AFFORDABLE HOUSING: AN AMERICAN BIRTHRIGHT?

A

P R O G R E S S I V E A R C H I T E C T U R E

06:91

INTRODUCING CALLIGRAPHY"

Acoustical lay-in ceiling systems with multidepth detailing. Predesigned medallion and border visuals. Cirrus' texture. 2'x 2' panels available in 24 designs and seven colors with matching grid. For our brochure, call 1 800 233-3823 and ask for Calligraphy.

ARMSTRONG CONTRACT INTERIORS BECOME OUR



Rawpowerinitsm



Macintosh Ilfx

The Apple[®] Macintosh[®] IIfx and Macintosh IIci are two of the most powerful personal computers in the world today. Both boast lightningfast 32-bit Motorola 68030 microprocessors (running

at 40 and 25 megahertz, respectively). Both have a math coprocessor on board as standard equipment. And both can handle up to 128 megabytes of RAM on the logic board.

Both have enough expansion slots under the hood to add everything from 24-bit video cards to graphic accelerators, and just about any kind of networking card you can think of, from Ethernet to Token-Ring.

It's the kind of pure processing muscle you need to run industry-standard design programs like AutoCAD, MicroStation and Virtus WalkThrough. And support industry standards like CALS, DXF and IGES.

With Apple's fully compliant version of UNIX[®]— A/UX[®] 2.0 — the Macintosh IIfx and IIci can also run UNIX, the X Window System, Macintosh programs and even MS-DOS programs at the same time. And you'll have UNIX multitasking and networking, including TCP/IP as well as NFS.

That's real power. The kind no other PC can imitate. Which brings us to the civilized part.

Progressive Architecture 6.91

gra tim net

© 1991 Apple Computer, Inc. Apple, the Apple logo, AUX, Mac, Macintosb and "The power to be your best" are registered trademarks of Apple Computer, Inc. The main monitor shown is a 19" Radius monitor by Radius, Inc. AutoCAD is a registered trademark is a registered trademark of Microsoft Corp. Motorola is a registered trademark of Massachusetts Institute of Technology. Pump image was created by Joe Guagliar trademark of Intergraph Corporation. Building image was created with Upfront. Upfront is a trademark of Alias Research, Inc. "The February 1991 Ingram study rated Macintosh computers against MS-DOS PCs running Windows 3.0 on time taken to complete the second study rated Macintosh computers against MS-DOS PCs running Windows 3.0 on time taken to complete the second study rated Macintosh computers against MS-DOS PCs running Windows 3.0 on time taken to complete the second study rated Macintosh computers against MS-DOS PCs running Windows 3.0 on time taken to complete the second study rated Macintosh computers against MS-DOS PCs running Windows 3.0 on time taken to complete the second study rated Macintosh computers against MS-DOS PCs running Windows 3.0 on time taken to complete the second study rated Macintosh computers against MS-DOS PCs running Windows 3.0 on time taken to complete the second study rated Macintosh computers against MS-DOS PCs running Windows 3.0 on time taken to complete the second study rated Macintosh complete taken to complete taken taken to complete taken taken taken to complete taken t

Macintosh IIfx

ost civilized form.

Macintosh design programs work in the same graphic, intuitive way as thousands of off-the-shelf Macintosh personal productivity programs. Everything from a FORTRAN compiler to a spreadsheet works in a consistent way. So you'll find you'll tap into more power more often.

utoDesk, Inc. Virtus WalkTbrough is a trademark of Virtus Corp. Compaq is a registered trademark of Compaq Computer Corp. IBM is a registered trademark of International Business Machines Corp. Elbernet is a registered trademark of Xerox Corp. MS-DOS ith MacBRAVO! MacBRAVO! is a registered trademark of Schlumberger Technologies. Orbiter image was created with MicroStation Mac. MicroStation is a registered trademark of Bentley Systems Inc., an Intergraph affiliate. Intergraph is a registered oplications. Value is based on Ingram Labs' performance results and the manufacturer's suggested retail price. "One brochure per customer. Offer good only in the U.S. and while supplies last. Allow 4-6 weeks for delivery. This ad was created on a Macintosh.

And Macintosh programs all work together. So you can copy your conceptual drawings and renderings from CAD programs and then paste them into presentations, memos or manuals — choosing from thousands of innovative programs — with a few simple keystrokes. Or even cut and paste between other environments.

Every personal computer should have the power to work this easily. But only an Apple Macintosh does. And dollar for dollar, chip for chip, independent tests by Ingram Laboratories reveal that Macintosh is actually a better value than some formidable 486 PCs from Compaq and IBM running Windows 3.0.* For a free copy of those test results** and the name and location of your nearest authorized Apple reseller, call 800-446-3000, extension 530.

You'll soon find Macintosh has the power to change the way you think about power. The power to be your best."

Mac IIci w/Cache Card (In Minutes) Mac IIci Compaq Deskpro 386/25e IBM PS/2 Model 70 386/25 Mac IIfx Compaq Deskpro 486/25 Compaq Deskpro 386/33 IBM PS/2 Model 70 486

Total Application Performance



Progressive Architecture 6.91



A moment of inspiration. 423 hours of designing. 7 weekends. 36 meetings. 36 revisions. 1,521 cups of coffee (not decaf).

You put so much into it,

put Olympic[®] paints and stains on it.



Specify Olympic Professional Products for long lasting protection in a wide range of beautiful colors. Quality products, packaged specifically for the professional applicator; available through professional paint stores nationwide.

An official sponsor of the USA 1092 U.S. Olympic Team.

. Cover: Collage of P/A's Affordable Housing Competition plans. Design by Assistant Art Director Leslee Ladds.

102

103 104

107

108

109

110

118

Editor

John Morris Dixon, FAIA Executive Editor Thomas Fisher **Profession and Industry Editor** James A. Murphy, FAIA Managing Editor Valerie Kanter Sisca **Senior Editors** Ziva Freiman, Interior design, Features Mark Alden Branch, News, Features **Associate Editors** Kenneth Labs, Technics Philip Arcidi, Features **Editorial Production Manager** Pamela Van Zandt Gillmor Copy Editor Mary Bishop Coan **Assistant Editors** Abby Bussel Julie Meidinger **Editorial Assistants** Wanda Crespo Agi Muller Art Director Derek Bacchus Associate Art Director Kristin | Reid Assistant Art Director Leslee Ladds **Contributing Editors** Norman Coplan, Hon. AIA, Law William T. Lohmann, AIA, FCSI, Walter Rosenfeld, AIA, CSI, Specifications Eric Teicholz, Computers Correspondents Sally Woodbridge, San Francisco Peter Papademetriou, AIA, at-large Thomas Vonier, AIA, Washington Monica Pidgeon, Hon. FAIA, London Joel Warren Barna, Austin Cheryl Kent, Chicago Daralice D. Boles, *at-large* Donald Prowler, AIA, *Philadelphia* Hiroshi Watanabe, *Japan* Morris Newman, *Los Angeles* Vice President-Editorial Perry Pascarella Vice President and Publisher Robert J. Osborn Business Manager Daniel H. Desimone Assistant to the Publisher Paul McKenna Administrative Assistant Carol Zezima **Promotion Director** Jack Rudd **Promotion Coordinator** Cécile M. Lelièvre Production Manager

Gerry Lynch Katz **Production Assistant** Evelyn S. Blum Sr. Assoc. Dir., Circulation Sharon Beinecke **Circulation Manager** Sue Stear

Circulation Marketing Manager Joanne M. Improta

Penton Publishing P/A Progressive Architecture (ISSN 0033-0752) is published monthly, except semimonthly in October, by Reinhold Publishing, A Division of Penton Publishing, 1100 Superior Ave., Cleveland, OH 44114-2543 Philip H. Hubbard, Jr., President; Robert J. Osborn, Vice President. Penton Publishing: Sal F. Marino, Chairman and CEO; Daniel J. Ramella, President and COO; Philip H. Hubbard, Jr., President, Eastern Operations Group.

Executive and editorial offices 600 Summer St., P.O. Box 1361 Stamford, CT 06904 (203-348-7531). FAX 203 348 4023 For Subscription Inquir 216-696-7000 Ext. 4150 ABP 6

Progressive Architecture June 1991



| Special Issue: Affordable Housing Editor in charge: Thomas Fisher |
|--|
| |
| Competition Introduction/Jury |
| Winners • First Place: Abacus Architects & Planners • Boston • Second Place: Jahan Associates |
| Architects * Boston * Third Place: Selldorf & Van Campen Architecture & Design * New York |
| Honorable Mention · Romm & Pearsall Architects · Boston · Pam Kinzie & Les Taylor · San Francisco · |
| Gregory Hackworth, Peggy Wyatt * Bellevue, Washington |
| Commendation · Davids Killory · San Diego · Ferris Architects · Southport, Connecticut · Tjaden Architects · Chicago |
| Elizabeth Debs · Greenwich, Connecticut |
| Introduction: Built Work and Projects |
| Regent Terrace Apartments · Philadelphia · Kelly/Maiello Inc. |
| 970 Eastern Avenue · Toronto · Francesco + Aldo Piccaluga |
| Dermott Villas · Dermott, Arkansas · Wenzel & Associates/Architects |
| West Town Housing, Phase II · Chicago · Weese Langley Weese Architects |
| Ocean Park Housing Cooperative · Santa Monica, California · Appleton, Mechur & Associates |
| The Grow Home · Montreal · Witold Rybczynski and Avi Friedman |
| Starter Home · Oakland, California · Donald MacDonald |
| West H.E.L.P. · Greenburgh, New York · Cooper, Robertson & Partners |
| M&M Maison · Liberty City, Miami, Florida · Ted Hoffman, Jr., Architect |
| Cityhome · Chicago · Holabird & Root |
| Rancho Sespe Farmworkers Housing · Piru, California · John V. Mutlow |
| Historic King Place · Milwaukee · Louis Wasserman & Associates |
| West Development · Milwaukee · Herbst Eppstein Keller & Chadek |
| 3330 Army Street/Del Carlo Court · San Francisco · Solomon Inc. |
| Studio Durant SRO Hotel · Berkeley, California · David Baker & Associates |
| San Julian SRO Hotel · Los Angeles · Koning Eizenberg Architecture |
| Harborplace SRO Hotel · San Diego · Rob Wellington Quigley |
| Grasse Road Faculty Housing, Dartmouth . Hanover, New Hampshire . William Rawn Associates |
| Parkside Gables · Stamford, Connecticut · Perkins Geddis & Eastman |
| Frederick Douglass Boulevard Housing • Harlem, New York • Strickland & Carson Associates |
| Vernon Apartments · Venice, California · R.L. Binder |
| Factory-Built Houses · Berke & McWhorter |
| Affordable Housing . New Brunswick, New Jersey . Richardson Smith with George Myers |
| Affordable Housing: Essays . Three Housing Initiatives in Brooklyn . Philip Arcidi . Cohousing . Clare Cooper Marci |
| and Kim Dovey · Habitat and Architects · Mark Alden Branch · CDCs in Public Housing · Joel Warren Barna |
| Books Alternatives to the Detached Single-Family House · Dana Cuff |
| Technics Denartments |
| ronnos pelatinens |

- 45 Small Lot Housing Typology 'James W. Wentling 51
- Technics Topics Affordable Streets · Kenneth Labs
- Technics Topics Housing Definitions · Kenneth Labs 55

Practice

59 Management Minorities in Practice · Claude Engle

P/A Awards

P/A Awards Call for Submissions 19

- Editorial Affordable Housing: Redesigning the Bottom Line
- 9 Views
- **News Report** 27
- 33 Calendar
- 129 **New Products and Literature**
- 146 **Computer Products** 149
- **Technics-Related Products** 153 **Reader Service Card**
- 160 **P/A Classified**
- 161 **Advertisers' Index**
- 162 Furthermore...

Subscription information: Send all subscription orders, payments and changes of address to Progressive Architecture, P.O. Box 95759, Cleveland, OH 44101 (216-696-7000). When filing change of address, give former as well as new address and zip codes, and include recent address label if possible. Allow two months for change. Publisher reserves right to refuse unqualified subscriptions. Professionals include architectual and architectural-engineering firm personnel and architects, designers, engineers, draftsmen employed in allied fields. Subscription rates for U.S. professionals are \$39 for 1 year (\$48 in Canada, \$10 for foreign); \$60 for 2 years (\$79 in Canada, \$10 for foreign); \$60 for 2 years (\$79 in Canada, \$10 for foreign); \$60 for 2 years (\$10 in U.S., \$8 in Canada, and \$15 for foreign except Information Sources issue, \$10 in U.S., \$12 for Canada, and \$20 for foreign. Can. CST with the Copyright Clearance Center Inc. (CCC) to photocopy is graited for users registered with the Copyright Clearance Center Inc. (CCC) to photocopy any article, with the sexperion of obsequers \$10 in U.S., \$10 er Congress St., Salem, MA 01970, (Code No. 0033-075290) \$100 + .501 [Index of ArcHitectural Index, Engineering Index: Scond class postage paid at Cleavalen, and additional mailing offices. Volume LXXII, No. 6. Printed in U.S., Copyright © 1991 by Penton Publishing, Inc. POSTMASTER: Send address thanges to PROGRESSIVE ARCHITECTURE, 1100 Superior Avenue, Cleveland OH 44114-2543.

5

of Contents

Table (

BEGA

Bollards

Superb design and detailing

No glare, directed illumination

Rugged construction

70-150W metal halide light sources

Enduring materials and finishes

Sensible maintenance

BEGA/FS BOX 50442 SANTA BARBARA, CA 93150 (805) 684-0533 FAX 805-684-6682

Editorial Affordable Housing: Redesigning the Bottom Line

Architect Laurie Maurer, in this guest editorial, is concerned that much of today's affordable housing is destined to become tomorrow's slums.

A conversation about affordable housing is never under way for more than a few minutes before the expression, "the bottom line" is heard. Talk may focus on transitional housing or on single-family units and the speakers may be not-for-profit housing providers or for-profit developers. That phrase, nevertheless, will be heard. And well it should be: fiscal responsibility is at the very core of both the problem and solution to the affordable housing crisis. Still, it is important to examine how this bottom line is established and what factors are essential to its computation.

The equation typically used is: *fixed* bottom-line costs (hard + soft costs) divided by *fixed* ability to pay (mortgage or rent) = size/quality of unit (which is the only variable in the equation). The argument often given is that, if the bottom-line number would increase, the number of families able to afford a unit would decrease, which runs against the goal of housing the greatest number of people possible. No one would question that goal. The real question is: What is the true cost of poorly designed housing? What is the effect of this bottom-line determinism?

The most important problem created by this bottom-line focus, as currently defined, is the almost complete erosion of housing design standards. In the 1950s, when public housing was being built and private housing was being financed through FHA-insured mortgages, a strong standard was in effect: the FHA Minimum Property Standards guidelines. These guidelines reflected the minimum standards our nation was willing to accept. Unfortunately, these minimum standards became the maximum standards to which thousands of units of housing were built. Some architects, accordingly, spent a great deal of time making certain that their work did not exceed these standards because their clients insisted that, if it did, no additional money could be raised for the project.

Nonetheless, this country formulated and accepted those standards as being minimums for all housing. Now there are virtually no standards. The FHA minimums are viewed as being too generous, while no new standards have replaced them, despite significant changes in the living habits of Americans. In fact, even the suggestion of standards today seems to make many people involved in housing very nervous. This nervousness comes from the fact that much of the housing now being constructed would not meet the minimum standards mandated by the FHA forty or more years ago.

Not only have minimum standards gone by the board, but little, if any, consideration has been given to addressing the needs of present-day households: single parents, two working parents, unrelated singles. The typical dwelling of the early 20th Century hardly works for these new social groups. There also seems to be little concern for long-term durability or for the cost and ease of maintenance of units, whether intended for sale or rental. These long-term costs have a major effect over the years on the project owner, and often make the difference between the success or failure of an enterprise. Factored into a true bottom line should be serious attention to both interior and exterior materials and other building systems so as to provide value over a long period of time, not just to lower the initial cost.

The real way to establish the bottom-line cost of housing is to begin with the cost of constructing well-planned and well-considered units, keeping in mind the needs of the people who are going to use them. This would be the cost of housing that offers dignity and choice to the residents and that would be a lasting asset to a community. After the true cost of such housing has been established, then the arithmetic could begin. The variable in the equation would now be the way in which this housing would be financed and/or subsidized. And it would be here that our true commitment to solving the affordable housing crisis would become evident. Various innovative and standard techniques for project and housing subsidy exist; there need only be a genuine resolve to apply them.

There are, of course, some architects and housing providers who are seriously and successfully addressing the production of quality affordable housing. But in all too many cases, we are fooling ourselves into believing that we can provide a long-term solution to the affordable housing crisis by reducing the quality of the units' design and materials. Too often, we are really just building the slums of tomorrow and will continue to do so until we commit to well-designed and well-constructed housing, housing based on a redesigned bottom line. Laurie Mutchnik Maurer, FAIA

The author is a partner in the Brooklyn, New York, firm of Maurer and Maurer Architects and chairs the AIA Affordable Housing Task Force.

Progressive Architecture 6.91

7

Editorial



GLASS BLOCK PANELS

"Products Engineered to Last a Lifetime"





UNIVERSITY OF ROCHESTER, COMPUTER STUDIES BUILDING, ROCHESTER, NEW YORK 91R STEEL ASSEMBLY ARCHITECT: CANON DESIGN, INC. GRAND ISLAND, NEW YORK GENERAL CONTRACTOR: LE CHASE CONSTRUCTION, ROCHESTER, NEW YORK PHOTOGRAPHY. ROB MCELROY







LAREDO NATIONAL BANK PLAZA, LAREDO, TEXAS SOLARWHITE ALUMINUM ASSEMBLY ARCHITECT: CAVOZOS & ASSOCIATES, LAREDO, TEXAS GENERAL CONTRACTOR: BARTLETT COCKE JR. CONSTRUCTION CO., SAN ANTONIO, TEXAS PHOTOGRAPHY: SUNNY CLARKE

"You've seen our work, now you know our name."

Structurally engineered preglazed waterproof glass block assemblies are offered for installation as skylights, barrel vaults, skybridges, floor and deck lights, stairtreads and landings, sidewalks, wall panels and complete structures. Standard and custom sizes and a variety of glass block designs are available.

"FROM SIDEWALKS TO SKYLIGHTS, YOUR CONCEPT IS ALL THAT IS REQUIRED."

Use your imagination, then call CIRCLE REDMONT for design assistance, engineering, fabrication and warranty of all its custom and standard systems.

For further information, details and specifications please contact CIRCLE REDMONT. Box 4053, Wallingford, CT 06492 (203) 265-3888 (Out of State) 1-800-358-3888 FAX (203) 265-6517

Views

SOM Foundation Clarification

I would like to correct a statement attributed to Bruce Graham in an interview published in the April P/A (pp. 104-105) regarding the Skidmore, Owings & Merrill Foundation. The Foundation was founded in 1980 by the partners of SOM in order to contribute to the advancement of architecture through various endeavors. It has, thus far, established a grant-giving program to outstanding first degree, second degree, and second professional degree programs throughout the country and is currently in its eleventh year of ongoing awards. The SOM Foundation has also, from time to time, recognized outstanding young educators and engineers in the field of architecture. We also purchased the Charnley House in Chicago and completely restored the facility (P/A, April 1989, p. 76).

In 1988 we appointed the first director of the Foundation, John Whiteman, who extended our activities to include research and publications. In 1990 the decision was made to launch the research/publication function under the name of the Chicago Institute for Architecture and Urbanism (CIAU). The SOM Foundation is still a functioning entity with all grant-giving programs in place, including the major funding and housing of CIAU for the short term. Adrian D. Smith Chairman, SOM Foundation Chicago

Marina del Rey Contractor

This letter is written to redress an omission made in the credits given for the Webb Residence, published in the April issue of P/A (p. 96). As the architect for the house I would like to acknowledge the effort of the contractor, Steve Littlejohn Construction, and the foreman, Trey Elkins. The house was constructed with an enormous amount of care and cooperation. The people who built the house deserve to be proud of their work and to receive recognition for it. *Ronald McCoy, Architect Los Angeles*

Venice House Clarification

The reference to costs in relation to the Venice Beach House on page 92 of the *Pro*gressive Architecture April 1991 issue has nothing to do with actual construction costs. The comment served only to illustrate the concentration of detail intensity toward the beach.

See page 94 of the article where cost is stated as "not available."

Antoine Predock, Architect Venice, California

Sundial Credit

The article on the Team Disney building (April 1991, pp. 70–77) neglected to mention the work of Dr. Ross Mc-Cluney of the Florida Solar Energy Center in calibrating the sundial to tell time.

Checking the Sundial

Was the April 1991 P/A cover made:

- A. at approximately 10:10 a.m., solar time?
- B. on/about Lincoln's Birthday?
- C. on/about Halloween?
- D. at or on/about none of the above?
- Matthew Johnson Amy Domin for the 2nd-year technology studio Syracuse University School of Architecture Syracuse, New York [Good technology! The correct answers are A and B. – Editors]

Custom Built Site Furnishings



²rogressive Architecture 6.91

One-of-a-kind problem solvers.

Sitecraft brings your most creative ideas to life. We work with you at every step and offer the custom expertise and experience that other site furnishings manufacturers just can't match. Sitecraft benches, planters, planter benches and site accents are available in clear, all heart California redwood or other choice woods. Even the most demanding custom configration can be created to your exact specifications. One-of-a-kind site furnishings solutions are not a problem when you call Sitecraft.



DUPONT ANTRON

Ever since we invented nylon some 50 years ago, we've accumulated more

knowledge on the hows and whys of carpet fiber performance than anybody

on the planet. Which enables us to make this simple

statement of fact. The best-performing carpets that can be specified any time, for any

place, are made of DuPont ANTRON° nylon. Consider this.

New ANTRON® LEGACY nylon is the best choice for most commercial applications.

ANTRON LUMENA® is the best choice for health care and everywhere

else that spills are a constant problem.

It's that simple.

Two choices. With either one,

DuPont provides exceptional polymer, fiber and protection technology.

Unsurpassed industry support and information networks. Certification ensuring that the

finished carpets meet strict DuPont quality standards. Static

protection for the life of the carpet. Anything else? Oh yes, the added assurance that time

and again, DuPont ANTRON nylon is the number one

choice of professionals.

DuPont ANTRON. There is no equal.





The accumulation of dirt and wear over time is an age-old problem that our technology constantly strives to overcome. Introducing a triumphant ANTRON[®] LEGACY nylon. No single fiber can do more to resist soil and keep commercial carpets looking newer longer. ANTRON LEGACY is protected with advanced DuraTech[®], the longestlasting soil protection treatment for carpets available today. Which is just one of many reasons ANTRON LEGACY is the only fiber you should spec for most commercial applications. It comes in over 600 styles, by far the widest range of carpet colors and textures. No fiber gives you more options. Or more flexibility. And the look you choose is sure to last. Because ANTRON LEGACY is, above all, ANTRON nylon. With outstanding

N T R O N°

resistance to crushing and matting. With unique fiber engineering that helps carpets repel soil. With the assurance of ANTRON nylon quality, certified to meet strict performance and construction standards.

It took us more than half a century to build our legacy. We think you'll find it well worth the time. ANTRON. There is no equal.

For more information, c a l l 1 - 8 0 0 -4 DUPONT.



Circle No. 366



ANTRON

At DuPont, we've always viewed cleanability as a critical measure of a fiber's performance. Particularly for environments like hospitals, schools and restaurants where spills are inevitable. And cleanings unending.

Which is why we set out to develop the best-performing, easiest-cleaning solution-dyed fiber in the industry. It's called ANTRON LUMENA® nylon. Unlike other solution-dyed nylons, ANTRON LUMENA is designed so that most stains can be removed with

and the second sec

ordinary detergents. Which doesn't mean, however, that

ANTRON LUMENA nylon can't stand up to bleach and other

harsh agents. Its color is locked into the molten polymer itself, providing colorfastness no other fiber can surpass. Even under intense sunlight and heavy traffic,

carpet of ANTRON LUMENA retains

its original strength and appearance. What other solution-dyed nylon can clean up as easily, and deliver the unique performance advantages of leading ANTRON® nylon technology? Hmmm.

ANTRON LUMENA. There is no equal.

The breakfast cart came through in a hurry this morning.

RM 9 : 23

5

Unfortunately, so did Mrs. Callahan's

heel.

For more information, c a l l 1 - 8 0 0 -4 DUPONT.



Circle No. 367

THE AMERICAN GLASS LIGHT COMPANY[™]



Because the Details Make the Difference."

the

"Details are everything." It's what we believe in and it's why our customers believe in us.

Designed by architect Sandy Littman, the new American Glass Light collections uniquely combine fine detailing with glamorous and classic composition. All fixtures are manufactured to the highest technical standards and most are available in fluorescent. All of our fixtures are UL listed. Many are even available in up to 3 foot and 4 foot widths.

Using only the finest materials, our products are executed by our own team of engineers and manufactured in our own factories — here in America. Call for our new and complete catalog, or for an

appointment to visit our showroom. Custom projects are welcome.

Showroom: 49 West 27 Street, 10th Floor, New York, N.Y. 10001 Telephone: (212) 213-1200 Fax: (212) 685-7261

Copyright © 1990. The American Glass Light Co.™ All rights reserved. All designs protected by copyright. Reproduction in whole or part without the written consent of the copyright owner is prohibited. Unauthorized simulation of the designs in this advertisement may also be a violation of 15USC 1125(a).

39TH ANNUAL COMPETITION FOR PROJECTS NOT YET COMPLETED

P/A Awards Program

| Architecture | • | • | • | • | • |
|--------------|---|---|---|---|---|
| Urban Design | • | • | • | • | |
| Research | | • | | • | |

Jury for the 39th P/A Awards

Progressive Architecture

announces its 39th annual P/A Awards program. The purpose of this competition is to recognize and encourage outstanding work in architecture and related environmental design fields before it is executed. Submissions are invited in the three general categories of architectural design, urban design, and architectural research. Designations of first award, award, and citation may be made by the invited jury, based on overall excellence and advances in the art.

Architectural Design

Steven Holl, AIA, Principal, Steven Holl Architects, New York, and Professor, Graduate School of Architecture and Planning, Columbia University; Diane Legge Kemp, FAIA, Consultant/Landscape Architecture, Decker & Kemp Architecture and Urban Design, Chicago, and Adjunct Advisor, University of Illinois, Urbana-Champaign; Wolf D. Prix, Principal, Coop Himmelblau, West Los Angeles and Vienna, Adjunct Professor, Southern California Institute of Architecture, Santa Monica, and Professor, Hochschüler für Angewandte Kunst, Vienna; Stanley Saitowitz, Principal, Stanley Saitowitz Office, San Francisco, and Professor, University of California, Berkeley.

Urban Design

Gregory S. Baldwin, FAIA, Partner, Zimmer Gunsul Frasca Parnership, Portland, Oregon; Jorge Silvetti, Principal, Machado-Silvetti Associates, Inc., Boston, and Nelson Robinson, Jr., Professor Of Architecture, Harvard Graduate School of Design, Cambridge, Massachusetts.

Research:

John Archea, Associate Professor, State University of New York, Buffalo; Tom Peters, Director, Institute for the Study of the High Rise Habitat and Professor of Architecture and History, Lehigh University, Bethlehem, Pennsylvania.

Judging

will take place between September 27 and October 4, 1991. Winners will be notified, confidentially, before October 31. Public announcement of winners will be made at a ceremony in New York in January 1992, and winning entries will be featured in the January issue of P/A. Clients, as well as professionals responsible, will be recognized. P/A will arrange for coverage of winning entries in national and local media.

Turn page for rules and entry forms.

/A Awards Program

DEADLINE FOR SUBMISSIONS: SEPTEMBER 6, 1991

Entry form: 39th P/A Awards Program

.

Please fill out all parts and submit, intact, with each entry (see paragraph 14 of instructions). Copies of this form may be used.

Entrant: Address:

Credit(s) for publication (attach additional sheet if necessary):

Entrant phone number: Project: Location: Client: Client phone number: Category:

Entrant: Address: Project:

I certify that the submitted work was done by the parties credited and meets all Eligibility Requirements (1-7). All parties responsible for the work submitted accept the terms of the Publication Agreement (8-9). I understand that any entry that fails to meet Submission Requirements (10-18) may be disqualified. Signer must be authorized to represent those credited.

| n1. | | | - |
|-----|-----|-----|----|
| 510 | jna | tur | е. |

Name (typed or printed): ____

Awards Editor/Progressive Architecture

600 Summer Street, P.O. Box 1361, Stamford, CT 06904 **Project:** Your submission has been received and assigned number

Entrant: Address:

Receipt:

Awards Editor/Progressive Architecture

600 Summer Street, P.O. Box 1361, Stamford, CT 06904

Entrant: Address:

n 14 of II

Eligibility

1 Architects and other environmental design professionals practicing in the U.S. or Canada may enter one or more submissions. Proposals may be for any location, but work must have been directed and substantially executed in U.S. and/or Canadian offices. 2 All entries must have been commissioned, for compensation, by clients with the authority and the intention to carry out the proposal submitted. In the case of design competitions, the submitted design must be the one the client intends to execute. (For special provision in Research category only, see Item 6.)

3 Prior publication does not affect eligibility.

4 Architectural design entries may include only buildings and complexes, new or remodeled, that are scheduled to be completed after January 1, 1992. Indicate *schedule* on synopsis page (Item 12).

