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COVER

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The objective of this competition is to observe, photograph and comment upon the forms, shapes and structures which exist throughout California. Subjects may include, but are not limited to, the interrelationship of the built and natural environments, historic and contemporary structures that express the residential and industrial character of California, and commentary on California's urban and rural environments. Compositions may be graphic abstractions.

Submissions are invited in two categories: color slides and black and white prints.

Prizes awarded in each category include a First Prize of $100, a Second Prize of $50 and a Third Prize of $25. Entries awarded an Honorable Mention will receive no cash prize, but will be published in the November/December issue of Architecture California along with the First, Second and Third Prize winners.

Jurors for the competition are the editorial board and staff of Architecture California, with architectural photographer Julius Shulman. Photographs will be judged on the quality of the photography, the interpretative nature of the photographic statement, and the depth of architectural understanding.

Eligibility: the competition is open to both amateur and professional photographers.

Submission requirements:
- Color Slides—duplicates are acceptable for judging; winners must provide original transparencies for publication. Winners' transparencies will be returned.
- Black and White Prints—un-mounted, 8" x 10" prints only.
- Submission material will not be returned.
- Photographs previously published are not eligible for submission.
- Each submission must be labeled with the following information: subject and location of photograph, name, address and telephone number of photographer; name of architect of subject, if known.

Entry Fee (per submission):
$2 for AIA members, associates and professional affiliates.
$3 for nonmembers.
Entry fee must accompany each submission.

Deadline for submissions: September 7, 1984. Judging will occur on September 14th. Winners will be notified confidentially before October 1st. First public announcement of the winners will be in conjunction with an exhibition at the annual convention of the California Council, The American Institute of Architects in Long Beach, California, October 11-14, 1984. Winners will be published in the November/December issue of Architecture California.

Address entries to:
Photography Competition
Architecture California
1414 K Street, Suite 320
Sacramento, CA 95814
BEAT THE HEAT

When desert temperatures soar as high as 120°F and above, the cost of air conditioning can run a homeowner between $400-$500 per month. A new system, originally tested by the government for agricultural use, is proving successful in reducing high air conditioning costs while lowering blistering outdoor temperatures to around 75°F.

The system is relatively simple. A control module pumps water through a ½ inch tube at 600 pounds per square inch, forcing a fine mist through nozzle openings that are 10 microns in diameter (about 1/100th the size of a human hair). The surrounding air is cooled by the flash evaporation of the mist. Because it is an evaporative cooling process, the system works best on extremely hot days, when humidity is low and the air is still.

“This system seems to reduce temperatures to 75° to 80°F no matter how hot the day,” said David Christian, AIA of Christian & Associates, one of the first architects to install one of these new systems, marketed by MicroMist Outdoor Cooling Systems, Inc. of Palm Springs.

“Our first commercial application of the system was for a restaurant,” Christian said. “The bulk of the system was used to cool the outdoor dining area, while the balance of the system was used to cool the roofs over the dining areas.

Instead of paying $5.85 per hour for air conditioning, the restaurant now pays 62¢ per hour for power and water to run the MicroMist.

LOS ANGELES CONSERVANCY PRESERVATION AWARDS

The Los Angeles Conservancy selected five projects to receive the 1984 Annual Preservation Awards. The First Interstate Bank Athletic Foundation and architect Melvyn Green & Associates, Inc. of El Segundo each received awards for the adaptive reuse of the Britt Mansion, originally designed in 1909 by architect Alfred Rosenheim.

Topa Management Company of Los Angeles received an award for saving the Pacific Palisades Business Block, designed
Canro RNre
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(BTA)
building
were given
FAIA, in
adaptive
Revival
building
was
Phelps,
Melvyn
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Angeles received
historic fabric of
made
the Hermosa
architect,
the principal
Robert Winter;
Samuel E.
restoration.

by Clifton Nourse in 1924. The Spanish Colonial Revival building was restored to its original appearance by McClellan/Cruz/Gaylor & Associates of Pasadena. The building now is designated an Historic-Cultural Monument.

Awards for Miller-Herriott House, believed to have been built in the early 1890s, were given to owner Kristin Belco and architect Melyn Green & Associates, Inc. The adaptive reuse project is unusual in that the owner made no architectural incursions on the historic fabric of the structure.

The California Institute of Technology and architect Bobrow/Thomas & Associates (BTA) of Los Angeles received awards for restoring the Parsons-Gates Hall of Administration (formerly Gates Laboratory), the oldest building on the Cal Tech campus. The building, originally designed by Elmer Grey in 1917 as part of the axial campus plan, has facades attributed to Bertram Goodhue.

Preservation of the Hermosa Beach Community Center Theater (formerly Pier Avenue Auditorium), built in 1935 in an art deco style, garnered awards for Hermosa Beach Department of Community Resources and architect Howard Needle Tammer & Bergendoff (HNTB) of Los Angeles. Project principal James R. Combs, AIA consulted with the building's original architect, Samuel E. Lunden, FAIA, in planning the restoration.

Jurors for the awards were Scott Cardie, AIA; Barton Phelps, AIA; Robert Winter; David Hart; and Ruthann Lehner.

CALIFORNIA BUILDING BOOM

Two recently released studies show a growth economy for the design profession in 1984, and identify California as the leading construction market in the country.

