

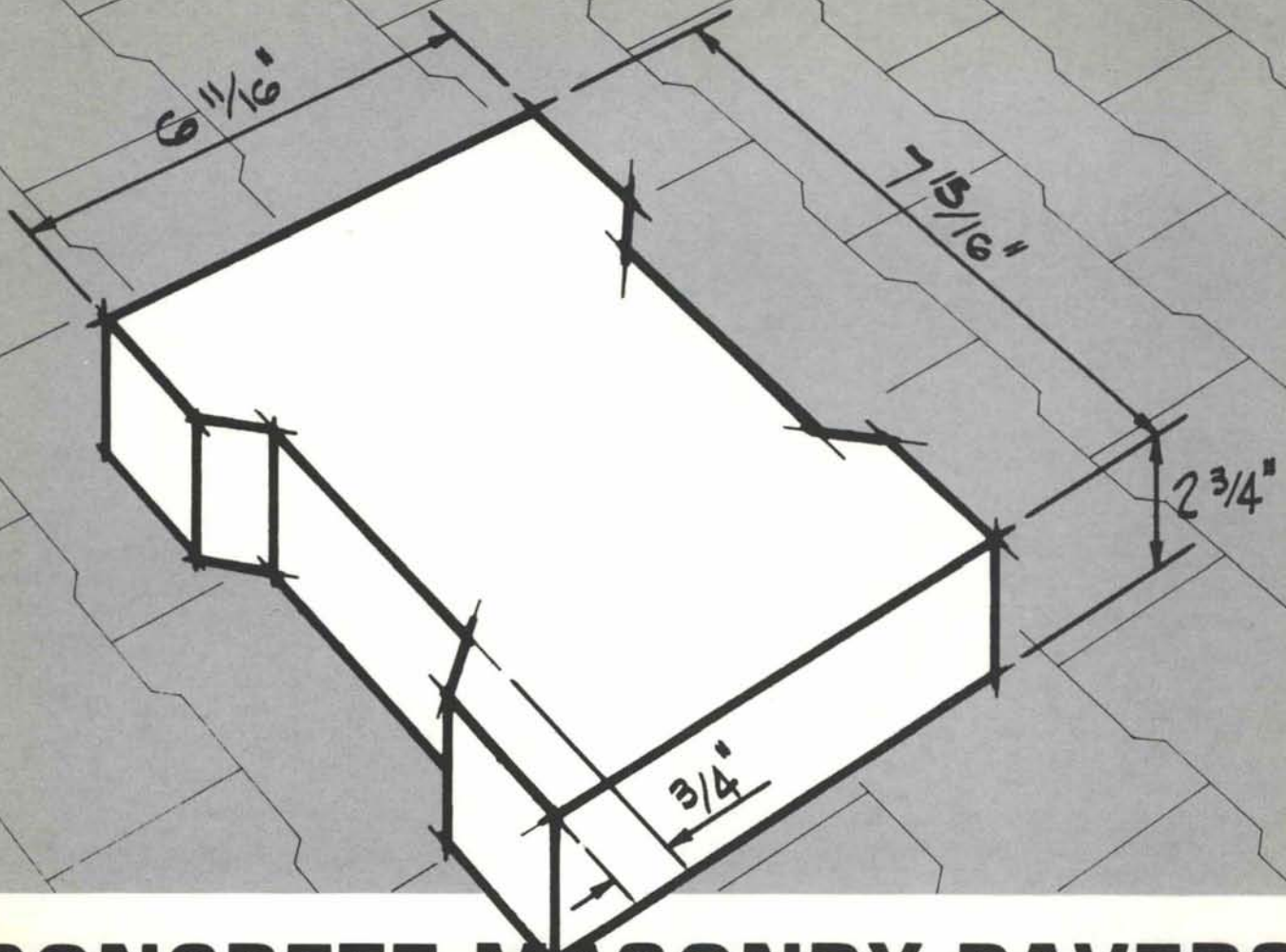


# **new mexico architecture**

**March-April 1979**

**\$1.00**

# FRESH OFF THE DRAWING BOARD



## CONCRETE MASONRY PAVERS

THE NEW WAY TO GIVE CHARACTER, COLOR, AND HUMAN SCALE IN BOTH COMMERCIAL AND RESIDENTIAL AREAS.

UNLIMITED APPLICATIONS FOR PEDESTRIAN AND VEHICULAR TRAFFIC IN PLAZAS, ROADWAYS, WALKWAYS AND PARKING AREAS.

SPECIFICATION AND INSTALLATION DETAILS FOLDER ON C.M.P. PREPARED BY THE TECHNICAL DEPARTMENT OF NATIONAL CONCRETE MASONRY ASSOCIATION ARE AVAILABLE. PLEASE CONTACT CREGO BLOCK CO.

WHEN CONCRETE MASONRY PAVERS ARE EMPLOYED, THE FIRST COST — INSTALLATION — IS NEARLY THE LAST COST. THE LONG, NEARLY MAINTENANCE-FREE LIFE OF A PAVING BLOCK SURFACE WILL DELIVER A DISTINCT COST ADVANTAGE TO YOUR BUDGET.





# Kohler gives you a rare feature in single control faucets.

## Control.

You know the feeling. You're fiddling with the faucet in search of it's there somewhere. But you can't seem to find it until you've suffered through a few tries.

That's why you should try Kohler's Centura. It has a comfort zone five times wider than most. So you don't have to get chilled or get burned before you get comfortable.

An ingenious tapered cam lets you turn the handle a full 180 degrees. So you can set the temperature exactly where you want it. This cam is the only moving part in Centura's cartridge. There are no springs, no washers, no O-rings. No wonder there were no leaks and no drips in the Centura even after we tested it 500,000 times. Centura is also a Water-Guard faucet, offering water-saving flow control at no extra charge. All are shown in polished chromium: lavatory faucets and shower and bath controls also come in 24-karat gold electroplate.

Kohler products are available in Canada. For information write DEPT. C.T. KOHLER CO., KOHLER, WIS. 53044. (Please mention this publication's name.)

Centura. It puts control right where it belongs. Right in your hands.

**The Bold Look  
of Kohler**

NO SPRINGS.  
NO WASHERS.  
NO LEAKS.

Enjoy a comfort zone five times wider than most.

Centura bath/shower control.



Centura lavatory faucet.



**Contact your local Kohler representative for more information today...**

**Active Plumbing Supply**

1500 Candelaria NE  
Albuquerque, NM 87107  
(505) 345-8587

**Northwest Supply Co.**

2401 E. Aztec Avenue  
Gallup, NM 87301  
(505) 863-3807

**P-H-C Industrial Supply Co., Inc.**

1000 Siler Park Road P.O. Drawer F  
Santa Fe, NM 87501  
(505) 471-4811

**Doc Savage Supply Co.**

932 E. McGaffey  
Roswell, NM 88201  
(505) 623-0623

**Doc Savage Supply Co.**

2116 Claremont NE PO Box 6549, Station B  
Albuquerque, NM 87107  
(505) 345-5646

**Vinton Eppsco**

4220 Second St. NW PO Box 6569  
Albuquerque, NM 87107  
(505) 345-4522





• vol. 21 no. 2 •

THE HISTORICAL SOCIETY OF NEW MEXICO will hold its Annual Meeting and Conference in Taos, April 20, 21, 22, 1979. The meeting begins Friday afternoon (April 20) at the Kachina Lodge with three concurrent sessions. The varied program includes such topics as a panel discussion on "Photo Archives and Collections" chaired by Arthur Olivas of the Museum of New Mexico staff; a two session seminar, "Historic Preservation — A Challenge for the Architecture and History Student," will discuss the resources, methods and directions of the preservation profession and will include a field trip to several Taos buildings.

Twenty one speakers are scheduled to deliver papers on New Mexico history. Mark Simmons will discuss "Carros y Carretas, Vehicular Traffic of the Camino Real." Charles C. Colley will explain the "Moorish and Arabian Influences in New Mexico." Daniel Tyler will talk about the "Mexican Indian Policy."

#### POSTER AVAILABLE

The Historical Society of New Mexico has issued the first of its projected annual conference posters. The poster features a previously unpublished photograph taken in June, 1880 by Ben Wittick. (See above.) The poster is available for \$5.00 plus \$1.00 postage and handling.

For further information on the conference, or to order a poster contact: Historical Society of New Mexico Post Office Box 5819 Santa Fe, New Mexico 87502

• mar-april 1979 • new mexico architecture

# nma

## NMA News 7

A letter from Poland — Book Reviews: "Business and Preservation," "Facility Programming."

## Pre-Spanish Pueblo Towns 10

—by P. G. McHenry, Jr.