5 Urban design entries must have been accepted by a client who intends to base actions on them. Explain implementation plans on synopsis page (Item 12). 6 Research entries may include only reports accepted by the client for implementation or research studies undertaken by entrant with intention to publish or market results. Explain basis of eligibility on synopsis page (Item 12). 7 The jury's decision to premiate any submission will be contingent on verification by P/A that it meets all eligibility requirements. For this purpose, clients of all entries selected for recognition will be contacted by P/A. P/A reserves final decision on eligibility and accepts no liability in that regard. Please be certain entry meets above rules before submitting.

Publication agreement

8 If the submission should win, the entrant agrees to make available further graphic material as needed by P/A.
9 In the case of architectural design entries, P/A must be granted the first opportunity among architectural magazines for feature publication of any winning project upon completion.

Submission requirements

10 Entries must consist of legibly reproduced graphic material and text adequate to explain the proposal, *firmly bound* in binders no larger than than 17" in either dimension (9" x 11" preferred). No fold-out sheets; avoid fragile spiral or ring bindings. Unbound material in boxes, sleeves, etc., will *not be considered*.

11 No models, slides, films, or videotapes will be accepted. Original drawings are not required, and P/A will accept no liability for them.

12 Each submission must include a onepage synopsis, in English, on the first page inside the binder, identifying the project and location, clarifying eligibility (see Item 4, 5 or 6), and summarizing principal features that merit recognition in this program. 13 To maintain anonymity, no names of entrants or collaborating parties may appear on any part of submission, except on entry forms. Credits may be concealed by any simple means. Do not conceal identity and location of projects. 14 Each submission must be accompanied by a signed entry form, to be found on this page. Reproductions of this form are acceptable. All four sections of the form must be filled out, *legibly*. Insert entire form, intact, into unsealed envelope attached inside back cover of submission.

15 For purposes of jury procedure only, please identify each entry as one of the following: Education, Houses (Singlefamily), Housing (Multiple), Commercial, Industrial, Governmental, Cultural, Recreational, Religious, Health, Urban Design, Applied Research. Mixed-use entries should be classified by the larger function. If unable to classify, enter Miscellaneous.

16 Entry fee of \$90 must accompany each submission. An early submission fee of \$75 per entry will be accepted for entries dispatched (with postmark or other evidence) by August 19. (Canadian office please send drafts in U.S. dollars.) Fee must be inserted in *unsealed* envelope containing entry form (Item 14, above). Make check or money order (no cash, please) payable to *Progressive Architecture.*

17 P/A intends to return all entries intact, but can assume no liability for loss or damage.

18 Deadlines for sending entries is September 6, 1991. Deadline for earlysubmission fee is August 19 (Item 16). Entries must show postmark or other evidence of being en route by midnight, September 6. Entries must be received at P/A on or before September 27 to be eligible. P/A accepts no liability for the failure of any carrier to deliver entry to this address by that date. Handdelivered entries must be received at street address shown here, 6th floor reception desk, by 5 p.m. on September 6 (August 19 for early submissions).

Pointers for submission

based on recent jurors' observations.

- Document site and surroundings with photos and drawings.
- For additions and remodelings, clearly indicate old and new.
- If design projects involved substantial research, explain it concisely.
- For research entries, indicate applicability to design.
- For buildings and urban design, give basics of funding, rental of space, etc., as applicable.

Deadline summary

August 19: Early entry deadline (Item 16) – out of entrant's hands before midnight, as shown by postmark or other evidence on entry. September 6: Regular entry deadline – same conditions as above; handdelivered entries must be at P/A (Item 18) by 5 p.m. September 27: Must be in P/A's hands, regardless of method of delivery.

Deadlines are strictly enforced.

Address entries to:

Awards Editor Progressive Architecture 600 Summer Street P.O. Box 1361 Stamford, CT 06904

(Return label)

WHAT CAN A BIG COMPANY DO TO A GREAT PIECE OF FURNITURE?



MAKE IT EASIER TO ORDER, SHIP IT FASTER, PRODUCE IT IN MORE COLORS AND OPTIONS, AND SUPPORT IT BETTER ONCE IT'S INSTALLED.

Comforto, Kinetics, Lunstead, Mueller, and Myrtle. Year after year, these five companies have set industry standards for design. Now, thanks to Haworth, they're setting those standards higher and faster than ever before.

THE HAWORTH PORTFOLIO OF COMPANIES, DEDICATED TO MAKING GOOD DESIGN MORE ACCESSIBLE. BECAUSE WHAT GOOD IS A GREAT CHAIR IF YOU CAN'T GET YOUR HANDS ON IT?

HAWORTH PORTFOLIO OF COMPANIES

For more information, CALL US AT 1-800-344-2600. Circle No. 361 on Reader Service Card



AS YOU CAN SEE, OUR FRENCH IS FLAWLESS.

While most patio doors start out as a stack of lumber and parts, this one began with a clean sheet of paper. Because our goal wasn't to merely make a better patio door, but to make the very best. And the reward for that effort is the door you see here.

The first thing you notice is the way it invites the outside in, with a dramatic view up to 16' wide. Notice too, its extra-wide stiles and solid brass handles, the ultimate in form and function. Even the weatherstripping and sill are coordinated in a color that complements the door's look instead of detracting from it.

Like a piece of fine furniture, everything about the Marvin Sliding French Door is precision milled and handcrafted. Even the harshest, most critical eye will find no staples, no nail holes, nothing to mar its beauty.

But the Marvin Sliding French Door is not only the most beautiful patio door made today, it's also the highest performing. In fact, it's the kind to meet and exceed Grade 60 Heavy Commercial standards for air, water and wind load.







What's more, its exclusive three-point locking system can withstand an incredible 1200 pounds of force, far exceeding

forced entry standards. And its top-mounted screen won't warp, rack, bend or come out of its track.

Simply put, the Marvin Sliding French Door is the finest door of its kind made today. Period.

And to insure its compatibility with virtually any project, we offer a full range of glazing options, divided lites, transoms and side lites plus over 50 exterior finish colors.

The Marvin Sliding French Door. In any language, it speaks quality loud and clear.

For more information or a catalog featuring the entire line of Marvin Windows and Doors, call **1-800-346-5128** (in Canada, 1-800-263-6161). Or mail the completed coupon below to: Marvin Windows, Warroad, MN 56763.

| Address | |
|-----------|-----|
| City | |
| State | Zip |
| PA-0044-6 | |



VIN DOORS

25

This library turned out so well, we just couldn't keep it quiet.

To light the magnificent new Hope College library in Holland, Michigan, we started with bookstacks containing 11-plus miles of bookshelves.

And illuminated every stack evenly from top to bottom with a fixture we developed specifically for this problem: The Litecontrol Stacklight. We then went on to illuminate study spaces and reading areas. And thousands of square feet of hallways and galleries.

What we did for Hope College, we can do for you. Including lighting calculations, layouts, mock-ups. We can even develop and test your special fixtures in our own photometric lab. In fact, we have everything you need to light your entire project.

Call now for our helpful guides to lighting schools, offices and libraries: 1-800-852-3455. (in MA: 617-294-0100). Or write us, Litecontrol, 100 Hawks Avenue, Hanson, MA 02341.

You'll find it pays to do a little light reading.





Circle No. 347

News Report





Evanston Library Competition Winners

The city of Evanston, Illinois, just north of Chicago on Lake Michigan, is known for the public attention it gives to issues of architecture and planning. When the citizens decided, after years of discussion, to replace the main public library, built circa 1960 and long since outgrown, they decided to hold an open design competition, thus placing architect selection for the \$23-million project outside the local arena of debate.

Scrutinizing the 378 design submissions was an intense three-day process for a jury that included architects Richard Whittaker, Donlyn Lyndon, Cynthia Weese, and Milo Thompson, and me (John Morris Dixon), plus the library director and two local government representatives.

Response to the setting on a major downtown street corner was a key criterion, and the client's wish to locate most public areas on only three floors left relatively little latitude on the limited site area. Probably the most demanding consideration was the requirement to build the new building in two roughly equal phases – the first stage, on land adjoining the present library, to function while the existing structure is replaced by phase two.

Jury members quickly identified timely patterns among entries. The majority of the architects, for instance, seized on the angled collision of two street grids at this corner, flaunting the angle in varying ways. A current preoccupation with shallow-vault roof profiles was also readily apparent – and no handicap, as the winning entries show.

The winning scheme, by Joseph Powell, a 28year-old Philadelphia architect, made two distinct volumes of the two phases, with the main entrance at the juncture. His layout of programmed areas was notably sensible and sensitive. The exterior form – reminiscent at once of Secessionist Vienna and early Wright – was particularly reassuring to the local citizens on the jury; it could hold its own among a motley assortment of downtown buildings and would not look like an alien intrusion.

The second place scheme, by Harrison Fraker, dean of the College of Architecture and Landscape Architecture at the University of Minnesota, made a single volume of the final building. It was notable for its clustering of the exceptional spaces (auditorium, etc.) at the entry end, with most of the floor area in loft-like open stack spaces. In this case the collision of angled grids was taken inside the building, where many partitions and book stacks are at angles to the building's envelope. This entry was cast in the classic role of the more daring solution that places second.

The third place design, by San Francisco designer Michael Blakemore, with architect Donald Sandy and Thomas Turkington, took a different approach, seen in many entries. The bulk of the open stack areas were housed in a simple loft structure running along the rear of the site, with special spaces in a series of distinct volumes that animated the street aspect and left small, but effective, areas along the sidewalk for public use and planting.

The winners split \$35,000 in cash awards. Honorable mentions (\$500 each) went to five architects or teams: Terry Dwan of Milan; Richard Gryziec of San Francisco; Mark Wentzell of Tonka Bay, Minnesota, with Debra Stiefel; Anne Tichich of New York; Beatrice Stern of New York, with Kurt Dillon. A selection of entries will be exhibited at the Evanston Art Center. John Morris Dixon Evanston Library winner by Joseph Powell (view from west, above right), second place by Harrison Fraker (from southeast, top left), and third place by Michael Blakemore with Donald Sandy and Thomas Turkington (from southwest, above left).



Simplicity is a virtue in P/A's Affordable Housing Initiative winner (above). Results on page 76.

27

Pencil Points

The Smithsonian Institution's recently established National Museum of the American Indian will have two homes: Venturi, Scott Brown & Associates has been commissioned to develop program requirements for design of a museum in Washington, D.C., and for a non-exhibition facility in Suitland, Maryland. Ehrenkrantz Eckstut & Whitelaw, New York, has been selected to design the museum's New York branch in the city's U.S. Custom House. The firm will restore the 1907 landmark and create a space for the museum on the first and second floors.

Architect T. Randolph Grange of San Mateo, California, has won the Grand Award in the **1991 Innovations In Housing** design competition, an awards program recognizing creativity in residential design using wood products. Citations of Merit went to: David H. Dimond, a student at Virginia **Polytechnic Institute & State University; designer Eric Fisher** of Boston: and architect John Reagan of Columbus, Ohio (P/A, July 1990, p. 62). The American Plywood Association. Better Homes & Gardens, Builder, and P/A sponsor the annual competition.

The February 23 fire at Philadelphia's One Meridian Place, which killed three firefighters, (P/A, May 1991, p. 29) is being blamed on linseed-oil-soaked rags left by an office renovation crew on the building's 22nd floor. The 38-story tower has no sprinklers on floors below the 30th.

The 78th Paris Prize student design competition, sponsored by the National Institute for Architectural Education, New York, has been won by Michael J. Morris, an assistant professor of architecture at Kansas State University and a Cooper Union graduate.





Kahn's Salk Institute with proposed addition by Anshen & Allen at its entrance (right in plan above).

Addition Planned for Kahn's Salk Institute

Construction will begin in September for a \$15.5-million addition to the Salk Institute for Biological Studies in San Diego, the 1961 masterwork of Louis I. Kahn. That news may startle Kahn's admirers, who last year were exercised over a proposed addition to Kahn's Kimbell Museum in Fort Worth (P/A, April 1990, p. 30). But the architects for the Salk addition, Anshen & Allen of Beverly Hills, California, say the new building will stand away from the Kahn originals and will neither imitate nor compete with them.

The new building is needed because of the



Steven Holl's "spiroid sector" for Dallas-Fort Worth, seen in his "Edge of a City" at the Walker Art Center.

growth of the institute itself as a research center. "We are very crowded for lab space," says Delbert Glanz, executive vice-president of the institute. Currently, 16,000 square feet of space originally intended for laboratories is consumed by administrative functions.

Unlike Mitchell Giurgola's rejected scheme for the Kimbell, the Salk Institute addition leaves the Kahn buildings untouched. The new 105,000square-foot entrance courtyard, meeting hall, and administrative building are to stand 150 feet east of the original complex. Project architect Jack MacAllister, a former Kahn employee who worked on the original Salk project, says that the entrance/ meeting hall does not violate Kahn's wishes, pointing out that the architect had originally planned some sort of entrance hall to the east of the existing complex. The current plan calls for a drumlike entrance hall flanked symmetrically by two wings. The auditorium is located underground, directly beneath the entrance. Travertine is used as cladding in the new buildings, as in the originals; unlike Kahn, the architects will not use teak in the elevations.

MacAllister expresses reverence for both Kahn and the Salk Institute buildings. He describes the original labs as "probably the best in the world," because of their large dimensions and flexibility. After nearly 30 years, and many changes of use, the labs remain essentially unaltered.

But MacAllister rejects the idea of leaving the site entirely unchanged; he claims Kahn himself would have rejected such a notion. (An earlier scheme by a different architect located the meeting rooms in an underground bunker, in a very un-Kahnian isolation from light, climate and society.)

The Salk Institute, says MacAllister, "is a living institution. It needs to change to continue functioning. You can't let it become just another museum." Morris Newman

With this issue, Morris Newman joins P/A as Los Angeles correspondent.

Steven Holl in Walker's Last Look at Tomorrow

The last of the six-part "Architecture Tomorrow" series of exhibitons at the Walker Art Center in Minneapolis, "Edge of a City" by Steven Holl, probes the hapless realm beween the suburb and the city. The show ostensibly aims to "explore strategies to counter sprawl at the periphery of cities [through] the formation of spaces rather than the formation of objects." Holl proposes six prototypes for Phoenix, Manhattan, Dallas-Fort Worth, Cleveland, Milan, and Fukuoka, Japan.

These prototypes become the organizing principle of the exhibition and are grouped in a seemingly random manner around the gallery space. Architectural models on pedestals, drawings, and photos on the walls, and a single large construction at one end outline Holl's working hypotheses for new building forms. These include "spatial retaining bars" (open architectonic forms describing an imaginary wall on the edge of Phoe-

News Report

nix), a "stitch plan" for Cleveland's periphery that places five giant "Xs" at crossover points from rural to urban areas, "void space/hinged space" for a recently built Fukuoka apartment building (a winner in the P/A Awards program, Jan. 1991, p. 114), and free association, or a "semi-automatic" programming strategy in a 1986 project for reuse of a Milan rail yard.

For the Lower West Side of Manhattan, Holl proposes a series of ultra-thin towers to address the experience of "passage/parallax" in a city. While it is difficult to see how the proposal would help to prevent sprawl in a setting as entrenched as Manhattan, the concept is fantastic enough to evoke the visionary work of Wright, Soleri, Tange, Archigram, and Fritz Lang.

Holl's concept of "spiroid sectors," proposed for the end of a Dallas-Fort Worth freeway, is embodied in the only large-scale construction in the show. Snakelike buildings twist and pass through themselves as in Celtic knotwork to form new urban spaces at the city's edge.

Of the six schemes, the Cleveland "stitch plan" has the richest possibility for actual application in this country. Holl's design for a dam/cultural center elaborates on one of the X points. The urban half of the X includes a hotel, a cinema, and a gymnasium, while the rural half contains a fish hatchery, an aquarium, and botanical gardens. The dam sews the two halves together. The Fukuoka project, on the other hand, would be difficult to foist upon Americans with their propensity for open space and low-density housing. Holl admitted during the show's opening talk that the Fukuoka building is in a highly developed urban area.

Unlike the other five exhibitions in the series. "Edge of a City" goes beyond mere exploratory theories and presents workable solutions to contemporary architectural problems. Organized by Mildred Friedman, the exhibition runs through June 23 at the Walker, then travels to the Henry Art Gallery in Seattle. Bruce Wright

The author is editor of INFORM Design Journal and teaches at the Minneapolis College of Art & Design.

National Gallery Celebrates Its Architect

By the time of his death in 1937, New York architect John Russell Pope had profoundly influenced the city of Washington - his National Archives, Jefferson Memorial, Constitution Hall, American Pharmaceutical Institute, and the Federal Triangle (for which he served as a design consultant) were complete, or nearly so, on or near the Mall. But the National Gallery of Art, arguably Pope's greatest work, was still four years from dedication.

The National Gallery, created through the drive of financier-industrialist Andrew W. Mellon (not least by donation of his vast art collection), turned 50 years old this spring. The Gallery is celebrating with an exhibition through July 7 on Pope's design for the building. The show includes original architectural drawings, detail studies, photographs, and an excellent 17-minute narrated slide presentation on Pope's work and influences.

Mellon, while serving as ambassador to England, studied London's National Gallery; its influence helped lead to his conviction that the U.S. capital city needed a great gallery to house art treasures. That influence is apparent in Pope's design, a Classical scheme inspired also by the City Beautiful movement and lingering images of Chicago's 1893 World Columbian Exhibition.

For reasons not fully enough explained in the exhibition, Washington's Commission of Fine Arts objected to Pope's planned dome above the Gallery's rotunda, although domed buildings had been contemplated for the Mall since the revered McMillan Plan of 1901. Under protest, Pope developed an alternate design sans dome. Compared in study drawings with elevations of the Archives and the National Museum (now the Smithsonian Museum of Natural History), the domeless version paled. Pope must have intended it so; at his insistence, the domed version prevailed. Another



alternate scheme, abandoned at Mellon's request, would have bridged across 4th and 6th Streets, with a wing occupying the triangular site on which I.M. Pei's East Wing now stands.

Of the 50 or so drawings presented, only one is credited to Pope himself - a rough initial sketch embodying basic features of the Gallery as it was eventually built. Nearly all the rest - beautifully rendered in charcoal, watercolor, crayon, gouache, and pen-and-ink - were produced by the remarkable hand of Otto R. Eggers, Pope's chief designer who, after Pope's death, implemented the design.

The well-researched slide presentation surveys Pope's other work, including the Baltimore Art Museum, additions to the Tate Gallery and the British Museum, and many grand houses. It also provides welcome details on the architect's life: Educated at Columbia and at the American Academy in Rome, Pope completed architectural studies at the École des Beaux-Arts, becoming in his day - and maybe for all time - America's leading practitioner of its teachings and traditions. **Thomas Vonier**

. Washington Report

With a resolution - albeit an uneasy one - of the Gulf War, attentions here have returned quickly to the state of the economy, or, as one commentator called it, "Operation Domestic Storm." Bleak prospects at home for the U.S. construction industry have many contractors continuing to look abroad.

Of major interest in this regard is the rebuilding of Kuwait. much of which will be accomplished by U.S. firms. Shortly after cessation of hostilities in the Gulf this spring, the Department of Commerce was answering over 6000 calls a day from construction-related firms seeking involvement.

The AIA international relations staff reports substantial interest among American architects in helping to restore Kuwait, but notes that priority is being placed on infrastructure and that building-related damage from the Iraqi occupation was much less than expected.

Nonetheless, statements of interest and qualifications are being accepted from architects by two entities concerned with Kuwaiti restoration efforts:

The U.S. Army Corps of Engineers, Middle East/Africa Projects Office, 385 Battaile Drive P.O. Box 2250, Winchester, Virginia 22601-1450. The Corps was retained by the government of Kuwait to oversee major rebuilding efforts, principally in the civil works area, and is issuing subcontracts for specific projects and tasks.

The Kuwait Foundation and Followup Center, 1510 H St. NW, Washington, DC 20005, attn. Dr. A. Al-Awadi. The Center is retaining U.S. firms to carry out particular aspects of reconstruction efforts. Submissions and inquiries are accepted only in writing, and the current volume of mail, the Center says, precludes any promise of a prompt reply. Beyond more or less immedi-

ate prospects in the Middle East, the U.S. building industry's global competitive posture has been addressed in several Congressional hearings, as well as in studies by the National Institute of Building Sciences, the Office of Technology Assessment, and (continued on next page)



Washington Report

(continued from previous page)

the Building Research Board. The conclusions are alarming: Some authorities assert that the structure and attitudes of American design and construction firms could relegate them to minor status overseas, where much of the action will be in the decades ahead. Others say that the U.S. itself is vulnerable to mounting foreign incursions in design, construction, and building product manufacture - citing such endemic problems in American firms as insularity, lack of integration, short-term focus, poor capitalization, and resistance to innovation.

But competitiveness studies to date have focused on construction, not design. This is curious, given that some of the same studies identify design as an effective platform being used by other countries to launch exports of related products and services. There has yet to emerge a serious, concerted effort to examine U.S. architecture and design on these terms.

The AIA's recently expanded international committee, whose first efforts were devoted to conferences on Pacific and European markets, is now structuring for the future and may be able to consider underlying issues related to the international competitiveness of the architectural profession. Such examinations would have to address the architectural profession's record and prospects in such areas as research, innovation, education, and training. They might also tackle questions of government policy and assistance.

The federal government could be more effective in promoting American design by making "exportability" an element of established professional recognition programs. The NEA's Presidential Design Awards, for example, could be revised somewhat to promote - and encourage improvements in - American design and building technology.

The advent of a united Europe in 1992, the rising strength of construction enterprises from the Far East, and a decline in U.S. domestic markets have many people concluding that it is time for American architects to take stock and set new directions. Thomas Vonier



The Piazza d'Italia today: "a magnificent ruin."

Hotel Plan to Destroy (or Save) Piazza d'Italia

In late March the New Orleans City Council without much public notice or outcry - voted to withdraw the designation of the Piazza d'Italia as a public park, apparently clearing the way for local developer Joe Canizaro's proposal to partially destroy the plaza and build an \$80-million hotel by Aubry Architects and Perez Architects around it.

Designed in the mid-1970s by the Perez firm and Charles Moore, the Piazza was immediately acclaimed and won a P/A Awards citation (Jan. 1976, p. 82). But the years have not been kind to this unique space: The complicated St. Joseph's fountain ceased operation and has not been repaired; neon tubes broke and were not replaced; marble and tile cracked; plants died and weeds grew; the Post-Modern paint scheme faded. Yet there is a romantic and not altogether frayed glory to the Piazza that sits well in New Orleans. Like many other things here,



Atrium of Henri Bendel store.

The New Henri Bendel: Paris in New York

New York City's current financial crisis does not seem to have affected its swanky Fifth Avenue shopping district; new shops are cropping up with surprising regularity. The newest addition is in the form of an old-world department store. Henri Bendel, a women's specialty store, has a new home on the Avenue at 56th Street: The landmarked Neo-Classical façades of the Rizzoli (1907) and the Piazza d'Italia is a magnificent ruin.

Adding a hotel to the Piazza is not necessarily at issue; in fact, uses such as this were originally envisioned as necessary components of the Piazza. But the anticipated development that would have generated traffic for the Piazza did not materialize until the current proposal was advanced last year.

For many, the problems of the proposed plan include the introduction of vehicular traffic into the Piazza, the destruction of a campanile, a tempietto, and an arch. The hotel would tower 21 stories over one side, blocking out the sunset in the process. The building's preliminary design (markedly improved by a public "think tank") can be described, charitably, as "Neo-Venetian."

In a city that values architectural icons, the threat of irreparable damage to this Post-Modern icon has generated little interest beyond three articles by the Times-Picayune art critic and a series of letters to the editor from some of the architects involved in the original design and from Canizaro and Perez. Preservation groups have, to date, been mute.

As usual in a stagnant economy, jobs are a major justification for this development; in addition, proponents argue that the hotel plan will provide for the maintenance of the Piazza, albeit in a different context. And although Moore has said that the proposed development is "the most heinous of acts against the Piazza," it appears to many that a portion maintained is better than the whole in ruins. William Lake Douglas

The author is a Ph.D. candidate in Urban Studies at the University of New Orleans.

Coty (1908) buildings have been connected to a newly designed infill townhouse to create a tripartite façade. The Coty building is the most remarkable, with a three-story window of etched vines and poppies by master glass artist René Lalique. Beyer Blinder Belle, New York, is responsible for restoration and new design.

Inspired by Parisian houses of couture circa 1920, the new 79,000-square-foot Bendel's is the brainchild of Leslie Wexner, CEO of The Limited and the patron of Peter Eisenman's Wexner Center at Ohio State University (P/A, October 1989, p. 68). Wexner bought Bendel's in 1985 and quickly implemented plans for a new flagship store and branches in Columbus, Chicago, and Boston.

A four-story atrium and two elliptical stairways, interspersed with a promenade of boutique-like enclaves, provide a grandly scaled mecca for Bendel's wealthy clientele. The atrium, entered through the façade of the Coty building, is the store's most elegant space, with iron railings and balconies lining the perimeter of each level, allowing visitors a close-up view of the Lalique glass.

Beyer Blinder Belle, with Charles Hinson and James Mansour of Limited Store Design and an extensive group of design consultants, has recreated a time when department store shopping was an all-day affair of luxurious surroundings and fawning salespeople. Abby Bussel

30

TRANSFORM DAMAGED, UNEVEN WALLS INTO BEAUTIFUL INTERIORS WITH NEW ACROVYN PRELAMINATED WALL PANELS.

Now you can easily resurface badly damlar block interiors.

New Acrovyn Prelaminated Wall Panels are available in 16 textures and 64 colors in floor to ceiling or wainscot heights. The entire system is

completely integrated and includes accessory aged drywall, old ceramic tile, even irregu- moldings and protective components. Panels are 3/8" thick with a high density, rigid fiberboard core that provides five times the impact resistance of a standard 1/2" gypsum board wall. The system is Class I Fire Rated and may be used with equal ease in new construction. Standard and custom sizes are available.

> For complete details call toll free 800-233-8493. The C/S Group.

ACROVYN[®] INTERIORS

Patent Pending



"You're going to do what to the cellular phone in this commercial? Run over it with a golf cart? I sure hope you guys know what you're doing."

That was Lee Trevino's reaction when he was told the kind of abuse that was in store for the Motorola MicroT•A•C™ Digital Personal Communicator during the shooting of his first commercial for Motorola.

Well, not only was the Micro T-A-C able to withstand the pressure of a heavy golf cart, but its durability thoroughly impressed Lee Trevino.

"I saw the Micro T-A-C



dropped, bumped, thrown and muddied," said Trevino. "They did just about everything," he added, "but hit it off a tee with a three wood. Yet, after all that abuse, it performed like a champ. It's obvious that the Motorola cellular phone is put together to stay together." "A lot of people call me a durable player," concluded Trevino, "and if I continue to hold up as well as my Motorola phone, I'll be on the tour for a very long time."

The way we put them together sets us apart.

MOTOROLA

Testimonial reflects actual events 🛞. Motorola and Micro T-A-C Digital Personal Communicator are trademarks of Motorola, Inc 🛛 1991 Motorola, Inc. 1-800-331-6456

Calendar

Exhibitions

Rookie California Architects Through June 28

New Chicago Architecture Through June 30

Architectural Sculpture Through October 31

Stanley Saitowitz June 6-August 25

New York AIA Design Awards June 11-August 18

San Francisco. Projects by young Californian architects were chosen for exhibition in "3 by 3 plus 9" through a competition seeking "work that boldly investigates alternatives to how architecture is conceived and made..." The Architectural Foundation of San Francisco and the AIA/San Francisco Chapter are co-sponsors. Contract Design Center.

Chicago. An eclectic mix of projects for Chicago or by Chicago architects, built, unrealized, in progress, or on hold, will be exhibited. Cesar Pelli's proposal for the 125-story Miglin-Beitler Tower - which would render the Sears Tower number two in the tallest building category - is among the work shown. John Hancock Center.

Mountainville, New York. "Enclosures and Encounters: Architectural Aspects of Recent Sculpture" includes works by Dennis Adams, Siah Armajani, Alice Aycock, Donna Dennis, Lauren Ewing, and Dan Graham. Storm King Art Center.

San Francisco. In "Geological Architecture," Saitowitz's theory of site and structure as a formation of geology is symbolically realized with an installation of 20 models floating on a glass, wood, and steel structure. The show was designed for the Walker Art Center's Architecture Tomorrow series. Museum of Modern Art.

New York. Drawings and models of winning projects in the New York Chapter/AIA's 1991 Design Awards Program will be exhibited. Architrope, Gwathmey Siegel & Associates, Kohn Pedersen Fox, Walter Chatham, and Deamer + Phillips are among this year's winners. New-York Historical Society.

. Competitions

Registration deadline June 28

Lombard, Illinois. The Society of Registered Architects has announced its 1991 National Design Awards Competition. Submissions, categorized by cost and project type, may be submitted by SARA members and non-members (the latter with the Society's annual membership fee in addition to the entry fee). Contact N. Michael Griffith, 1991 PDA Program Chairman, SARA National Headquarters, 1245 S. Highland Ave., Lombard, IL 60148 (708) 932-4622.

Warsaw, Poland. The Association of Polish Architects and Society of Polish Town Planners have announced an international ideas competition to create a master plan for a site in central Warsaw (including the Palace of Science and Culture, green spaces, and public areas) envisioned as the city's future economic core. Registered architects and architect-led interdisciplinary teams may enter. Contact Centrum Warszawy Konkurs, Stowarzyszenie Architektow Polskich, Oddzial Warszawa, U1. Foksal 2, 00-950 Warsaw, Poland, tel. 27 87 10 or Telex 825380.

(continued on next page)

WALK THE STREETS OF EUROPE WITHOUT GOING THERE!



eurocobble®

Natural granite cobblestones...the same stones from the quarries that have paved the streets and walkways of Europe for centuries.



eurocobble®

Pre-assembled in modules to facilitate shipment and installation.