Nonresidential construction will increase 10.4 percent or $32 billion nationally, according to predictions by the Chicago Title Insurance Co. reported in Builder. Retail construction, which generally follows new home construction, is expected to grow 14 percent, or nearly $8 billion in 1984.

California is the state predicted to have the greatest growth in nonresidential construction in the country. Los Angeles is identified as the hottest nonresidential market, with a projected $2.6 billion in construction. San Francisco is expected to lead the nation in new office construction, while San Jose will top the industrial construction market. The top 20 nonresidential markets listed by Chicago Title include Los Angeles (1st), San Francisco (4th), San Jose (9th), Anaheim/Santa Ana (15th), and San Diego (16th).

For the first two months of this year, new housing starts in California are the highest since 1977, according to the California Building Industry Association. February's seasonally-adjusted annual rate of 258,600 new housing units is 95 percent above February, 1983, and a whopping 294 percent over February, 1982, the lowest production year since World War II.

Metropolitan areas showing the highest percent of increase in new housing units are San Jose (+ 83.8 percent), Santa Rosa/Petaluma (+ 70 percent), and Fresno (+ 69.4 percent). By volume, the most housing starts in February occurred in San Diego (3,210), Los Angeles/Long Beach (3,150), and Riverside/San Bernardino (2,388).

DEPARTMENT OF DEFENSE DESIGN AWARDS

Two California firms were among the ten award winners for military construction in the 1984 Department of Defense Design Awards. Woodford/Sloan, AIA and PDE Associates (joint venture) of San Francisco received an award for family housing facilities for the naval station in Centerville Beach. Leidenfrost/Horowitz AIA & Associates of Burbank won an award for the Commissary at the Los Angeles Air Force Station. Independent judges from The American Institute of Architects and the Society of American Military Engineers considered a total of 131 projects before announcing the winners.

LIGHTING AWARDS PROGRAM

The National Lighting Bureau has announced an awards program to identify case histories which demonstrate the advantages derived from lighting system improvements. Most submissions to the program are based on retrofit projects, with data being developed from "before and after" comparisons. Case histories about lighting in or around new facilities also are welcome. Lighting installed or modified after January 1, 1982 is eligible. Entry deadline is August 4, 1984. Contact the National Lighting Bureau, 2101 L Street, NW, Suite 300, Washington, DC 20037.

MANAGERS' SALARIES ON THE RISE

Average managerial pay increased by six percent over last year according to the Second Annual Design Firm Management Salary Survey, sponsored by the Professional Services Management Journal (PSMJ). The percentage of firms reporting no raises dropped from 33 percent in 1983 to 16 percent, and instances of managers receiving salary cuts were almost nonexistent. Bonuses for top management climbed significantly by an average of eight percent.

Other trends noted in the survey are increases in the number of firms employing personnel directors and directors of computer services. This indicates the growing importance these two areas are having in design firm management. A three percent increase in the amount of time being charged to projects by managers also was noted. The development is attributed to both heavier workloads and smaller staffs.
MASTERPIECE

Thank you for forwarding me a copy of Architecture California.
This publication is a masterpiece in itself. Again, thanks for the copy.
—Willie L. Brown, Jr.
Speaker of the Assembly

BACK TO THE DRAWING BOARD

Architectural drafting is a drudgery to some architects, but drafting is what sets the quality of construction. A heating contractor complained to me recently that today’s architects are but artists, with no interest in construction. It took some years for me to learn that the major decisions are not made at the drafting table, but at the conference table. But the nitty gritty is still back there and that sloping board.

When Louis Skidmore went to New York to work on the World’s Fair in 1939, I was assigned as his draftsman. The computer that drew three years of graphs for design, document and construction performance was not a black box, but me. I remain among those architects who finds drafting to be a joy.

The president and much respected member of the Architectural League, Edgar L. Williams, was perhaps the most serene architect I have ever met. He took one church job each year and suffered no employees, so that he might enjoy drawing the project himself. Charles Ramsey was chief draftsman for Frederic L. Ackerman who stayed mostly in his business office. Ramsey knew how to run the production department with a sidekick, Snooze Sleeper, who wrote specifications. I have never found a happier work environment or one better organized with simple, straightforward procedures for getting out clear and complete contract documents.

Eliel Saarinen worked at a great drafting table on a platform at the end of a lovely living room at Cranbrook. I found him there alone, making working drawings in several ink colors on detail paper. Harvey Wiley Corbitt had a great desk across the tee of a large library table. Thomas Jefferson, designer of the AIA-selected best work of our bicentennial, had a special table to draw his interpretations of Palladio.

The drudgery of drafting was not recognized in these offices. Rather, drafting was seen as the dignified production of useful instruments. Joy was taken in the well-doing, the sheet design, the good line, the fine lettering. Everything finished in ink on cloth. Some architects today might be more efficient if they produced an occasional job in ink. (I even know some who, with computers, are using ink on Mylar, and are astonished at the increased efficiency. The damned eraser may be the drafting room’s most costly gimmick.)

The tennis pro, golfer, and violinist become skilled only if they pursue splendid performance. Their practice could become drudgery, but it is called “playing.” The joy of play becomes greater as excellence is successfully pursued. Even Willy Stargill led his team onto the field recording they were going out not to work ball, but to play ball.