## Index to Advertisers 18

(Cover—Ranchos de Taos—Photograph—State Records Center & Archives, Historic Preservation Program Files)

—Official Publication of the New Mexico Society of Architects, A.I.A.—

### Society Officers

President—John C. Bland  
President-Elect—Randall L. Kilmer  
Secretary-Treasurer—Robert J. Strader, Jr.  
Director—Wilbur T. Harris  
Director—Kestutis Germanas  
Director—Ron Hutchinson  
Director—John P. Conron, FAIA  
Director—Edwin C. French  
Director—Channell Graham  
Director—Stanley French  
Director—Bernabe Romero, Jr.  
Director—Ervin Addy III  
Director—George C. Owen  
Director—Richard Waggoner  
Director—William L. Burns  
Executive-Secretary—Leigh Matthewson

### Commission for NMA

John P. Conron, FAIA/FASID,—Editor

Bainbridge Bunting—Editorial Consultant

Mildred Brittelle—Accounting and Circulation

Flora & Company—Advertising

Charles E. Nolan, Jr.

# AZTEC

MEANS...

## ONE STOP FLOOR COVERINGS



### IMPORTED CERAMIC TILES

Italian, German, Japanese,  
Mexican-glazed and unglazed  
quarry



### CARPET

Full line of residential,  
commercial and kitchen  
carpets — Oriental rugs,  
runners and area rugs



### SHEET VINYL

Armstrong, Mannington,  
Congoleum, GAF



### WALL PAPER

Over 200 books in stock



### DISTRIBUTORS OF CORK-O-PLAST

DECORATIVE  
CONSULTANTS  
AVAILABLE



SINCE 1960

## TILE and CARPET

2520 SAN MATEO N.E.  
PHONE 265-9579



## Ahead of schedule. Because we were behind them.

Brooks and Clay, Inc. served as general contractors for Albuquerque's Mound Terrace Office Complex. They used Trus Joist components for the structural system designed by Dean & Hunt Associates, architects. Here's what Robert W. Brooks told us later:

**"We would like to compliment your organization and the Trus Joist Co. for the way the joist system was handled... The easy application and quick delivery time has our Company well ahead of schedule."**

It figures. Trus Joists are built for speed. For labor savings. For optimum strength. Give us a call and find out for yourself.

**In Albuquerque, call**  
McGill Stephens, Inc.,  
300 Virginia SE  
Albuquerque 87108  
Phone (505) / 265-5935

**In El Paso, call**  
McGill Stephens, Inc.,  
4100 Rio Bravo St.,  
Suite 320, El Paso 79902,  
Phone 915/544-4505

**Trus Joist structural roof and floor systems distributed by McGill Stephens, Inc., Albuquerque and El Paso.**

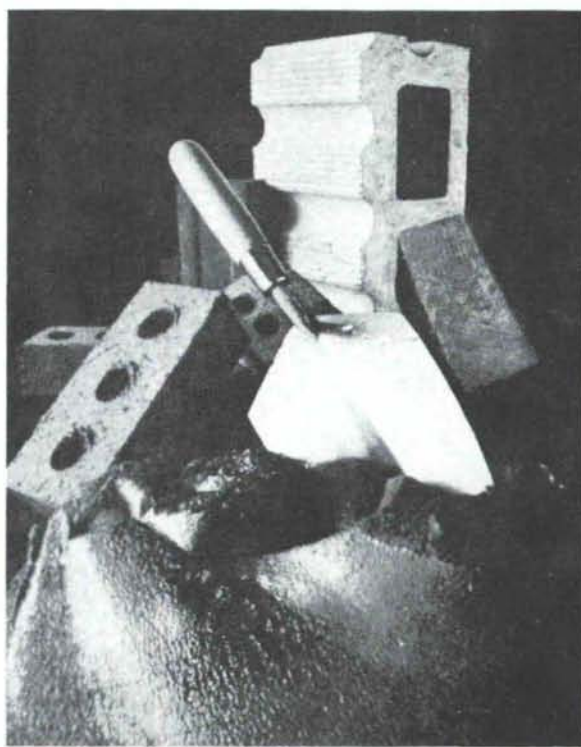


Since the beginning of recorded time, the strongest, most beautiful, most economical and longest lasting buildings have been built of masonry.\*

By bricklayers.

It is as true today as it will be tomorrow.

When you build with masonry, you build for keeps.



\* Brick. Ceramic Tile. Concrete Block. Marble and Granite. Plaster. Stone. Terrazzo.

**MASON CONTRACTORS ASSOCIATION OF NEW MEXICO**

# How to look at windows.



Heat gainers or heat losers?  
That all depends on how you look at windows. And on their built-in quality.

Andersen® windows are designed to be heat gainers. And when properly sized, shaded and oriented toward the sun, Andersen windows save even more energy. In winter, they welcome in the warming sun, and in summer, they open to cooling breezes.

Isn't it time you took a good look at energy-saving Andersen Perma-Shield® and primed wood windows?

**Andersen Windowwalls®** 

ANDERSEN CORPORATION

BAYPORT, MINNESOTA 55003

79150 Copyright © Andersen Corp., Bayport, MN 1979

**SANTA FE LUMBER & MILLWORK, Inc.**

Sawmill & Rodeo Road, P.O. Box 133

Santa Fe, New Mexico 87501

Santa Fe phone: 471-9022

New Mexico phone: Toll-free 1-800-432-9750

## ALUMINUM SALES OFFERS THIS LITERATURE TO ARCHITECTS, ENGINEERS AND OTHER SPEC WRITERS

The ten-point Spec-Data® format has been reproduced from publications copyrighted by CSI, 1964, 1965, 1966, 1967, and used by permission of The Construction Specifications Institute, Inc., Washington, D. C. 20036

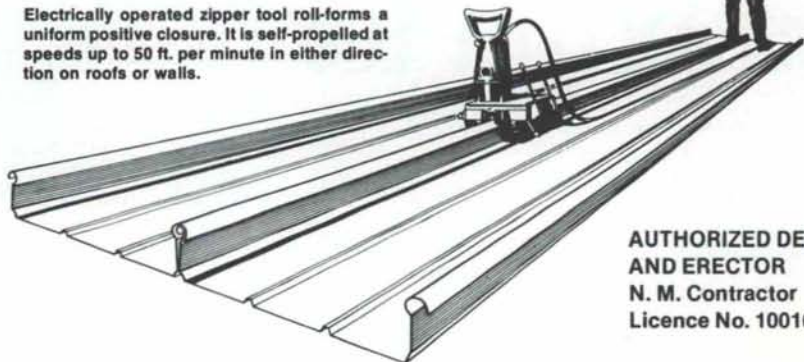


P. O. BOX 6407  
ALBUQUERQUE, NM 87107

### ZIP-RIB® ALUMINUM ROOFING & SIDING

Preformed aluminum roofing and siding panels that zip together mechanically over a concealed anchor system without through fasteners, and designed to allow thermal movement. Natural mill finish or fluorocarbon baked enamel colors. Non-insulated or insulated.

Electrically operated zipper tool roll-forms a uniform positive closure. It is self-propelled at speeds up to 50 ft. per minute in either direction on roofs or walls.



**AUTHORIZED DEALER  
AND ERECTOR  
N. M. Contractor  
Licence No. 10016**

**SPEC DATA**  
This Spec-Data Sheet conforms to editorial style prescribed by The Construction Specifications Institute. The manufacturer is responsible for technical accuracy.

**ZIP-RIB®**



## A LETTER FROM POLAND

Dear Mr. Conron,

Thank you very much for your letter and a copy of "New Mexico Architecture" with your article on Poland. I really admire your effort to prepare such an interesting article on your trip to Poland.

The US officials are not sending me your magazine and you are the first to present me with it.

Thank you very much for so many nice words on Warsaw, Royal Castle and on myself.

With very best wishes for the New Year.

Sincerely yours,

Prof. Dr. Stanislaw Lorentz  
Director of the National Museum  
in Warsaw

### Editor's Note:

The above letter was received last February. I learned late last year that a copy of *NEW MEXICO ARCHITECTURE* (September/October, 1976), containing my report on a trip to Poland, had not been sent to Professor Lorentz by the staff of the President's Advisory Council on Historic Preservation. The trip had been arranged by the council's staff and the council purchased a number of copies of the special NMA issue. Because Prof. Lorentz was a major host for us during the trip, I had assumed that a copy of the magazine had been sent to him.

It is a pleasure for me to know that Prof. Lorentz is still the Director of the National Museum. His energy seems undiminished after so many years of service to Poland. As explained in my report, this gentleman is one of the "Heroes of Warsaw", the monument (see sketch below) is, in my mind, dedicated to Prof. Lorentz as well as to the thousands of Poles who died at the whim of the Hitler led maniacs.



Monument to the Heroes of Warsaw

## BOOK REVIEWS

*BUSINESS AND PRESERVATION*, by Raynor M. Warner, Sibyl McCormac Groff and Ranne P. Warner with Sandi Weiss.

Editor: Frank Stella, published by INFORM, Inc. Softcover \$14.00, hardcover \$22.00.

As the opening sentences of the *Preface* state: "This book could not have been written ten years ago, and it would not have been written five years ago. It expresses a truth become tolerable." It seems that a commitment to historic preservation of the built environment has become, perhaps not philosophically popular for our large or small corporations but economically sound, tax-deductible and a P.R. investment. "...INFORM found that at most of the seventeen reuse projects profiled, the cost ran from 30 to 40 percent less than replacement new construction." And: "Probably the most consistently cited benefit among all of the projects surveyed is that of enhanced image." Whatever the underlaying incentive, the results do benefit our own generation, but more importantly, our succeeding generations.