Exclusive U.S. Importer:

MICHAEL VANDEVER ASSOCIATES © 4265 Lemp Avenue, Studio City, CA 916O4 (213) 877-5012 Circle No. 337 NEW YORK (212) 627-5803 Circle No. 337

SARA Design Awards

Warsaw City Core

Registration deadline July 1



AVOID DAMAGE AT FLOOR LEVEL

WITH PAWLING'S NEW PRO-TEK® BB-4 COVE BASE SYSTEM

With the introduction of the Pro-Tek Cove Base System, Pawling Corporation now offers a unique line of impact protection products from floor to ceiling. The Cove Base System protects expensive dry wall finishes and wall coverings from scrapes, scuffs and dents caused by the impact of carts and maintenance equipment.

The easy-to-clean rigid vinyl cove base is available in thirteen colors, with matching inside/outside corners and end caps.



Pawling's vinyl cove base now can be coordinated with other Pro-Tek wall guards, handrails, door protectors and wallcoverings to form a unified, integrated protective trim system.



For more information on Pawling's BB-4 Vinyl Cove Base System, call for our full color product literature.



Religious Buildings/Sacred Projects

Entry form deadline July 10, submission deadline August 14

Precast/Prestressed Concrete Prizes Submission deadline July 31

"Another Glass House" Submission deadline September 9 Calendar (continued from previous page)

Washington, D.C. The Interfaith Forum on Religion, Art, and Architecture has announced a call for entries in its 1991 IFRAA International Architectural Design Awards Program. Registered architects may submit a work of architecture, a restoration, renovation, or an interior design project completed after 1986 that serves as or supports a religious facility. Design, liturgical sensitivity, programmatic solutions, budget and site constraints, and community impact are considered. Contact IFRAA National Headquarters, Doris Justis, Executive Secretary, 1777 Church St., N.W., Washington, D.C. 20036 (202) 387-8333.

Chicago. The Precast/Prestressed Concrete Institute has announced its 1991 Design Awards and Industry Advancement Competitions. Architects, designers, and engineers may submit projects (in either the general structures or bridges categories) in the U.S. or Canada that use plant-manufactured precast/prestressed concrete or architectural precast concrete. Projects that "preview the next generation in precast/prestressed technology on materials, products, processes, and applications" may be entered in the Harry H. Edwards Industry Advancement Competition. Contact PCI, 175 W. Jackson Blvd, Chicago, IL 60604 (312) 786-0300.

Tokyo. Philip Johnson and Tadao Ando, jurors for the Shinkenchiku Residential Design Competition 1991, challenge entrants with the following statement: "... in the 1990s, might not there be other, as yet unexplored, possiblities (other than those that involve the distortion of the Cartesian grid) for steel and glass structures?" "Another Glass House" is this year's competition theme. Entries must never have been made public; they will not be returned. Contact Entries Committee, Shinkenchiku Residential Design Competition 1991, Shinkenchiku-sha Co., Ltd., 31–2, Yushima 2-chome, Bunkyo-ku, Tokyo 113, Japan.

| • | • • | • | • | • | • | • | • | • | • | | • | • | • | • | • | |
|--------|-------------|------------------|-----------------|-----------------|----|-----|-----|----|----|----|----|---|---|---|---|--|
| E J | colo une | ogi 21 | ; | 22 | Ci | tie | 95 | | • | | | | | | ÷ | |
| J | uly | da 22 | bl –2 | e 6 | Ho | | siı | ng | | | | | | | | |
| S J | tan uly | for 25 | d -2 | De | si | g | n (| Co | nf | er | er | | | | | |
| | | | | | | | | | | | | | | | | |

Conferences

.

Los Angeles. Participants at the first Ecological Cities Conference, "Urban Growth and the Environment: Forging A Partnership For Our Future," will discuss state-of-the-art ecological practices and principles. Architects, designers, city planners, and developers may attend. Contact Conference Information (213) 662-5207.

Cambridge, Massachusetts. Harvard University Graduate School of Design is, for the second year, conducting a five-day institute on the design, development process, financing, and management of affordable housing. Six courses are offered, and a catalog is available. Contact Office of Development and External Relations, GSD, Harvard University, 48 Quincy St., Cambridge, Mass. 02138 (617) 495-4315.

Stanford, California. With presentations by architects, industrial and graphic designers, critics, and representatives from allied disciplines, the 15th Stanford Conference on Design is billed as a forum for informal exchange between speakers and conferees. Contact Beverly Smith, conference director, Stanford Alumni Association, Bowman Alumni House, Stanford, CA 94305–4005 (415) 723-2027.

KER'LIFE[®]

A DOUBLE WINNER

There are certain things that, even if treated badly, still manage to give their best. A case in point is KER'LIFE produced by Ceramiche CO.EM., the first and only "SINGLE PRESSED" ceramic tile whose fully vitrified surface can also be polished. The unique innovation offers a number of special features that make it not only the newest and the best but also the latest. It is thus the ideal tile for every use even the most demanding. From the rigours of a northern winter to the steamy tropics, from high traffic shopping Centers to the most elegant home, this new state-of-the art ceramic product used for floors or walls alike, combines perfectly with whatever space it is called upon to enrich with its special touch. The gently coloured by extremely strong natural version is ideal for those who need a floor whose performance is at the upper limits. The polished version is at once elegant and refined for those who want a prestige and light filled setting. KER'LIFE from CO.EM. is always that "different" product in 9 intense and multicoloured shades all entirely light-fast and non-absorbent. The result is a surface that matches an almost maintenance free tiles with beauty down through the years. This new polyhedral structure ceramic material - a fine mix of all that is traditional and absolute innovation can rightly be described as "A DOUBLE WINNER".



CO.EM. reminds you KOLOR'KER the first product, single fired, dry-pressed, in MONOPRESSATURA, with atomized dry-glazes at high wear resistance.

Circle No. 306

Send your visiting-card with this coupon and you will receive, free, all literature on our products. Our address: CO.EM. CatRAMICHE COTTO EMILIANO s.r.l. Via Stradone Secchia, 32 42010 Roreghia di Castellarano (RE) Italy P.A. '91


Collage. The new art of assemblage.

It takes a special vision

to transform the familiar

A new collection of

The art of Collage.

versatile guest seating

Eight models in

All compatible. And elegant.

And all equally comfortable.

eight differing styles.

from Kimball.

into art.



Collage.

Multiple choices from

a single source.



Kimball Office Furniture Co. A Division of Kimball International Marketing, Inc. 1600 Royal Street Jasper, Indiana 47549 1-800-482-1616 Canada 1-800-635-5812 Designed by Earl Koepke.

...

There's only one standard. And with 516,347 customers worldwide, AutoCAD* is the computer-aided design and drafting software standard for the AEC industry.

Start with applications.

Hundreds of thousands of architectural engineering professionals are using AutoCAD every day to design everything from airports and shopping malls to homes and office buildings. Yet AutoCAD's contribution doesn't stop there.

Then exchange ideas. Architectural drawings prepared with AutoCAD can be shared with many other engineering disciplines, such as civil engineers, mechanical engineers, construction contractors, interior designers and facilities planners. AutoCAD eliminates boundaries because its drawing files can be shared between many types of computers without conversions that can reduce accuracy and alter data content.

Circle No. 359





And cover all the bases.

AutoCAD not only runs on a range of personal computers, but also on powerful engineering workstations from Apple, Apollo, DEC and Sun. And AutoCAD models are excellent input for rendering and animation software, such as AutoShade® 2 with Autodesk RenderMan® for photorealistic images and Autodesk 3D Studio™ for dramatic walkthroughs.

AutoCAD is your safest bet. And the smart choice. It's easier to find trained AutoCAD professionals since it's the world's most widelytaught CAD software. And there are hundreds of products that adapt AutoCAD to work just right for you. For more information, call Autodesk today at 800-445-5415.



AUTODESK







ACI Glass "Classic" products offer architects and designers the freedom to create special visual effects which enhance beauty, function and space. Our Classic Door selection offers a full range of custom entry applications to meet virtually any interior or exterior need. Classic Vision Systems are structurally sound, all glass walls and entrances which provide total visibility without sacrificing strength or security. Classic Handrails are strong, transparent railings which combine attractive glass tints and hardware to produce functional beauty without loss of space.

Classics...the beautiful, first quality glass products backed by more than 100 years of manufacturing experience.

For details, phone 1-800-238-6057 or FAX# 901-683-9351



AT LAST, THE FABRIC INNOVATION PEOPLE HAVE SEARCHED FOR **SINCE 2640 B.C.**

New MICROMATTIQUE[®] creates the first fabrics finer than silk.

It's history in the making.

More than 4,500 years after the discovery of silk we've uncovered something infinitely more luxurious. DuPont Micromattique[™] microdenier polyester.

The fiber that makes fabrics more refined. Our microdenier fibers bring vivid,

long lasting colors to upholstery,

DU PONT WHERE LUXURY BEGINS

draperies and table linens. Keeping them richer, sharper, longer. Suddenly, textures become more sensuous, and every fabric it touches assumes the delicate hand and sumptuous drape of precious silk.

Which, the way we see it, makes Micromattique[™] a most impressive find. To learn more, call 1-800-342-7345.



Du Pont trademark for its microdenier polyester fiber made only by Du Pont

Circle No. 348

Technics Small Lot Housing Typology

Architect James W. Wentling reviews recent trends in lots for high-density

single-family housing – and some of their shortcomings.

The 1980s was a decade of rapid change for the housing industry, both in output and in new types of development. Maturing baby boomers entered the for-sale housing market at a furious pace and housing starts were driven to record highs of approximately 2 million units annually by middecade. This strong demand for new houses caused residentially-zoned land to skyrocket in price. New planned communities had common amenities that had to be amortized over the individual parcels. Demand for infill sites with convenient access to employment and transportation was also on the rise.

In an effort to keep individual lot prices in line for the delivery of reasonably priced housing, production builders began to experiment with concepts for smaller lots that would yield new higher-density versions of the detached singlefamily house. One would think this would be a welcome change for the planning and design community, but the new programs came with strings attached. While being asked to increase - or even double - typical densities of 3 to 4 units per acre, designers still needed to incorporate excessively wide streets, increased auto storage, and generally ranch-style footprints. Some of the resulting architectural solutions raise serious questions in terms of community design, streetscape, and overall neighborhood quality.

Housing Market Overview

In any given year, the housing industry starts between one and two million units. Of those starts, between two-thirds and three-quarters are singlefamily detached houses. The remainder consists of attached and specialty housing. This reflects the market's overwhelming preference for freestanding dwellings, still in many ways representing the "American dream."

Industry analysts generally recognize that forsale housing is divided into three profiles that represent the life-cycle of a typical household. These comprise the first-time buyer, the move-up buyer, and the empty nester. It is important to note that during most of the 1980s, the move-up buyer accounted for two-thirds of all the detached houses sold. This dominance of the move-up buyer is the key to understanding the need for, and the problems associated with, new higherdensity/small lot houses. Move-up program requirements include more interior square footage, two- or three-car garages, and exterior amenities such as swimming pools. These normally call for an increase in lot size. Instead, planners and architects were called on to do just the opposite, and put a larger program on a smaller lot.

Small Lot Housing Defined

Just how small is a "small" lot? The answer depends largely on accepted standards for the region and the local market. In Southern California, production builders have been delivering houses on lots as small as 3,000 to 4,000 square feet, yielding 7 to 8 units per acre, while on the East Coast, lots from 5,000 to 7,000 square feet



1 The U.S. has a history of fine, small lot, narrow side yard houses predating the automobile era.



2 Bungalows were often built at 6 units per acre. Some had side yard driveways and rear garages with a "drive-through" design, exiting into an alley.

producing densities of 4 to 6 units per acre may be considered small.

The key issue in evaluating small lots is coverage – the ratio between the sizes of the lot and the footprint. While a 6,000-square-foot lot may be

| Tec | hn | ics |
|-----|----|-----|
|-----|----|-----|

| Small Lot Housing | 45 |
|---------------------------|-----|
| Affordable Streets | 51 |
| Housing Definitions | 5 |
| Technics-Related Products | 150 |
| | |

.

Density and Beyond

Just as there are many ways of calculating building floor area, "density" depends on how you measure it. Gross density describes the number of units per acre of initial, undeveloped site. Net density describes the number of units per acre of developed site, excluding the land for streets and other easements, common open space, wetlands, and other protected or dedicated public areas. Neither describes the challenge of the site planner, whose developable area excludes open space and protected lands, but which includes the street system.

While the "density zoning" provisions of cluster and planned unit development ordinances went a step beyond regulating density by minimum lot size, neither deals directly with the demand of new development on the community infrastructure of road, school, sewerage, and water systems, and police, fire, and trash pickup services. The third generation of zoning controls (variously termed impact, performance, and flexible zoning) relates allowable intensity of development to load on the infrastructure and natural environment. Such zoning may allow, for example, more attached units on a site than detached units, because the former are characterized by fewer auto trips and school-age children, less wastewater, less building and driveway coverage, and more efficient in-ground public utilities (more units per lineal foot).

Although now more than 20 years old, flexible zoning is more difficult to administer than the old minimum lot size standby, and has been slow to catch on. It is, nevertheless, a tool that site planners should know. **Kenneth Labs**





3 The zero-lot-line house emerged on the West Coast as an attempt to make better use of the side yards of a lot by aggregating them together on one side. This was driven primarily by the exceedingly high cost of land.

4 On the East Coast, cluster planning emerged as a way of preserving some natural site features by aggregating together on smaller lots the number of units permitted by normal, larger lot zoning. The gross density stays the same, but the net density increases. adequate for a 2500-square-foot, two-story house, that same program in a ranch configuration with a three-car garage and a swimming pool makes cramped conditions. In this author's opinion, when the house footprint exceeds 30 percent of the lot size, the lot should be considered small.

Recent designs for small lot houses have been developed in many shapes and configurations, including narrow, wide, alternating, clustered, and zippered. In all cases, the interior layout of the house must coordinate with the lot shape in order for the overall design to function properly. Major interior rooms, such as living, kitchen, and bedrooms, should focus on the limited yard area, while blank walls are provided in other minor rooms to buffer the adjacent houses.

Early Small Lot Houses

Small lot housing, of course, is not new. Prototypical atrium houses of the Roman Empire come to mind. In American history, the narrow "side yard houses" of Charleston, South Carolina, are good examples (1). From the middle part of this century, many cities had automobile subdivisions with closely spaced bungalows or cottages yielding overall densities around 6 units per acre (2).

Since the 1960s, two significant small lot prototypes have emerged, one on each coast. In California, the zero-lot-line house was introduced, not necessarily as a means of increasing density, but as a more intelligent use of side yard setbacks. Rather than having a small yard on each side of a house, the concept aggregates the land into one, larger, usable yard that faces a blank wall of the adjacent structure (3). When the blank wall is set on the property line, it has a "zero" setback. Zoning controls give the owner an easement on the neighbor's property for the maintenance of the exterior of the blank wall and prohibit attaching units across the property line.

On the East Coast, an alternate concept of cluster housing emerged. This practice was a response to environmental goals of concentrating density in one portion of the site to preserve natural areas on other parts of it. Cluster houses are usually located close together around courts or cul-de-sacs (4), with blank walls often being used for privacy. While zero-lot-line houses generally retain the rectangular lot and street pattern, cluster houses are often sited along curvilinear streets with irregular shapes.

When many of the early zero-lot-line and cluster house communities first appeared, the singlefamily market was geared to the first-time buyer. Houses were generally small (1000 to 1400 square feet) to be affordable. It was not until the market shifted to the move-up buyer that the unit-to-lot relationship became more difficult to resolve.

Recent Small Lot Variations

Possibly the oldest and most problematic small lot configuration is the narrow zero-lot-line type (5). This prototype evolved as a result of pricing lots by the "front foot," or dimension facing the street. Because road development is the most significant cost in upgrading raw land to improved lots, it stood to reason that the less frontage, the lower the cost of the improved lot . Lot frontages shrank to 35' to 50', with typical depths ranging between 90' and 120'.

In providing a move-up program on a narrow lot, some of the worst consequences of small lot







housing become apparent. The garage is moved forward, adjacent to the street, to avoid "wasting" precious lot area with driveways. In most cases, the garage provides for two and sometimes three cars, meaning the width may consume over 50 percent of the street frontage. Entries are moved back to the middle of the elongated house (6) so that internal circulation is more efficient. Often, there are no rooms over the garage, leaving no habitable spaces facing the street. This gives the development a ghost town character with little visible sign of life inside the houses (7).

In one sense, the street view of a narrow lot community resembles the "interior alley" subdivision concept, where garages were accessed from a common rear driveway. The question arises as to whether narrow lot communities have, in fact "flipped" the traditional orientation of houses away from the street and sidewalk to the rear portion of the house.

The Z-Lot

Concern about the negative impacts of narrow lot designs brought about a new variation – the Z-lot. This descendant of the narrow lot rotates the longitudinal axis of the house about 30 degrees to the street (8). The stated goal of the Z-lot is to resolve the drawbacks of the perpendicular narrow lot by exposing more of the house's perimeter to the street. At the same time, the Z-lot's property lines jog to form a "Z" shape, concentrating yard space in a more usable configuration. Like zerolot-line housing, Z-lot developments feature one or several blank walls to ensure privacy.

While proponents of the Z-lot are correct in stating that more frontage of the house is exposed

to the street, the negative aspect is that much of the additional exposure is garage, instead of habitable space. The entry area is generally visible from the street, improving visitor orientation and community appearance, but the balance of the house is internalized and faces the rear of the lot (9). The Z-lot solves some, but not all, of the problems associated with narrow lots.

Wide/Shallow Lots

Another response to the shortcomings of the narrow lot was a concept called "wide and shallow" lots. This prototype returns the longitudinal axis of the house parallel to the street, with open space orientation to the front and rear of the lot (10, 11). This shift was a major breakthrough in small lot theory by elevating community design concerns over reducing road and other land development costs. To accomplish the wide lot concept without sacrificing density, rear yards are shortened to depths that may approximate the lot width. A typical wide/shallow lot size may be square, for example, 70' wide by only 70' deep.

Wide/shallow lots were a well-calculated risk for home builders. Would buyers absorb higher prices brought about by the land development costs? The answer was a resounding "yes," as buyers and the industry press responded favorably. Although wide/shallows were generally seen as a major improvement in small lot development, there are also negative features. Chief among them is the close proximity of the rear walls of neighbors. With rear setbacks as little as 10' or 20', distances between units compromised privacy, and often diminished access to natural light. Moreover, the increased frontage of the houses prompted builders to re5 The most problematic small lot configuration is the narrow zerolot-line. With frontages as little as 35 feet, designers often needed to include a two-car garage that ultimately overwhelmed the street elevation of the house.

6 The street view of a narrow lot community often resembles an alleyway dominated by garages.

1 The entrances of narrow lot houses are often recessed and not visible from the street. In some cases, there are no habitable rooms facing the street.

8, 9 The Z-lot concept attempts to mitigate problems associated with narrow lot design by rotating the axis of the house approximately 30 degrees. This exposes more of the entrance of the structure to the front yard.

Progressive Architecture 6.91

48

the longitudinal axis of the house parallel to the street, with open space oriented to compressed front and rear yards. It was a major breakthrough in small lot thinking, in elevating community design concerns over increased site development costs.

10, 11 The wide/shallow lot returns

12 Zipper lots are a variation of wide/shallow lots that jog the rear property line back and forth, to "cluster" private, usable yard area.

13 Alternate lots combine wide and narrow lots along a curvilinear street, to achieve neighborhood variety.

14, 15 The "manor house" approach to attached housing uses asymmetrical façades and other design concepts to present the image of a single, unified structure grander than the individual units.

16 In attached singles, the idea is to individualize each unit by clearly expressing breaks between them at party walls.



quest designs that incorporate three-car garages which, in many senses, defeats the original aim of getting more habitable space facing the street.

The Zipper-Lot

Just as the Z-lot responded to narrow lots, designers applied the same principles to the wide/ shallow concept to counter some of its negative aspects. The result came to be known as "zipper lots," because the rear lot line jogs back and forth, alternately, in order to aggregate the open space in one portion of the site. The rear lot line usually jogs so that it moves flush against a blank wall of the adjacent rear house (often the rear wall of the garage) to create a more usable, squarish yard (12). While this helps establish the rear yard from a territorial viewpoint, the distance between buildings remains problematic.

Other Small Lot Concepts

Other variations of small lot housing have further developed the theme of combining jig-sawpuzzle lot lines with blank walls. One concept worthy of special note is the idea of "alternate lots," which combines narrow lots with wide lots in an alternating fashion along a curvilinear street (13). Most of these small lot prototypes first appeared in California and the sunbelt states.

Along the East Coast and in the Midwest, smaller lot schemes have generally been less complicated and often much less dense. In many cases, smaller lots meant simply reducing the size of the lot from 90' by 140', or approximately 12,000 square feet, to something like 60' by 100', or 6,000 square feet. Perhaps the boldest idea to emerge in the East is the single-family condominium,





whereby lot lines are abandoned altogether and numerous detached units are built on a jointly owned lot. The assumption here is that house buyers are ready to relinquish territorial concerns in favor of commonly maintained exterior yards.

Attached Housing

In some cases, regulatory or environmental problems favor attached housing over stand-alone dwellings. Most current designs work toward mitigation of the negatives associated with multifamily houses, such as lack of privacy and lack of individual identity. Two common approaches are to make the smaller house part of a greater whole and to individualize the house.

A good example of the first approach is the "manor house" concept. In the case of side-by-side units, for example, rather than mirror the same elevation across the party wall, the manor house uses an asymmetrical façade that gives the pair of units the appearance of a single structure. Roof lines and window treatments are usually varied, and entrances may be pulled apart to avoid the side-by-side look (14, 15). A different floor plan on either side of the common wall will help.

The manor house approach may be used on triplexes, quadplexes, and even stacked-flat multiple-unit buildings, to convey a sense of living in a larger, grander structure. The concept itself is not a new one, as it recurs in different periods of architecture.

The opposite alternative to the manor house is that of "attached singles." Here the idea is to minimize the attachment by reducing the party wall length or otherwise individualizing the units. Party walls clearly express a break that can be



emphasized with a horizontal or vertical change in the façade or a change in materials, for example (16). The goal is to make each house stand out as a single unit and to mitigate multifamily privacy and acoustical separation problems. To that end, entrances may again be separated and individualized, along with open space orientations. The attached singles concept can be used on any number of units, and is a common contemporary approach to the historical townhouse or rowhouse in new communities.

The Future of Small Lot Housing

Demographics indicate that aging baby boomers will continue to fuel the move-up market through the 1990s. Their numbers (35 million people) and economic strength will be a dominant force in the continuing demand for higher-density, small lot housing.

Residential development professionals should encourage thoughtful debate about the qualitative issues of higher-density housing prototypes. While great strides were made during the 1980s, there is still a need to improve community design standards to the level found in older neighborhoods, now very much the focus of "neo-traditional" town planners.

Planners and architects have been advocating the benefits of higher-density living for years. Increased density has been cited as a positive direction in terms of affordability and decreasing energy consumption. While these arguments are sound and overall density standards will probably continue to increase, building forms must accommodate these density increases appropriately. James W. Wentling, AIA The author is a principal of James Wentling/Architects in Philadelphia. He was co-editor of the Urban Land Institute's Density by Design, and recently served as Chair of the AIA Housing Committee.

Recommended Reading

Affordable Residential Land Development: A Guide for Local Government and Developers, #005039, HUD User (800) 245-2691, 1987, 117 pp.

Cost Effective Site Planning: Single Family Development, NAHB Bookstore, Washington, D.C. (800) 223-2665, 1986, 144 pp.

Density by Design, J.W. Wentling and L.W. Bookout, editors, Urban Land Institute, Washington, D.C. (800) 321-5011, 1988, 173 pp.

Flexible Zoning, D.P. Porter, P.L. Philips, and T.J. Lassar, Urban Land Institute, Washington, D.C. (800) 321-5011, 1988, 200 pp.

Higher Density Housing, NAHB Bookstore, Washington, D.C. (800) 223-2665, 1986, 155 pp.

Housing As If People Mattered: Site Design Guidelines for Medium-Density Family Housing, C.C. Marcus and W. Sarkissian, University of California Press, Berkeley (800) 822-6657, 1986, 324 pp.

Land-Use Regulations Handbook, National Institute of Building Sciences, Washington, D.C., (202) 289-7800, 1990, 87 pp.

Residential Development Handbook, 2nd ed., L.W. Bookout, Urban Land Institute, Washington, D.C. (800) 321-5011, 1990, 413 pp.

Time-Saver Standards for Residential Development, J. De Chiara, editor, McGraw-Hill, New York (800) 2-MCGRAW, 1984, 910 pp.

Zero Lot Line Housing, D.R. Jensen, Urban Land Institute, Washington, D.C. (800) 321-5011, 1981, 150 pp.

Meets all criteria.

Intelligent aesthetics...uncompromising design...flawless function. These are a few of the terms used to describe our new lever handle cylindrical lockset. Officially called the 9K Series, the design not only pleases the senses but affirms Best's reputation for unequalled excellence. In addition, it comes available in all the functions of a standard cylindrical lockset.



BES

Specify the locking system that meets your discriminating criteria for form and function.

Contact your Best representative by calling or writing Best Lock Corporation, P.O. Box 50444, Indianapolis, IN 46250, 317-849-2250, FAX 317-845-7650.





Available in three lever and four rose designs. The Best interchangeable core is standard.

BEST LOCK CORPORATION

Technics Topics: Affordable Streets

The costs of excessive street widths can be avoided

through a performance approach to street design.

"Affordability" is a relative term, but however you define it, the cost of housing carries with it the improved cost of the site. In 1949, land and lot development costs made up 11 percent of the selling price of a new single-family house. By 1969, this had risen to 21 percent, and in 1989, the finished lot accounted for 22 percent of the selling price.¹

Municipal officials often talk about "getting" something for the municipality from the developer during the plan approval process. Too often, however, what the municipality gets are streets that are too wide. This "costs" the developer once, whereas buyers and other residents pay endlessly through mortages and taxes for excess asphalt that has to be maintained, and for revenues lost to untaxable right-of-ways.

In addition to these cost considerations, planners in Bucks County, Pennsylvania, recognized that excessive street widths were also partly responsible for the failure of new housing developments to capture the charm of the county's more picturesque boroughs and its rural hamlets. The County Planning Commission responded with a research effort that culminated in Performance Streets,² an annotated model ordinance that extended the county's performance approach to zoning. The annotations which make up the bulk of the document - discuss residential street design, traffic safety, and transportation planning, so that municipal officials can understand the engineering criteria and non-engineering assumptions contained within it.



1 Residential streets can be classified according to the number of average daily trips generated on or carried by them.

They also explain to developers and site planners the concerns of the municipality and the spirit of the ordinance.

Many of the tenets of Performance Streets have been incorporated in such texts as the second edition of Residential Streets, issued jointly by the American Society of Civil Engineers, the National Association of Home Builders, and the Urban Land Institute,³ The Subdivision and Site Plan Handbook from the Rutgers University Center for Urban Policy Research,⁴ and the Urban Land Institute's Residential Development Handbook.⁵ The Rutgers Handbook reviews the most recent regulatory thinking and the Institute of Transportation Engineers' new Guidelines for Residential Subdivision Street Design⁶ describes engineering criteria. All of these standards apply to new streets. They do not address urban conditions where traffic lights

or traffic impact studies may be desirable.

A Performance Approach

The performance approach to street design relates the physical attributes of streets widths, parking service, and design speeds, for example - to their place in the broader municipal road system and the uses of the land fronting on them. This idea is hardly a new one, not even to the turn-ofthe-century planner Charles Mulford Robinson (to whom we owe the expression "The City Beautiful"), who appealed for a distinction between the major "tidal traffic streams" of business and commerce and those minor streets that harbor the "little eddies left at the side" that offer residents refuge from the main thoroughfares.⁷ Like Louis Kahn, who took up the river-and-tributary metaphor in his Philadelphia plan half a

Tech Notes

Advanced Lighting Guidelines from the California Energy Commission contains chapters on design practice, luminaires, ballasts, lamps, and computer design methods. Tables compare efficacies, energy use, footcandles, color temperatures, ballast factors, and more, making this a practical desk reference. CEC, Sacramento (916) 324-3015, 107 pp., \$4.90.

Preventing Leaks in Metal Roofing, Monograph 07M611 by Richard Schroter, focuses on sealant placement and behavior, underlayments, expansion and contraction, joints, closures, and sheet metal practice in detailing standing seam roofs. It applies to both fieldfabricated and structural panels. CSI, Alexandria, Virginia (703) 706-4742, 20 pp., \$10.

The first chapter of George Garber's *Design and Construction of Concrete Floors* is titled, "A Philosophy of Floor Design," a clue from the start that this book is British. Others discuss loads, concrete, joints, cracks, and surfaces – all for industrial floors. Halsted Press/Wiley & Sons, Somerset, New Jersey (201) 469-4400, 287 pp., \$84.95.

The International Solar Energy Society's biennial 1991 Solar World Congress returns to the U.S. for the first time since 1979. It will be held August 17–24 in Denver. Passive solar and cooling papers are among the 787 presentations from 63 countries. American Solar Energy Society, Boulder, Colorado (303) 443–3130.

2 Attached and multifamily units generate fewer auto trips per day than detached units, and have less traffic "impact" on the municipal street system.

