vice-president, American Society of Landscape Architects, head, Landscape Architecture Program, Oklahoma State University, Stillwater, Okla.; and John B. Slater, trustee, American Society of Landscape Architects, Slater Associates, Columbia, Md.

Landscape Architecture Award of Merit: Hart-tish Park, Applegate Lake, Jackson County, Ore.

Landscape Architecture Award of Merit: Indian Bend Wash Interceptor Channel Interpretive Area, Scottsdale, Ariz.

Landscape Architecture Award of Merit: Lake Rebecca Park and Natural Area, Hastings, Minn.

Architecture Honor Award: Addition and Alterations to Cadet Library, U. S. Air Force Academy, Colo.

Landscape Architect Honor Award: Fort Clinch Fishing Pier, Fla.

Engineering

Honor Award: Consolidated Computer Facility, Scott Air Force Base, Ill. Design firm: William Tao & Associates Inc. Design agency: Omaha District.

The project is a 43,000 sq. ft., single-story computer center which accommodates computer facilities of four using agencies. The building contains many system redundancies and energy conservation features which assure reliability, flexibility and economy of operation. The U. S. Air Force criteria mandated a high level of security for this project as well.

Jurors' comments: The site was subject to flooding, so the designer set the floor of the structure above high water and created a six-foot-deep total access floor system and did so very economically. The facility utilized a single-center column design to create a pleasing sloped roof and uses the roof to transfer seismic forces into the four exterior perimeter building corners. Mechanical equipment is placed in the four corner "pads" and provides attractive relief from an otherwise monotonous block building. Building design provides for maximum flexibility in anticipation of frequent future alterations resulting from obsolescence of computer equipment.

Awards of Merit: Mississippi River Locks and Dam #1 Rehabilitation, Minneapolis. Design firms: Harza Engineering (general design), Woodward-Clyde Consultants (blasting program). Design agency: St. Paul District.

See Award of Excellence, page 5, for project description.

Jurors' comments: The project presented many unusual and serious problems. Among these was the need to accomplish work in a short time for minimum interruption to river traffic and subsequent adverse impact on the economy of the area. Great economic savings were realized by doing a rehabilitation of the existing locks and dam rather than construction of a new project.

Long Branch Dam, East Fork, Little Charitan River, Macon County, Mo. Design firm: Shannon & Wilson Inc. Design agency: Kansas City District.

Long Branch Dam is a flood control project vital to the economic growth of the Macon area. The dam is unique in that the earthfill structure utilizes the topography resulting in an "S" shape curvature. Riprap is reduced because of the use of grassy, gentle slopes unique in earthen dams.

Jurors' comments: The design makes use of the site topography to realize a cost savings in construction and to achieve an unusual and aesthetic structure.

Willow Creek Dam, Heppner, Ore'. Design agency: Walla Walla District.

The dam is a concrete gravity structure, 160 feet high and 1,780 feet long at the crest. Willow Creek Dam is a "first" in the United States in that it was constructed with roller compacted concrete, most easily described as a damp gravel fill which is blended with cement and ultimately hardens into a true concrete.

Jurors' comments: Willow Creek Dam is the heart of the flood control project which protects the city of Heppner from a repeat of the 1903 flood disaster in which 247 people died. The construction cost for the project was approximately $15 million, about one-third the estimated cost of a conventional concrete dam.

Engineering Honor Award: Consolidated Computer Facility, Scott Air Force Base, Ill

Honorable Mention: Sardis Lake Gate Tower/Overlook and Comfort Station, Pushmataha County, Okla. Design agency: Tulsa District.

The construction of the unique Gate Tower/Overlook and Comfort Station complex combined the functions of an intake structure and overlook.

Jurors' comments: This multipurpose complex is highly functional and aesthetically pleasing. The facilities are placed in the reservoir combining the general public comfort station and overlook with the intake structure. This approach saved the adjacent mountain sides from project construction scars.

San Francisco Bay-Delta Model, Sausalito, Calif. Design firm: Montedoro-Whitney Corporation. Consultant agency: Waterways Experiment Station. Design agency: San Francisco District.

The model, a physical, hydraulic model with a horizontal scale of 1 to 1000, covers an area about the size of two football fields. One year of water flow can be simulated in three days and 16 hours.

Jurors' comments: This sophisticated model of the complex working of San Francisco Bay incorporates the most advanced concepts of physical and computer modeling. Model instrumentation and computerization is a major engineering advance.

Wastewater Treatment Facilities, Saylorsville Lake, Iowa. Design agency: Rock Island District.

An innovative method of wastewater treatment and disposal was used at three major recreation areas of Saylorsville Lake, a multipurpose project.

Jurors' comments: Several alternate waste treatment processes were considered for the recreational areas on this flood control reservoir. The solution was to create earth mounds of material that were conducive to septic tanks and laterals. When landscaping and vegetation on the mounds matures, they will blend into the terrain and be totally unnoticed for the function they perform.

Engineering jury members: Herbert G. Koogle, P.E., president-elect, National Society of Professional Engineers, Koogle and Pouls Inc., Albuquerque, N.M.; Professor S. Russell Stearns, P.E., president, American Society of Civil Engineers, Thayer School of Engineering, Dartmouth College, Hanover, N.H.; and Shelby K. Willis, president, American Consulting Engineers Council, Bucher and Willis, Consulting Engineers, Architects and Planners, Salina, Kan.

Engineering Award of Merit: Mississippi River Locks and Dam #1 Rehabilitation, Minneapolis

Engineering Award of Merit: Long Branch Dam, Macon Country, Mo.

Engineering Award of Merit: Willow Creek Dam, Heppner, Ore.