I recall a recent moment of delight. I was asked at a public meeting to join others to speak on a critical subject at a legislative session. I demurred saying that I would be in therapy all that afternoon. One trusted friend inquired about the nature of the therapy. I replied that I would be at my drafting table all day. It brought down the house.

—Robert Ingle Hoyt, FAIA
Santa Barbara, CA

MONTEREY DESIGN CONFERENCE:
THE MAGIC REVEALED

This letter is to the architects who took a chance and presented their work at the Monterey Design Conference (Architecture California, May/June, 1984). At first I dragged my feet about going to the conference: too much money, too much time and I never heard of those guys. As I listened to the presenters I became somewhat embarrassed by those thoughts.

The first presenter I saw remodels houses. He’s been at it for over 25 years. His work revealed integrity, honesty, and deep, undimmed enthusiasm for his art. He will never be recognized by P.A. or Record. His presentation was more inspiring than anything either has published.

Presentations by energetic people in larger offices revealed pure courage and tenacity in extracting quality from projects where it seemed almost an illegal result. The smallest project of all was a fountain, the only built work of a small San Diego firm which captured everyone with their perspective and good humor.

There were ideas that didn’t quite succeed, but were fascinating, honest revelations that help in understanding how someone else coped with problems we recognize and struggle with again and again. By the end of the first round of presentations, I was aware that going to the Design Conference beat a year’s stack of all the eastern magazines.

The presenters notwithstanding, I was grateful to the architects from across the state who organized the event and did all the work at their expense, including transportation to attend planning meetings. Thanks to all of you, I’m better off than ever.

—George "Tad" Cody, AIA
Palo Alto, CA

Having attended two previous Design Conferences at Monterey, I faced the revelation of secrets at the 1984 CCAIA Monterey Design Conference with trepidation. The theme and program sounded too clever and perhaps a little silly; and when the Conference Chairman made his entry amid wisps of acrid smoke, complete with trenchcoat and fedora, I fully expected to choke on the program fare.

But that was as far as it went. From the beginning of Robert Israel’s “Illusions” through Michael Patrick Porter’s “San Juan Capistrano Library,” every presentation was absorbing and rewarding, and secrets actually were revealed.

Granted, architects don’t have many secrets from each other. One architect’s training, knowledge and experience has so much in common with another’s that perfect strangers in the profession can meet and immediately converse as old acquaintances because of this common background. Nevertheless, many of the speakers spoke freely of their private feelings about practice, and disclosed what they felt was important to the success of their own firms.

The real secret, however, was that whenever a group of architects gets together to talk about architecture, some kind of magic takes place. Although that magic is probably different for each participant, the resulting whole which each architect creates in his own mind is many times greater than the sum of the parts of the event. The essence of the architect’s talent is his ability to create something new and exciting in his imagination from the materials and circumstances at hand,
in an endless variety of combinations, no matter how many times they have been used before.

In this conference, as in the past, each architect listened to the words and viewed the works of the designers' presentations, evaluating, comparing and considering each idea and solution, coming away from the conference with something that had not existed before. That is the real secret!

—Richard E. Ritz, AIA
Portland, OR

THE SPIRIT OF CAL POLY
(OPEN LETTER TO LEW LITZIE, AIA)

Dear Lew:

Your letter in the May/June, 1984 issue of Architecture California about the “crisis” facing our School (of Architecture and Environmental Design, California Polytechnic Institute, San Luis Obispo) is important, as are all the other voices which have expressed concern and enthusiastic support for the education received at Poly, and for its future. I doubt if any school in the nation could raise the intense interest of its alumni and the profession as Poly has in its time of trauma.

Over 30 years have passed since you were a student here, and since the time this School was an insignificant occupational program in architectural engineering ensconced, with severe fiscal constraints, in a few shacks in a Division of Engineering. Through continual change and with some dedicated people, it has become a widely-recognized school, offering five professional environmental degrees. Cal Poly has long been the largest school of its type in the nation. More important, its popularity has brought it more applications than any other school; and, what is even more significant, is that our School provides almost half of the new architects coming from California schools.

How deeply gratifying it is to hear so many kinds of explanations and claims for the success of our School. It now has so many parents (and latter-day saviours), I often wonder what recent events would have been like if the outcome of our School had been less notable. Ironically, Lew, success and importance have their price, such as the loss of freedom to innovate, to take risks, and that underdog “spirit.” I feel wistful about those days when this program was so unimportant and so little valued that no one was concerned with what was done in a place nobody wanted. This gave a few unsophisticated and obsessed teachers a most important freedom—freedom to work endlessly and to build. Who cared?

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their lives. Today, it is “management by goals and objectives.” In your day, Poly’s maverick management frowned on accreditation because it dictated uniformity, and upon status-seeking public relations platitudes and buzz words like “excellence.” The emphasis was on teaching students and on an “against the grain” philosophy of education. This was the spirit and the ground on which Poly was built and is defended. This spirit made the unusual School of which you are so proud.