3 Large lot subdivision streets do not need to provide on-street parking; two 9' or 10' moving lanes are sufficient. Curbs are necessary only when the site demands channelized storm drainage.

century later, Robinson felt that the undifferentiated streets of the period tried to serve too many purposes, and wound up serving none well. Regardless of whether you

subscribe to a return to gridiron street platting or sympathize with Robinson's City Beautiful rebellion against it, or believe that through-traffic engenders a sense of community, or defeats it (according to the "protected neighborhood" ideas advocated by Donald Appleyard⁸ and Oscar Newman⁹), roads can be classified by their layout and the origin and destination of the traffic they convey. The width, grades, horizontal and vertical alignment, stopping sight distances, and structural requirements of exclusively residential streets need not meet the same standards as those that carry wider and heavier vehicles and greater volumes of traffic at higher speeds. As a result, the greatest reductions in paving area and roadbed costs are obtained by planning streets to separate residential from non-residential through traffic.

Residential Street Types

Local access streets provide frontage to lots and by design carry no traffic other than that generated on the street itself (1). Local access ways are either loops or cul-de-sacs. The volume of traffic is determined by the number and type of dwelling units on the street (2), which is related to – and governed by – the street length and zoning district. Local access streets are typically limited through design to generate fewer than 200 to 250 average

4 Limited driveway and garage area pushes spillover parking into the street as lot size and frontage shrink. A width of 26' is sufficient for access streets with one moving and two parking lanes.

5 So little space is available between the curb cuts of driveways to narrow lots that less than half the parking lane may be usable. Alleys provide one solution to freeing up on-street parking. 2 WEEKDAY VEHICLE TRIP GENERATION FOR RESIDENTIAL AREAS: ADT PER DWELLING UNIT

| Housing Types | Average Rates | Range of Rate | No. Observations | | | |
|--------------------------------------|----------------------|----------------------|------------------|--|--|--|
| Single-family detached home | 9.55 | 4.31 - 21.85 | 348 | | | |
| Residential planned unit development | 7.44 | 5.79 - 14.38 | 12 | | | |
| Low-rise apartment | 6.59 | 5.10 - 9.24 | 22 | | | |
| Apartment | 6.47 | 2.00 - 11.81 | 109 | | | |
| Residential condominium | 5.86 | 1.83 - 11.79 | 53 | | | |
| Occupied mobile home | 4.81 | 2.29 - 10.42 | 37 | | | |
| High-rise apartment | 4.20 | 3.00 - 6.45 | 9 | | | |
| High-rise residential condominium | 4.18 | 3.91 - 4.93 | 4 | | | |
| Recreational home | 3.16 | 3.00 - 3.24 | 2 | | | |
| Congregate care facility | 2.15 | 2.12 - 2.15 | 2 | | | |
| | | | | | | |

Source: Trip Generation, Fifth Edition; Washington, DC: Institute of Transportation Engineers, 1991. (Available from ITE, 525 School Street, S.W. Suite 410, Washingto, DC 20024–2729 USA; Telephone: 202–554–8050.)

trips per day (ADT).^{2,3} Halfloops are considered the same as cul-de-sacs for design purposes. The design speed of local access streets ranges from 20 to 25 mph.^{3,2}

Subcollector streets provide frontage to lots and also convey traffic received from the local access streets they serve. The volume of traffic on subcollectors is typically limited to 500 to 1000 ADT,^{2,3} and these streets should connect at both ends to a higher-order street. Design speeds for subcollectors are 20 to 30 mph.^{3,2} A street cannot be classified as a subcollector if it connects two different streets in such a way as to encourage through traffic from one to the other, unless this traffic load is predictable and does not exceed the subcollector ADT limit.

Collector streets conduct traffic between lower and higher order streets, and between neighborhoods and activity centers. They carry a higher volume of traffic at higher speeds than lower order streets, and both Performance Streets and Residential Streets discourage, but accept, limited residential frontage on them. Collectors are the lowest order through-traffic streets; 3,000 ADT is commonly cited as the lower threshold of the (nonresidential) arterial road classification, and this is one way of defining the upper limit for collectors. Collector design speeds are 35, 30, and 25 mph for level, rolling, and hilly terrain.³

Alleys provide access to the rear of lots for parking and trash pickup (coal delivery, in an earlier era). They are useful for eliminating auto access from – and curb cuts along – the frontage street, allowing it to be used without interruption for parking. A street is an alley only when it does not provide the exclusive means of frontage to a lot,² and alleys are most suitable for lots with widths of less than 40 or 50 feet.^{2,3}

Traffic is controlled in hierarchial systems by two-way stop signs on lower-order streets wherever they intersect a higher-order street. More sophisticated controls are necessary only when collectors intersect other collectors or arterial roads in the system.

As a general rule, all streets in an undifferentiated residential grid have to be classified as subcollectors or collectors, depending on the size of the development and the anticipated volume of outside through traffic. Few grids are truly undifferentiated, however, by virtue of signage and traffic lights that turn some into subcollectors and others into collectors. If the grid conducts a high percentage of commercial truck traffic, the streets of the grid should be designed according to normal, non-residential engineering criteria.

Stub streets (streets that terminate at property lines, with the anticipation of extension into adjacent lands as they are developed) by nature must be classified as either subcollectors or collectors. The future disposition of these should be discussed with municipal planners for classification purposes.

Cartway Widths

Most cars range in width from $5\frac{1}{2}$ to $6\frac{1}{2}$, and commercial vehicles are limited in

width to 8'. Interstate and arterial highways and intraregional collector road lane widths are 12'. When residential streets are laid out to exclude truck through traffic, lane widths can be reduced from 12' to 10'.^{2,3} *Performance Streets* recommends 20' for two lane residential collectors without curbs and with fewer than 2000 ADT, and 22' in cases where curbs are required as part of a storm drainage system. Subcollectors also require 10' moving lanes.

Performance Streets requires local access ways to have moving lane widths of 9' when adjacent to stabilized shoulders, and 10' when adjacent to curbs or a parking lane. It requires 8' for all parking lanes. Residential Streets recommends 24' to 26' for two-lane collectors without residential frontage, although it requires only 10' moving lanes in a 36' wide collector with two 8' parking lanes. This inconsistency is highlighted by an accompanying statement, "the provision of two 11' or 12' clear traffic lanes is an open invitation to increased traffic speeds." Residential Streets requires 22' to 24' for local access ways, which allots 10' to one moving lane and 6' to 7' each for two parking lanes.

Each of the street types in *Performance Streets* and *Residential Streets* has its own set of engineering criteria for grade, curvature, stopping sight distances, and length of tangents between reverse curves, based on the different design speeds for each. These are internally consistent, although they do not always agree with one another. Users of the two texts should be aware of this, and



TWO MOVING LANES (20' OVERALL)

not mix design standards from one with the other.

On-street Parking

The greatest widths are required to accommodate onstreet parking, and the greatest waste occurs 1 when streets are designed for parking that rarely occurs, and 2 when curb cuts for driveways are so closely spaced that little curb space is left for parking. Performance Streets recommends 8' wide parking lanes, regardless of street type, while Residential Streets assumes 6'-7' parking lanes for local access streets, and 8' lanes for subcollector and collector streets.

The recommendations made in Performance Streets were based on observations in Bucks County that the demand for on-street parking decreases with increasing lot size. Parking rarely occurs on streets serving lots in excess of 1/2 acre (typically, 100' frontage), so land developments of lots exceeding this size need not provide any parking on either local access or subcollector streets (3).

On-street parking demand increases with decreasing lot size. For lots smaller than $\frac{1}{2}$ acre, or with frontage averaging less than 100', the observations showed that "spillover" parking occurs on the street, whether it is adequately provided for or not (meaning that parkers pull halfway off the road and break up the edge of the pavement when there is no curb). The limited traffic volume of local access streets requires only one moving lane of 10' plus two parking lanes at either 8' (4),² or 6' to 7'.³

The need for on-street spill-



TWO PARKING AND ONE MOVING LANE (26' OVERALL)

over parking will vary with the on-site parking requirement, housing type, and, possibly, regional differences in population characteristics and auto ownership. Local experience should always guide such requirements. In the Bucks County standards, subcollectors require two continuous moving lanes of 10', with parking restricted to one side (28'), or two moving lanes and two parking lanes -36' (5). Residential Streets does not require two moving lanes for subcollectors; it allows these to consist of one 10' moving lane and two 8' parking lanes (26'), but states that, "if onstreet parking lines both sides of a street continuously, a 28' pavement may be preferable."

Because residential frontage is discouraged in Bucks County's scheme of things, collectors by nature do not permit onstreet parking. Although Residential Streets adopts the view that "homes should not front on a collector street," they anticipate violations of this ideal, and require a 36' width for two lanes of parking and two moving lanes.

Curbs are generally only necessary 1 along parking lanes, to prevent the edge of the pavement from unraveling under wheel loads, and 2 to channel storm water as part of a piped drainage system. The need for piped drainage should be carefully considered on a site-by-site basis.

Conclusion

Some street widths do not make sense, and may even be dangerous. A width of 30' to 32' is wasteful for three-lane combinations of moving and

parking lanes, and too narrow for four lanes. Widths of 32' to 34' feet are tight for two parking and two moving lanes; while negotiable, 34' does not provide adequate clearance for the comfort of many drivers, and may encourage bluffing as to who will defer to the other to pass first between opposing parked cars. While 24' is recommended by Residential Streets for cul-de-sacs with occasional parking, it is a compromise between a 26'-wide street with "dedicated parking" and a noparking 20' street.

For those interested in the social and neighborhood aspects of streets, Residential Street Design and Traffic Control¹⁰ surveys old and new ideas and literature through the eyes of an interdisciplinary team of authors. It discusses current thinking in Europe as well as in the U.S.

While many changes have occurred in residential street standards during the past ten years, street design is still as much art as it is engineering. There is no substitute for field research, though, and one of the best research tools is a 30' tape measure in the glove compartment. Kenneth Labs

References

1 Housing Backgrounder, National Association of Home Builders, Washington, D.C., 1991.

2 Performance Streets: A Concept and Model Standards, Bucks County Planning Commission, American Planning Association, Chicago (312) 955-9100, 1980, 44 pp.

3 Residential Streets, Urban Land Institute, Washington, D.C. (800)



5 TWO PARKING AND TWO MOVING LANES (36' OVERALL)

321-5011, 1990, 104 pp. 4 Subdivision and Site Plan Handbook, D. Listokin and C. Walker, Center for Urban Policy Research/Rutgers Univ., New Brunswick, NJ (201) 932-3101, 438 pp., 1989. 5 Residential Development Handbook, 2nd ed., L.W. Bookout, Urban Land Institute, Washington, D.C. (800) 321-5011, 1990, 413 pp. 6 Guidelines for Residential Subdivision Street Design, Institute of Transportation Engineers, Washington, D.C. (202) 554-

8050, 1990. 7 The Width and Arrangement of Streets, C.H. Robinson, The Engineering News Publishing Co., New York, 1911, 199 pp. 8 Livable Streets, D. Appleyard, University of California Press, Berkeley, 1981, 364 pp. 9 Community of Interest, O. Newman, Anchor Press/Doubleday, Garden City, New York, 1980, 356 pp.

10 Residential Street Design and Traffic Control, W.S. Homburger et al, Prentice-Hall, Englewood Cliffs, New Jersey (201) 767-5937, 1989, 152 pp.

Acknowledgment

This article is based largely on research and writing carried out by the author while employed as a community planner by the Bucks County Planning Commission, Doylestown, Pennsylvania. Performance Streets was a joint effort of BCPC staff members Kenneth Labs, Carter van Dyke, Gregory Reppa, and Terry Dunlap.

Fechnics Topics

Aurora, designed by otto 7apf, sheds new light on what an office system can be: soft,

GENEROUS FORMS AND FINELY RENDERED DETAILS IN A FULL LINE OF WORKSTATIONS, FILES AND CONFERENCE

FURNITURE. CROWNED WITH FABRICS AND FINISHES BY DEEPA TEXTILES, AURORA

Aurora

BRINGS VISUAL HARMONY AND A WELCOME CONCERN FOR COMFORT TO THE OFFICE

E

L

E

Technics Topics One- and Two-Family Housing Definitions

The only certain definition of one- and two-family housing is one

that describes the relationship of the dwelling unit to the property lines.

Architects are often caught between the housing lexicon of planners and the breezy, ever-changing descriptions used by developers and realtors. Every planning and architectural dictionary seems to have a different definition of familiar one- and two-family housing terms, but most misunderstandings can be avoided by reference to the relationship between the dwelling unit and the side property lines. This system is unambiguous and is used by the Census Bureau, HUD, the NAHB, and by numerous model zoning ordinances in reporting housing statistics.

Multifamily buildings, whether rental units or condominiums, are less easily defined; for one dictionary or model code that defines a "garden apartment" as a twostory building in which units have individual outside entrances, there is another that describes it as having no more than four floors and units that share a common hallway. "Townhouse," once a euphemism for the singlefamily attached rowhouse, is now widely used to describe any row of units, regardless of lotting or lot ownership. In some circles, "townhouse" now refers exclusively to attached units with internal garages.

Every municipality has its own laws and, ultimately, its definitions are the only ones that matter. In the absence of a copy of these, the accompanying graphic dictionary is a useful preparation for establishing a common vocabulary. **Kenneth Labs**



Common names (in parentheses) often refer to several building types, whereas the matrix definitions are unambiguous. Illustrations for multi-family housing are incomplete and shown only for comparison.



Contact Kawneer, Department C. Technology Park – Atlanta, 555 Guthridge Court, Norcross, GA 30092, 404-449-5555



Kawneer Has More Ways To See America For Less.

Oh beautiful, for spacious skies and amber waves of grain. Introducing Kawneer CommerciaLine windows.

Now America has a full line of inexpensive commercial grade windows that delivers Kawneer performance at up to 50% less cost.

America the beautiful has never been so affordable.





See Us at CSI Booths 823 @ 825

PROFESSIONAL LIABILITY INSURANCE

Our premium credits save you money.

Now, there are even more ways to save money with the CNA/Schinnerer professional liability program* for architects and engineers. Longevity and loss prevention, for example, both pay off because we give firms with good claims experience: A 5% credit if they've been CNA/Schinnerer policyholders three to four years. Or, A 10% credit for being CNA/

Schinnerer policyholders for five or more years. Plus, A 5% credit for implementing their own loss prevention programs. These credits are in addition to our traditional underwriting credits for firms with acceptable claims experience. You work hard to manage your risksboth professional and financial. Let CNA/ Schinnerer support your efforts. Have your independent agent contact Schinnerer.

*The CNA Insurance Companies and Victor O. Schinnerer & Company, Inc. are proud to have earned the commendation of the AIA and NSPE/PEPP.

CNA is one of the few major property/cesuelty groups to earn an A+ from A.M. Best and elso the highest financial ratings from Moody's, Standard & foor's and Dutf & Phelps.



Underwriting Manager Two Wisconsin Circle Chevy Chase, MD 20815-7003 (301) 961-9800, Telex 892340

Chicago, (312) 565-2424 New York, (212) 344-1000 San Francisco, (415) 495-3444



Note: Credits apply to limits up to \$1,000,000 and are subject to approval by your state insurance department. Coverage for this program is provided by Continental Casualty Company, one of the CNA Insurance Companies/CNA Plaza/Chicago, IL 60685.

Practice

Claude Engle discusses the problems minorities face in

the profession and profiles four minority architects.

Minorities in Practice

In the barrios and poor urban neighborhoods of our cities, architecture can seem as remote a career option as seismology or ornithology. High school counselors often encourage students to shoot for vocational school instead of college. For those students who make it to college, their sense of mission often impels them to a career in law, medicine, or a social science, not architecture.

This scenario, minority architects believe, helps account for their poor representation in the profession. Today, only 6.5 percent of the AIA's members belong to minorities, which results in few role models for minority students and in architecture's remaining a remote career possibility in minority communities. To reverse this vicious circle, education is key.

The plight of minority architects came to the fore after the 1968 AIA Convention in Portland, Oregon, where civil rights activist Whitney Young gave the keynote address, "Man and His Social Conscience." Following Young's address, the AIA formed the Task Force on Equal Opportunity and joint ventured with the Ford Foundation to create the promising Minority/Disadvantaged Scholarship Program. In 1968 there was only one accredited, predominantly black architecture school, so the AIA and the Association of Collegiate Schools of Architecture (ACSA) worked together to accredit six more.

In 1970 Robert Nash was the first African-American architect to be elected to an AIA

national office, and in 1974 architect Robert Traynham Coles was made Deputy Vice President of Minority Affairs. But his position and the committee were discontinued in 1976, part of the dissolution of the whole egalitarian movement that came with the recession in the midto late-1970s. Coles succinctly traces the subversion of the progress: In 1973 President Nixon "put a moratorium on low- and moderate-income housing, one of the mainstays of black firms." President Reagan in the early 1980s "dismantled the remaining housing programs and drastically reduced federal funding for mass transit." And minority enrollment in universities was hit especially hard when the Reagan administration reduced federal aid to students. A further setback was the Supreme Court's decision in the 1989 City of Richmond vs. J.A. Croson case to strike down as unconstitutional the city's set-aside program, forcing local and state governments to restudy their affirmative action procedures.

Marshall Purnell, an African-American architect and a former president of the National Organization of Minority Architects (NOMA), explains that most corporate heads are not willing to entrust an entire budget to a black architect. "They'll let you build a building, paint it, draft the construction drawings, but you can't design it," he says. Architect Max Bond has put it this way: 'One of the ways that any group expresses its power is through control of cultural activities." Majority architects have advantages that are so

commonplace even they don't see them.

In March, 1990, the AIA College of Fellows' (COF) Task Force on African-American Entrance into the Profession released a report detailing the alarmingly low numbers of minorities in the profession. Just a few of the major stumbling blocks the task force listed were: racism, depressed social communities, lack of role models, high cost of education, isolation from resources, a decrease in minority set-asides, poor representation in the AIA/COF, absence of publicity of accomplishments in the field, tokenism in joint ventures, and the high attrition rate among black students. Another African-American Task Force, under the auspices of the ACSA, was formed as a result of a twoyear study of African-American students and faculty in Southeastern architecture schools. Their report, completed in July, 1990, opens with: "What we found was dismal and discouraging." The task force is focusing on three major issues: Increasing the number of African-American faculty and visiting speakers, attracting and retaining African-American students and, "very importantly, providing broad exposure of existing successful programs or projects designed to attract minorities into the profession."

One of the most successful programs is The National Organization of Minority Architects (NOMA), which was founded during the 1971 AIA convention in Detroit. It actually began as the National Organization of Black Architects, Practice

.

Minorities in Practice59Robert Easter60Ron Abo61Jose Luis Hernandez61Sylvia Kwan62

Practice Points

How do you find corporate clients? The ONE LIST Directory of Corporate Property and Facility Executives lists key contacts at more than 700 companies, and forecasts their capital programs for the coming year. The report costs \$445. Contact the Brendan Partners in Grosse Pointe, Michigan at (800) 727-5478 for information.

The "Project Peer Review" program of the American Consulting Engineers Council can help architects avoid construction failures on high-risk jobs. The voluntary review focuses on issues of safety and limiting liability. A brochure is free and a manual costs \$15 from the ACEC, (202) 347-7474.

If you are in the market to buy a firm, small, young architecture offices are valued relatively higher than larger firms (in services, profits, revenue, and growth projections) according to a survey by Mark Zweig & Associates. The report profiles 85 environmental design firms and provides a formula for determining an estimated value for any firm. Call

It may take more than two years for the real estate market to recover from recent setbacks, according to a survey by Arthur Anderson Real Estate Services Group published in the February 1991 issue of *Real Estate Investor magazine.* But they predict that the multifamily housing, custom building, and industrial markets will be strong this year.

(508) 651-1559 for details.

but a few years later it changed to NOMA. Its membership is predominantly African-American, although it is certainly not reserved for African-American architects. NOMA has about 500 members nationwide, holds national conferences each October, and publishes a monthly newsletter, NOMA News.

Another important group was the AlA's Minority Affairs Task Group. In 1985 it was upgraded to a "full-fledged" AIA committee and renamed the Minority Resource Committee, heralding a renewed commitment to the cause of minority architects. Jean Barber, the MRC's staff director, says the MRC is good at the national level in collecting and disseminating information and overseeing policies, but it is not yet as strong as it needs to be at the grassroots level. "We're working at building a network of liaisons in all regions and over 400 AIA chapters. That is where we can make membership in the AIA more meaningful for our minority members." The MRC publishes a tri-annual newsletter, the MRC Report, which serves as a clearinghouse for the ACSA and COF task forces, NOMA, and other mi-

nority architect interest groups. With the minority population growth rate far exceeding that of the today's majority, a comment by architect William Rose, Jr., becomes even more pertinent: "As architecture is the most people-oriented of the fine arts, as well as being a profession, it cannot afford to be without the contribution of a major component of society and expect to retain vitality and validity."



Robert Easter

Kelso & Easter, Alexandria, Virginia, 35 years old, African-American, BArch, Hampton Institute, 1977, MArch, Virginia Polytechnic Institute, 1979

.

When Robert Easter was young, his mother worked as the secretary at the Department of Architecture at the Hampton Institute in Hampton Virginia. It was his visits to his mother's building, where students' models were on display, that instilled in him the idea of becoming an architect. Easter's high school guidance counselor tried to convince him not to go to college to study architecture, but to attend a vocational school. His father, however, ended the debate: "Go to college or find yourself an apartment." After graduating from Hampton Institute in 1977, Easter interned at Paul Ford & Associates, a wholly African-American architectural firm in Baltimore, while attending graduate school at Virginia Polytechnic Institute in Blacksburg, Virginia.

After receiving his master's degree in architecture in 1979, Easter was stationed in the Army Corps of Engineers at Fort Belvoir, Virginia, as part of the ROTC program that had paid for his undergraduate education. Though he was in the army full-time, Easter also commuted to Baltimore to work full-time for Paul Ford. Easter is indebted to Ford and believes that practicing architects willing to serve as role models are vital to recruiting more minorities into the profession. "Minority firms don't just hire, they tend



to be teaching firms," says Easter. "Paul wouldn't hide any part of the practice from us." In the spring of 1982, however, as Easter became registered, the firm went bankrupt.

In 1982, as Easter's tour of duty at Fort Belvoir drew to a close, he began searching for a full-time position. At an interview for a project architect position with a large majority firm in Washington, D.C., a principal in the firm, without even glancing at Easter's portfolio, informed him he was unqualified even to be a draftsman at the firm. Later that same day, an architect at a similar firm told him he was overqualified for the position.

Frustrated, Easter decided to take the plunge: He and Jack Kelso, a white classmate at VPI, launched Kelso & Easter in April, 1983. The firm considered applying for federal 8-A certification as a small/disadvantaged firm, which would "almost guarantee" some federal contracts, but they decided not to. Easter explains that with federal jobs and "their bureaucratic hurdles, the professional isn't permitted to practice the profession." Besides, adds Easter, "It's a lengthy and costly process that will put most companies out of business waiting for certification."

Easter figures his firm is hired for about one-third of the jobs they get to interview for, but he nonetheless believes that selection committees "have not been fair at all. When we get called in, we do well." On the GSA standard form 254 and 255 there is a box an applicant can check indicating they are a disadvantaged business, but, says Easter, "We're somewhat hesitant to check that these days. It seems to be more of a roadblock."

Easter is secretary for the National Organization of Minority Architects (NOMA) and is on the board of directors for the Virginia Society of the AIA. "I try to get architects to be more responsive to more community activities," he says, "but the profession runs away from such issues." He believes that architects should do more than just lobby on legislation such as codes, zoning and licensing, and speak out on housing, Third World development policy, and social justice. Easter doesn't believe that architecture, in itself, can erect solutions that will correct social ills, but wonders, "Why does the response have to be hindered by the profession's guidelines?"

Easter senses that many potential clients – whether white or non-white – perceive minority architects as less capable. "The minority community has the same brain-washed perception that you're less qualified. Some well-to-do minority clients feel their legitimacy authenticated by hiring a nonminority firm." As a result of this misperception, Easter feels his designs are more rigorously scrutinized by his clients.

The very same issues facing society at large – social justice, the need for cross-community interaction and responsibility" are the issues facing the profession of architecture today, Easter believes. But, "I'm not confident that in my lifetime America will reach it's full potential of reveling in its diversity."



Ron Abo Architects, Denver, Colorado, 44 years old, Japanese-American, BArch University of Colorado, Boulder 1969

Ron Abo

Japanese-American architect Ron Abo's predilection for design was fostered by his father, a second-generation American, a fine arts major, and the first in the family to graduate from college in 1941. Tragically, as a result of the anti-Japanese sentiment of the time, Abo's father, despite having fought in the Allies' segregated battalions in Italy, had to abandon his graphic arts career, becoming a farmer in Idaho.

Abo received his bachelor's degree in architecture from the University of Colorado in Boulder in 1969. Instead of a fifth-year design project, Abo's class initiated the West Side Workshop in Denver, part of the national Community Design Center movement nurtured by Lyndon Johnson's War on Poverty. The West Side Workshop provided design and planning services to community groups that usually did not have access to or could not afford them. After graduating, Abo and some of his classmates incorporated the Workshop into Environment, Inc., a non-profit affiliation that rehabilitated low-income housing and helped disadvantaged residents secure funds for recreation centers and social service agencies. While working on a voluntary basis for the non-profit organization, Abo also worked full time for Seracuse & Lawler Architects. After one year he then



moved to ABR Partnership, where he worked as a project architect. As Abo and his classmates' careers evolved, their pro bono involvement in Environment, Inc. lapsed. But in 1972 the Denver AIA stopped administering the federally funded Denver CDC, and the funds were channeled through the University of Colorado, which petitioned Abo to be its director. Abo took a six-month leave from ABR to direct the Community Development Design Center.

In 1976, the partnership broke up and Abo, while teaching at yet another community design studio, took on one of the projects, the Community Alcohol Drug Rehabilitation Education Center. Completed in 1983, the project launched Abo's community-services career. Minority Business Enterprise (MBE) goals have enabled Abo to secure several municipal commissions since then, including schools, streetscaping, and historic preservation plans, as well as work at the Denver zoo and airport.

"I feel discrimination not in the MBE goals themselves, but in the execution of them," explains Abo. "There's a lot of tokenism, getting a minority partner involved and then giving them only the menial work." Abo stresses that it is up to minority architects themselves to negotiate "a contributing part in the process."

He also believes that architects should take more of a leadership role in the community and in politics to deal with issues more "holistically," taking planning out of the bureaucrats' hands.



Jose Luis Hernandez Jose Luis Hernandez/Architects

Inc., San Antonio, Texas, 38 years old, Mexican-American, BArch, University of Texas in Austin, 1975

When Jose Luis Hernandez was a high-school student in San Antonio, he was upset when a group of construction workers cut down the large trees in the school's courtyard. His teacher explained that it wasn't the workers' fault, but part of the architect's design for a new wing of classrooms. "If architects had that much influence in shaping the environment," reflects Hernandez, "then I wanted to be part of it."

Emigrating to San Antonio from Mexico at age five, Hernandez learned perseverance watching his father's struggle in acclimating to the new country. His father sold furniture, then insurance; with the help of scholarships, grants, and loans, Hernandez was able to enroll at the University of Texas in Austin. His class was the first to have a large Hispanic-American contingent: 25 Hispanic-Americans out of 62.

Hernandez worked under UT's Residency Program at Rehler, Vaughn, Beaty and Koone (RVBK) in San Antonio, a small five-person firm. In the residency program students work full-time for a firm and keep a journal of their experiences. The school pays the student a stipend from a sum the firm gives the school. Hernandez went to work full-time at RVBK upon graduation, then went to work for another San Antonio architect, John Geyer,



who had a one-man firm. Renamed John Geyer & Associates, the two architects designed residential, small commercial, and restoration projects, and also completed some industrial work. After two years they split up into two one-man firms, but continued to work in the same office, associating on some jobs.

Starting out, he did mostly residential work; half of his clients were Hispanic and Lebanese. While working on his first commission, a renovation of an 1836 historic house into a restaurant, Hernandez saw an old building in need of restoration near the site on St. Paul's Square. With the help of federal loans Hernandez bought the building and so became his own second client. When the restoration was complete, he moved his office into it.

Despite his success, Hernandez was unable to break into the municipal market, even though San Antonio had a 32 percent MBE goal. Hernandez explains that in San Antonio engineers and architects are lumped under the same category of A&E Services, so the goal is met by hiring minority engineering firms to do the many street and drainage projects the city undertakes yearly. Currently, he is trying to get the Department of Public Works to separate the architectural and engineering professions. According to Hernandez, San Antonio is around 55 percent Hispanic and 10 percent African-American, yet in 1988 only 2 percent of the city's gross contracts went to either, even though 14 percent of San Antonio's regis-





tered architects are Mexican-American.

Hernandez continued, with little or no success, to go after city projects, and so began to look into how applicants are judged. He discovered, for example, that the selection committee for a major hospital project had awarded points for the number of persons in the firm and the length of time the firm had been in practice: Firms with more than 30 employeess received 10 points, those in business longer than 20 years also received 10 points. Hernandez contends that such criteria automatically exclude minority firms and prevent them from participating on an equal basis.

Hernandez's success in getting municipal work, however, has changed. "I guess I bitched too much," he says. He has landed a major interiors commission, plus work on a transit facility and a sports complex.

As MRC liaison for the region and chairman of the local MRC, Hernandez is overseeing the creation of a volunteer system in which architects rotate to provide guidance and advice to disadvantaged Mexican-Americans living in San Antonio's Mission Historic District. He is also trying to get students from the two local architecture schools involved in the rotation system so they may get experience in client contact, public presentation and collaboration with architects. "The biggest advantage of having my own practice," Hernandez concludes, "is being able to expose myself to all the areas of the field such as marketing . . . and client contacts."