Except when I must order a new load of fuel oil for heating my house, or I am faced with the latest Public Service Company electric bill, I often cheer the spiraling costs of energy and the out-of-sight prices for basic building materials. They make recycling of old buildings and run down neighborhoods attractive to financial institutions and corporate giants.

The re-activated old bank building may well provide a better "image" for the bank than a glossy, very expensive, new structure. When I see the amount of money a local bank will spend to, often pretentiously, house its dozens of vice-presidents (otherwise known as loan sharks) in order to dazzle, impress, even frighten, a poor citizen borrower, the high interest rates become not only excessive, but, perhaps, usury!

Many historical societies, a few architects and interior designers, and dozens of little-old-ladies-in-tennis-shoes have been pleading the cause of historic preservation for years and have, thereby, saved an occasional building. But federal and local tax structures, the short

sighted designers of Urban Renewal and inter-city freeways, stringent building codes, stupid zoning regulations and federal housing programs have all combined to destroy thousands of America's old, and often better designed, office buildings, neighborhood residential districts, hotels and whole urban environments.

On top of these years of industrial and urban waste steps our friends, the greedy OPEC nations. The subsequent energy crisis may well be our own national salvation. We must begin to reuse what we have, from beer cans to whole cities. Downtown Boston is, once again, becoming vital, exciting and throbbing with life.

Even Albuquerque is finally talking of downtown revitalization. Although corporate greed and city government stupidity allowed the best buildings to be destroyed for such exciting new uses as parking lots and a poorly designed underground shopping center, it is not too late for Albuquerque; there is something left around which to build a new city center.

To demonstrate the economically profitable and the environmentally positive attributes of historic preservation, adaptive reuse and the renewing of whole neighborhoods, the constructive involvement of 71 businesses is documented in *BUSINESS AND PRESERVATION*. The book is divided into three major sections: "Recycled Buildings," "Community Revitalization" and "General Preservation Support." The businesses range from the locally owned enterprise to the corporate giant. The projects vary widely in scope and purpose. Two late 19th century residences in Des Moines, Iowa are recycled into fashionable clothing shops; the imposing Van Rensselaer Mansion in Philadelphia becomes a branch of the Design Research stores; 140 acres of a blighted urban residential area in St. Louis undergoes revitalization; restoration is begun on a four block

Continued on page 9

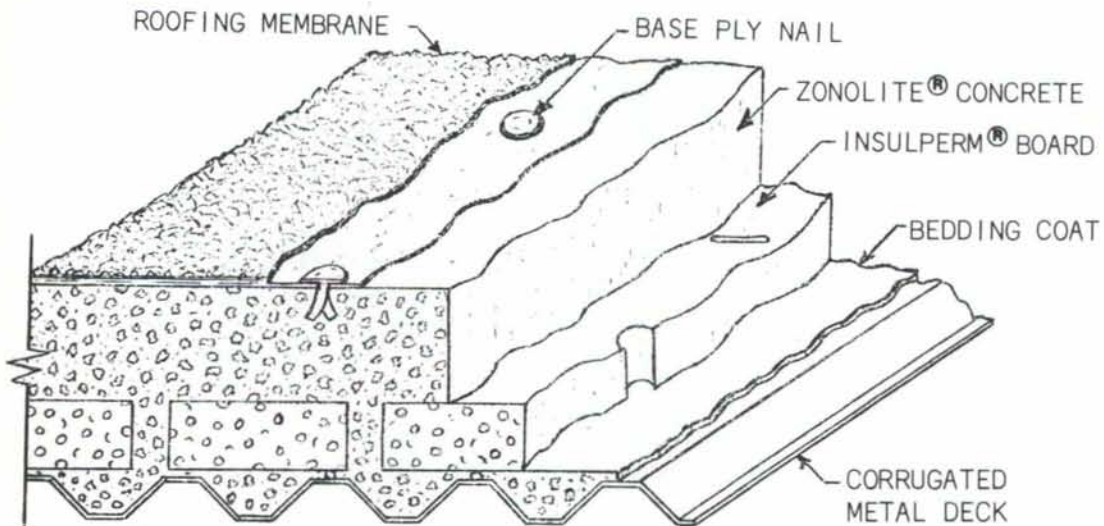


# Don't be Fire Safe & Performance Foolish !

THERE ARE LEGITIMATE ALTERNATIVES TO SOME COMPONENTS OF FIRE RATED ASSEMBLIES. BUILDING PROFESSIONALS KNOW THAT SELECTION OF THESE ALTERNATIVES MUST BE DONE WITH CARE IN ORDER TO PRESERVE THE INTEGRITY OF THE ASSEMBLY. THEY ARE ALSO AWARE OF MANUFACTURERS WHO MAKE THEIR BEST GUESS AS TO THE PROPERTIES OF TESTED COMPONENTS AND OFFER UNTESTED SUBSTITUTES. THIS IS WHY PROOF OF TESTING IS REQUIRED FROM EACH MANUFACTURER OF MAJOR COMPONENTS USED IN FIRE RATED ASSEMBLIES.

HOWEVER, BECAUSE OF THE RECOGNIZED IMPORTANCE OF FIRE RATINGS, SUBSTITUTES ARE FREQUENTLY EVALUATED ON THE BASIS OF THIS FEATURE ALONE. A "GOOD ENOUGH" COMPARISON ON THE BASIS OF FIRE CHARACTERISTICS CAN LEAD TO POOR PERFORMANCE IN OTHER AREAS.

THE ROOF DECK ASSEMBLY SHOWN IN THE SKETCH BELOW CAN BE USED TO ILLUSTRATE SUCH A SITUATION.



INSULPERM POLYSTYRENE FOAM BOARD IS ONE OF THE SIX MAJOR FEATURES OF THIS SYSTEM.

INSULPERM WAS DEVELOPED WITH ENGINEERING TESTS AND FIELD VERIFICATION TO EVOLVE AN OPTIMUM CONFIGURATION. HOLES AND SLOTS THROUGH THE BOARD ARE SIZED, SHAPED, AND LOCATED TO CREATE A COMPOSITE SYSTEM WITH ATTRIBUTES NOT OBTAINABLE WITH PLAIN BOARDS OR BOARDS WITH A FEW HOLES PUNCHED THROUGH THEM.

JUST HOW POORLY THESE POSSIBLE SUBSTITUTES COMPARE TO THE PATENTED PROPERTIES OF INSULPERM IS SHOWN IN THE TABLE BELOW.

| <u>ATTRIBUTE</u>                | <u>INSULPERM</u> | <u>SUBSTITUTE</u> |
|---------------------------------|------------------|-------------------|
| ROOF LOAD SAFETY FACTOR         | 10               | NOT TESTED        |
| CLASS I ROOF CONSTRUCTION       | FM 24667         | NONE              |
| DIAPHRAM DESIGN CODE ACCEPTANCE | ICBO 3260        | NONE              |
| SEISMIC TESTS AND DESIGN DATA   | PE REPORT        | NONE              |
| SHEAR STRENGTH OF COMPOSITE     | 461 PSF          | UNKNOWN           |
| WIND UPLIFT RESISTANCE          | UL CLASS 90      | NOT TESTED        |
| RELATIVE DRYING RATES           | 3 MONTHS         | 54 MONTHS         |

IF AN ALTERNATE BOARD IS CONSIDERED FOR THIS SYSTEM, FIRST REQUIRE PROOF OF FIRE ACCEPTANCE IN THE ASSEMBLY. SECONDLY, CONSIDER THE OTHER ATTRIBUTES. INSULPERM WILL PROVIDE THE COMPOSITE STRENGTH, FIRE RESISTANCE, SEISMIC RESISTANCE, WIND RESISTANCE, INSULATION VALUE, AND MEMBRANE PROTECTION NECESSARY FOR GOOD ROOFS.

**\*INFO LOGS prepared by SOLICO, P.O. Box 6287, Albuquerque, NM 87197 (505) 345-1633**  
® ZONOLITE and INSULPERM are registered trade marks of W. R. Grace & Co.



(continued from page 7)

segment of Market Street in Corn-  
ing, N.Y.; funding is provided for  
the recordation of historic struc-  
tures in Benicia, California.

The *Introduction* contains a  
good, concise summary of the  
Federal support programs and  
notes several of the state or local in-  
centive programs. It fails to note,  
however, that New Mexico was one  
of the first states (I believe that, in-  
deed, it was the first) to offer a  
property tax credit for monies ex-  
pended on preservation and  
restoration of state registered  
historic properties (the Cultural  
Properties Act of 1969).

**BUSINESS AND PRESERVA-  
TION** is well written, the 17-case  
histories are presented succinctly.  
The book is designed to inspire  
other businesses to get-into-the-act.  
I hope that it succeeds; the combin-  
ed role of federal incentives and  
corporate financial support holds  
immense prospects for the well be-  
ing of our nation. JPC

## *Methods and Applications, FACILITY PROGRAMMING*

Edited by Wolfgang F. E. Preiser, Ph D.  
New York: McGraw-Hill, 1978 \$28.50

Review by Min Kantrowitz

Although the field of facility  
programming has been advancing  
rapidly for the past 10 years, until  
recently there has been little use-  
ful, written material covering the  
topic. The few books that have  
appeared, for example, those by  
Pena, Sanoff and White, have pre-  
sented highly individualized pro-  
gramming methods practiced by  
the authors. Examining these  
books, the reader does not gain an  
appreciation for the variety and  
depth of facility programming ap-  
proaches which currently abounds  
and which is well represented in  
*FACILITY PROGRAMMING*.