Your letter of concern defending President Baker is based on much information supplied to you by this University, and is not necessarily complete. You should know that the “reorganization” of the University is merely one of the many challenges which is being faced. It wasn’t until almost 400 alumni letters of passionate protest crossed President Baker’s desk that the mindless reorganization of our School was completely and summarily withdrawn by him. I had been dealing with some of the Task Force’s proposed recommendations on School changes with the President long before they were proposed by his Task Force. President Baker states he wants new ideas and his own management team for the University and, yes, I could have left my post and slipped quietly into an honored limbo under pressure. But I chose to raise my voice—at the cost of my good name—to draw attention to what could be a threat to a revered and valuable educational event which has been this School.

Many educational concepts have been pioneered in our School, such as the oneness of the educational program with the professional life. The School is magnificent. But remember, Lew, personalities are not the issue. There is no such thing as factions among the alumni; everyone’s interest is encouraged. You all have been given an uncommon heritage. Changes must be continual, but the deep caring about students and the community should be forever.

It is conventional and traditional that all decisions relative to a campus’ destiny are made independent of the outside world. This is called “governance from within.” But Poly could be a notable exception. From the beginning, the professions have been welcome and effective participants in the instructional programs of our School. If you will join your concerns with those of many others, this innovation can grow. It may be that this recent crisis can be a fortuitous event if it can encourage a creative relationship between school and profession. Poly has never in the past been self-conscious about breaking new ground.

—George Hasslein, FAIA
San Luis Obispo, CA
The Olympic Gold. The precious symbol of athletic excellence will draw 10,000 athletes, along with hundreds of thousands of spectators, to southern California this summer from July 28 through August 12. With the exception of newly-constructed swimming and cycling arenas, the 200 sporting events will take place in nearly 30 existing facilities, most of which were built for the 1932 Olympics. These diverse fields-of-play are spread over 150 miles throughout the sprawling southland, from Santa Barbara to San Diego. Developing a visual image that would unify these diverse sites, capture the transitory nature of the Games, and be achieved with a relatively spartan budget became an event of Olympic stature, involving over 100 design professionals.

The Games have become an excuse for most cities to construct new facilities. This is not, however, in the original tradition of the Games, according to Paul Prejza, a partner in Sussman/Prejza & Co. In Greece—as is the case in Los Angeles—existing facilities were recycled and decorated to make them identifiable from previous Games. Temporary tent structures, festooned with banners, housed the athletes and spectators. These historic precedents influenced the environmental design concept for the Los Angeles Summer Games.

Through an ingenious environmental design scheme created by the Olympic Design Team—headed by architects Jon Jerde & Partners and environmental designers Sussman/Prejza & Co.—a “web” of colors, materials and forms will bring a dynamic presence, yet an overlay of festivity, to the Games. “Since there was no one way to symbolize Los Angeles with its pluralist, eclectic character, we knew we had to devise an influential, recognizable image,” explains Jon Jerde, AIA. “We had to somehow capture the international spirit of the Games and translate it to the design.” Using a synergistic, co-creative process to originate and refine ideas, the Design Team evolved a stylistic approach which they call “Festive Federalism.”

Festive Federalism is a combination of playful elements, assembled in an order that recalls classical Greek architectural arrangements. This is demonstrated most clearly in the use of columns and entablatures to create entry structures.

The critical element in the design concept is the color scheme. The intensely American colors of red, white and blue were judged inappropriate to symbolize an international event. “The Olympic palette breaks away from all the schemes that evolved through the 1970s,” explains Deborah Sussman, creator of the color scheme. “The key color is ‘hot’ magenta, with vermillion, aqua and chrome yellow representing the southern California spirit. And light ‘Mediterranean’ colors are occasionally used in large backgrounds.” Strict guidelines were developed to govern the manner in which this palette should be used. The color
scheme also will be applied to the U.S. team's uniforms, and to an incredible array of printed materials, signs and banners.

Because of the temporary quality of the Games, it was necessary to create an "architecture of the moment," according to David Meckel, AIA, the Jerde office's design manager for the environmental program. Items had to be easily erected and dismantled. An inexpensive "kit of parts" was made, consisting of such transitory materials as scaffolding (a concept developed by John Aleksich, AIA), fabric structures, "sonotube" columns, fences, and ceremonial backdrops. These parts can be transformed into gateways, towers, concession booths, identifiable landmarks and "ritual" spaces.

The pageantry of the Games is enhanced with more fragile materials such as flags, banners, streamers, balloons and confetti. The use of humble materials and the absence of grandiose structures gives this Olympics an unique, nonmonumental look.

With the existing athletic facilities, the design work was two-fold. First, there was retrofitting and fine-tuning of the 52 year old structures to meet individual sport requirements, such as light levels, dimensions and markings, and special surfaces. Second, the elements of Festive Federalism were imposed.

Unlike other Olympic Games where new housing was constructed on the edge of town, existing dormitories at the University of California, Los Angeles (UCLA), the University of Southern California (USC) and the University of California, Santa Barbara (UCSB) are being used as Olympic Villages. This provides for a first-hand, penetrating experience of the "American way," and built-in camaraderie for athletes of almost 150 nationalities. As a focal point for each village, a central information/entertainment/shopping/meeting place, called "Main Street" at UCLA and "The Village Square" at USC and UCSB, was designed using the "kit of parts." UCLA features a disco, designed by Peter Shire, in an existing sound stage. As Anita DeFrantz, USC Village Administrator for the Los Angeles Olympic Organizing Committee (LAOOC), says, "We aim to provide a joyous celebration for the athletes—off the field as well as on. If there is any city to provide such hospitality, it should be Los Angeles, the same city that founded the Olympic Village concept 52 years ago."