Sylvia Kwan

Kwan Henmi Architects, San Francisco, Chinese-American, 36 years old, BA from UC Berkeley, 1976, MArch 1978

Sylvia Kwan, who started Kwan Henmi Architects ten years ago while working alone out of her home, believes that if architects are chosen for the worth of their designs, affirmative action measures will not be necessary in the future. "Pluralism does nothing but good," asserts the architect, who now runs an 18-person firm. "It's bound to create new ideas." Different people with different backgrounds, Kwan believes, bring variety to the creative process. "You bring something from your background naturally, some historical data that's buried in the genes."

Buried in Sylvia Kwan's genes was the impetus to become an architect: An uncle she had never met once ran a very large architectural firm in pre-revolutionary China. That fact probably awakened Kwan's interest in the field, although she jokes that she decided to study architecture mainly because she needed to declare a major at Berkeley and she had always liked to draw.

She was hired by Gensler Associates immediately upon graduation, but after assignment to space planning and interiors work for two years, the 25-year-old Kwan decided it was time to start her own firm. "I was impatient," recalls Kwan. Working out of her home in San Francisco, Kwan found varied clients from the outset. Many of her early projects were referrals – jobs too small for the large firm where her husband worked.

After eight months Kwan hired her first employees and moved into an office. Two years later, in 1982, Kwan landed her first major commission doing working drawings for the San Francisco Airport Expansion, thanks to the city's 30 percent WBE/MBE goals. "There's no way to get the big jobs without some sort of an advantage," Kwan says. "Because of who we are, we don't have the usual connections majority firms enjoy, like country clubs and so forth." Being an Asian-American woman cuts both ways, Kwan explains. "You do have a leg up because you have these [goals], but you need these programs because of what you are."

After the Airport Expansion job, her one-woman firm procured a civic contract as the sole architect working with an engineering firm to design the addition to a large hydraulic powerhouse in San Francisco. From there the volume of her business expanded steadily, and by 1985 she had a staff of six; her Japanese-American husband Denis Henmi became a partner. Kwan Henmi Architects' policy is to diversify. The office, now 18 strong, has designed office spaces, senior housing, hotels, convention centers, multiuse residential projects, retail remodeling, light industrial, and waterfronts. Their clients, not predominantly Asian, are as varied as their work.

As suburbia is urbanized, Kwan thinks it is crucial that

architects get more involved in the planning process to forestall segregation. She also believes that education is the key to bringing architecture to the people and more minorities to the profession. "People think their homes just appeared. Minority students think architecture is way beyond their reach. But we don't only build for the rich and elite. Education can create a public that's going to be more appreciative and demanding of the built environment." Kwan laments that the majority of disadvantaged people don't even get to experience buildings designed by architects unless they go into a museum.

As vice-chair of the AIA's Minority Resource Council (MRC), Kwan looks forward to expanding nationally some local programs where architects go into schools and introduce future users, clients, and, perhaps, architects to the profession. An important trend that Kwan feels architects should be aware of is the growing minority population in the United States. In response, minority architects must publicize and identify themselves. "By working through the AIA," says Kwan, "your audience is automatically large." Kwan adds that the MRC must be more active in profiling the work of minority architects through exhibits. Currently, the MRC is putting together a video on minority architects, with a public television studio in Pittsburgh and a minority producer sincerely interested in the idea. **Claude Engle**

JS CHALMERS TIME NERAL MILLS SEARS NDA MONSANTO GM THSONIAN INSTITUTI NAVY NOTRE DAME RGER KING GERBER C-BOY CHAIR HILTON ROCTOR & GAMBLE IKOSH ITT CITICORF OTT LABORATORIES LILLY STANDARD OIL RICAN AIRLINES NOT

Carlisle ... Top Performance for Top Performers.

Top performers in the world market rely on the top performer in single-ply roofing ... Carlisle. Besides supplying fully integrated roofing systems of top quality, you the specifier, receive unparalleled design assistance.

Carlisle conducts informative regional Design Conferences, delivers quick responses to your design and technical inquiries, and carries out the industry's most demanding inspections. Factor in the Carlisle warranty and all this adds up to peace of mind for you and your

top performers.

JNITED AIRLINES BASI EXXON BOISE CASCAD ASHLAND OIL SARA LEI RALSTON PURINA PPO ODAK WEYERHAEUSE QUAKER OATS PENNZO BORG WARNER ALCO MEAD CORPORATION AMP APPLE COMPUTE JOHNSON & JOHNSOI MAL- MART AMOCO MI SONOCO LEVI STRAUS DATA GENERAL MOBILI

Over 11 acres of .045 Sure-Seal^e membrane cover the Minneapolis Convention Center. Architect: Minneapolis Conv. Center Collaborative Roofing Contractor: Curran V. Nielsen Company, Inc., Minneapolis, MM

Carlisle Representative: Architectural Consultants, Inc., Edina, MN

Carlisle has a roofing system to meet your every design need in black or white, reinforced or non-reinforced, EPDM or CSPE plus support services.

Find out why top performers have chosen Carlisle for over 80,000 warranted roofing projects. Call toll/ree, 800-233-0551; in PA, 800-932-4626; in Canada, 416-564-5557.



Carlisle SynTec Systems

Division of Carlisle Corporation P.O. Box 7000 • Carlisle, PA 17013-0925 Circle No. 352 SHERVS. LIAMS RC VANG GEORGIA PACIFI DURACELL HOLDINGS INGERSOLL-RAND IBN GILLETTE HONEYWEL HEWLETT PACKARD NO K-MART RUBBER MAI LL BEAN COCA-COL TEXACO MCGRAW HIL PRUDENTIAL LOCKHEE KELLOGG CATERPILLA QUAKER STATE MAYTAG WARRIOTT PRUDENTIA WHIRLPOOL KENTUCK FRIED CHICKEN SUN OI NBC BETHLEHEM STEE D KODAK HOLLY FARM

he companies listed have had single-ply roofg systems by Carlisle installed on one or ore of the buildings they utilize. This list is for formation only and in no way reflects enorsement by these companies.

arlisle is a trademark of Carlisle Corporation Carlisle Corporation 1990

THE HEART OF A SARGENT

On the outside, the 8100 is a cleanly styled, lever handle mortise lock. It's available in all popular hardware finishes, with a wide variety of lever handle designs. The 8100 offers you lasting beauty and years of flawless performance. Inside, the 8100 is

a fortress.

It has three separate bolt mechanisms-a dead bolt, latch bolt and guard bolt. The dead bolt's one-inch throw and hardened steel roller pins enhance its security. The 8100 mechanism easily withstands the excess torque applied to lever handles. A new lever adapter means precise, trouble-free installation. And a heavy duty spring inside the lock case keeps handles permanently level.

The 8100 lock is part of the complete Sargent line of locks, exit devices and door closers. Each has what no one else can offer. The heart of a Sargent. Brass, 6-pin cylinder standard; Sargent Keso Security System available

Hardened steel roller pins in dead bolt

> Inside lever adapter for precise installation, easy readjustment

UL Listed for use on fire doors



Sargent, New Haven, Connecticut 06511 Sargent of Canada, Ltd.

SLICE OF LIFE SAFETY

USG® AREA SEPARATION WALLS

Give Superior Fire/Sound Ratings Go Up Fast To Cut Costs.

USG[®] Area Separation Walls provide tried, true, tested assemblies that have been proved in thousands of multi-housing installations nationwide. In fact, these superior systems consistently exceed code authority expectations. Over 16 years of continuous R&D in system design from USG makes the dependable difference. Other solid reasons from the leader in fire, sound and systems technology:

- 1, 2 or 3-hr. fire ratings. Exclusive UL Design U336 establishes 2 hour fire protection and structural stability up to four stories.
- Up to 60 STC ratings.
- Can be erected same day as framing and roof trusses.
- Minimum number of components including unique USG attachment clip-provides reliable lateral stability and breakaway features under fire.
- Permits all-weather dry construction minimizes costly delays.
- Installed easily by contractor trades.
- Reduced labor and material costs. Substantial floor space and cost
 - savings—when compared to masonry
- . . . and a fraction of the weight of masonry methods.
- Choice of two types: solid or cavity assemblies.
- Code conformance under BOCA Research Report No. 87-63, SBCCI Report No. 9033.

For specifics, contact your United States Gypsum Company representative. See section 09250 of Sweet's General Building & Renovation File. Or write to us at 101 S. Wacker Drive, Chicago, IL 60606-4385.

United States Gypsum Company

Circle No. 307 on Reader Service Card

©1990, United States Gypsum Company USG is a registered trademark of USG Corporation

AND YOU THOUGHT ANDERSEN WAS JUST A HOUSEHOLD NAME.

Presenting Flexiframe[®] windows. The custom-made commercial window from the company you may have thought didn't even make one: Andersen.

Flexiframe windows offer a nice change from common aluminum. They're made with a glass-fiber-enhanced polymer, a version of our Perma-Shield[®] window. This enhanced polymer material is so strong and corrosion-resistant, it's actually used along the seacoasts as a substitute for structural steel.

On the inside, Flexiframe windows offer yet another revolutionary material you don't usually find in commercial windows: wood. Our warm Ponderosa pine gives

office interiors a feeling cold aluminum can't match. And since Flexiframe windows are custommade, they can be built to your specifications in ¹/₁₆" size increments.

So if you believed we just made windows for homes, you may never think of us quite the same again.

For more information on using Andersen[®] Flexiframe windows in your next commercial project, just call 1-800-426-7691 and ask us for the name of your local Andersen commercial representative.

Or you can write to Andersen Commercial Group," Box 12, Bayport, MN 55003.

ANDERSEN COMMERCIAL GROUP

ALL-VINYL RESILIENT /HEET FLOORING

Lonseal, Inc.

928 East 238th St., Bldg. A, Carson, CA 90745 • (213) 830-7111 • (800) 832-7111 • FAX: (213) 830-9986 / East Coast (201) 369-8448 S SWEETS CATALOG 09650/LOM



Unrestricted Area

Freewill Barrier-Free Shower. Unrestricted showering. Plus unrestricted design options. Both make Kohler's Freewill Shower an attractive choice for commercial use. A roomy design allows greater bathing mobility and easier transport from wheelchairs. The one-piece, easy-to-install seamless acrylic shower comes in six beautiful Kohler colors. Along with color-contrasting, nylon-coated safety bars and fold-up seat. And with five barrier-free models (including a bath), there is a Kohler[®] shower to fit virtually any special application. So why go "institutional" when the Freewill Shower gives any area a distinctively residential look?



For assistance with your specifications, call your Kohler distributor or write, Kohler Co., Dept. UA8, Kohler, Wisconsin 53044.

© 1989 by Kohler Co.

IF YOU NEED TO RECAPTURE HISTORY,



BORROW SOME OF OURS



When you're involved in a restoration product, you may need brick that simply isn't available in today's market. But that doesn't necessarily mean it <u>can't</u> be available.

For more than a century, Belden Brick has been synonymous with quality brick in a broad range of colors, sizes and shapes. Our history may well include the brick you need to restore a structure — and perhaps be made today in traditional beehive kilns used extensively in earlier days.

When you're trying to recapture history and need the authentic look of yesterday's brick, you may find our history uniquely helpful.

Frequently we can turn yesterday into today. Call us to see if we can do so for you: 216-456-0031.



Circle No. 338 on Reader Service Card

How to add three new spec sections and five installation details to your construction documents before lunch.

Not the same old boilerplate either. We're talking about *new* specs and *new* drawings. The kind of thing for which the research can take hours.

Now you can cut those hours down to minutes, in many cases, with Electronic CADalogs™ And they're FREE.

Substance, Not Just "Fast Food"

You might think of Electronic CADalogs as drawings and specs "to go," they are that convenient. But they are much more than that.

CADalogs provide you with valuable reference

material right at your desk, on your PC. They include drawings and specifications that you can use directly or modify as needed. (See the small print.)

Accessible, Up-To-Date Product Information

Each CADalog contains product information, specs, and drawings for one product line. Designed by architects for architects, they step you through building product selection options.

View the specifications and drawings on your computer screen. Then, transfer them to your word processing and CAD software for inclusion in your project documents. You can save hours of redrawing and retyping.

Order Your FREE CADalogs Today

The CADalogs are available *free* to qualified professionals. Call Vertex at (800) 688-2799 or fill out and return the coupon to order.

VERTE

The small print: CADalogs run on DOS-based PCs with 640K of RAM. They can be used from floppy disks or loaded onto your hard disk. They require a high density floppy disk drive (1.2Mb or 1.44Mb); DOS 3.0 or later; and a CGA, EGA, VGA, or Hercules display. Specification text is in ASCII format; drawings are in AutoCAD Release 10-compatible DXF format.

CADalog is a trademark of Vertex Design Systems. (c) 1990, 91.

| Allied-Signal Inc. | - |
|--------------------------|----------------------|
| 800-221-6490 Scotch-C | atings 612-733-1140 |
| RUSKIN RUSK & GRILLE | 5_ |
| LOUVERS, SCILL | EVENSug Ransterne |
| 800-284-1503 Peasonneice | 413-586-8750 |
| BOO-545-6555 | tetal Root Systems |
| ASC PACIFIC NC | 800-726-ASCP |

- For fastest service, call the individual companies at the numbers listed. Or, circle those you are interested in and return this coupon today.
- Vertex Design Systems, 282 Second Street, San Francisco, CA 94105

• 800/688-2799 FAX: 415/957-2699

| Name | | |
|---------|-------|-----|
| Title | | - |
| Company | | |
| Address | | |
| City | State | Zip |
| Phone() | | |

Introducing Summitville's Hi-Performance **Impervious Porcelain Pavers**

IMPERVA

IMPERVA GRANITE

Summitville

Independent tests prove Summitville's new impervious porcelain pavers shatter industry standards.

After 3 years of intensive **R&D**, Summitville engineers have developed an innovative process that utilizes recycled waste products that previously overloaded landfills.

The result of this new process is a unique fusion of glaze to body and a tile body with a reduced gas bubble structure prevalent in traditional clay- and shale-based tile, eliminating the surface pinholes.

These innovations increase glaze wearability and decrease traffic pattern wear and maintenance costs.



The 30X magnification of the white, glazed tile surfaces illustrated above was performed after tile surfaces were abraded to simulate heavy traffic wear. Summitville's fusion of glaze to impervious body is far superior to traditional glazed tile pavers, resulting in increased glaze wearability and ease of maintenance.



MORGANMATES

impervious porcelain pavers are modular and color compatible with Summitville's

tance, and breaking strength

Summitville's new

double the ANSI standard.

lines of glazed mosaics, wall tile and counter tiles. Sizes ranging from 2" x 2" to $12'' \ge 12''$ provide you with unlimited design flexibility.

SUMMITSHADES

Contact your Summitville distributor for samples of these new high-performance imper-

vious porcelain pavers, available in 39 colors in sizes 6" x 6", 8" x 8", 12" x 12", and 8" octagon with 2" dot.

Other benefits are a water absorption rate of only

0.05%, an abrasive surface for improved slip resis-



ımmitv Summitville Tiles Inc. • Summitville, Ohio 43962



This issue features the best of what architects

are doing with affordable housing. It presents the winners of P/A's own competition plus a number of outstanding built and unbuilt projects and

incisive articles on various housing trends.

| • • | | • | ٠ | ٠ | ٠ | ٠ | ٠ | ٠ | • | • | ٠ | | • | | | |
|-----|-----|----|-----|----|---|---|---|---|---|---|---|--|---|---|----|---|
| De | si | gı | n | | | | | | | | | | | | | |
| Со | mp | be | tit | io | n | | | | | | | | | | 7 | 4 |
| Bu | ilt | ۷ | Vo | rk | | | | | | | | | | | 8 | 7 |
| Pro | oje | ct | S | | | | | | | | | | | 1 | 10 | 1 |
| Ess | say | /S | | | | | | | | | | | | 1 | 11 | 0 |
| Bo | ok | S | | | | | | | | | | | | 1 | 11 | 8 |
| | | | | | | | | | | | | | | | | |



Is affordable housing an American birthright? Technically no. Although John Locke listed property, along with life and liberty, as the three natural rights, Thomas Jefferson dropped it in favor of the pursuit of happiness when writing the Declaration of Independence. The idea of housing as a birthright wasn't formally addressed until 1944, when Franklin Roosevelt, in a talk before Congress, listed as one of the "economic rights" of American citizens "the right of every family to a decent home."

Conservatives have opposed Roosevelt's ideas of economic equality ever since, which is one reason why, after more than a decade of conservative hegemony in the White House, we now face an affordable housing crisis. Behind the pieties of "free enterprise" stands the bare fact that the lack of affordable housing benefits most those who own and develop property. The median price of a new house rose 23.5 percent this last decade, while median income rose only 8 percent. And, between 1980 and 1988, gross rents rose an average of 14 percent, while renters' incomes rose an average of only 5 percent.

Whether one agrees with Roosevelt or not, what he realized is that a poorly housed population is also a politically volatile one. (Friedrich Engels saw this too when he opposed the proletariat's owning houses lest that dampen support for the revolution.) The provision of affordable housing is, thus, in everyone's best interest, even those who are adequately housed.

This issue is offered with that in mind. The following pages document the results of P/A's own affordable housing competition and show a sampling of the enormous amount of built and unbuilt work that has been produced by architects and designers in both the U.S. and Canada. Affordable housing may not be a legal right, but we believe that it is right for us to act as if it were so. **Thomas Fisher**

The P/A Affordable Housing Competition

Why a P/A Affordable Housing Initiative? What were we attempting to solve by holding a design competition for a single-family house for a moderate-income family, on an innercity site in Cleveland, Ohio?

Those are questions we have asked ourselves over the last year, and our answers have been, admittedly, somewhat general. We wanted to do something to move beyond the rather low level of design and construction that has become the norm for affordable housing. We also wanted a design that would be at once responsive to the context of Cleveland, where our site was, yet widely applicable to the national problem of affordable housing, a house that would be within the financial reach of a moderate-income family. Because "moderate-income" is usually defined as 80 percent of the median income in an area, it varies considerably from place to place. In Cleveland, a moderate-income family of four is defined as making \$30,000 per year and is able to afford a house that costs no more than \$65,000.

Other goals included a desire to correct the poor fit between the housing many people in this income group need and what is available to them on the market. Instead of the standard nuclear family, a majority of people at this moderate-income level have "unconventional" living arrangements: Adult children live with parents, two unrelated single people with or without children live together,

unrelated elderly people live cooperatively, and so on. Flexibility of use, accordingly, became a major goal. Finally, we wanted to spur some sort of innovation. While we did not limit our expectations to anything specific, we did see this as an opportunity to stretch the fairly conservative practices of the home-building industry. We were well aware that important innovations in this field often seem small; yet even a minor adjustment can mean major savings when repeated many times in mass-produced housing.

The seeming vagueness of our goals was necessary, however, as we did not want to preclude any solution, just as we selected a site whose context was varied enough not to overly determine the form of the new building. It was you, our readers, who gave our goals a focus through your submissions. As we reviewed them after the jury, we felt what clients must feel when they first see a schematic design based on their program and site: words have been given form. The only difference was the sheer number of projects to choose from. We had hoped to receive 200 submissions, looking at the numbers from other similar competitions. We received almost 600 entries. Somehow, a mere "thank you" seems insufficient in the face of so much effort. To all those who submitted projects, we can only say that we accept the responsibility that comes with the guardianship of this work, and are already making plans to give the best of it more exposure (see below). We also take your response to the competition as a vote of confidence in our affordable housing initiative, and are resolved to carry on with it and to repeat this process in another location, perhaps with more units. Although your response was a relief to us, it made the jury's task much more grueling. What we had thought would be a fairly relaxed pace of reviewing boards turned out to be a dayand-a-half marathon. Each of the judges brought a particular expertise to the jury: Clare Cooper Marcus, her understanding of housing use and siting; Walter Burks, his experience developing affordable housing in inner-city Cleveland; Rob Curry, his insight into the needs of the Cleveland housing market; William Rose, his knowledge of the technology of small house construction; Mark Mack, his sensibility toward the design of single-family structures; and William Rawn, his expertise in the design and planning of affordable housing. Such a diverse group, we felt, was necessary because of the complex issues engendered by so small and seemingly simple a house as the one called for in the competition brief. Yet, despite their different perspectives, the jury identified six projects - three winners and three honorable mentions that they thought solved the problem in the most direct, cost-effective way, and four other projects they commended for some aspect of the scheme.

What's Next?

Where the jury's duties end, ours begin. We have arranged for many of the boards to be exhibited, the first venue being View of the site in Cleveland, Ohio.

at NEOCON in Chicago during the second week in June. (I will also be leading a panel discussion on affordable housing there with members from the three teams that won first, second, and third place in the competition.) We are also working with a local AIA chapter on an exhibition and with a group that funds nationwide traveling exhibits.

But the most immediate decision we have had to make is which of the winning schemes to build. The competition rules stated that we could select a project to build from among any of the schemes recognized by the jury, regardless of how it placed. Knowing this, the editors of P/A have examined the winning projects, reviewed the comments of the jury, and discussed the entries among ourselves. We have decided, despite the many advantages of the other schemes, to build the first place project by Abacus Architects & Planners of Boston.

Descriptions of that project and of the other premiated schemes begin on the next spread. On the facing page are some of the jury's overall observations about the competition. **Thomas Fisher**

[Editor's note: Unfortunately, 23 submissions (3 percent) were delayed during shipment and missed the jury. We notified the entrants, returned their entry fees, and expressed our sincere apologies, knowing how much thought and work went into every project. The lesson for us and others who run juries: a four-week delay between postmark date and the judging may be necessary to avoid late arrivals. To everyone submitting to such competitions: Use guaranteed delivery.]







Walter Burks, President, Burks Development Corporation, Cleveland, Ohio.



Mark Mack, Principal, Mack, San Francisco.



William Rose, Research Director, Building Research Council, University of Illinois at Urbana-Champaign.



Rob Curry, Director, Local Initiatives Support Corporation, Cleveland, Ohio.



Clare Cooper Marcus, Professor, University of California, Berkeley.



William Rawn, Principal, William Rawn Associates, Boston.



Portrait of the jury during deliberations.

Jury's General Observations

Marcus: Although many schemes addressed the issue of affordability in terms of construction and material cost, quite a number overlooked the long-term operating costs of heating, upkeep, and flexibility. Also some obvious ways of making housing more affordable were not addressed by many. For example, many entrants provided three full bathrooms without asking why so many were needed. Relatively few submissions provided a usable rental unit to help pay the mortgage, and even fewer provided work space for the home owner to earn money at home. In terms of interior planning, many opened up rooms to make a small house look bigger, but this doesn't work well for many household groups who need a more compartmentalized house for their living arrangements to work. Also, relatively few considered how different households would change the dwelling over time. Rose: I want to make a few comments about construction. Although most of the participants should be commended for the structural planning that went on, one area that was poorly addressed was the matter of water drainage. We saw a lot of ill-formed roofs and schemes that made the management of runoff more difficult than it ought to be. Also, there was a tendency to ignore the costs once the house is in use. Burks: I think that if we are going to save the inner cities, we have got to attract middle-class young people back, which means that we are going to

of housing found in the suburbs, with the same openness and amenities. People are not going to go back to living in a box. Nor can we build houses for the poor and just stack them up again, because they're going to walk away from them as soon as they get the money. Mack: I was looking for projects that created livability through a simplicity of structure and materials. I felt there was an overabundance of entries that solved the builder's problem: How do you create a box with enough gingerbread to make it sellable on that lot? I was disappointed that there wasn't enough innovative programming or structural adventure. The other lack was that not enough schemes used outdoor space well enough. Still, we ended up with a cross section of what's going on. Rawn: One point I'd like to make has to do with contextualism. In the rebuilding of our cities, we need to apply a rigorous understanding of the patterns of neighborhoods, but I don't think that means copying the buildings next door: That's too expensive and a failure of will, architecturally. Another point has to do with the resolution of the public spaces within a house. The realities of life in the late 20th Century have a lot of people spending a lot of time in kitchens. Also, a variety of users implies a gathering in the kitchen area. Very few schemes addressed this issue. Curry: I just want to say that this competition was important, and I hope that P/A can do something similar again.

have to provide the same type

First Place

Abacus Architects & Planners

Anne Tate, Gabriel Feld, Bryan Irwin, David Pollak, Kristopher Musumano Boston.

This "shotgun" house consists of two 14-foot-wide modules stacked on top of each other and set on a pier foundation, minimizing site preparation. The top module has a gabled roof flipped up at the site, and the site-built porches expand the interior space and allow the owners to customize their purchase. The house is set at the corner of the site, creating an expansive yard and providing room for a second, shorter module to be added in the future as a rental unit.

With a minimum of moves, the plan accommodates a variety of user groups. There are four bedrooms, two upstairs and two down. The rear downstairs bedroom has its own entry, which can serve as a home office or separate apartment. The first floor has a kitchen and dining area and the second floor has the living room; arranging the major living spaces on two floors allows several people or groups to occupy the small house.

The exterior of the house features clapboard siding, double hung windows, a woodframed porch, and a metal roof. A larger front window on the second floor reflects the cathedral ceiling in the living room and enlarges the scale of the house. Lattice skirting runs around the open crawl space at the base of the structure.

Jury Comments

Mack: We have seen a number of projects use this strategy of a very thin house located at the corner. I like that siting. I also like the simplicity of this house. It is brought up a bit further

than many of the other schemes in terms of the materials, and the presentation allows us to get into the design very easily. I also like the feature of the porch and the minimal way in which the interior spaces are treated, with the larger space on the second floor utilizing the cathedral ceiling. The shotgun arrangement of rooms along a corridor is not the most efficient; a U-shape or L-shape would be more efficient, but that shape does relate well to the modular construction. Rose: Technically, the only troublesome area is the roof, with its lack of collar beams. But I can forgive that, for I find this to be a simple, charming scheme. It is obviously made for manufacture, and even though the market doesn't show any economic advantage to the factory manufacture of houses, we'd be giving a boost here to what I think has great potential for the economy. Mack: I admire its self-built, generic, vernacular quality. Marcus: The submission doesn't spell out how the different household types would live here, but from the look of it, with three access points, the second living room, the rear bedroom/bathroom combination, it looks as if there could be a lot of combinations. Rawn: We're finding out that if you put a living room on the second floor, it suddenly starts allowing these different family types to coexist. I, too, find this far more convincing as an image than some of the other

houses we've seen like it.



SECTION






PERSPECTIVE FROM CLINTON AVENUE





Second Place Jahan Associates, Architects Eric Jahan, Thomas Chalmers Boston

This 1,400-square-foot house uses conventional stick construction and is configured as a simple rectangle to reduce costs. The basic plan minimizes circulation space by placing the stairs and hallways around a light well, which illuminates the center of the house. On the first floor, a front dining room has access to a wraparound porch, as does the central kitchen, with its projecting mud room. At the back of the first floor, four steps down, is a living room that extends across the entire width of the house. Upstairs, three bedrooms share a split bathroom, with a tub and lavatory in one room and a water closet and lavatory in the other. There also is a partial basement.

Progressive Architecture 6.9

Attordable Housing: Competituol

The entrants show how this house can easily be made into a double house or one of a series of row houses by turning one or both sides into party walls. Other styles for the house, such as "Mission" or "Prarie", also are shown. Turning it into a four-bedroom house is easily accomplished during construction by extending the secondfloor play alcove and moving a bedroom door and closet.

The designers express confidence that this house could be built for \$65,000, but also list "break away" features to further lower costs, such as eliminating the basement, some or all of the porch, the rear door canopy, and the raised ceiling at the second floor skylight.

Jury Comments

Rose: In my view, this is at the top of those entries that are contextual and craftsmanlike.

Rawn: I'm a bit troubled by the kitchen being almost totally surrounded by walls. The kitchen is the center of the house for several user types - a place where several adults can work together, where a family can gather, where a mother can help a kid do homework. I find this kitchen claustrophobic. Marcus: I like the wraparound porch; I can imagine it being used by kids a lot, especially in winter. I also think the house would fit well into the neighborhood.

Rose: The house has curb appeal, but I can imagine the entrants crossing their fingers about whether it can be brought in for the price. **Rawn:** I think that is a real question.

Burks: But it is a square house and the porch is inexpensive. **Curry:** It is clearly one of the most marketable houses we've seen.

Rawn: Yet, I find the siting somewhat strange. The porch, which we thought was on the side street, is in fact in the back yard. We do not see the elevation of the house from Clinton Avenue, which I thought was the front yard. This is done to face the porch south, but the siting is very problematic. Mack: The interior, though, is reasonably laid out, with extra spaces like the play alcove. Marcus: Yet it is completely unusable by someone who's handicapped.

Burks: Is this cutting-edge? **Curry:** Obviously it isn't, but it's our best house plan – the best in terms of curb appeal, energy efficiency, and marketability.





SITE PLAN



SECTION AA





TWO OPTIONS AS A DOUBLE HOUSE

 $N \rightarrow + + + + + + + 40^{\prime\prime}12m$







AT

SECOND FLOOR PLAN

 $^{N} \rightarrow \vdash$ ____ 10%3m

Third Place Selldorf & Van Campen, Architecture & Design W.I. Van Campen, designer;

.

Annabelle Selldorf, Diana Kellogg, Mary Richardson, assistants New York.

Not wanting "to impose a specific image or taste, especially on an unknown client," the designers of this project envisioned "a neutral shell containing a basic armature of enclosure, circulation, and services, which subsequently can be modified and adapted by the occupants." In this, they draw from Le Corbusier's housing at Pessac, where his "neutral" aesthetic "provided a flexible scaffold for easy modification."

The shell is 1,450 square feet and, because of its stripped-down character, would probably come in under budget. "The remaining funds," say the designers, would "be given directly to the occupants to use at their discretion." As their needs changed or as they earned more money, partitions and even floors can be added.

their needs changed or as they earned more money, partitions and even floors can be added. The designers avoided a solution that involved sophisticated technology. Instead, they assumed that the house would be built of the most cost-effective technology available in the area. They also purposefully did not respond to the styles of the surrounding buildings. Instead, they related the house to its context through its corner

siting, its similar massing, and

its "plainspoken quality."