## SCOPE

Wolfgang Preiser has chosen a  
wide range of programming ap-  
proaches to be included in this  
book. The case studies contain in-  
formation collection methods which  
range from highly interactive, in-  
formal exchange with potential

(Petronis, Pugh, and Kline) users to  
the use of computers as data  
storage banks (Lee, Chalmers and  
Genova). Some of the articles rep-  
resent work performed by profes-  
sional programming firms, who not  
only specialize in the process of  
facility programming, but also are  
at the forefront of developing pro-  
gramming theory. Other case studies  
indicate the types of programming  
engaged in by established architec-  
tural firms. The role of research in  
broadening the scope and expand-  
ing the methodology of program-  
ming work is discussed in the third  
section.

## USER NEEDS

There are several important issues  
which are raised repeatedly in the  
book which deserve special atten-  
tion. One of them is basically  
an administrative/political one --  
who controls the programming  
process? "User-oriented" is a term  
used frequently, but the issue of  
how those users are identified and  
who they represent is only address-  
ed in a few of the articles.

Agron and Moore's article, for  
example, addresses the issue of con-  
flicting user needs resulting from  
multiple user types in a complex  
medical facility. Farbstein mentions  
the fact that he identified approxi-  
mately 120 distinct user categories  
in the process of programming for  
a juvenile services center. Dluhosch  
discusses the myth of an 'average  
user' emphasizing the need for  
flexible design.

## ISSUES

Another theme which pervades a  
number of the articles in *FACILI-  
TY PROGRAMMING* is whether  
the program anticipates future  
change. In this regard, John M.  
Kurtz refers to 'programming for a  
changing environment' and states  
that since the rate of change is so  
fast the programming process is  
never really complete, at least in  
some types of environments and or-  
ganizations. In the last article in  
the book, Alan C. Green states  
"programming has reached its ulti-  
mate level of sophistication when  
the facilities graciously allow for  
change in its occupancy -- its

people and process -- over its life-  
time".

The variety of user participation  
techniques presented in *FACILITY  
PROGRAMMING* is one of the  
book's major strengths. Gerald  
Davis, for example, describes a pro-  
cess for adapting existing buildings  
to new office uses. The process  
begins with specifying long term  
needs for facilities and progresses  
through a highly defined series of  
steps, each of which includes feed-  
back to users. Some authors support  
a reactive user participation strat-  
egy, in which a number of choices  
are presented to potential users for  
their review, criticism and sug-  
gestions. General discussion, en-  
vironmental simulations and audio  
visual materials are also used to  
elicit client attitudes and values  
about proposed projects. Other ap-  
proaches emphasize the participation  
of users in the initial generation of  
concepts and alternatives.

The most provocative section in  
the book, written by Murray  
Silverstein and Max Jacobson,  
maintains that it is not enough to  
do a good job researching the  
efficient functioning of spaces and  
to attempt to make places pleasant.  
They question the 'hidden pro-  
grams' associated with some build-  
ing types, namely, those assump-  
tions which automatically imply a  
certain building form. Program-  
ming, to these authors, involves  
questioning the system which sup-  
ports present institutional forms  
and considering a 'fundamental  
restructuring' of the social system  
which defines the need for certain  
building types. They ask a distur-  
bing question -- can programming  
make a form which is 'fundament-  
ally in doubt' a little more palata-  
ble to the user? Using a super-  
market as an example, the authors  
analyze the social/political bases of  
the traditional building form and  
suggest alternatives that would re-  
flect community participation. In-  
terestingly, they never state how  
users were involved in the redesign  
they present, which users were  
consulted, or whose values are  
reflected in the proposed solution.

Continued on page 15



## FOREWORD

---The following was adapted from a manuscript produced with the assistance of a grant from the National Endowment For The Arts, entitled *SHELTER IN THE HARSH LAND*. The purpose of the study was to examine the details of pre-historic and early Spanish colonial building design and construction methods.

*These early people seemed to manage quite hand-*

*ily without the aid of our modern technology, building material manufacturers and utility companies. It was felt that a careful examination of their approach to the same problems we face today might offer clues for the better utilization of natural resources and materials at hand. The principles were so simple that it was almost disappointing, but many of them we seem to have forgotten, or choose to ignore today.*

# Pre-Spanish Pueblo Towns

by: P.G. McHenry, Jr.

When the Spaniards entered the Southwestern United States in search of the seven golden cities of Cibola, they found a highly complex civilization. Prior to their arrival, communal societies here had advanced to the point that a number of urban-organized type communities were well established. These communities had developed from crude, small groupings into an urban pattern. After basic improvements in agricultural techniques, which allowed a higher population density, climate changes resulted in major population shifts. Large population groups abandoned sites which had been occupied for hundreds of years, and formed new ones in locations where the water supply was more dependable.

The tenth century seems to mark one of several significant population movements and major cultural changes in the southwest. Reasonably accurate dates have been established by dendrochronology (tree ring dating), which have been further supported by pottery dating techniques. It is probable that a change in winter/summer storm patterns made earlier agricultural arrangements not workable to feed the fairly large populations that had resulted from successful farming. Water run-off was controlled and diverted to a limited degree by the development of irrigation technology, using small dams which were the beginnings of irrigation here. The food supply-population balance seemed to indicate a time of stable plenty. Defensive features were not found in these earlier times. Later, as poorer or less fortunate neighbors encroached from other areas and competition for the available food became more intense, defensive features in the construction did appear.

During the Eleventh Century, another reversal of the winter/summer storm patterns caused a protracted drought and disruption of the farming activities. The short food supply made necessary major moves in many parts of the southwest to more dependable water and food supplies. A fact that puzzles most researchers of this time is the apparent willingness of these people to pack up and move, leaving behind homes that represented an enormous expenditure of labor for many centuries in some cases. We must remember that these people had no pack animals, or even the wheel, so that all that had

to be carried was on one's back. Undoubtedly, they had no choice. Looking back in history tends to foreshorten our view, and it may not have been a sudden mass movement, but occurred over a period of fifty years or more.

A look at the details, the nuts and bolts so to speak, of their planning and building techniques makes an interesting comparison to our efforts in this direction today. There were many similarities, and these forebears lived in much closer tune with their environment than we do today.

## VILLAGE PATTERNS

Most communal settlements followed a pattern of either linear or circular development. (Figure 1)

The choice may well have been determined by the topography of the site. Patterns for both included house blocks on various levels, creating terraces which were used for most work activities, which were protected from the prevailing winds and collected sun warmth. Most room spaces were quite small, perhaps mostly for storage, sleeping, and bad weather. Most of these patterns seem to recognize the value of solar heating effect. An excellent example of this is found at the ruin at Tuonyi. It is situated in the bottom of a narrow, high walled canyon, but is still in full sunlight at all times of the year. (Figures 2,3)