LAOOC granted Jerde a separate facility to set up a design studio. He discovered a 50,000 square foot dilapidated warehouse adjacent to Loyola University. After bringing the building up to codes, the core design team moved in. An air of cooperative spirit is omnipresent at the studio, and the Olympic designers uniformly express how rewarding this once-in-a-lifetime experience has been, despite the obvious need for compromise within such a large team.

The typical organization, titles and job descriptions found in
an architectural practice are meaningless in the Olympics studio. Although Jon Jerde & Partners became Design Program Manager, and Sussman/Prejza & Co. is Creative Director, both firms are responsible for the overall environmental program. Jerde laughingly says he was more often called the “dictator of design.” “I felt more like a midwife, as I saw my role as bringing forth the creativity and expertise of the other designers,” he says.

The job of making the concept a reality was too big for just a few firms, so the core organization was expanded to include Look Coordinators and Venue Architects. Each athletic event was assigned to a Venue Architect (in some cases, one Venue Architect took more than one event). These Venue Architects then were divided into eight teams, each directed by two Look Coordinators (one of which was an LAOOC project architect who ensured that such issues as life safety and security were met, and who coordinated with other LAOOC committees). The Look Coordinators made sure the design concepts were applied properly to each site, and coordinated with Venue Architects who were responsible for schematic drawings, procurement of materials and installation.

The Look Coordinators and Venue Architects often interpreted and tailored the design concept to their specific sites. For example, the scaffold structure (from which pictogram banners hang) at the expansive, natural Lake Casitas location had to be huge to serve as a landmark for the rowing event; but the scaffold at the Rose Bowl was proportioned properly to relate to the stadium's strong architecture.

Because Los Angeles inevitably is equated with Hollywood, it is understandable that the ephemeral design for the Olympics is referred to as “stage-set” architecture. The Design Team, however, squirms at this characterization. Although the resulting structures are transitory backdrops, the Design Team had to deal with significant aspects of architecture and urban planning such as circulation, sanitary facilities and related problems, as well as broad environmental issues. The Design Team also had the unique challenge of creating a design program equally exciting when seen in person or on a television screen.

The design program is expressed in two ways—spectators attending the events will experience the whole realm of the program’s applications. But the two and a half billion television viewers will see only a portion of the field of play. The Design Team studied camera angles and created a carefully orchestrated backdrop that will be consistent for each event. Strongly criticized for its jingoistic presentation of the Winter Olympics, ABC plans to temper its nationalism during the Summer Games by incorporating the Olympic colors into its broadcasts through advanced techniques in electronic color enhancement.

The intent of the LAOOC—comprised of business, profes-

Look Coordinators Studio, Eighth Street Design Center.
sional and labor leaders in southern California—was to produce an Olympic Games financed by private enterprise. Los Angeles' budget is nearly $500 million to mount the Games, of which $90 million will be recouped in ticket sales. (The US budget is only five percent of what the Russians spent in Moscow.) To raise the balance, organizers tapped self-interest groups. The biggest support came from ABC, which is paying $225 million for TV rights. And more than 30 corporations (designated as "sponsors") have paid millions—in cash—for the right to display the official Olympic logo on their products and in advertising. A mere $9 million is allocated for actual materials to create the look of the Games.

A local journalist, speculating on the Olympic goals, wrote, "Massacre in Munich, bankruptcy in Montreal ... Just what makes us think we can come out of the 23rd Olympiad successfully?" If the athletes and governments participate in the Olympics with the same originality, dedication and cooperation displayed by the Olympic Design Team, the 1984 Summer Games can only be a success.

Janet Nairn is a freelance writer based in Los Angeles.
Resort Construction Will Cost You

BY SHERWOOD STOCKWELL, FAIA

Let's build a vacation resort that's affordable. Once we're out of the city and away from unions and big time contractors, the cost of construction goes down, right? Wrong. At most locations where you would want that resort, there are many factors that will increase the price of the project:

- Mountain valleys and lakefronts have sloping hillsides that may require twice the typical foundation costs.
- Tropical climates need special features to shade the sun, insulate against the heat, and protect against high winds. Alpine and cold climates need extra insulation and deeper foundations to avoid frost heave.
- Desert-like lands often have expansive soils which swell when it rains, and mountain lands have rocky soils which are difficult to excavate.
- Snow which delights skiers adds extra loads and costs to the roof framing system. When the snow on the roof melts, it may refreeze and form ice dams, which back up water under shingle or tile roofs. The same snow must be kept from sliding off the roofs and injuring someone. It must also be removed from walks and streets and stored somewhere until the spring melt.
- Construction supplies are not readily available and must be ordered from greater distances. Delivery delays can increase construction costs. Although local labor rates are lower, the quality of local labor usually suffers from a lack of competition, and faulty work must be redone.

Many of the construction estimators who work in cities such as San Francisco or Denver add as much as 15 percent to the usual city costs for similar labor and materials in the mountains. This is a realistic figure of which everyone should be aware. In some cases, proper advance planning may mitigate the add-on factor, but trying to reduce costs by failing to meet the construction demands of a more severe environment opens the project to lifetime construction failures and all the liabilities inherent in supplying a faulty product.