Jury Comments

Mack: I admire this scheme for its flexibility and its simplicity, treating the house as if it were a basic shell to which attachments could be added. **Rose:** What we're missing is the level of detail that lets us know what it would really look like on the street. I like the diagrams, but I'm concerned about what isn't shown. **Mack:** But I think it's implied. Gingerbreading is possible, as is almost any kind of roof. **Rose:** The detailing is not taken to a point where a contractor could begin to work with it. That just heightens the tension between architect and contractor, which cuts down on the affordablility.

Mack: To me, it suggests just the opposite. Affordability here lies in giving more space outright, with the idea that the house's character would be developed over time by the owner rather than by the architect. Rawn: The section is quite innovative and wonderfully expandable. On the other hand, I'm not sure the dimensions allow some things to work as they are shown - some of the bathrooms, for example. Curry: Some of the small rooms that are two stories tall are not going to be very enjoyable. Also, I'm not sure that many people will add walls or floors. Most people will customize a house at first, but once it's built, it's built.

Rose: I also believe that the architect's role should extend beyond schematics to construction drawings. This is a conscious statement that the architect shouldn't participate in the idiosyncratization of a building. **Mack:** But this also allows a builder, through preselling, to work with the future owners to alter the rooms, change the floor elevations. As an owner, I would feel more comfortable because the design is not so specific.





VARIOUS ARRANGEMENTS OF MULTIPLE UNITS













CONVENTIONAL FAMILY WITH TWO CHILDREN



AXONOMETRIC





THREE UNRELATED ADULTS WITH SEPARATE LIVING SPACES







N ← ├------ / 20%6m

Honorable Mention Romm & Pearsall, Architects Frederick Pearsall. Stuart Romm, Elisha Cook, Craig James Atlanta.





hotos: Stuart Romn

MODEL, VIEW FROM CORNER OF SITE

MODEL, VIEW FROM SITE INTERIOR

The designers of this scheme intend the owner and builder to be involved in determining its final form and the process by which it is made. The designers also site the house at the corner to allow another similar unit to be built.

Cost savings are achieved by leaving many materials exposed, using standard material dimensions, and minimizing the plumbing and mechanical runs. The house could be stick built or use prefabricated panels. The plan, too, is quite efficient. There is a first floor bedroom/ office with its own entry, plus a kitchen/dining space overlooking a fenced court. Upstairs are two more bedrooms plus a living room, with an oriel bay window overlooking the street.

Progressive Architecture 6.91

Affordable Housing: Competition

upstairs, away from the kitchen and dining space, accommodates alternative life styles. Two unrelated adults, for example, can each have their own living space.

Mack: Putting the house on half the site and providing private outdoor space is a good solution. One answer to affordability is making smaller units on less land.

Marcus: I don't think it's suitable to this site and the neighborhood. It's too strange: an architect playing around with form. It violates too many norms of the "home." Mack: It may not be for Cleveland, but on a general level, it addresses many of the issues we've been talking about.

Jury Comments Rawn: Putting the living room

mightim 54 Œ SITE PLAN MASTER BEDROOM KITCHEN DINING/FAMILY COURTYARD CARPORT LIVING/GUEST ROOM BEDROOM SLEEPING LOFT/ FUTURE EXPANSION T.T.T.T.I.I.I.I.





Honorable Mention Pam Kinzie & Les Taylor San Francisco

This rectangular house features a central core and a stair tower pulled out to one side. There are two living spaces on either side of the kitchen on the first floor, and bedrooms on either side of a split bath on the second. The walls and floors of the house are constructed of laminated veneer trusses clad in cellular plastic sheathing and cementitious board sheathing. Corrugated galvanized roofing panels clad the prefabricated roof trusses. The wall and floor cavities are used as air plenums through which warm and cool air move.

Jury Comments

expensive, which doesn't make this very affordable. Mack: Yet it has a very clear

plan, a Modern interpretation of the shotgun house. The stair could be done cheaply and suggests that another house could be built next to it.

Rawn: This plan is very simple and very good, with a slightly private living room, a central kitchen, and an open family room.

Marcus: Although it's nice for us to be promoting some experimentation with materials, I do not see affordable housing for poorer families as the place to experiment with materials. Such people do not want to stand out in the neighborhood as the people living in that weird experimental box. Rawn: I agree with that. What I admire is not the building system, but the plan.

1 20%6m

____ 10%3m

1

UPPER DRAWING: -

 $^{N} \downarrow \vdash$

PLANS:

Rose: These materials are very

Progressive Architecture 6.91

Honorable Mention Gregory Hackworth, Peggy Wyatt Bellevue, Washington

The designers of this twostory house used Christopher Alexander's A Pattern Language

as a guide. Some of the patterns referred to include "long, thin house; south-facing outdoors; positive, outdoor space; staircase as stage; bed alcoves; farmhouse kitchen; and private terrace in the street." The house has a relatively open plan for flexibility and includes a front bedroom with a separate entrance which could double as an office. The stair occupies its own bay, with skylighted two-story spaces to either side of it. The designers used a two-foot planning grid to optimize labor and materials, and included several solar heating devices, including a solar siphon and solar shades.

Jury Comments

Rose: The "gee-whiz" quality of the solar elements detract from the merits of this scheme. **Rawn:** There is also the problem of the wide open kitchen/ dining/living room. Also the upper bedroom forces people into sharing it, which is against the program.

Marcus: I think this house, though, would be acceptable in the neighborhood. Also, the shared bedroom works with small children.

Rawn: But what happens when they become teenagers? Marcus: Yet there is sensible planning elsewhere, such as the first-floor bedroom which could become rental space.

Rose: Also because it is a box no wider than 14 feet it is suited for manufacture or efficient stick building. This project grabbed me at first, yet the more I look, the more questions I have.

Curry: It is better than a lot of what we have seen, though. There are some rather careful aspects to it.



PERSPECTIVE



85



10'/3m

This scheme divides the program into two parts, a service zone, containing the stairs, bathrooms, and kitchen, and a living zone that is an open loft space capable of being subdivided in a variety of ways. The service zone would be factory manufactured and the living zone would be built on site using prefabricated components such as floor and roof trusses. The house is located at the corner of the lot to allow a second unit to be built in the future. The jury liked the logic of the two-zone plan and the flexibility inherent in loft space. Questions were raised, however, about the difficulty of building shallow barrel-vault roofs (of which there were many in the competition) and about the siting of the house, which seemed to turn its back to Clinton Avenue.

.

Facking

_ 20%6m

SECTION

SITE PLAN N -> +---



10%3m

ELEVATION

SECOND FLOOR PLAN

FIRST FLOOR PLAN N -> ----

TWO ADULTS AND THEIR ADULT CHILD WITH A DEPENDENT CHILD



TWO UNRELATED ADULTS AND THEIR TWO CHILDREN



NORTH ELEVATION



Commendation Elizabeth Debs Greenwich, Connecticut

The plan idea of this scheme has "a central shared services block ringed by three identical modules." The central block contains a kitchen/dining room, entry, and three bathrooms, each accessible from one of the modules. By opening or closing doors, the modules can be rearranged in a variety of ways to accommodate three unrelated adults, each with his or her own module; two unrelated adults with children, each occupying one and one-half modules; and parents, with an adult and dependent child who have their own living and sleeping space; and a single adult with three children, each with a bedroom. A second-floor room above the services block allows for expansion or storage. The jury praised the flexibility of the plan, but found that the elevations and siting of the house were too undeveloped to make a final judgment.

Commendation Davids Killory René Davids, Christine Killory San Diego

Called "Twice House," this scheme was commended by the jury for its clear expression, in plan, of the "increasing proportion of home buyers (who) are friends, business associates, parent-child combinations, or livetogether couples." The plan consists of two wings that form an L at the corner of the site. At the joint of the L stands the entrance and a core containing stairs, bathrooms, and a pavilion kitchen that projects into the rear garden. The double stairs and split bathrooms allow a variety of combinations of living arrangements, and the two wings provide expansion possibilities and allow a degree of privacy for the inhabitants. The jury noted, however, that the price paid for this flexibility was in the cost of two stairs and the extensive perimeter.

THIRD FLOOR PLAN



LIVING

DINING

STUDY



MODEL-VIEW FROM GARDEN





Commendation Ferris Architects Roger Ferris, team leader; David Beem, Louis DiBerardino, Gary Williamson, design team Southport, Connecticut

.

This "Transmission Tower House" uses "the inherent economics of the typical steel transmission tower as its nucleus, appropriating this prefabricated structural element," which is available from the U.S. Department of Energy for a list price of \$2,564. The floors of the house are hung from this structure. Although the designers have focused on "the structure rather than the skin." they suggest a lively exterior of metal roofing, sloped shingled walls, and a board and batten base. Inside, there is a "great room" and kitchen on the first floor, two bedrooms on the second, and another on the third. The jury commended the ingenuity of the structural idea, but noted the difficulty that would be encountered in cladding it.

Progressive Architecture 6.91

87

Affordable Housing:

Built Work and Projects



Defining the term "affordable housing" on a national level is next to impossible. The issues involved – materials costs, labor costs, land costs, incomes, social and cultural needs – are so different from place to place that it is difficult to compare them. This is especially true today when, in the absence of a coherent national housing program, municipalities, states, non-profit groups, and public/private partnerships must develop more and more creative financing plans to get any housing built.

So, in assembling a gazette of current work in housing, we accepted a loose definition of "affordability" tied to factors in local economies. Just as our competition winner in Cleveland is not intended to stand as an all-purpose solution for the nation's housing ills, the projects on the following pages represent simply some creative solutions for very specific problems.

Although much of the creativity is in financing, some solutions – like the prototype homes by Donald MacDonald (page 97) and Witold Rybczynski and Avi Friedman (page 96) – offer affordability at market rates. And while on the whole we chose not to emphasize projects for the homeless this time, as we did in our October 1988 issue, projects such as Cooper Robertson's HELP in Greenburgh, New York (page 98), and three single-room-occupancy hotels in California (pages 104–105) do address the issue of homelessness.

One widely held opinion that was heard during our competition jury is that the most credible affordable housing solutions are not necessarily the most overtly new or innovative. Many of the architects to whom we spoke expressed the opinion that people of lower incomes should not be forced to live in dwellings of an aesthetic that people of higher incomes have yet to accept.

The best news in these pages is that many architects are helping to fill the vacuum of responsibility for affordable housing left by the demise of federal programs. Architects like those working with Habitat for Humanity (page 114) are, laudably, bringing their talents to the entire housing process. **Mark Alden Branch**

Regent Terrace Apartments Philadelphia, Pennsylvania

Exterior Restoration Architect: Kelly/ Maiello Inc., Philadelphia (Emanuel Kelly, Vincent Maiello, Tom Saylor-Brown, and Christopher Ruffing, project team). Interior Rehabilitation Architect: Goldner Goldfarb Kline, Philadelphia.

Client/Sponsor: Pennrose Properties Inc. (developer/owner, and now manager); Philadelphia Office of Housing and Community Development, Philadelphia Housing Development Corporation, Pennsylvania Housing Finance Agency, and HUD (sponsors).

Program: 80 units; 36 have two bedrooms, 44 have one bedroom -8 of which are handicapped units; units have common rear courtyards, community room, and laundry room. Site: urban residential neighborhood block in Southwest Philadelphia, with six vacated (for over a ten-year period) and deteriorating buildings, considered a blight on the neighborhood. They were designed by Philadelphia architect E.A. Wilson, and originally constructed between 1908 and 1910. Previously, the buildings had 36 large apartments, 6 per building. The properties were acquired by the City of Philadelphia Redevelopment Authority and conveyed to the Philadelphia Housing Development Corporation. This agency, in turn, located the developer, who purchased the property at nominally below market rate. Intended Users: low-income families

Aftordable Housing: Built work

(50 percent), and elderly (50 percent). Rental assistance is provided to tenants by the Philadelphia Housing Authority through the HUDassisted Section 8 Housing Assistance Payments Program. Construction financing: provided by the City of Philadelphia through the Office of Housing and Community Development, the Philadelphia Housing Development Corporation, the Pennsylvania Department of Community Affairs, the Pennsylvania Housing Finance Agency, HUD, and privately by W.H. Newbold's Son & Company and Regent Street Associates. Total construction cost: \$5.3 million. Per-unit-cost: \$66,250. Per-square-foot cost: not available. Land cost: not available. Major materials: existing ashlar stone base and Flemish bond brick walls, cast stone columns, fiberglass restoration of porch and building

cornices, restored porch balustrades.



______ 40%12m





and windows of treated and painted wood.

Structural system: brick bearing walls with wood roof and floor framing. Porches have stone walls, stone and cast stone columns, steel framing, and wood joists and sheathing.

Mechanical system: individual apartment gas-fired units with ducted distribution. Consultants: Keast and Hood, struc-

tural; Clio Group Inc., historical. Contractor: Allied General Construction Service Corporation.

.

Before the restoration (1, 2), Regent Terrace buildings were severely dilapidated, with deteriorating cornices, porches, and balustrades among the most obvious signs. Repairs were effected by the use of cast stone column replacements (4), fiberglass cornices, and wood balustrades and windows (3, 4). Where there had been 36 larger units, there are now 80.

Kelly/Maiello Inc., partly a minority firm, has been involved in a number of Philadelphia projects with similar architectural, social, and economic goals, testing the challenge of whether such aspirations are possible to achieve. In Regent Terrace and other developments, the firm has answered architect Emanuel Kelly's own rhetorical questions: "Is it possible to design low and moderate income housing that is respectable, even noteworthy? Can such a project make sense economically and aesthetically?" They are rhetorical, obviously, because he knows the answers. Regent Terrace is fully occupied with a long waiting list.

Affordable Housing: Built Work

970 Eastern Avenue Toronto

. . . .

Architects: Francesco + Aldo Piccaluga, Toronto (in charge of design, Francesco and Aldo Piccaluga).

Client/Sponsor: The Supportive Housing Coalition of Metropolitan Toronto.

Program: 14 units (called bachelor or studio apartments) with one common laundry room adjacent to a common lounge.

Site: previously two city lots, each with 23 feet of frontage, purchased at market price. The street in front is near – and runs parallel to – Lake Ontario, and the area is near an industrial zone. The immediate neighborhood is a mix of houses, rooming houses, and scattered light commercial structures.

Intended users: single persons with low incomes (less than half the \$20,000 to \$25,000 average single-person income for Toronto). Rent: Not released; to be determined by income.

Construction financing: through government-guaranteed mortgage loan. Total construction cost: \$545,000 (US).

Per-unit cost: \$39,000. Per-square-foot cost: \$78.20. Land cost: \$234,000.

Major materials: slate roof tile, concrete block walls and partitions, sand cement plaster (interior) and Venetian plaster (exterior), troweled, color-stained, and wax-polished concrete flooring.

Structural system: prefabricated welded steel roof frame on concrete block bearing walls, composite concrete/steel floor slabs.

Mechanical system: electric heat through individually-controlled sealed radiators, factory-filled with diathermic oil.

Consultants: Blackwell Engineering Ltd., structural; Merber Carinci Burt Rogers, Inc., mechanical/electrical; Green & Nogue Associates Ltd., development consultants. Contractor: Tor-Can General Contracting Ltd. Photos: Francesco Piccaluga.

Filotos. Francesco I iccuiuga.

Contrast but not conflict with the surroundings was the goal of the architects in this type of facility. It is their hope that a new image in the neighborhood will create the will to further renew such areas. This design takes cues from the normally narrow lot size, breaking the roof into four parts. Lowest units have access to a private garden through glazed bays.









UPPER FLOOR PLAN



BASEMENT PLAN N 7 10/3m

Affordable Housing: Built Work

SITE PLAN

N 7 10/3m











FIRST FLOOR PLAN, UNIT TYPE D

Dermott Villas Dermott, Arkansas

.

Architect: Wenzel & Associates/Architects, Tunica, Mississippi (Bill Wenzel, Jerry Simmons, Allen Hill, John Greer, Robbie Burchfield, Rob McDowell, project team). Client: Tom Marshall, Marshall Planning & Development, Inc. Program: 33 predominantly rentsubsidized one- and two-bedroom units and two-bedroom townhouses, a community center (housing a manager's office and apartment, laundry facilities, mailboxes, kitchenette) and children's playground in a rural community.

Site: a neglected three-acre grove of mature pecan trees in a residential area of cottages, ante-bellum houses, and plantation cabins, one block from the town's central business district.

Intended users: predominantly minority farm and household workers with an annual income between \$4000 and \$12,000.

Rent: \$180–275, although most tenants pay lower rates based on income.

Construction financing: Farmers Home Administration Section 515 Rural Rental Housing Loan Program.

Total construction cost: *\$1,017,000.* **Per-unit cost:** *\$30,818.19.*

Per-square-foot cost: \$41.83. Land cost: \$15,000.

Major materials: vinyl siding, fiberglass shingles, gypsum board interior walls, aluminum windows, carpet and sheet vinyl floors.

Structural system: wood frame (exterior walls), prefabricated wood trusses.

Mechanical system: *individual vertical closed-loop water source heat pump, ventilation and cooling system.*

Contractor: Champion Builders, Inc., Little Rock, Arkansas. Photo: Timothy Hursley/The Arkansas Office.

The village scale, steep roofs, arched windows, beveled siding, and green and yellow colors of Dermott Villas (1) – sited in a stepped formation around a community center – provide a contextual response to the town's historic character.

West Town Housing, **Phase II, Chicago**

Architects: Weese Langley Weese Architects, Chicago, with Landon Architects, Chicago (Peter Landon, Dennis Langley, Jackie Clawson, project team).

Client: Bickerdike Redevelopment Corporation, Chicago. Program: 65 three-bedroom (900 sq

ft) and 48 four-bedroom (1100 sq ft) townhouses for rental on 30 scattered vacant lots.

Intended users: low-income Section 8-qualified tenants.

Construction financing: FHA-insured mortgage from private lender and owner's equity from low-income housing tax credits. The project is guaranteed by one of the country's last HUD Section 8 grants.

Total construction cost: \$8,100,000. Per-unit cost: \$71,680.

Per-square-foot cost: \$72.

Land cost: varies with site. Major materials: brick, limestone sills and belt courses, exterior insulation finish system, aluminum windows, asphalt shingles, ornamental iron fences, gypsum board interior walls, vinyl flooring, carpet. Structural system: wood frame.

Mechanical system: individual gasfired forced-air heating units and water heaters.

Consultants: Consolidated Consulting Engineers (mechanical); Robert L. Miller Associates (structural). Contractor: Linn-Mathes. Photos: Wayne Cable.

.

Architect Dennis Langley says these scattered-site houses (1, 2, 3) are "the kind of housing that won't get built now that Section 8 is gone." The architects developed six townhouse unit plans (shown at right) that were configured according to site shape and local zoning requirements (site plans, top). Brick patterns and stucco colors were varied from site to site. When two adjacent lots were available, the architects laid out the units to create a pedestrian street between two sets of units (2).





TYPICAL SITE PLAN

40%6m



SECOND FLOOR PLAN, TYPICAL COMBINATION OF UNITS H FIRST FLOOR PLAN, TYPICAL COMBINATION OF UNITS

Affordable Housing: Built Work



93





Ocean Park Housing Cooperative Santa Monica, California

Architect: Appleton, Mechur & Associates, Venice, California (Marc Appleton, Ralph Mechur, Mark Billy, Andrea Rawlings, Lewin Wertheimer, Steven O'Leary, Charles Calvo, Cory Buckner, Stephanie Wagstaff, and Donna D'Anastasio).

Client: Community Corporation of Santa Monica.

Program: 43 one- to four-bedroom units on five sites, initially offered as rentals with a five- to ten-year transition period to occupant-run limited-equity cooperatives. The community has made a concerted effort to rectify an inadequate, 1960s urban renewal program that advocated luxury condominium and apartment complexes, destroying much of the architectural continuity of the area. Site: five infill sites of varying size in Santa Monica's Ocean Park area - an early 20th-Century neighborhood of bungalow and courtyard style housing - purchased by the City of Santa Monica with funds provided by the developer of a luxury condominium project in a nearby redevelopment area. Two sites were vacant and three had "vacant atypical houses."

Intended users: low- and moderateincome families and senior citizens. Rent: \$342-\$1024, subsidized, based on income and unit size. **Construction financing:** no-interest long-term loans from the City of Santa Monica and Wells Fargo Bank, and a HODAG grant from HUD.

Total construction cost: \$3,300,000. Per-unit cost: \$76,744. Per-square-foot cost: \$68. Land cost: approximately \$30 per square foot.

Major materials: composition shingle roofs, painted masonite siding, painted wood windows, painted gypsum board (interior walls), sheet vinyl, laminated countertops, wood cabinets.

Structural system: wood frame. Mechanical system: gas wall heaters. Consultants: Stephen Perlof (structural); John E. Silver & Associates, Inc. (electrical); John Kern (mechanical); Burton & Spitz (landscape); Tina Beebe (color). Contractor: Alpha Construction, Inc., Van Nuys, California. Photos: Alex Vertikoff.





AERIAL VIEW, OCEAN PARK SITES

NKH Ĩ. 200%60m







NK FIRST FLOOR/SITE PLAN, 642 MARINE STREET



AXONOMETRIC, 642 MARINE STREET



94

Affordable Housing: Built Work





SECTION THROUGH COURTYARD, 518 PIER AVENUE



FIRST FLOOR/SITE PLAN, 518 PIER AVENUE

______ 40%12m 1

SECOND FLOOR PLAN, 518 PIER AVENUE

The smallest of the five Ocean Park complexes, 642 Marine Street (1, 2) has four units de-signed, like the other Ocean Park projects, with a series of setbacks, varying roof lines and building heights. The 15-unit 518 Pier Street site (3), the largest of the Street site (3), the targest of the complexes, exaggerates the tradi-tionally small-scale bungalow and courtyard styles. A central land-scaped courtyard and lawns provide both a sense of community and a feeling of privacy for residents.

20%m

Affordable Housing: Built Work

Progressive Architecture 6.91 95

The Grow Home Montreal

Architects: Witold Rybczynski and Avi Friedman.

Sponsor: Dow Chemical Canada. Program: for demonstration, a small, adaptable row house buildable for under \$34,000 on extremely narrow (15 feet) lots.

Site: built on McGill University campus and exhibited during June, 1990.

Intended users: first-time buyers with income of around \$30,000 per year. Construction financing: prototype funded by Dow Chemical Canada.

The Grow Home is envisioned as a market-rate product. Total construction cost: \$36,386 U.S.

Per-square-foot cost: \$36.

Land cost: varies with location. Grow Homes are currently being built on the island of Montreal with a total sale price (including land) of \$66,300 U.S.

Major materials: stucco, asphalt shingles, wood windows and doors, gypsum board interior walls, vinyl flooring.

Structural system: prefabricated wood frame walls and trusses. Mechanical system: electric baseboard heating.

Contractor: Modulex, Inc. **Photos:** Douglas Sharpe, except as noted.

Avi Friedman and Witold Rybczynski (1, on the balcony of their demonstration house) designed four models of their "Grow Home" prototype: the "Straight-Back," a bare bones model with vinyl siding and no balconies; the "Windsor" (shown), with stucco finish and balconies; the "Ottomane," with a basement and an upstairs partition; and the "Club," with a basement and garage, fully partitioned upper story, and vestibule. Cost-saving ideas include unpartitioned space that residents can finish as needed (3), and do-it-yourself kitchens (2) and closets. (The demonstration model is fitted with closets and cabinets available from the IKEA chain.) Rybczynski and Friedman have also developed urban design schemes for combining rows of the houses.











FIRST FLOOR PLAN

______ 10%3m

96

Affordable Housing: Built Work







Starter Home Oakland, California

Architect: Donald MacDonald, San Francisco.

Sponsors: California Arts Council, California College of Arts and Crafts, Oakland.

Program: a 298-sq-ft prototype single-family house.

Site: prototype built in exhibition space of California College of Arts and Crafts.

Intended users: a single adult, a couple, or a low-income adult with one child.

Estimated sale price: \$12,000 to \$15,000, excluding land.

Construction financing: prototype built with donations of cash and materials from suppliers. **Total construction cost:** \$15,000.

Per-square-foot cost: \$50. Major materials: plywood exterior,

asphalt shingles, sheetrock interior walls, aluminum doors and windows.

Structural system: wood frame. Consultants: Shaper Lighting, lighting; Uno Veideman, structural. Contractor: Creative Spaces, Oakland, California. Photos: David Wakely, except as noted.

Donald MacDonald's 14' x 17' Starter Home (1, shown in the gallery of the California College of Arts and Crafts) was conceived on the notion that people living in studio apartments might prefer a free-standing home of the same size. The house is equipped with a fireplace, complete kitchen appliances (including a stacked washer and dryer), and a full bath, although there is but one sink, in the kitchen (2). The loft (3), reached by a ship's ladder, does not meet code requirements for a sleeping space, so is designated as "storage." MacDonald suggests that the home would easily accommodate additions; future openings are indicated in the drawing at left.

West H.E.L.P. Greenburgh, New York

Affordable Housing: Built Work

Architects: Cooper, Robertson & Partners, New York (Alexander Cooper, Roland Baer, partners; Petr Stand, project manager; Edward Siegel, project architect). Client/Sponsor: H.E.L.P. Corporation (Housing Enterprises for the Less Privileged, Andrew Cuomo, President), Tishman Speyer Properties (developer, construction manager). Program: 8 residential buildings, 108 one-bedroom units, and Community Center comprising daycare classrooms, offices/conference areas, social services areas, medical office/ treatment room, multi-purpose room, laundry, library, and lounge. Strict rules require attendance at health care, job training, and/or drug programs, whichever is appropriate, and other stipulations. Site: undeveloped, wooded land in Westchester County, New York. Intended users: homeless single parents with pre-school children, from local school districts; expected residency of 6 to 9 months before taking a job and permanent housing.

Financing: through New York State Housing Finance Agency bonds. Total construction cost: \$5.7 million, including sitework.

Per-unit cost: \$27,000 per unit. Per-square-foot cost: Community Center, \$100 per square foot; Housing, \$45 per square foot. Land cost: donated by county. Major materials: cedar shake shingles, T&G board. Structural system: wood framing. Mechanical systems: baseboard heating, residential; ducted HVAC, Community Center.

Consultants: Tor, Smollen, Calini & Anastos, structural; Lazlo Bodak Consulting Engineers, mechanical; Mark Morrison Associates, landscape; Paul Petretti, civil; Stephen Pine, specifications. Contractor: Adler/Valentine Associates.

Photos: © Jock Pottle/Esto.

The space enclosed between the Community Center (1) and the living units (2, 3) includes an outdoor play area near the Center featuring play equipment, extensive resilient surface treatment, and seating areas. All living units are entered from this peaceful precinct.







PARTIAL HOUSING FIRST FLOOR PLAN





M&M Maison, Liberty City Miami, Florida

Architect: Ted Hoffman, Jr., Architect, P.A.

Client: Urban League of Greater Miami, owner; Greater Miami Neighborhoods, consultant. Program: 30 units of rental housing made up of 26 two-bedroom, and four one-bedroom units. Site: 1.2-acre lot, bought with tax-

generated funds and donated by the City of Miami.

Intended users: single-parent households headed by women, with an average household size of three and a median income of \$10,000. Rent: \$350/month for the two-bedroom unit; \$250 for the one-bedroom (about \$100-\$150 less than market rental rates in the neighborhood).

Construction financing: The Urban League of Greater Miami, a nonprofit community-based organization had equity in the form of a land donation from the City of Miami; Greater Miami Neighborhoods, a non-profit public/private partnership provided \$36,000 for utility improvements and \$100,000 as a 15year loan for start-up costs; and Dade County Surtax Program, a transfer tax on commercial real estate, provided a \$700,000 low-interest second mortgage. With this as equity, Homes for South Florida, a consortium of six large commercial banks, approved a conventional construction mortgage.

Total construction cost: \$930,000 Per-unit cost: \$31,000

Per-square-foot cost: \$32 Land cost: donated. Major materials: concrete block and stucco, prefabricated wood trusses,

metal stud and drywall. **Structural system:** concrete block bearing walls, wood joists at 2nd floor, wood trusses at roof. **Mechanical system:** split system A/C

with strip heat. Contractor: Darwin Construction. Photos: Ted Hoffman, Jr., except as noted.

"The idea that the middle class are the only ones for whom gardens, porches, and residential forms are appropriate is particularly oppressive," architect Hoffman asserts. His design of variegated gabled porticos fronting a green strip (1, 2, 3) constitutes a domestic iconography that stands in contrast to the stark, flat-roofed 2- and 3-story rental housing "blocks" built in Liberty City over the past 40 years.











SECOND FLOOR PLAN





N 10/3m

Affordabe Housing: Built Work

101





ELEVATION, RANCHO SESPE PHASE TWO, BUILDING P





Cityhome, Chicago Architects: Holabird & Root, Chicago

.

This pair of duplexes validates Mies van der Rohe's claim that industrial technology can yield a graceful and efficient dwelling. The four apartments, a site-specific commission from a developer, are intended to match the price of subsidized housing, without relying on government funding. Invoking Mies's premium on flexibility. Gerald Horn of Holabird & Root equipped each of the 1000sq-ft apartments with moveable partitions for the second floor. A row house version of Mies's courtyard houses, each unit provides a private yard enclosed by prefabricated cement fiberboard panels hung on steel studs, just like the walls that enclose the living spaces. The second floor rests on light-gauge steel beams, to which the wall panels are bolted. The rolling louvers on the street front are a security wall when lowered, and a sunshade when raised - a functioning sign of the house's machine aesthetic.