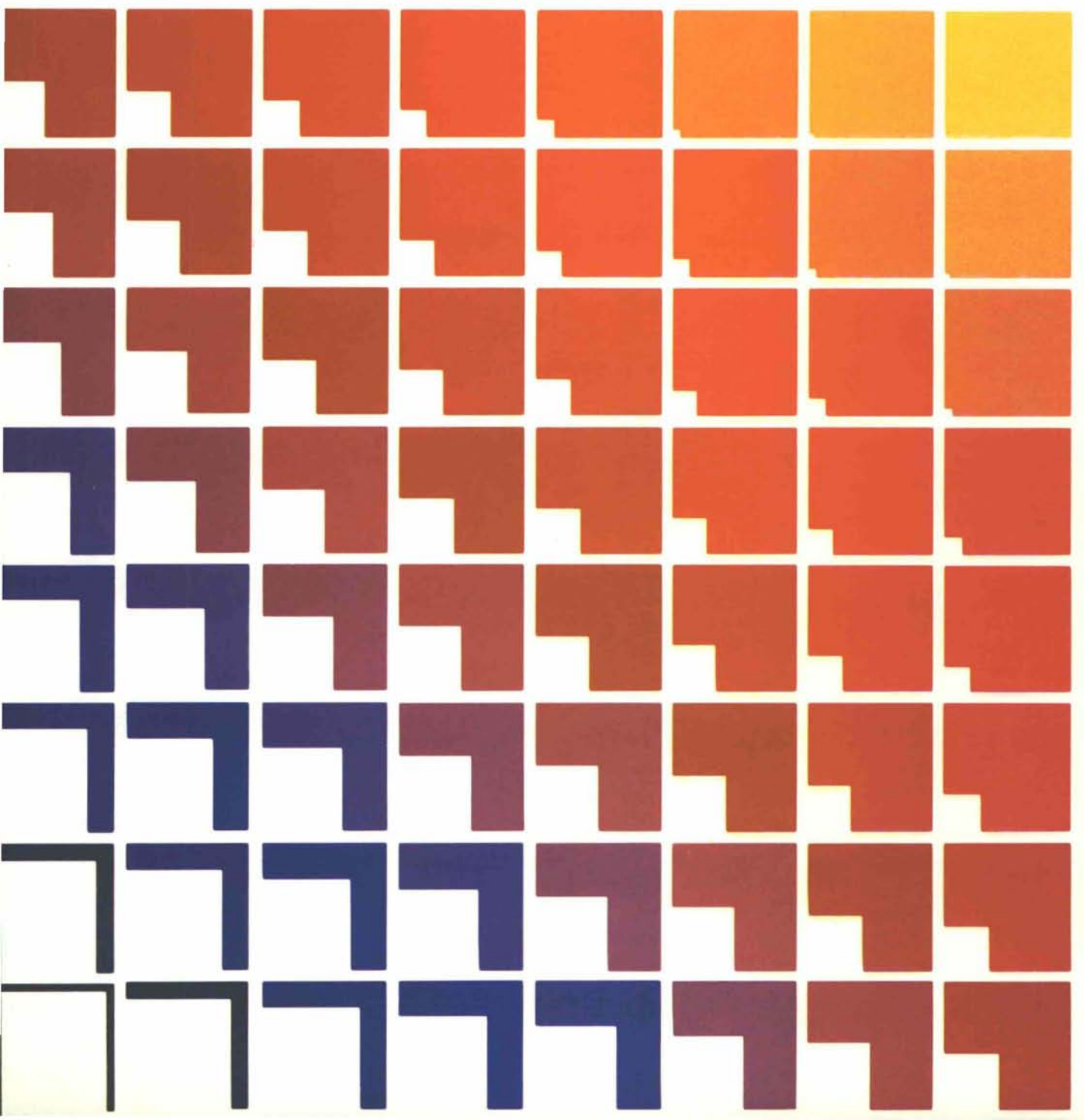
The "Old North Ruin" at the Pecos site is of particular interest. It was first occupied about 1000 A.D., reached its peak development about 1250 A.D. and was in full development when the Spaniards arrived in 1540. Changing times forced its abandonment in 1838. It was the major pre-Spanish settlement on the route between the river settlements and the plains people. It was a multi-storied, linear village, built on a defensive ridge, enclosing a rectangular plaza.

## WALLS

The walls of the buildings were built of whatever was at hand: mud, rocks, and wood. Most common was stone, mortared with mud. The stone masonry was at first very simple, the rocks being used as "fillers" to construct an essentially mud wall, but



# Economy



**Portadrill Inc.**  
Denver, Colorado

**Architect, Structural Engineer**  
DMJM-Phillips-Reister  
Denver  
**General Contractor**  
Western Empire Constructors  
Denver





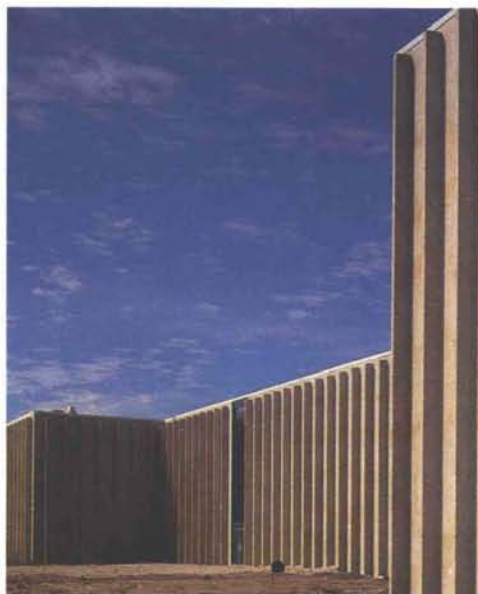
# Stanley Structures Combines Economy With Function In Industrial Building Construction

**Border Machinery Company**  
Albuquerque, New Mexico

**Architect**  
Robert P. Armstrong & Associates  
Albuquerque  
**General Contractor**  
The Jaynes Corporation  
Albuquerque  
**Structural Engineer**  
Randy Holt & Associates  
Albuquerque

**Reed Tool Company**  
Tubular Division  
Houston, Texas

**Designers, Engineers, Builders**  
The Austin Company  
Houston



**Stanley Structures**

There are many building systems on the market today. But none offer the cost saving features and functional advantages of prestressed concrete.

This versatile material's load-bearing capacity provides reserve strength to support process piping, conveyors, cranes or whatever specialized equipment you will need. Its clear-span capacity means your floors won't be cluttered with numerous supporting columns.

With the new Energy Code requirements, the flexibility of prestressed concrete in reducing heating and cooling loads in buildings is an often cited reason for its selection. Another benefit is its hard, smooth surfaces that are easily maintained in sanitary condition. This is particularly important in the food processing industry.

And, of course, the economic advantages of building with prestressed concrete are the same for any structure — low insurance rates and reduced maintenance costs coupled with quick construction and early occupancy.

Whether your industrial building is to be a small warehouse or a large factory complex, prestressed concrete offers you the choice of a variety of architectural finishes to create a building with the custom look you desire.

Stanley Structures has developed a network of prestressed concrete plants throughout the West. When it comes to your next building project, give us a call. We have the capabilities and experienced personnel to help you incorporate economy with function.



# The Right Results From The Right Approach



We've put it all together before — countless times. Our experience in design, production, delivery and erection of structural and architectural concrete is second to none. We have the know-how to economically construct sound structures with broad appeal — the right results.

Our network of companies produces a wide range of standard and custom building components, permitting a variety of combinations and assemblies — the right approach.

When the subject is prestressed concrete structures, professional design consultants welcome our specialized knowledge. Be sure to talk to us at an early stage in your planning.



## Stanley Structures

A Subsidiary of The Stanley Works

### Colorado

5801 Pecos Street  
P.O. Box 21070  
Denver, Colorado 80221  
Phone 303-458-6301

### New Mexico

2340 Alamo Southeast  
Suite 106  
Albuquerque, New Mexico 87106  
Phone 505-247-0391

### Montana

1537 Avenue D.  
P.O. Box 20336  
Billings, Montana 59104  
Phone 406-248-7131

### Texas

First National Bank Tower  
Suite 570  
6243 I-H 10  
San Antonio, Texas 78201  
Phone 512-734-7923