SLOPING HILLSIDES

For a hillside with a slope of 10 percent, a 60 foot long unit must have a foundation six feet higher on the downhill end than on the uphill end. Moreover, the foundations must be stepped to offer adequate bearing. The net increase in area for this particular wall will be nearly 100 percent. It is possible to design the unit layout so that the floor levels step with the hill, but this may result in more complicated utility runs and adds the cost of connecting stairs at $1,500 to $2,000 a run.

Picture new units perched on a hillside facing a beautiful lake. This is the ideal view, and it is enhanced by the fact that the site slopes down to the lake so steeply that no units can be built to obstruct the view. The site is also ideal for the backhoe operator because he can charge handsomely for the extra time that he must spend digging foundations with very limited access and painstakingly removing the boulders which underlie the topsoil. Often these scattered boulders do not show up in random soil borings made prior to planning the project.
The uphill sloping site offers the same excavating constraints, but also may add the element of hydrostatic pressure from the underground water pushing against the foundation walls. This condition adds two extra costs: approximately 50¢ per square foot to apply hot mopped asphalt waterproofing to resist leakage through the walls, and perforated drain tile at $6 per linear foot to capture and carry away large quantities of the underground water.

Some conservation-oriented planners have suggested that sloping site problems could be eased considerably by building on concrete posts which raise the structures above ground and allow the surface and underground water to run down the slope without restrictions. In most mountain locations, however, the building codes require that individual posts be tied together by an underground “grade beam,” so the problem of boulder excavation remains; and future occupants’ lives are troubled by wintertime drifting snow (which blows under the buildings to remain far into spring), increased exposure to cold, and the potential for wildlife to seek shelter under the building’s floor system.

CLIMATES

For years there was low-cost energy to supply heating or cooling to offset outside temperatures. Today, not only prudence, but also stringent building codes, require that passive energy conservation be recognized as a function of building design. Although a developer is most interested in first costs, life-cycle costs are something that he or she is being forced to recognize, and the recognition is mirrored in dollar signs. Single thickness window glass now is limited by code to less than 20 percent of the wall area. To add more windows, extra dollars are spent for two or three layers of glass with insulating air spaces between at an increase of $6 to $12 per square foot of window. Solid walls must be filled with effective thermal insulation, and doors and windows provided with weatherstripping. The simplest heating system, the fireplace, must be provided with added vents to bring in combustion air, and fireplace fronts must be sealed with heat resistant glass doors.

In hot weather areas, many codes recognize the value of deep overhangs or sunscreens which reduce heat gain, but these also cost as much as $25 per linear foot for a four-foot projection. In high frost areas, building codes require much deeper than usual foundations to push the bearing points below the line where moisture which penetrates into the soil can freeze, expand, and push the structure out of line. This might result in a foundation which costs $20 per linear foot more than a foundation for the same building in a frost-free location.

However, even the frost-free areas are not always cheaper. The dry Sunbelt state of New Mexico has many locations with “expansive” soils which swell up in rainy seasons and lift foundations, usually to varying heights. In order to avoid cracked glass and plaster, one remedy is to excavate the soil underneath the building and replace it with imported, nonexpansive soil.

The new soil must be hauled in and then rolled with special equipment to make it proper for load bearing.

SNOW

The typical roof on flat land is designed to carry a superimposed load of accumulated rainwater of under 30 pounds per square foot. In some areas of the Sierra Nevada Mountains, roofs must be designed to carry as much as five times that load. This translates into added costs to pay for the larger joists and beams required for alpine locations.

The same snow which loads the roof beams can block plumbing and exhaust vents on flat roofs or shear off the vents on pitched roofs as gravity pushes the snow towards the ground. The practical (and more expensive) solution to this problem is to group the vents together and extend them to penetrate the roof at the tallest ridge.

Creating a foolproof roof system for alpine locations has kept builders and architects busy (and perplexed) for centuries. Many claim that a flat roof is the best form of cover because the winds that accompany a snowstorm will blow off most of the accumulation. Because few owners feel that a flat roof is aesthetically appropriate in the mountains, each year manufacturers herald a new product for weather-proof pitched roofs, and each year the “not-to-do” rule book is filled with more data on metal roofs that have ripped away, wood shingles that have disintegrated, and cement or clay tiles that have cracked and shattered. Some of these products may be used for aesthetic reasons if they are laid over a rubberized sheet which seals, if penetrated, like puncture-proof tires.

CONSTRUCTION MATERIALS AND METHODS

Resort locations are often high and dry. If green lumber is used for construction in such locations it soon will warp and twist. Therefore, most woods used in resort locations must bear the added cost of being kiln-dried (in effect, baked) to remove much of the natural moisture. Perhaps the ultimate irony in using structural wood, particularly where large stands of native timber exist, is that few local building inspectors will allow timber to be cut from the site and used in a building because the timber has not been graded for strength and stamped accordingly in a production lumber mill.

Added to the increased costs for materials in resort locations is the fact that building seasons are short, skilled workmen do not stay in one location, and transient tradesmen do not understand local building conditions. Beyond this is what might be termed “the mountain ethic,” which dictates that there are mysteries, secrets, and inviolate standards of construction which no outsider can possibly understand.