Rancho Sespe Farmworkers Housing, Piru, California Architect: John V. Mutlow, Los Angeles

A group of permanent workers at the Rancho Sespe citrus company in Piru, California, is developing its own housing. With advisory services provided by the Cabrillo Economic Development Corporation, the farmworkers procured construction financing from the Farmers Home Administration and 20 acres of a "dilapidated" citrus grove.

Confined to row house style structures by the FHA, architect John Mutlow devised a twophase scheme (phase one is occupied; phase two will be under construction this summer) of stucco-clad, two-story row house clusters, with a shed roof as the unifying element. In phase two, each group will be given its own color and landscaping scheme. A farmhouse-like community building and sports fields provide a central gathering place. Rent at Rancho Sespe is subsidized, ranging from \$312 to \$412 depending on apartment size.

Historic King Place Milwaukee, Wisconsin Architects: Louis Wasserman & Associates, Milwaukee

Milwaukee West Development Milwaukee Architects: Herbst, Eppstein, Keller and Chadek, Milwaukee

We often speak of neighborhood rehabilitation as the architect's careful assembly of interrelated parts. The description applies to the banker's efforts, as well: Both of these Milwaukee projects are being funded with intricate financial strategies by the First Wisconsin Community Investment Corporation (FWCIC), a subsidiary of one of the city's largest banks. Robert Lemke, project manager for FWCIC, who was featured in P/A's Young Architects issue (July, 1990, p. 95) is developing them with grants from the city and county, and from local utilities, and low-income housing tax credits. The architects reduced their fees or worked on a contin-

Progressive Architecture 6.91

Affordable Housing: Projects

gency basis. Louis Wasserman & Associates are rehabilitating two Art Deco buildings, rechristened Historic King Place. Together they will provide 41 wellequipped apartments, mostly for low-income tenants (at rents of \$370 and \$460 for one- and twobedroom units), and street-level retail space. The entire project costs \$47 per square foot, for a total of \$4.2 million.

As part of a Milwaukee West Development Project, Herbst, Eppstein, Keller & Chadek will transform five dilapidated 1960s apartment buildings, inside and out. To overcome the structures' notoriety for crime and drug dealing and to remedy substandard construction, their façades will assume more conventional domestic imagery, and their plans will be reconfigured. New floor plans will better accommodate families with children, with six two-bedroom units (each 1000 square feet) per floor. The total project cost will be \$6.5 million. Here, as in Historic King Place, Lemke has composed detailed balance sheets of revenues and expenses - as essential as construction documents for realizing the projects.



HISTORIC KING PLACE





FOURTH FLOOR PLAN N C 40/12m



MILWAUKEE WEST DEVELOPMENT APARTMENTS, PROPOSED REHABILITATION



MILWAUKEE WEST DEVELOPMENT APARTMENTS, EXISTING CONDITION



PROPOSED FIRST FLOOR PLAN





MODEL LOOKING NORTHWEST



FIRST FLOOR PLAN

3330 Army Street/Del Carlo Court

Architects: Solomon Inc., San Francisco

.

Architect Daniel Solomon has long been involved with the language of San Francisco's streets and patterns. The best cities, he says, "embrace change, but resist pastlessness by accommodating change with known and nameable elements. . . Architecture cannot heal poverty, but it can make it mute. Muting poverty is beneficial because proclamation perpetuates its cycle." Continuing in that vein, the project shown on this page embodies some of the recognizable elements he identifies as pieces of San Francisco's language: courts, alleys, streets, and gates.

A 25-unit low-income rental project at 3330 Army Street fronts on a busy street and on a quiet one, and provides gates with which to share views of the interior courtyard. The courtyard, from which all entries and parking are accessible, provides residents with a gathering place, as well as safety in a rough neighborhood. It includes oneand two-story, one-, two-, three-, and four-bedroom units, and provides for some handicappedaccessible flats.

10'/3m

Financing for the complex is through grants or loans from several city, state, and Federal agencies, with equity from the owner and sponsor, Mission Housing Development Corporation. Some of these funds are the result of zoning ordinances requiring downtown office developers to contribute to low- and moderate-income housing production. Monthly rents range from \$287 for a 1-bedroom unit (very low-income tenant) to \$696 for a 4-bedroom unit (low-in-

come tenant). Solomon's design of 3330 Army Street proposes that "a simple modular system allows units and partitions to stack yet accommodate a wide variety of possible unit mixes." Shingled roofs and siding of lapped boards and vertically articulated panels are to be used to conserve on construction costs.

Co-principal for 3330 Army, with Solomon, is Susan Haviland; Elizabeth Hooper is project architect, Philip C. Rossington is project assistant, and Gary Strang is landscape architect.



Studio Durant Single Room Occupancy Hotel Berkeley, California Architects: David Baker + Associates, San Francisco.

Affordable Housing: Projects

Progressive Architecture 6.91

104

The 198-room residential hotel bordering the university campus will be built by a private developer, Jackson & Associates of San Diego, with no public financing. Each 175-sq-ft room includes a complete bathroom and kitchen appliances, and is expected to rent for about \$280 a month. The 56,000-sq-ft, four-story structure (budgeted at \$4.5 million) also contains close to 6000 square feet of revenue-generating retail and parking at street level.

Architect David Baker broke away from the grim stereotype of the "flophouse": The streetfacing residential floors on the undulating east façade are differentiated from the colonnaded storefront; the manager's apartment and handicapped-adapted unit define one edge of the south façade; communal lounges occupy a circular tower at the corner of the building, above the prominent entrance and lobby.

San Julian Single Room **Occupancy Hotel** Los Angeles

Architects: Koning Eizenberg Architecture, Santa Monica.

.

The first new SRO hotel in Los Angeles in three decades, the San Julian modifies the building type to impart a sense of community without relying on domestic iconography: While this is a haven, it is not a family household. Commissioned by a non-profit developer, Hank Koning and Julie Eizenberg located dining/lounge areas, kitchens, and laundry rooms on the first and fourth floors to promote casual contact among a comfortable number of tenants. Each room has a sink, closet, refrigerator, desk, and bed; toilet rooms are on each floor.

Curves in plan and profile, banded windows, and storefrontlike bays on the sidewalk dispel unsavory past associations with SROs. The budget (\$3.5 million), building lot, and the small units made a narrow light well necessary; it is a tradeoff for a perimeter hallway system that eliminates dead-end corridors.



MODEL

FOURTH FLOOR PLAN







TYPICAL UNIT, SAN JULIAN SRO









FRONT ELEVATION, HARBORPLACE SINGLE ROOM OCCUPANCY HOTEL







AXONOMETRIC



SECTION B-B



401/12m

Harborplace Single Room Occupancy Hotel San Diego, California Architect: Rob Wellington Quigley, San Diego.

When Rob Quigley designed the Baltic Inn four years ago (P/A October 1988, p. 81), the city of San Diego harbored unsavory images of SROs, and the zoning revisions essential for construction of the Inn were slow in coming. Now that the Baltic Inn has proven a success, Quigley is building Harborplace and other SROs throughout the city, at a much faster pace. This hotel/studio hybrid is home to college students and recent arrivals seeking new jobs in the city, as well as to elderly people on fixed incomes, blue collar workers, and the working poor. Neighbors' fears that the SRO would be a magnet for lowlife were unrealized. The density of the SRO is not a problem: Chance encounters - as residents pass through the lobby en route to the laundry, for example - contribute to a sense of community.

Harborplace will serve the higher end of the low-rent market, with construction costs of approximately \$48 per square foot, \$10 more than the Baltic Inn, and with marginally higher rental rates. The developers of Harborplace (some of whom funded the Baltic Inn, a profitmaking venture) gave Quigley a budget that provides for underground parking, a front porch, stores, recreation room, and articulated façades, divided into the 50-foot module characteristic of the neighborhood.

Applying lessons learned from the Baltic Inn, the floor plan at Harborplace will be "intentionally impure," and a library will flank the courtyard, an amenity suggested by residents of the Baltic Inn. Quigley finds that light wells need not be a design detriment: Andrew Spurlock Martin Poirier, the landscape architects, envision Harborplace's narrow courtyard as a work of art, rather than a mundane patch of greenery. Staggered windows will afford visual privacy, and the sound of televisions, stereos, and conversations will be muffled by fountains, a low-cost white noise system, as well as a landscape amenity.

Grasse Road Faculty Housing Dartmouth College Hanover, New Hampshire Architect: William Rawn Associates, Boston

The gap between young faculty members' income and housing costs is a national problem affecting schools at all levels; Dartmouth College is no exception. Given Hanover's shortage of economical living space, the College commissioned William Rawn Associates to develop three single-family house prototypes for a 39-lot site near campus. Ranging in size from 1360 to 1865 square feet, these models are designed in a New England vernacular with prefabricated metal standing-seam roofs, clapboard siding, and gabled façades. They have amenities rarely found in "affordable housing": open floor plans, large kitchens, and mudrooms, as well as small studies and built-in book shelves, suitable for academics working at home. The College will offer mortgage financing and will retain a repurchase option.

Parkside Gables Stamford, Connecticut Architects: Perkins Geddis & Eastman, New York

106

Progressive Architecture 6.91

Some Stamford residents mistakenly assume that Parkside Gables is a pricey condominium built to gentrify one of the city's troubled neighborhoods. In fact, it will be home to low- and moderate-income residents: The Gables is Connecticut's first mutual housing venture. The \$11.1 million project is being built with \$3.5 million from the city and \$7.6 million in state funds for **Neighborhood Housing Services** of Stamford, which will sell the complex, once occupied, to the Mutual Housing Association of Southwestern Connecticut. It can guarantee qualified low- to moderate-income residents lifelong residency and monthly payments (in lieu of rent) that won't exceed 28 percent of their adjusted income. Stick construction enabled Perkins, Geddis & Eastman to design eight variations of one-,two-, and threebedroom apartments, oriented so that both sides of each building have front doors.



SIDE AND FRONT ELEVATIONS, DARTMOUTH FACULTY HOUSING, UNIT A





SECOND FLOOR PLAN, UNIT A



TRANSVERSE SECTION AA, UNIT A



WEST MAIN STREET ELEVATION, PARKSIDE GABLES



THIRD FLOOR PLAN, HOUSE TYPE A



1 BEDROOM UNIT
2 BEDROOM UNIT





AERIAL AXONOMETRIC OF HARLEM SITES



MIXED-UNIT BUILDING STREET PERSPECTIVE



SECTION/COURTYARD ELEVATION

<u>↓ ↓ ↓</u> 40%12m



STREET ELEVATION

40/12m



FLEXIBLE UNIT PLAN

↓ ↓ 20%6m

COURTYARD PERSPECTIVE



Frederick Douglass Boulevard Housing, New York Architects: Strickland & Carson Associates, New York

Harlem's lower west quarter, an area that covers more than 30 Manhattan blocks just north of Central Park, can be characterized by the expanse of tenements, abandoned city-owned buildings, and vacant lots along Frederick Douglass Boulevard. Here, 43 percent of the residents live in poverty.

In 1988, Strickland & Carson Associates began to design new public and privately-funded housing for Harlem with Hermanuz, Ltd., urban designers, and the Harlem Urban Development Corporation. Their approach is radically different from the kind of urban renewal projects that took place in Harlem in the 1960s, which isolated low-income residents in housing towers. By offering a range of housing options in several different types of infill buildings, the project aims to restore a necessary urban density to the area while serving the needs of diverse households.

Two Single Room Occupancy (SRO) buildings, comprising a total of 330 units, will be owned and managed by nonprofit groups. Another 2170 units are planned in mixed-income structures that will be built and operated by private developers on land donated by the city. When the project is completed, 50 percent of the units will be designated as affordable (instead of the standard 20 percent usually required in subsidized housing). While the SROs will have short term occupants, other apartments will be available as longterm rentals, cooperatives, and condominiums in order to establish a permanent population base in the neighborhood.

At the focus of the proposal are three U-shaped six- to ninestory courtyard buildings for the largest vacant sites. Each building combines several unit types: townhouses with private entrances, "flexible unit" flats (ranging from studios to four bedrooms), and unfinished penthouse lofts. Community rooms on every floor overlook the courtyard and provide natural light to the corridor. Each can serve as a laundry or daycare facility.

Vernon Apartments, Venice, California Architect: R. L. Binder Architecture and Planning

In Venice, where art studio/ living spaces are common, Rebecca Binder and Kim Walsh are designing a structure for artists and families alike. A small apartment block that can be divided into eight lofts or onebedroom apartments, or four duplexes, is set above a garage.

The client, a developer, was interested in providing economical, easily-built units that allow for maximum flexibility in program, without relying on any public funds. The architects selected concrete block and stucco with aluminum windows for cost savings as well as contextuality; they blend with the older stucco houses in the neighborhood.

The façade is punctuated with wood and steel hoists for lifting furniture and artworks.

The apartments, now in working drawings, will rent in the \$400-\$600/unit range, according to the tenants' annual income and the degree of interior finish.

Factory-Built House Architects: Berke හි McWhorter, New York

.

108

Progressive Architecture 6.91

Affordable Housing: Projects

Harvey Gerber, a Connecticut developer, asked Berke & McWhorter to prove that factory-built houses could have the architectural stature of their site-built counterparts, at less cost. The architects responded with component "boxes" that are built indoors and then joined on a slab or basement foundation in six weeks from start to finish. Factories in the Northeast typically charge \$30 per square foot; the accelerated pace makes financing much cheaper - surprisingly, the greatest cost-saving move. Berke & McWhorter let the logic of the modules govern the floor plans, and eschewed the accretions that are commonly (mis)applied to house façades. The architects believe that modular building production is not an intrinsic reason to change the way a house looks: It is simply a way to build a house in a protected space; it's comparable to on-site construction, but much faster.





SIDE ELEVATION

SIDE ELEVATION

FLOOR PLAN

ب 20%6m





PERIMETER WALLS ADDED TO DECK



INTERIOR WALLS INSTALLED



CEILING AND CLAPBOARDS APPLIED





AXONOMETRIC, SITE A



1 ISOMETRIC, ROW HOUSE



REAR ELEVATION, ROW HOUSE





2 ISOMETRIC, TERRACE HOUSE

AXONOMETRIC, SITE B



REAR ELEVATION, TERRACE HOUSE



_1 20%6m

+

FIRST AND SECOND FLOOR PLANS, TERRACE HOUSE

Affordable Housing, New Brunswick, New Jersey Architects: Richardson Smith Architects with George Myers Architect, Princeton.

This two-site proposal for replacement housing has a social and architectural rigor that would have benefited designers of 1950s and 1960s highrise apartment blocks. The apartments (rentals, though homeownership is the long-term goal) were commissioned by Chris Foglio of New Brunswick's Department of Economic Development. They are now on hold, but if their prospects revive, they would be much more flexible than the norm for affordable housing.

Four building types evolved from research into housing projects both exemplary and problematic, from the Weissenhofsiedlung to James Stirling's Runcorn. In site studies, the architects investigated densities and massing on a residential site and on an infill site zoned for residences and industry. They proposed a mixture of row houses (1), low-rise apartments, quadraplexes (four townhouses in one large structure), and terraced houses (2) to avoid problems inherent in urban highrise "projects": For safety, each has an exterior entrance, with no interior public hallways or stairwells. The architects accommodate diverse households with open kitchens where single parents can watch children.

Unit plans are based on a grid system and specified prefabricated components (bathrooms and kitchens, assembled off-site, simply lowered into place). To cut costs and offer flexibility, a wood or metal frame and panel system can be clad with masonry on front and side elevations, but left exposed at the rear of the buildings. This will allow residents to individualize their homes with built extensions or simply a coat of paint in their preferred color.

Affordable Housing: Essays

During a decade of conspicuous prosperity, New York City lost billions

in federal housing support, and a range

of new strategies has become imperative. Three case studies follow.



Three Housing Initiatives in Brooklyn

Kevin Phillips' The Politics of Rich and Poor, which bashes Republican policies of the 1980s, strikes at the core of the housing crisis: "... the forces of the late twentieth century have required double-entry bookkeeping: new wealth in profusion for the bright, the bold, the educated, and the politically favored; economic carnage among the less fortunate." New York epitomized this polarization of prosperity and poverty. Manhattan real estate values south of Harlem skyrocketed, while the market supply of low rent apartments shrank by more than 50,000 units: Foreclosed buildings became in rem property of the city, the unwitting landlord of more housing than it could manage. Many units remained vacant, as the City explored new rehabilitation strategies.

Neighborhoods like East New York in Brooklyn became poorer: One could call it the Doppelgänger or shadowy twin of Manhattan's resurgence south of 96th Street. A Hispanic and African-American neighborhood, East New York is home to families who often double up in apartment buildings next to vacant shells and rubble-strewn lots. East New York's levels of poverty and percentage of school dropouts are among the highest in the city, and drug dealing has escalated the rate of violent crime. This is one of the most depressed and dangerous places in New York.

Mutual Housing: Hard-won Sweat Equity

In 1985, many East New

Yorkers were disgruntled to see that the city was selling its in rem apartments through lotteries that benefited speculators but not the households that were sharing overcrowded apartments. Thirty-eight families decided that they would have to break the law to change the system: They broke into the city's foreclosed apartments and made them their own. Organized by the Association of Community Organizations for Reform Now (ACORN), they outraged the city, which arrested 11 of the squatters and their supporters. After a flurry of media coverage, ACORN's squatting campaign yielded its intended effect: The city began to study more egalitarian ways to distribute its housing stock.

During a two-year face-off between ACORN and the Borough of Brooklyn, both sides sought the mediation of Ronald Shiffman, who founded the Pratt Center for Community and Economic Development, a 25-year-old community design center of architects working for non-profit groups and low-income clients. He helped ACORN establish a corollary organization, the Mutual Housing Association of New York (MHANY), which is receiving an estimated \$10 million from the city to rehabilitate the 38 homesteaders' units as well as 118 more on scattered sites in East New York. Costs for the latter group average \$80,000 for a three-bedroom apartment. This strategy, executed by the Pratt Center, is not novel, but the mutual housing concept is a first for New York: The city will sell its in rem property to the 38 families and to

others whose income is not more than 80% of the median. MHANY bought the land for each unit at \$1 per deed, and each household commits labor and a down payment for a mortgage, with provisos that no family profit on the resale of its house. Mutual housing takes ownership out of the government's hands, while sheltering its residents from New York's escalating real estate prices.

While the aesthetic issues in these rehabs are not extraordinary, the Pratt Center's moral commitment has been exceptional. Unfortunately, its good will is costly: Shiffman notes that most architectural firms would have gone broke during the first phase of the rehab program, when they negotiated between the city and the homesteaders, while rehabilitating 58 buildings without turning families out on the street. The second phase, to rehabilitate 200 more apartments, will be less labor intensive, now that construction logistics and the Pratt Center's approval process with the city have become streamlined.

Nehemiah's Clean Sweep Strategy

I.D. Robbins has built nearly 2300 houses in East New York and Brownsville, another Brooklyn neighborhood, for the Nehemiah Homes Plan, an initiative sponsored by 52 Brooklyn congregations. (The name honors the Old Testament prophet who rebuilt Jerusalem.) A retired builder, Robbins claims that no one else in the city can build housing as well and as economically as he does: On average, each Nehemiah house sells for \$51,500.

Working with a full-time staff of three, Robbins hires local contractors to replicate a basic twoor three-bedroom townhouse designed by James Thomas Martino, a Long Island architect. Robbins's track record is impressive: He operates with a \$6-million revolving construction fund raised by the congregations and builds as many as 54 houses on a block; the city sells lots at a dollar apiece. He prefers to clear entire blocks so that he can build two rows of houses without interruption: Speed, quantity, and repetition economize the construction process, executed entirely on site. Robbins's soft costs are 5% of the total, an enviably low rate.

Depending on whom you ask, Robbins's work is either a godsend or a mixed blessing: 5300 low- to moderate-income families in Brooklyn applied for low interest mortgages for Nehemiah houses (the city provides \$10,000 for a home mortgage with a lien.). On the other hand, some feel that Robbins's strategy of buying blocks that are nearly deserted and razing old structures avoids the delicate problems of integrating the new and the old. Robbins replies that he'd prefer to build 1000 units at a time to make it easier to keep drug traffickers and criminals at bay. He says that his operation could easily build 5000 houses a year, and invites other cities to implement the Nehemiah Plan.

Compared with Robbins's effort, the Pratt Center's rehabilitation of scattered sites is almost painstakingly slow; it is the first step of an ongoing neighborhood restoration to be carried out by others. Shiffman

Affordable Housing: Essays

Progressive Architecture 6.91

111

Townhouses rehabilitated by the Pratt Center, such as 301 Bradford Street (1), are the first step in an attempt to repair East New York's neighborhoods. The Nehemiah Plan calls for covering entire blocks with townhouses that owners are free to embellish (2). Spring Creek Gardens (3) has figural spaces whose scale emulates 19th-Century urban precedents.

and his colleagues believe that speed and economy are not the only determinants of successful housing; they describe their work as an act of faith in the neighborhood. The Nehemiah venture - the almost instant assembly of a new community calls for a different maturation process, where homeowners render the severe row houses into a more personalized neighborhood. Perhaps East New Yorkers will render the Nehemiah blocks an urban version of Levittown. That suburb likewise received mixed reviews, but its homeowners paid no heed to critics and groomed the town into a neighborhood of enduring value.

Spring Creek Gardens: Traditional Urbanity, **Factory Built**

This East New York complex of 765 low-income apartments is the symbiotic partner of marketrate apartments in Manhattan. At Spring Creek Gardens, General Atlantic Realty Corporation funded the first 283 apartments with tax abatement certificates that it sold to developers of highend housing: For each unit at Spring Creek Gardens, General Atlantic offered 5 certificates (for a total of \$28 million), redeemable for a ten-year abatement on a Manhattan apartment.

Both General Atlantic and its architects, the Liebman Melting Partnership, in association with Birnbaum/Kondylis, favored a dense development: It brought economies of scale (each unit cost \$75,500, plus \$27,500 in soft costs for the parking garage, sewers, etc.) and allowed Ted Liebman, the partner-in-charge, to layer four



ORIGINAL FIRST FLOOR FIRST PLAN, 301 BRADFORD ST. N \leftarrow \vdash FIRST FLOOR PLAN _____ 1073m

floors of walk-up apartments around streets and courtyards. The units outline figural spaces that are easily monitored for security, and define a bounded area on a site that was once a landfill; there are few paved streets in the vicinity, let alone any buildings.

Like the other two East New York ventures cited here, Spring Creek Gardens is a successor to the initiatives undertaken by activist architects of the 1960s and 1970s, the milieu that generated the Pratt Center. Today the progressive phalanx is more diverse in scope and strategy: Some architects speak of empowering the poor and others of strengthening the nuclear family; most invoke traditional design archetypes. Regardless of their sources political, fiscal, and aesthetic they are generating self-sustaining communities. In places like East New York, these are sorely needed. Philip Arcidi





FIRST FLOOR PLAN NEHEMIAH PLAN TOWNHOUSE



CREEK GARDENS 10%3m



BATH RM,

BATH R

SECOND FLOOR THREE BR

9.9.9.9.9.

⊣ 1073m

11111 SPRING CREEK GARDENS SITE PLAN 200%60m NYF



Clare Cooper Marcus and Kim Dovey describe the benefits of cohousing

developments – popular in Scandinavia and just beginning to be built here – in which some spaces and functions are shared among families.

Cohousing – An Option For The 1990s

Cohousing is an innovative form of housing which combines the autonomy of private dwellings with the advantages of community living. Such schemes have gained increasing acceptance throughout Scandinavia and the Netherlands during the past decade, and are now attracting a great deal of attention in this country. They range in size from 6 to 80 households, but all have four characteristics in common: a participatory design process, design that supports a strong sense of community, shared facilities to supplement private dwellings, and management by the residents. The shared facilities usually focus on a common house with a large kitchen, dining room, workshops, laundry, music room, play room, and guest room. Residents can choose to eat together from one to seven nights a week, or to stay at home. Most cohousing communities require only two forms of commitment: that residents take their turn on a cooking team (usually once a month), and that they join one of several working committees that manage the housing. Although some were partially inspired by experiments in shared living of the 1960s, these are not communes, or congregate housing for one age group, or ideological communities promoted by a charismatic leader. Indeed, there is no equivalent in this country.

Cohousing does not have a particular architectural form: Some schemes contain singlefamily houses; most are row houses; a few are sections of existing highrise developments. Nor is cohousing a particular legal arrangement; some in Denmark are privately financed and owned (similar to U.S. condominiums), though most have been developed as limited-equity co-ops. What all of them have in common are residents seeking a greater sense of community at a time when this seems to be markedly lacking in many urban and suburban settings. The development process of finding like-minded people, setting goals, negotiating funding, hiring an architect, and developing a design program requires a high level of commitment and participation. In most cases, a "sense of community" emerges long before the project is completed. Spatial arrangements grow out of the desire for a balance of privacy and community, and for varying degrees of social commitment (eating some meals together, casual neighboring, children's play, etc.). Though all such schemes combine private dwellings and some shared facilities, most of those in Denmark have grouped their shared spaces into one central common house, while most in the Netherlands have chosen an alternative arrangement of a number of "cluster kitchens," each shared by four to eight households. What follows are short profiles of three cohousing developments (out of about 200 now functioning in Northern Europe), two in the Netherlands and one in Denmark.

The Central Wonen Hilversum, opened in 1978, was the first cohousing project in the Netherlands. Designed by architects Leo De Jonge and Pieter Weeda, it consists of twoand three-story row houses with barrel-vaulted roofs and stucco façades painted red and ochre to emphasize the individuality of each unit. Unit sizes vary from one to four bedrooms for a range of family sizes, and there are 16 different layout combinations.

A successful aspect of CW Hilversum is the site plan: Houses are arranged along one long pedestrian street with a shorter street crossing it at right angles. Considerable discussion ensued in the five-year participatory design process around the question: "How can we create a community that isn't a ghetto?" It was decided to locate the scheme in the center of the new suburb of which it is a part and to encourage neighbors to walk through the development on their way to shops and a bus stop. Front doors of units face the street with small front gardens. Private gardens are at the rear and these in turn open onto parking areas that are shared with the surrounding neighborhood. Cluster kitchens all project out into the pedestrian street so that the view down the street is punctuated by the kitchens and social eddy spaces that promote interaction among neighbors. The projecting kitchens also create an eddy space just off the main walk, and provide a view of the central pedestrian street, an ideal play area for children. At the point where the shorter street crosses the main space are most of the facilities shared by the whole community: a bar/cafe, meeting room, youth room, and art studio.

Central Wonen Wageningen

is a development of 56 dwelling units (124 people) in a mediumdensity suburb of the university town of Wageningen in the Netherlands. The project is socially quite mixed: 37 percent of the households are nuclear families, 28 percent, single-parent families, and 35 percent, couples or singles. This diversity of households lives in an equally broad range of dwelling types including row houses, apartments, group houses for unrelated adults, and single rooms for homeless teenagers. CW Wageningen comprises threeor four-story buildings around three sides of a communal garden/courtyard, with a centrally located three-story communal building. An innovative aspect of the units is their ability to cope with changing household structures and needs over time. Most of the dwelling units are designed for maximum flexibility with minimal expenditure. For instance, the entrance to some units is designed so that the front door can be located at three different positions along an entry corridor. The choice of location either includes or excludes an extra bathroom as well as an extra room or two for rental or work space. Also, certain walls within the apartments can be added or removed, expanding the units from three to six rooms with ease and at little cost. When the options are multiplied, they yield 22 different possible apartment designs. The site planning at CW Wageningen - as at all cohousing developments - is critical to its success. All but a few units look out onto the garden/courtyard that includes a large lawn, children's garden plots, play areas, a rab-
The cohousing development in Hilversum (1) places units along pedestrian streets with rear gardens. The development in Wageningen (2) has a variety of unit types around courtyard gardens. Drivhuset (3), in contrast, features a glass-enclosed street.

.





bit and chicken enclosure, and semi-private gardens.

Drivhuset ("The Glasshouse"), near the Danish town of Randers, stands on the site of a former manor house; set on a hill, surrounded by trees and a terraced garden, it looks out over farmland. It contains two rows of two-story, red-brick row houses facing each other across an enclosed, glazed pedestrian way. That space has become the core of daily life at Drivhuset for circulation, for play, for socializing. Entering the 160' x 20' space, you hear the laughter of children and the quiet conversation of neighbors seated at colorful tables, and smell the aroma of coffee and plants. The space has very much the feeling of an urban street: Neighbors meet and chat, porch lights glow like street lamps, plants take on the appearance of trees. At the far end of this street is the common house, containing a mezzanine TV-lounge, a large, commercially equipped kitchen, and a common dining room with wide windows looking out onto lawns and the fields beyond.

Since the 1988 publication of the book Cohousing: A Contemporary Approach to Housing Ourselves by Kathryn McCamant and Charles Durett, published by Ten-Speed Press, Berkeley, California, there has been a surge of interest in this form of living in the United States. At the present time, 100 groups exist, debating goals and looking for land. The first such scheme to be completed, Muir Commons in Davis, California, will be occupied in 1991 and comprises 26 units and a common house on a 2.8-acre suburban site. A converted warehouse scheme in Emeryville, California, and a downtown row house scheme in Benicia, California, will be constructed in 1992. While the earliest groups were clustered in California, the Seattle area, and New England, there are now additional groups planning cohousing in the Midwest, the Southeast, and Alaska. It will be interesting to see how cohousing ideas are adapted to the more individualistic U.S. culture.

Indications are that cohousing does not reduce the cost of a new home, since reduced carrying and marketing costs, and a nonprofit approach, are offset by the cost of the common house and the increased costs of professional services engendered by the consensus decision-making process. However, cohousing has been successful in Northern Europe and is now attracting attention here because it addresses a number of social issues simultaneously.