### Damson Oil Building Suite 180

260 North Belt East  
Houston, Texas 77060  
Phone 713-448-8495

### Wyoming

421 Livingston Avenue  
P.O. Box 527  
Cheyenne, Wyoming 82001  
Phone 307-638-8931

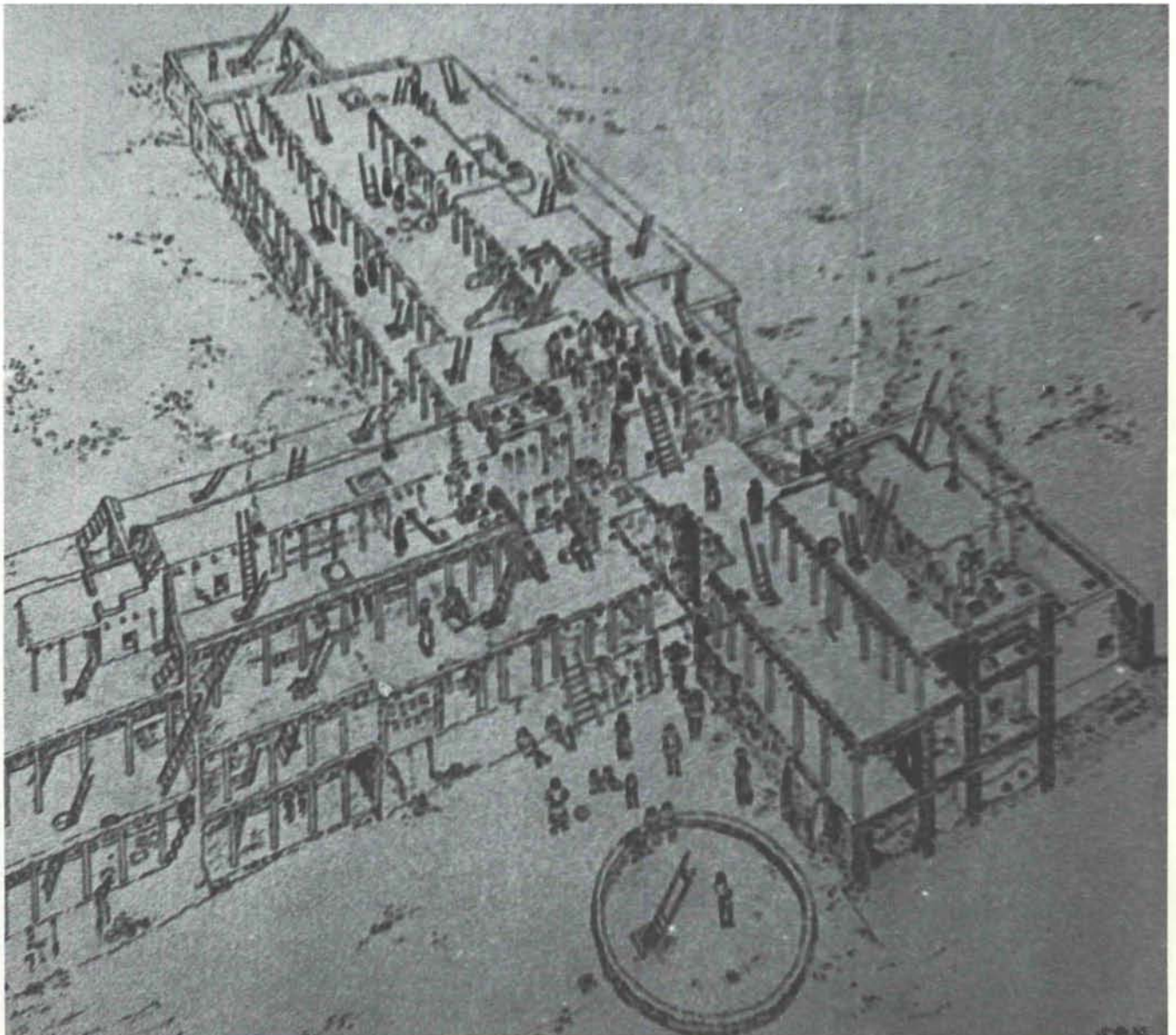


evolved into a very skilled craft over a period of several hundred years. (Figure 4). Puddled mud walls were also common, where stone was not readily available. It was placed in courses as a liquid or plastic mix until the desired wall height was reached. It was also used as a mud "concrete", where forms may have been used. (Figure 5). Wood posts and sticks were used sometimes as reinforcement, or even as the basic wall fabric which was plastered with mud. In every case, the simplest material which was close at hand was used. The soft tufa cliffs of the Pajarito Plateau offered a unique possibility which was used to the fullest. The naturally occurring caves could be easily expanded, and the supply of soft stone at the base of the cliff supplied masonry materials to build outward from the cliffs. (Figures 6,7). Little attention to foundations seems to have been given, the builders merely leveling off the site (usually of previous structures) and starting up with the walls.

## DOORS

Except for the earliest settlements, where defense did not seem to be of importance, doors were not normally found on the lower levels. In some instances, entry was through the roof, using ladders. As the pueblos developed, particularly into multi-story, terraced structures, this pattern provided defensive walls on the ground level, with protected terraces above. Doors were used in the upper levels, hatchways providing access to rooms below. The Pecos pueblo had no doors on the lower levels, used removable ladders to terraces and corridor terraces above which were roofed over with porches. These offered free movement all the way around the whole area over the lower levels. Many of the hatch-

*Fig. 1. Old Pecos Pueblo, N.M. An artist's conception of what it was like at the height of its development when the Spaniards arrived. Note the few openings on the lowest level. Ladders were used to gain access to the upper levels, which could be removed.*





ways to lower rooms used a "pintle" type hinge. The "pintle" hinge is one that uses an extension of the door rail inserted into a socket so that it may pivot.

Little evidence remains of what material was used for doors. It was most likely cloth or animal skins. In some instances the door frame was recessed to receive a stone slab, complete with loops on each side to hold a wooden bar, for keeping the slab in place. It seems more likely that such an arrangement would have been used for more secure storage than a daily use. It has been suggested that a major trading commodity of the time was slaves. Such a secure door would have been ideal for confining them. Another special form of doorway is found repeatedly in different sites. This is the "T" doorway, the purpose for which has never been satisfactorily explained. (Figure 8). Several theories have been advanced as the reason for this shape, ranging from religious tradition and ceremonial costumes to a ventilation device. The smaller lower portion of the opening could be easily closed to reduce floor drafts, the upper part being left open for the carry off of the smoke from fires. This pattern would provide a neat "transom". The carefully planned ventilation systems provided a mixed blessing however, because when a fire occurred the ideal draft increased the damage. Windows, as such, were virtually unknown at this time, except for small openings, probably more for ventilation than light. This would also reinforce the theory that most activity took place out of doors.

## ROOF STRUCTURES

The principal roof structure system was one using tree timbers to span the walls, sometimes additionally supported by posts. The beams were decked over with smaller timbers, the joints between packed with bark or woven material, and then topped with mud to form a floor or roof. Lintel beams in the walls were also sometimes used, indicating that the packed mud walls would not always support the roof beams.



Fig. 2. Tuonyi Ruin, Frijoles Canyon, Bandelier National Monument, N.M. A schematic of the sun angles show that in spite of the high canyon walls, the South side of the village was in full sun on December 21.

## STAIRWAYS

The idea of stairways, as we think of them was apparently known, but not common. Some steps were utilized from portions of walls, but more often by means of ladders, which could be moved. The extra long rails at the top of the ladders make a convenient support as you mount the ladder, an idea that has become lost to our modern ladder patterns. (Fig: 9).

## FLOORS

Packed mud was the principal floor material used at this time. They tend to abrade and become dusty, but can be easily renewed by sprinkling with water. Some sites, and certain rooms made use of flagstone for flooring, perhaps in areas of heavy traffic. An interesting feature of some of the Pecos floors was the cove treatment at the wall junction. Mud was placed and smoothed where the wall and floor joined, making an easily cleaned corner, just as we do with linoleum today.

## DECORATION

The decoration of architecture during this time seems to have been minimal. Most evidence shows that colored mud was used for murals and decoration. As it is vulnerable to moisture and rain, most original decorations have been destroyed by time. Some examples have been found that were covered by collapsing walls, and thus protected. The most common treatment was a gypsum plaster wash. As there was little natural light from windows, and the smoke covered most surfaces with soot, the walls were repeatedly covered with a thin layer of gypsum. This has been found in as many as twenty layers, indicating that these people were good "housekeepers." Petroglyphs, patterns incised on rock surfaces, are common, perhaps for purposeful decoration, or perhaps just "doodling".

## TOOLS

Most of the tools in use at this time were of stone. Undoubtedly other materials were utilized, but the stone remains. These people had learned to classify different types of stone as to its workability and hardness, using certain types of stone for certain purposes. Various types of stone were also trade items, as some types were found far from their nearest known source. Stone axes were designed for different purposes, from wood cutting to stone dressing. Knives were made from flint or chalcedony by percussion or pressure flaking. These can be made rapidly, and are easily re-sharpened with a minimum of work. Hammer stones pulverized grain and seeds. Smoothing and polishing stones, of velvety finish, for pottery and clay surfaces may have been prize possessions. Stone files and abrading stones for grinding and polishing wood were also common. Arrow shaft straighteners and holes for sizing bone

Continued on page 14





Fig. 3. Tuonyi Pueblo was multi-storied on the North side, offering work terraces exposed to the South sun in the winter.



Fig. 5. Casa Grande National Monument, Az. Lacking stone, these Hohokam builders built a magnificent structure using only mud.

Fig. 6. Frijoles Canyon, Bandelier National Monument, N.M. The soft tufa cliffs had many natural eroded openings which could be easily enlarged. The smoke blackened interiors were repeatedly plastered with gypsum.



Fig. 4. Display, Visitor Center, Chaco Canyon National Monument, N.M. The development and evolution of stone masonry techniques is clearly shown, the earliest at the bottom.

Fig. 7. Puye Cliffs, Bandelier National Monument, N.M. The pieces of soft stone found at the base of the cliff could be easily shaped to form usable building blocks, which extended the cave shelters.







Fig. 8. Gila Cliff Dwelling National Monument, N.M. The "T" doorways were a common feature in most areas of the southwest in pre-Spanish times. The purpose of this shape has been subject to much speculation, but an obvious conclusion is that the smaller lower part was easily blocked, allowing the upper part to serve as a transom, for ventilation.

(continued from page 12)

awls were quite ingenious. Metates and Manos (flat stone grinders) were common for each household, and were frequently broken and discarded from the large quantities found. These were used not only for food grinding, but for the grinding of gypsum for plaster and pigments for color for decoration and cosmetics as well.

The key to the selection of building materials at this time was availability, simplicity, and maximum utilization of what was close at hand. Our modern construction technology might well be modified by the ideas of these people, who had little in terms of modern measurement, but made do handily with what they had.

P.G. McH., Jr.

Fig. 9. Shupalovi, Az. A drawing made at the time of Mindeleff's work in the Annual Report of the Bureau of Ethnology 1886-1887. Wall steps and ladders offer easy access to upper levels. The overhang at the upper left serves as a parapet to control rain run-off, and perhaps sun control as well.



(continued from page 9)

## COMMENTARY

Like most edited books, *FACILITY PROGRAMMING* has some repetition and some inconsistency. The organization of articles into three parts (it follows the three basic professional affiliations of the authors rather than subject matter)

lacks some clarity. Despite these MINOR FLAWS, *FACILITY PROGRAMMING* represents a good overview of the state-of-the-art (and science) of programming. The graphics are clear and they appropriately illustrate the content. The range of user-oriented programming methods the book presents is impressive. Anyone who is

interested in the field of programming, especially design professionals and educators, will find this book both interesting and pertinent. It is not only useful now as a timely and representative collection of case studies, but it promises to be a noteworthy reference work in the future for practice and teaching.

M.K.