Sherwood Stockwell, FAIA is a principal in the San Francisco-based architecture and planning firm of Bull Volkman Stockwell. This article is reprinted with permission from Urban Land, October 1983, published by the Urban Land Institute, 1090 Vermont Avenue, NW, Washington, DC 20005.
Inner City Setting for Play

By John Parman

The Margaret S. Hayward Playground Building is a modest project with a budget of only $150,000, the sort of building which falls more commonly in the "garage addition" than the "award winning" category. Yet it has won two awards—a Merit Award from the CCAIA this spring, and a Gold Nugget Award last fall. Why?

The building is a new addition to a playground in San Francisco, bordered—hemmed in, really—by tennis courts, an existing beaux arts-style recreation building, a playground of climbing structures and other large play equipment, and a sidestreet.

The scope of the project included the paved areas around the buildings, which architect Beverly Willis, FAIA had recast in an axial pattern, centered around the entry of the older building. The new side entrance to the playground and the walls of the new building are oriented along the axes created by the paving, a tactic which helps forge a relationship between the two buildings.

Security is always an issue in this type of building. Rather than provide plain window bars that typify public recreation buildings, Willis designed an integral, articulated metal window grille, repeated on the doors. The hardware is jimmy-proof and the finishes both vandal resistant and easily maintained.

The view of the new building from the south is effectively obscured by the play equipment between it and the street. This led Willis initially to conceive of the facade as consisting of simple geometric shapes, partially visible through the equipment and serving as a background. But she took the design a step further, picturing the play equipment as the walls and seats of an arena, the porch before the two buildings as a stage, and the buildings themselves as elements in a receding backdrop.

As children, we admire precision in things smaller than we are, but otherwise prefer a degree of abstraction against which our imagination has free rein. By "abstraction," I don't mean those hulking imitations of trains or boats which litter most playgrounds, but rather the raw material of illusion—walls, arcades, the occasional archway. These elements are provided here in some abundance, and the result is a stage set in which diminutive players act out their roles in tragedies and comedies of their own making.

Beverly Willis is best known for her design for the recent San Francisco Ballet Building and her present association with Yerba Buena Gardens, one of San Francisco's larger redevelopment projects (for which Eberhard Zeidler of Toronto is lead architect). A common thread in these projects is the intention to provide settings appropriate to "man who plays" (homo ludens, as Huizinga calls it in his book of the same name). Play is present in all human activity. The architect's willingness to address the serious nature of play gives this modest building in an urban playground its particular interest and merit.

John Parman is a writer on architecture and design in San Francisco.
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How Good Management Earns Profits

When it comes to making money, the business of architecture should be no different than any other. But all too often, the profitability of architecture erodes as time passes on the job. Whether or not a practice makes money is primarily dependent upon management.

Today's architectural practices are, in fact, businesses requiring good management at all levels. We must look at ourselves in terms of efficiency, productivity and excellence at all times, not just when we are inspired. Providing architectural services at a profit is the best method we have to develop advanced education, research and other opportunities to enhance the profession, and to place ourselves on par with doctors, lawyers and other professionals.

Contract Negotiation

The first challenge of good management is proper contract negotiation. You must believe in your firm's value to the point where you consistently can negotiate contracts that ensure the allocation of enough time to perform quality work, and leave funds as reimbursement for creativity and profit. Regardless of your management capabilities and dedication to stay on budget, inadequate contracts at the beginning will result in inadequate compensation in the end.

To prevent that from happening, take the time prior to negotiating a contract to do a thorough study of the time, material and personpower necessary to complete the project. Break down every task involved in the project, figure who will do that task, the number of hours the task should take, how much that time will cost you in salary and overhead. Then add the cost of materials, and finally a contingency percentage to serve as a safety net. Finally, add the amount you desire (deserve) for profit.

Staffing

The second hurdle on the path of financial success is the ability to balance staff size with signed contracts. If your signed agreements are based on person-hours required to produce the work, it should be an easy task to ensure a constant balance between contracted work and the number of individuals available to produce the services. If the project turns out to take more staff time than contracted for, either you are not using your staff efficiently or the original contract for staff time was not done thoroughly enough.

A key to success in this area is long-range forecasting; giving advance notice to the managers on the increase of staff or increase in the volume of work to sustain existing staff or, as a last result, to reduce staff. In our firm, we do personpower scheduling on a six month basis, and try to work with a three month advanced warning for changes in staff requirements. If you are not willing to assume the responsibility of long-range forecasting in business, then you greatly jeopardize your capability to provide architectural services at a profit.

Scheduling

The third milestone in the successful practice of architecture is proper scheduling. The key here is to schedule work based on contractual obligations. All too often scheduling is accomplished by "hip shooters" guesstimating how long it will take to complete a job. Often this is done in a complete void with respect to previously budgeted and contracted hours. If you have difficulty sticking to a schedule based on contracted hours versus what it actually takes to get the job done, then you have recognized one of the major problems in running your business at a profit. Either your contract negotiations or your efficiency in accomplishing the work is out of control. The best way to track project time is to follow the form originally used when you put together the budget from which you negotiated the contract, whether that form was put together by hand or on your computer.