# Steelcote®

offering the widest selection of items within these categories of any coatings company in the Country:

Wall Coatings • Anti-Corrosive Coatings  
Industrial Coatings • Floor Materials  
Sealants & Adhesives • Exterior Wall & Roof Coatings • Architectural Paints & Surface Preparations

for complete catalog and additional information contact your New Mexico distributor

**NEW MEXICO  
PAINT**

MANUFACTURING CORPORATION  
since 1949

209 San Mateo NE • Alb., NM 87108  
505/255-2600

**Coatings for Industry**



PROFESSIONAL DESIGN SERVICE  
COMMERCIAL FURNISHINGS  
LANDSCAPE SYSTEMS  
LIGHTING  
ACCESSORIES  
CARPETING

**abi** american business interiors  
612 CENTRAL S.W. PH 883-2055

# L/P

**LATH / PLASTER  
SUPPLY CO., INC.**

*New Mexico's only exclusive Hard Materials  
and Related Specialties Distributor*

4216 Edith Boulevard N.E.  
Albuquerque, New Mexico 87107  
505-345-8451

**We Feature a Complete Line of:**

Drywall and Accessories  
Plaster  
Metal Lath and Accessories  
Light Gauge Steel Framing  
Insulation  
Drywall and Tek Screws  
Power and Hand Tools  
Quarry Tile  
Glasweld/Mirawall





Albuquerque  
P.O. Box 16028  
5809 Kircher Blvd., N.E. 87191  
505/345-5565

Santa Fe  
1224 Calle La Resolana 87501  
505/471-1144

## Over 20 Years' Experience

- Storefront Construction
- Curtain Wall Erection
- Automatic Door Sales & Service
- Glass & Glazing
- Builders' Hardware

Call Us for Your Section 8 Needs



**ALBUQUERQUE GRAVEL PRODUCTS COMPANY**

*DEDICATED TO QUALITY  
AND SERVICE*

Tel. (505) 242-5265

600 John Street, S.E. P. O. Box 829

Albuquerque, N. M. 87103

**YOU  
SAVE  
WITH**

***Spectra-Glaze*® II**

\* Reg. U.S. Pat. Off. Canada and other countries by THE BURNS & RUSSELL CO.

**GLAZED CONCRETE BLOCK WALLS**

**INSIDE OR OUT**

**Greater ROI: Economy of block, permanence of glaze, faster construction. Attractive, colorful, loadbearing. No maintenance ever!**

Factory finish, 48 colors. Plain, scored or design faces. Local delivery world wide.

\* Reg. U.S. Pat. Off. Can. & other countries by THE BURNS & RUSSELL CO.

FEATHERLITE BLOCK CO., Box 489, Lubbock, Tx 79408  
FEATHERLITE BUILDING PRODUCTS CO., Box 9977, El Paso, Tx 79990  
CREGO BLOCK CO., INC., 6026 2nd. St. NW Albuquerque, NM

806/763-8202  
505/344-3475





# BUILDERS BLOCK

Members:  
New Mexico Concrete  
Masonry Association  
National Concrete  
Masonry Association

**Quality Concrete Masonry Products  
and many allied building materials.  
Serving New Mexico and West Texas  
for over a quarter of a century.**

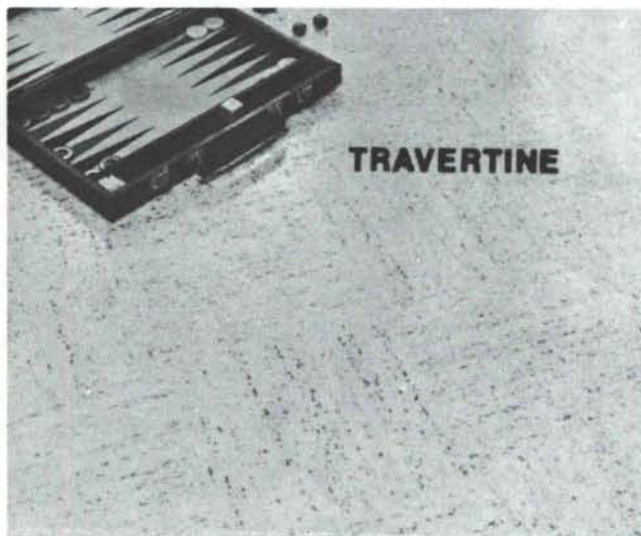
P.O. Box 1633  
Roswell, NM 88201  
505/622-1321

P.O. Drawer FF  
Las Cruces, NM 88001  
505/524-3633

Telephone  
El Paso  
915/532-9695

## Congoleum® FLOR-EVER®

COMMERCIAL VINYL FLOORING



TRAVERTINE

Travertine is commercial flooring at its best...designed like no other floor to meet the changing commercial needs and demands, including virtually seamless installations in most applications. Here is a beautiful and delicate reproduction of a natural material...reproduced as never before. Travertine has a subdued background and a seamless tile effect that sets it apart from traditional commercial flooring. Available in 9' and 12' widths and 12 color choices.



125 DALE, S.E.  
P.O. BOX 25111, ALBUQUERQUE, NM 87125  
PHONE 877-5340



### A MAXIMUM-SECURITY DOOR SHOULDN'T MAKE YOUR HOME LOOK LIKE A PRISON.

That's why Pease invented the Security-3 door system. A complete system that starts with a heavy-gauge steel door; then adds three deadbolts - top, middle, and bottom. So no one can spring the latch. Plus three frame reinforcing plates to help prevent jimmying. And self-locking hinges designed so pulling the pins still won't let anyone pull the door out of its frame. Impressive, isn't it?

Beautiful, too. Security-3 is available in over 40 Pease Ever-Strait door configurations. To complement any

home, apartment, or office.

One key does it all. That's right, a single key will let you in. While on the inside a turn of the thumbturn or inside knob will release all three deadbolts.

Ask your Ever-Strait distributor for a demonstration, you'll be impressed. Then, why not use it as a security sales feature on your next project. Pease Company, Ever-Strait Division, Fairfield, Ohio 45023

Security-3 Patent pending  
© 1978 Pease Company

**Pease**  
Ever-Strait  
Door Systems

Phone (505) 345-8691

Our impact tests (far above government standards) show the Security-3 door system is four times stronger in resisting forced entry than our conventional steel door.



INSULATED ENTRY SYSTEMS, INC.  
3800 Academy Parkway South, NE Albuquerque, New Mexico 87109





COOK'S BUILDING SPECIALTIES

We maintain an inventory of Baldwin and Schlage custom hardware. For complete information call: 243-5541 or 243-7847



414 Second St. SW or Box 834  
Albuquerque, NM 87103

## ALBUQUERQUE TESTING LABORATORY.... TO BE SURE!



SUBSOIL INVESTIGATIONS  
PHYSICAL TESTING  
INSPECTION  
RESEARCH  
WELDING CERTIFICATION  
NUCLEAR DENSITY  
LABORATORY ANALYSIS AND  
EVALUATION OF CONSTRUCTION  
MATERIALS

ALL WORK DONE UNDER SUPERVISION OF REGISTERED  
PROFESSIONAL ENGINEERS

532 JEFFERSON, N. E.  
ALBUQUERQUE, NM  
P. O. BOX 4101

PHONE 255-8916 or 255-1322

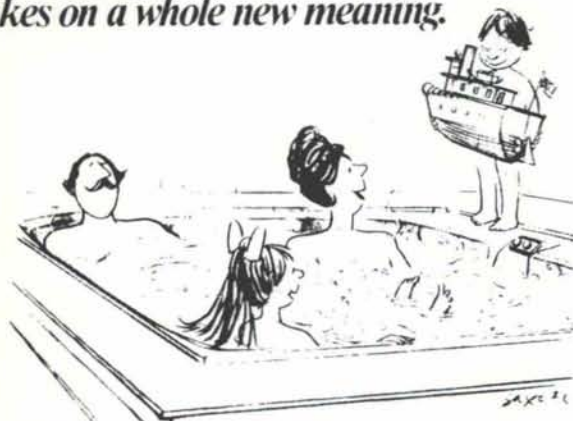


Acrylic  
Construction Sealant  
Poly Film  
Polycarbonates  
Skylights



plastic supply  
& fabrication  
3267 candelaria ne  
345-6681

Being in hot water  
takes on a whole new meaning.



Plasco, Inc.  
2508 Monroe N.E.  
Albuquerque, New Mexico 87110  
505-256-9883

**Jacuzzi**  
WHIRLPOOL & BATH  
Whirlpool & Bath  
Whirlpool & Bath

new mexico architecture

nma

Published bi-monthly by New Mexico Society of Architects, American Institute of Architects, a non-profit organization. Editorial Correspondence should be addressed to John P. Conron, Box 935, Santa Fe, N.M. 87501. (505) 983-6948.

Editorial Policy: Opinions expressed in all signed articles are those of the author and do not necessarily represent the official position of the publishing organization.

Additional copies of NMA available from John P. Conron FAIA/FASID, P. O. Box 935, Santa Fe, N.M. 87501.

Change of address: Notifications should be sent to New Mexico Architecture, 401-C Val Verde, S. E., Albuquerque, N.M. 87108 (505) 265-7010 at least 45 days prior to effective date. Please send both old and new addresses.

Subscriptions: Write Circulation, New Mexico Architecture, 401-C Val Verde, S. E., Albuquerque, N.M. 87108. Single Copy \$1.00. Yearly subscription \$5.00.

Advertising: Send requests for rates and information to New Mexico Architecture, Flora & Company, P. O. Box 8263, Albuquerque, N.M. 87198. (505) 266-3637.

Printed by Hall-Poorbaugh Press, Inc., Roswell, New Mexico

INDEX OF FIRMS who make possible the publication of NMA and the page upon which their message may be found:

|  |               |
|--|---------------|
| Albuquerque Gravel Products Co. ....               | 16            |
| Albuquerque Testing Laboratory .....               | 18            |
| Aluminum Sales Corporation .....                   | 6             |
| American Business Interiors .....                  | 15            |
| Aztec Tile and Carpet .....                        | 4             |
| Builders Block .....                               | 17            |
| Cook's Building Specialties .....                  | 18            |
| Crego Block Co. ....                               | 2             |
| Featherlite Block Co. ....                         | 16            |
| Hydro Conduit Corporation.....                     | 20            |
| Insulated Entry Systems, Inc. ....                 | 17            |
| Kohler .....                                       | insert        |
| Lath and plaster Supply Co., Inc. ....             | 15            |
| McGill Stephens Trus Joist Corp. ....              | 4             |
| Mason Contractors Assn. of N. M. ....              | 5             |
| New Mexico Marble & Tile, Inc. ....                | 19            |
| New Mexico Paint Mfg. Corp. ....                   | 15            |
| Plasco, Inc. ....                                  | 18            |
| Plastic Supply & Fabrication .....                 | 18            |
| Santa Fe Lumber .....                              | 6             |
| SOLICO .....                                       | 8             |
| Southwest Glass & Glazing, Inc. ....               | 16            |
| Stanley Structures .....                           | center spread |
| Stryco Sales, Inc. ....                            | 17            |
| David Sullenberger Architectural Photography ..... | 19            |
| Wellborn Paint .....                               | 19            |
| Western Drywall Co. ....                           | 19            |





**Marble  
Quarry Tile  
Monarch Tile  
Terrazzo Floors  
Dex O Tex Floors**

**New Mexico Marble & Tile Inc.**

2500 2nd SW  
P.O. Box 25566  
Albuquerque, NM 87125  
(505) 243-1771

763 Cerrillos Rd.  
Santa Fe, NM 87501  
(800) 432-8655



Acoma Laguna Canoncito  
Health Facility

Stevens, Mallory, Pearl & Campbell

**DAVID SULLENBERGER**  
**ARCHITECTURAL PHOTOGRAPHY**

BOX 1628 LAS CRUCES, N M 88001 (505) 522-5200



- METAL STUD FRAMING
- ACOUSTICAL TILE
- INSULATION
- DRY WALL
- EXTENSIVE INVENTORY  
AVAILABLE AT ALL TIMES

*Western*

**DRYWALL COMPANY**

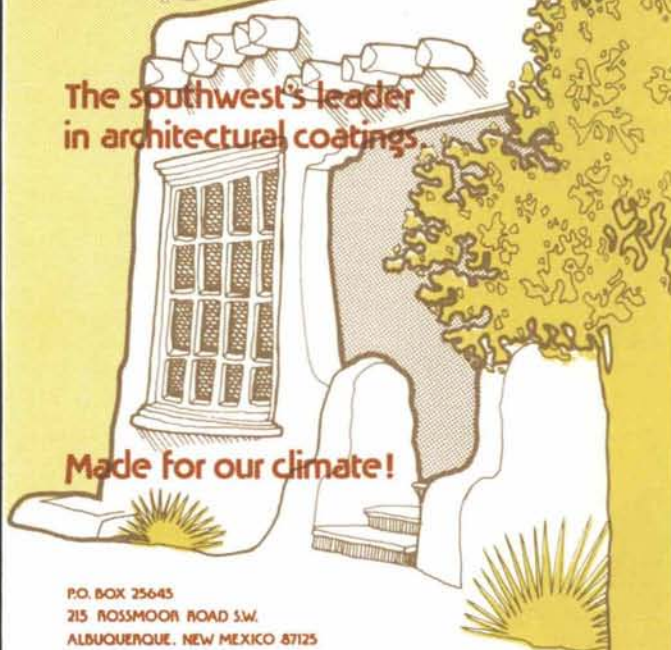
416 LOS ARBOLES, NW

505 345-6517 / 344-7249  
ALBUQUERQUE, NM 87107

**Wellborn  
paint**

The southwest's leader  
in architectural coatings

**Made for our climate!**



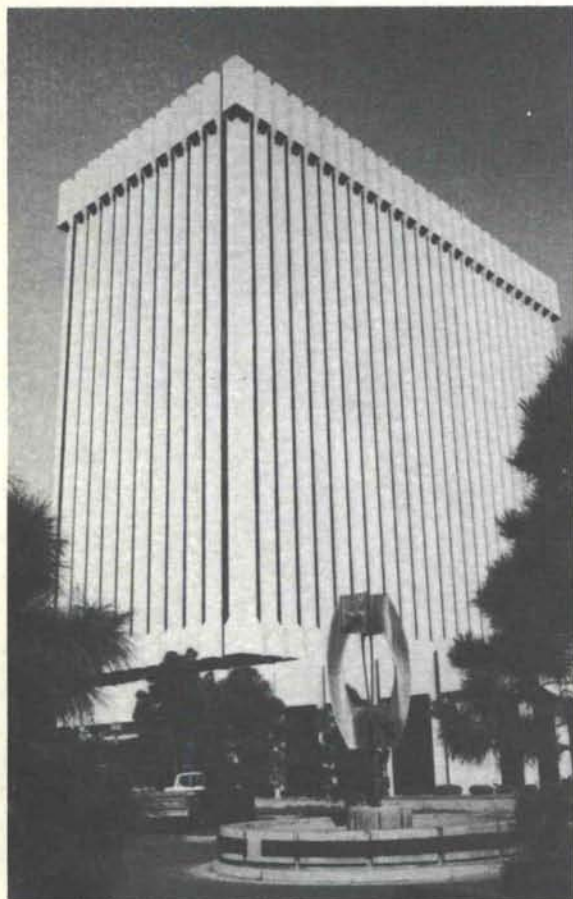
P.O. BOX 25645  
215 ROSSMOON ROAD S.W.  
ALBUQUERQUE, NEW MEXICO 87125  
(505) 877-5050

contact: LOU ORTEGO, technical director



Bulk Rate  
U. S. Postage  
**PAID**  
Roswell, N. M.  
Permit No. 47

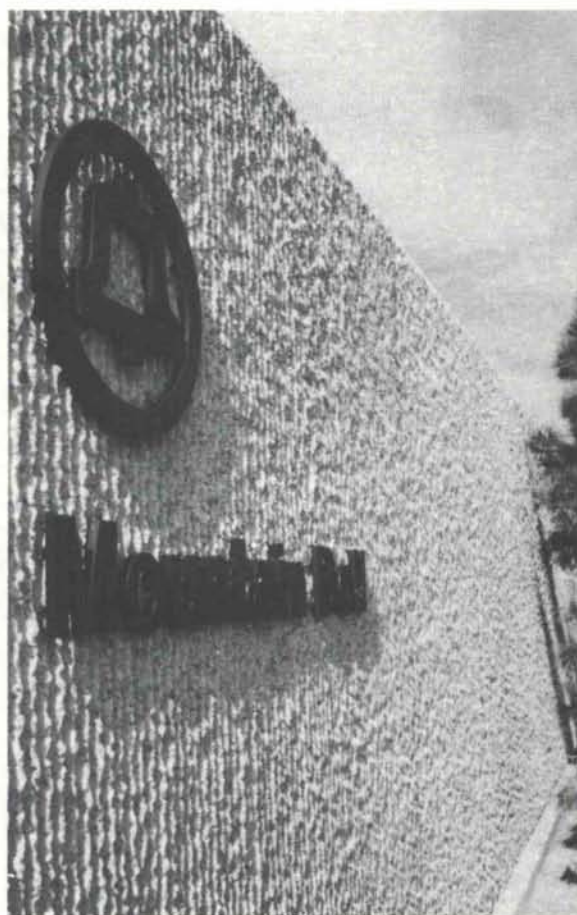
Vol. 21, No. 2



.... Whether in shape ....

# THE VERTICAL LINE

.... or in texture ....



**can be best expressed in Architectural Pre-Cast**

American Bank of Commerce  
200 Lomas N. W.  
Albuquerque, NM  
*Architect:* W. C. Kruger & Assoc.  
*Structural Engineer:* Robert D. Krause Engineering Co.

Mountain Bell Central Office  
at  
3315 San Mateo N. E.  
Albuquerque, NM  
*Architect:* Long & Waters  
*Structural Engineers:* MacCornack & Burns



**HYDRO CONDUIT CORPORATION**

2800 SECOND STREET, SW  
ALBUQUERQUE, NEW MEXICO 87103

PHONE 247-3726