Once you have achieved good contracts, a staff in balance with your contracted work, and a schedule based upon contracted work, you need to manage the project in a way that ensures creativity and quality.

Project management boils down to a simple concept: inspect, don't expect. Everyone involved in a project should know their specific responsibilities and requirements and the amount of time they have to execute the task. When tasks are assigned, it is important to include a defined length of time for their completion. This should be a specific assignment of hours, not a "due by Thursday" approach. The person responsible for completing the task can judge the scope of the task and the depth of detail permitted by scheduled time.

Obviously, the manager of the project should inspect the progress of the task on an ongoing basis, so that if time is misallocated it can be caught and remedied as soon as possible. If you have totally blown the time allocation for a task, you have to go back to the budget immediately and see where you can make up the cost from other budgeted items.

Technology

The use of modern technology, in particular the computer, has a major impact on the success of the practice of architecture. Balancing staff size to signed contracts and long range personpower scheduling become relatively easy tasks when accomplished with the aid of a computer. Architectural programming, space planning, design, drafting and specifications all can be accomplished with relatively inexpensive entry level equipment. The net result of technology is the ability to accomplish more in the same amount of time or to accomplish our contracted obligations in less time and therefore at less cost. Unless you are foolish enough to lower your prices, this...
means more profit.

**BE HUMAN**

The humanistic responsibility we all have as employers is important to recognize. Regardless of the direction of our individual practices, we must never forget that we are in the people business.

Our greatest asset is our staff, and the only method we have to accomplish our goals is through their efforts. As a result, in order to achieve we must have established and accepted goals for the firm, each of its disciplines, and each of its individuals. Standards must be agreed upon by everyone in the firm. Everyone in the organization must recognize the need to be responsible for the work they produce with respect to its creativity, its quality and the amount of time required to accomplish the task. This all must be done under the umbrella of firm goals and standards.

In our firm, we accomplish this through a yearly staff retreat and informal, unscheduled “backroom” meetings. Each year our office adjourns to Lake Arrowhead for a planning conference. On the first day, the three principals meet. We are joined by the division directors, our managers, on the second day. The entire staff attends the third day session, and the retreat is completed on the fourth day when spouses and friends join us. Now we are in the process of setting up an in-house university to train all staff members in techniques ranging from marketing to how to be a job captain.

Individuals in the firm are able to contribute ideas directly to their division directors or to the principals. Each of the principals walks the floor daily, and maintains an open door policy. We have found it important for managers to react to all ideas contributed, even the “bad” ones. By adopting good ideas and explaining why bad ones won’t work, the employees are kept involved in defining the firm’s goals and standards.

Those individuals who cannot produce should be replaced. The fear of management in replacing nonproductive employees not only damages the profitability of the operation, it also damages the
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Removing resistance takes courage and commitment. It's the responsibility of the leader to create the conditions that promote genuine employee participation. What does this mean? It means that you must be prepared to undertake a reorganization. Within a dozen or so months, the firm will have 30 employees, generating over $500,000 per month in gross billings.

Nothing will change the important things in life like the attitude of caring for those on your team. Concepts addressed in Blanchard’s The One Minute Manager and Peter and Waterman’s In Search of Excellence should be used in a manner which makes visible your desire and dedication to help your team achieve its goals, both as individuals and as a firm. Keeping productivity high, employee turnover down and motivation up results in higher gross billings per employee, lower cost and higher profit.

Be Open
An open flow of information throughout your firm is essential to keep staff informed of the success or failure of the organization. Individuals cannot participate as part of the team if they do not understand why the team is going and how well it is doing. Everyone in the firm should be aware of which projects are on budget and which are not. Everyone should have access to schedule information and the balancing of personpower to contracts. The open flow of information reduces tension and allows everyone to feel responsible for the success of the organization. And it establishes peer pressure among the team players to get the job done well and within budget.

Nothing can replace the important attitude of caring for those on your team. Concepts addressed in Blanchard’s The One Minute Manager and Peter and Waterman’s In Search of Excellence should be used in a manner which makes visible your desire and dedication to help your team achieve its goals, both as individuals and as a firm. Keeping productivity high, employee turnover down and motivation up results in higher gross billings per employee, lower cost and higher profit.

Succcess
Does it work? You bet! My firm was reorganized during the second quarter of 1981. We had approximately 25 people on staff generating about $50,000 per month in gross billings before the reorganization. Within six months of the reorganization, we had 26 people on staff generating $200,000 per month in gross billings. For the first time in the history of the firm, we were able to generate a profit large enough to distribute bonuses greater than 10 percent of the total payroll, and we made investments on behalf of the firm which will generate income in the years ahead, helping to insulate the firm from economic recession.

The “art” in architecture is a challenge. But not nearly as complex a challenge as achieving that art at a profit.

Rush Hill, III, AIA is principal in Hill Partners, Inc. in Newport Beach.

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morale of the producers. Unfortunately, you can’t put a barometer on someone’s head to measure productivity. Monitoring an employee’s direct and indirect time is one measure of productivity, but the real test comes in determining who’s doing more than just meeting their direct time responsibilities. The philosopher Yogi Berra offered a viable guideline in this regard: “You can observe a lot by looking.” And by talking. Any organization’s members know who is not carrying their weight and who is riding on the success of others.

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