First is the issue of community. When one spends time in a cohousing scheme, the sense of community is quite palpable: Children greet adult friends, neighbors share coffee at a picnic table, friends share the day's news over a glass of wine after dinner in the common house. Most successful schemes have incorporated spatial features that enhance casual neighboring, and the participatory process used in the design is itself a strong foundation for future community.

Second is the issue of changing demography. Cohousing is one approach to the growing mismatch between existing housing stock and the social realities of declining household size. While the standard nuclear family is declining as a proportion of all households, single parent, single person, and elderly households are growing. Most house types, mimicking the open-plan ranch house of the 1950s, do not meet the needs of these families. Most cohousing schemes offer a variety of housing options and flexibility over time, both through a range of dwelling sizes and through creative planning for "add-ons", rentable rooms with private entries, and so on.

Third, cohousing eases the rearing of children, with its safe pedestrian precincts, special facilities for children, and plenty of playmates nearby. The relationships that develop naturally between children and neighboring adults also resemble the experience of a large extended family. A fourth and related issue is that of sexism. While cohousing will not prevent sexism, the higher densities, shared facilities, and child-safe environment of cohousing diminish the social isolation felt by many women at home with small children. Cohousing is entirely compatible with a vision of a non-sexist environment, where men and women participate in cooking, building maintenance, committee work, and so on.

A fifth social concern addressed in cohousing is the desirability of low-impact lifestyles. We live at a time when there is an urgent need to address issues of resource conservation. Most cohousing schemes are built at densities that ensure adequate privacy, while minimizing local use of automobiles and encouraging the sharing of appliances, facilities, cooking, child care, vegetable growing, and so on. If cohousing does not create cheaper housing, it does reduce energy and eating costs.

Some of the shared facilities that make cohousing unique are not unknown in this country. Many apartment complexes provide shared laundries; some housing developments incorporate childcare facilities and meeting rooms; condominiums often provide shared landscaped courtyards and swimming pools; and housing for the elderly and for students often provides shared meals. However, cohousing differs in both the range of facilities in each scheme and in the participatory process that brings them about. Cohousing is a type of community architecture; speculative housing of similar form may not work in the same way.

Cohousing may well become the most significant new form of housing in the 1990s. The conditions from which cohousing arises are widespread: declining household size, social isolation, the demise of the extended family, changing gender roles, and problems of social justice and resource consumption. None of these conditions is just a passing phase and, while the ideology of the detached single-family house will persist, cohousing is a high quality and highly sustainable alternative.

Clare Cooper Marcus and Kim Dovey

Clare Cooper Marcus is Professor in the Departments of Landscape Architecture and Architecture at the University of California, Berkeley. She is the co-author of Housing as if People Mattered, and of People Places: Design Guidelines for Urban Open Space. A book in progress – Architecture and a Sense of Community – will deal at length with cohousing.

Kim Dovey is Senior Lecturer in the Department of Architecture and Building and Associate Dean (Research) at the University of Melbourne. Affordable Housing: Essays

The architectural profession is helping Habitat for Humanity

with designs, services, and (mostly) sweat.

Architects and Habitat

Habitat for Humanity, the Georgia-based nonprofit housebuilding organization founded by Millard Fuller in 1976, has become one of the nation's most determined advocates of the American Dream. Employing every economic and social means available - including donations of land, material, labor, and services - the group has built over 10,000 houses in the last 15 years, and has nearly 600 chapters in the U.S. and an international program to build housing in developing countries. While Habitat's thousands of volunteers include a significant number of architects on the local and international levels, these professionals have worked mainly in administrative roles - using their knowledge of codes and city building departments - and as volunteer laborers. Habitat has traditionally relied on simple, no-frills stock plans as part of its philosophy: Conventional and uncomplicated construction is the path of least resistance to getting houses built, especially when relying on volunteer labor, as Habitat does.

Habitat is a "Christianbased" group, unaffiliated with any religious organization. Its *modus operandi*, implemented in a largely autonomous manner by the local chapters, is to acquire a site in a lower-income neighborhood, build a house using its material and human resources, then sell it to a family selected by the organization. The occupying family is usually identified before construction begins, and is expected to contribute "sweat equity" by working on the house's construction. In return, they receive a lowor no-interest mortgage on the house and end up with a monthly payment comparable to rents in the area. The designs for the houses come from various sources – homebuilders, staffers, past projects, and, recently, from the international organization's planbook, a 1990 collection of 20 Habitat plans without a single architectural flourish among them.

The Atlanta architecture firm of Thompson, Ventulett, Stainback & Associates built one of these houses last fall as a "Housebuilding Partner" in the Atlanta chapter's program. The firm donated \$15,000 - half the construction cost - and all the volunteers to build one of a group of five Habitat houses in the city's Edgewood Park neighborhood. While TVSA associate Anna Owens Gillon concedes that "the first thing we wanted to do was design a new house prototype," the firm instead committed to erect one of the prefabricated houses being prepared for the Edgewood Park site. The firm's financial contribution came from its party and client Christmas gift funds; over half the firm's 180 employees volunteered their time over five Saturdays to complete the house.

Architects working on efforts like these – in groups or individually – invariably describe the experience as "rewarding" or "satisfying," and their knowledge of design and construction is of great service on the jobsite. But as the organization has matured and expanded into different parts of the country, they have found new challenges that have brought architects into Habitat's design process.

"We are learning the various things an architect can offer," says Patrick Murphy, an architectural graduate in Habitat's construction resources department. "We are finding that we need new design solutions for a whole other level of poverty; in Appalachia; on Indian reservations, where families have an income of \$250 a month; in Mississippi, where we have to build for \$10 a square foot." Other challenges are more subtle: In some established areas, the surrounding houses don't blend well with Habitat's prototypes, and a design is needed that won't make the newcomer look like "the Habitat house in the neighborhood," as David Armitage, an architectural graduate in charge of Habitat's Washington, D.C., office, put it. Armitage, who designed a Habitat house in southeast Washington for construction this month, says he wanted to "avoid the usual boxes," and that he "preferred not to sacrifice appropriate livability for the sake of speed."

A question of fitting in was part of the assignment when, in 1989 and again in 1990, the Yale School of Architecture devoted its first-year building project (a 20-year-old program in which students design and build a structure for the community) to the design and construction of a two-family Habitat house in the Hill neighborhood of New Haven, an area of two-story late 19th-Century homes. Their experience illustrates some of the clashes - and resolutions - between Habitat and designminded architects. Says Paul Brouard, director of the firstyear project, "There are problems making their volunteer system work with the pedagogical purpose we have. My responsibility is to the students, so that they can express themselves and gain the experience of constructing a building. So there has to be some compromise to the Habitat philosophy when we work on a project like this."

Brouard treated the assignment as a competition: The students' designs were reviewed in three stages by architect-jurors, Habitat officials, and in the first house, the future occupants. In both cases, the winners, while simple, included some details – pilastered corners, moldings – typical for the neighborhood but not typical for a Habitat house. Habitat agreed to the details, says local director Tim Newell, "and then we made them build them."

"Because we were donating labor, they were able to benefit from a highly structured approach to volunteerism," says Brouard. This year, because of uncertain funding from Habitat, Yale students are designing and building a house under the sponsorship of Home, Inc., a joint housing effort of the university's Law School and School of Organization and Management. But their work suggests a viable model for architects and students: to improve the quality of Habitat projects by linking their designs to a commitment to build them.

Meanwhile, though, architects, students, contractors, and other building-industry people

114

Affordable Housing: Essays

"We are finding that we need new design solutions for a

whole other level of poverty."

are involved in Habitat in countless ways. In Houston, the local AIA chapter built a house in conjunction with the national AIA convention held there last year, inviting the national board of directors to spend a work day on the site before the convention. Student Habitat chapters have sprung up at the University of Houston and Rice architecture schools (and other universities across the country), and Tom Stovall, a member of Houston Habitat's architects committee, says that he would like to see his local AIA chapter sponsor a Habitat design competition. Georgia Tech students designed six houses for the Atlanta chapter, and Notre Dame students prefabricated roof trusses and door frames for Habitat in South Bend, Indiana.

Working with Habitat whether as a designer, an administrator, or a construction volunteer, is one of the most visible ways architects are addressing the question of affordable housing. While the approach is not a panacea for the housing problem - even these 10,000 "points of light" cannot substitute for comprehensive government action - Habitat offers inspiration to the neighborhoods in which it builds and a sense of accomplishment to those who volunteer. Most important, though, it restores, for a few families, the American dream. Mark Alden Branch

For information on Habitat for Humanity, write 121 Habitat Street, Americus, Georgia 31709– 3498, call (912) 924-6935, or FAX (912) 924-6541. Elevations from Habitat's Planbook (below) illustrate the austerity of their typical houses, such as the one sponsored by Thompson, Ventulett, Stainback & Associates in Atlanta (1). The 1989 Yale project with Habitat on New Haven's Hallock Street (2) is the result of a student competition. The Houston AIA's house (3) is part of a neighborhood of Habitat projects in the city's Fifth Ward.













Joel Warren Barna examines the CDC as a mechanism for housing development,

citing a current example in Houston.



CDCs, A New Force in Public Housing

After three generations of government involvement with publicly subsidized housing, ranging from the progressive experiments of the 1930s to the giantism of the 1960s and the hostile neglect of the Reagan years, a new funding mechanism is emerging as a force for dealing with the country's worsening affordable-housing crisis. It is the Community Development Corporation - CDC for short. And, as a 30-unit housing project in the Magnolia neighborhood east of downtown Houston shows, CDCs can do something that huge federal, state, and local bureaucracies have seldom accomplished, which is to support good architecture.

CDCs are not new. The first CDC was founded in the Bedford-Stuyvesant neighborhood of Brooklyn in the 1960s. Since then, CDCs have been formed in 2,500 different neighborhoods (mostly on the East Coast), and have been responsible for construction or renovation of tens of thousands of housing units. But that level of effort has met only a small part of the need for affordable housing, even in cities where CDCs have been strongest, and in whole regions of the country almost no CDC projects have come to fruition.

The Magnolia housing development in Houston is an example of how that is beginning to change, however. The project is sponsored by the Association for the Advancement of Mexican Americans, a group that turned from political agitation in the 1960s to such crucially needed projects as a high school for former drop-outs and a successful drug-treatment program. The predominantly Hispanic low-income neighborhood that is AAMA's home lies just south of the Houston Ship Channel. It has been threatened for years, first by expansion of ship channel industries, which tore down the neighborhood's 50-year-old bungalows for sheds and equipment stockpiles, and later by the collapse of those same businesses in the mid-1980s bust. The design of the Magnolia project reflects the influences of this neighborhood, mixing industrial materials (concrete block and segmental-arched metal roofs, for example) with interior courtyards and other forms drawn from a Mexican-influenced vocabulary.

AAMA had community support but none of the expertise needed to start and operate a CDC, until it began working with the Local Initiatives Service Corporation (LISC), an alternative-funding mechanism created by the Ford Foundation to help CDCs nationwide. Working with an LISC organizer, the AAMA board began lining up funding and developing its housing project (primarily for graduates of their drug-treatment program). LISC also helped fund a master plan (by Ray Bailey Architects of Houston) for future uses of nearby abandoned land.

The process went slowly, in part because there was almost no experience to draw upon in Houston. In the mid-1980s, when the first LISC organizer came to Houston, a city of two million people, there were only two CDCs; now there are eight, six of which have pending projects, all nurtured with the help of LISC.

Larry Swift, executive director of the newly formed Texas Development Institute, a statewide CDC-resource clearinghouse, says that CDCs in Texas had received no support until the last few years, "either from the state, the cities, private philanthropy, or the banks and S&LS, which traditionally redlined the neighborhoods in need of community-based development. Every time a CDC got going, the people had to reinvent the wheel." Things began to change in 1989, according to Swift, when federal regulators announced that they would begin enforcing the Community Reinvestment Act (CRA), a 1970s law requiring banks and S&Ls to stop red-lining, ignored until then by lenders and regulators throughout the Southwest. Texas lenders got really serious about the CRA when Congress passed the S&L bail-out legislation later in 1989; it required all institutions to make their CRA compliance records public.

"Community-based development leverages public investment with private investment, with leaders from the target community setting the vision," says Jeffrey Baloutine, formerly a community organizer with the LISCaffiliated Houston Center for Private Sector Initiatives, now Vice President for Community Reinvestment affairs of United Savings in Houston. "That's very attractive to bankers who want to show that they are serving all segments of the community."

The recent CDC activity in Houston (along with a similar flurry in Dallas shepherded into existence by the Enterprise Foundation, a CDC-support group created in 1982 by developer James Rouse) coincides with a wave of national interest. A business-charity coalition called the National Community Development Initiative announced in February that it was donating \$62.5 million to CDCs in 20 cities, with some \$500 million more expected to complete the program, which would use LISC and the Enterprise Foundation as intermediaries. In addition, spokesmen for the coalition said, the Federal Home Loan Mortgage Corporation had pledged \$100 million in low-interest housing loans to CDCs.

A reaction to 1980s excess lies behind some of this new desire to help CDCs. *The New York Times* quoted Peter Goldmark, President of the Rockefeller Foundation, who spoke at the announcement of the program, as saying "Even in a narrow business view, I'd rather put my money in a neighborhood CDC than in Donald Trump's Taj Mahal."

The Magnolia project shows that, like Trump deals, CDC financing is complex. LISC provided a loan for the land, while United Savings (subsidized by the Federal Home Loan Mortgage Corporation) lent a third of the construction money. A complicated package of federal loans, funneled through the City of Houston, and state tax credits covered the rest.

A four-member oversight group (with two developers, an architect, and a banker) was set up to act as project managers for the housing development. This oversight group is affiliated with New Foundations, a program of



CLUSTERS 1, 2, AND 3

the United Way, which is also becoming interested in CDCs and housing assistance as a focus of philanthropy; New Foundations has provided operating funds for AAMA and two other CDCs in Houston.

Interestingly, disagreements between the AAMA board and part of the New Foundations group about the architecture of the Magnolia project abounded from the start. AAMA had chosen Cisneros Partners over other architects with experience in building conventional low-cost apartment blocks (the two-storyslab kind reminiscent of barracks-like public housing projects) because the group wanted something that could symbolize the rebirth of a nearly destroyed neighborhood. But a developer of just that type of apartments is in the New Foundations group, and he went so far as to urge AAMA in a letter to scrap the Cisneros Partners design, calling it inappropriate for public housing. The other members of the panel supported most of the design, however, and, after the preliminary bids came in within the \$39-per-square-foot budget, a project-derailing confrontation was avoided.

Up to now, CDCs have lacked the support needed to make a significant impact on the country's needs for affordable housing. As all the groups contributing to the success of AAMA's Magnolia project show, however, the next decade may see CDCs in the forefront of a new assault on a generations-old problem.

Joel Warren Barna

The author is Editor of Texas Architect and is P/A's correspondent in Austin.



STREET ELEVATIONS, CLUSTERS 1 AND 2



STREET ELEVATION, CLUSTERS 1 AND 2









117

Books Domestic Revolt

Dana Cuff discusses overdue alternatives to the detached single-family house,

presented in three books for the practitioner's library.

Books of Note

Wheel Estate: The Rise and Decline of Mobile Homes by Allan D. Wallis, Oxford University Press, New York, 1991, 283 pp., illus., \$24.95. Sixty years of mobile homes, their design innovations, gov-

ernment regulations, and social acceptance are analyzed. The author also positions the mobile home as an affordable housing alternative.

Weissenhof 1927 and the Modern Movement in Architecture by Richard Pommer and Christian F. Otto, University of Chicago Press, Chicago, 1991, 304 pp., illus., \$65. The authors cover the housing exhibition quite thoroughly, but also study questions raised by the Weissenhof since 1927.

Books

118

Housing: Symbol, Structure, Site edited by Lisa Taylor, Cooper-Hewitt Museum, New York, 1990, 176 pp., illus., \$19.95. Preceded by an exhibition, this collection of essays by housing experts encompasses various aspects of "home." It is an intelligently produced plea for reform.

Arts & Architecture: The Entenza Years edited by Barbara Goldstein, essay by Esther McCoy, MIT Press, Cambridge, Massachusetts, 1990, 248 pp., illus., \$35. Covers, articles, and advertisements originally published in the 1940s and 1950s document the heady richness of mid-century Modernism and the California-based magazine that helped to shape it.



Housing as if People Mattered by Clare Cooper Marcus and Wendy Sarkissian, University of California Press, Berkeley, 1986, 324 pp., illus., \$57.50 cloth, \$17.95 paper.

More Than Housing: Lifeboats for Women and Children by Joan Forrester Sprague, Butterworth Architecture, Boston, 1991, 235 pp., illus., \$29.95 paper.

New Households, New Housing edited by Karen A. Franck and Sherry Ahrentzen, Van Nostrand Reinhold, New York, 1989, 343 pp., illus., \$42.95 cloth, \$32.95 paper.

It is not coincidental that these three books are the fruits of women's labor, five women actually. They analyze the domestic sphere, a woman's domain, and that goes for housing problems as well: Women are far more likely than men to be ill-housed since they earn lower wages, are poorer, are less likely to marry again after divorce, are more likely to be single parents, and live longer lives under these conditions. It is reassuring to find women authors exploring solutions to a problem they can rightly, albeit soberly, claim. These books optimistically describe a more appropriate home for the ever more pluralistic American household, now desperately in need of more affordable shelter that is accessible to services.

If these books give us one overarching message, it is that there is a role for architects in our present housing crisis, but it is not a matter of formal contrivance, interior room arrangement, or technological tour de force. Instead, housing problems begin with the misfit between the lives that are housed and their containers. An awareness of the value and nature of domestic labor, of the real people who need housing, of the way residential space could be designed more appropriately these are the objects of all three texts: Cooper Marcus and Sarkissian consider medium density, multifamily housing; Sprague takes a close look at shelters for single women and their children; Franck and Ahrentzen explore collective housing, single parent households, and single room occupancy accommodations.

Although the books address the architect's concerns, they are more focused on two other issues: dwelling as an activity rather than the dwelling as an object, and spaces between the dwelling unit and the rest of the world. The themes of dwelling as a gerund, and the zone between the private domain and the community have been explored conceptually in previous work (for example, by Lars Lerup, whose work drew from that of Heidegger¹). Each of these books, however, prefers practice to theory, relying on examples of existing buildings to make its points clear. The books are directed to practicing "housers" - be they architects, planners, or client organizations and to academics who study housing problems. These audiences can be difficult to wed, since practitioners want ready, applicable information that is easily buried by the scholar's prose. For the most part, these texts strike an acceptable balance.

Of the three books, Cooper Marcus and Sarkissian's stands out as unique. Intended to become a standard reference book, not unlike *Graphic Standards* or the *Uniform Building Code*, *Housing as if People Mattered* is a highly accessible and usable text for architects. Although this book has not achieved the following of Alexander's *A Pattern Language*², to which it might well be compared, Cooper Marcus and Sarkissian's text should be a staple for the libraries of architects who design housing. Their guidelines give the sense that if followed by everyone, the most egregious errors wreaked upon (*continued on page 157*)

Now There's A Thermal Plotter Paper That's Visibly Whiter.

And Half-A-World Closer.

NEW THERMAL PLOTTER PAPER FROM AZON.

It's a better thermal plotter paper and it's made in the U.S.A. Visibly whiter and brighter, with superior image density, translucency and flatness. And because it's manufactured by Azon, it's 9,000 miles more readily available. Call 1-800-847-9374 for more information, and the name of the dealer nearest you.



• Azon Corp. • K&E Co. • Azon/K&E Co. • Azon Canada, Inc.

Circle No. 325 on Reader Service Card



HOW MUCH MARVIN WINDOW IS ENOUGH?



Somewhere between the two extremes shown here, there's a Marvin window that's just right for your next project.

One that combines the right size with the right style. One that combines precisely the right features. Maybe even a one-of-a-kind Marvin window you design yourself.

You see, at Marvin, we make windows to order. We don't build and warehouse a few popular shapes and sizes. We don't limit our line to a few standard feature packages. And, because we make windows to order, your size or style is never out of stock.

By making windows to order, we extend our line to the limits of your imagination. We give you more sizes, more styles, more features and more options. You decide how simple or extravagant to be. You tell us what features to build in.

You also get Marvin's made-to-order craftsmanship and quality. Every time. Dollar for dollar, feature for feature, nobody offers a wider or more complete line of windows. Nobody ever will.

How much Marvin window is enough? As much as it takes to convince you that made-to-order makes other manufacturing methods obsolete.

For more information call 1-800-346-5128 (in MN, 1-800-552-1167; in Canada, 1-800-263-6161) or write, Marvin Windows, Warroad, MN 56763.



Circle No. 317 on Reader Service Card



In a generation of change, Kimball.

There was a time when woodworking was as much art as occupation. And when the hands of a craftsman were an extension of his soul.

In a generation of uncertain style, Kimball's traditional casegoods are an enduring link to the functional beauty of the past. Hand-tooled leather inlays. Hand-rubbed, lustrous finishes. A meticulous attention to detailing.

With the option of hand-placed, solid wood moldings, hand-fitted drawers, and select walnut veneers, Kimball's traditional casegoods retain the personality of each individual.

Kimball traditional casegoods. Enduring a generation of change.

KIMBALL*

Kimball Office Furniture Co. A Division of Kimball International Marketing, Inc. Jasper, Indiana 47549 1-800-482-1616 Canada 1-800-635-5812



TRUSSWALL

THE·SHAPES·OF THINGS·TO·COME

Trusswall from Kawneer introduces the rounded look to the high span entrance. Trusswall spans the clear story entrance area with the structural strength and the desirable aesthetic appeal of the rounded mullion. Formed by circular extruded aluminum chords connected by a separating web that adds stability, strength, and variety, Trusswall becomes a real design alternative.

There are two sides to every story.

On the outside, Trusswall presents a number of faces. One is the innovative circular cover for the sculpted look. Another is the more austere approach, silicone glazing, for an uninterrupted line. And the rectangular cover presents a third more traditional light.

On the inside, Trusswall offers a customization limited only to the imagination. The two-piece construction allows the exterior finish to mix or mate with the building exterior while the interior chords can complement the interior attitudes. The color palette of Fluropon® finishes suggests even more design alternatives.

With four web options to choose from, design flexibility increases. The choices are offered. The choices are yours.



But while the design options offer flexibility, the integrity of the structure remains inflexible. A thermal break, and the flexibility of either 1/4" or 1" glass attest to Trusswall being ready and willing to take on nature's harshest elements.

Trusswall. Further evidence of Kawneer's commitment to space.

THE DESIGNER'S ELEMENT.

For product information on Trusswall contact: Kawneer Company, Inc. Department C Technology Park—Atlanta 555 Guthridge Court Norcross, GA 30092

Circle No. 324 on Reader Service Card

See Us at CSI Booths 823 & 825

STRESS ANALYSIS ON YOUR PC USING ROARK & YOUNG'S FORMULAS FOR STRESS & STRAIN

Since 1938 Roark's *Formulas for Stress & Strain* has maintained its position as one of the most widely used engineering reference works in the world. Now 37 tables, over 1,400 cases and more than 5,000 formulas from the new 6th Edition of this book are combined for the first time with the power of **TK Solver Plus** software.

The program covers the entire 6th Edition of the book • Provides stress and strain solutions for beams, plates, columns, and pressure vessels • Handles superposition of loads • A set of unit conversions and an expandable materials librarary are included • Program menuing system helps you select the particular chapter, table, and case from the book • Results include plots of cross section (to scale), bending moment, shear, stress, slope, and deflection • Outputs to screen, printer or plotter.



Most importantly —you can solve problems **forward or backward**. For example: if the calculated deflection of a plate is too large, specify the maximum deflection you can tolerate. Then let the dimension of plate thickness become the unknown, and solve again. This backsolving feature is a designer's dream.



TK SOLVER PLUS SOFTWARE \$395

Solve dozens of linear, non-linear or differential equations simultaneously •

backsolving lets you do "What-if" analysis • if, then, else rules • iterative solving • list solving • automatic plotting • automatic unit conversion • differentiation and integration • over 300 built-in functions and library routines • math co-processor support • Lotus 1-2-3, ASCII, and DIF interfaces • CAD link available as an option.



SATISFACTION GUARANTEED!

Use these programs on your PC. If they don't perform as described, just return the packages within 30 days for full credit or refund.

HEAT TRANSFER ON TK

Based on the widely used text *Fundamentals of Heat Transfer*, 3rd Ed. by Frank Incropera and David DeWitt (Wiley & Sons).

Solves over 200 heat and mass transfer problems including Steady-state and transient conduction; internal, external, and free flow convection; boiling and condensation; heat exchangers; and radiation. Program includes automatic unit conversion; an expandable table of gas, fluid, and material properties; and automatic plotting for design analysis.

PENTON EDUCATION DIVISION 1100 Superior Avenue Cleveland, Ohio 44114

Toll-free 800-321-7003 (in Ohio 216/696-7000) FAX 216-696-4369

126



Major flaws

Even the best plans can fail if your phone system's capabilities are in question. So the companies of Bell Atlantic have developed some customized phone solutions to help keep your firm's valuable time and money from slipping through the cracks.

found in

By providing 'call accounting' capabilities, Bell Atlantic was able to help Hankins and Anderson Inc. track the length of their client calls. This permitted billable hours to be accurately evaluated and invoiced. And for Bernardon & Associates, Bell Atlantic

architectural

added 'voice paging,' allowing the staff to get their calls quickly and easily. To get the phone system that's right for you, call your representative at Bell of Pennsylvania, Diamond State Telephone, New Jersey Bell or The C&P Telephone companies.



Let Bell Atlantic help your company build a better foundation. 1-800-843-2255.



Circle No. 355 on Reader Service Card



Standard Of Excellence In Architecture.

MicroStation. The new CAD standard for power...speed...ease of learning...ease of use...and real-time integration across multiple platforms. If you are an architect looking for an exceptional CAD package, MicroStation is your best choice.

Tap MicroStation's power easily with graphical user interface and online help.

View your co-workers' changing designs as reference files – even across different platforms.

Draw independently defined parallel lines with MicroStation's multi-line tool.

Eliminate tedious dimensioning updates with true associative dimensioning. **Set up perspective views** with MicroStation's intuitive camera metaphor.

Visualize your designs with sophisticated, built-in rendering.

For the location of your nearest MicroStation dealer and a FREE PC demo disk, call 800-345-4856 today.

"MicroStation helps us eliminate repetition of work and increases productivity and profits without sacrificing quality."

INTERGRAPH

Gary Whitney The Whitney Group



Intergraph® is a registered trademark and Everywhere You Look is a trademark of Intergraph Corporation. MicroStation is a trademark of Bentley Systems Inc., an Intergraph affiliate. Other brands and product names are trademarks of their respective owners

Copyright 1991 Intergraph Corporation, Huntsville, Alabama 35894-0001.DDAD035A0

New Products and Literature

The building products and related literature presented

in this section offer some alternatives for

construction of affordable housing.





Ishimoto



New Products and Literature

.

| Housing-Related Publications Computer Products Technics-Related Products | 142 146 149 | | |
|--|-------------------|--|--|
| | | | |

Progressive Architecture 6.91

129

1 Tile from Recycled Glass

Recycled glass makes up over 70 percent of the total of raw materials used in "Traffic Tile"[®], a line of glass-bonded ceramic tile for residential and commercial applications. They are suitable for interior and exterior floor and wall applications. Many sizes and shapes are available and colors can be custom-matched to specification. The central cone of Arata Isozaki's Team Disney Building (P/A, Apr. 1991, p. 70) in Lake Buena Vista, Florida is clad in Disney Red, Disney Blue, and Disney Green Traffic Tile[®]. Stoneware Tile Company. Circle 100 on reader service card

2 Low-E Glass

"Energy Advantage[®] Low-E Glass" offers the lowest E- and U-values in "hard coat" technology. An insulated unit with ¹/₂" argon gas fill has a winter U-value of 0.3 (R-3.33), and with ¹/₂" air space has a U-value of 0.35 (R-2.86). Both units have a UV transmittance of 53 percent and a shading coefficient (SC) of 0.85. Libbey-Owens-Ford. *Circle 101 on reader service card*

3 Light, Blended Aggregate Blocks

The new "Q-Lite Block" is a 23-pound, $8'' \times 8'' \times 16''$ gray concrete masonry block for load-bearing wall construction. Its 70/30 blend of lightweight rotary kiln aggregates and a granite, limestone, limerock, and natural sand aggregate allows for a variety of textured finishes. The block is also available in a 24-inch, 30-pound version. Big River Industries. *Circle 102 on reader service card* (continued on next page)

Progressive Architecture 6.91

130

4 Polystyrene Building Forms

"PolySteel Forms" manufactured from no-CFC molded expanded polystyrene, can be used for below- and abovegrade construction. The fourto five-pound forms are 48 inches long, 16 inches high, and 91/4 inches or 11 inches wide. They are billed as a "lightweight, high-strength, energy-efficient, stay-in-place alternative to steel or aluminum concrete forms." 3*10 Insulated Forms.

Circle 103 on reader service card

5 Composite Framing Material

"Arrowood Composite Framing Material," produced from hardwood species, is a combination of parallel laminated veneers with oriented strand board. It is designed to have uniform stiffness, strength, and size; to be free of bow, crook, cup, twist, warp, wane, and splits; and does not require braces, blocking, or engineering. Fibreboard Technologies. Circle 104 on reader service card

6 Insulated Plastic Building Block

The 14-ounce polyurethane "Ener G Block®" for energyefficient residential construction serves as both a form for castin-place concrete and an insulating building material. Four variations of the Ener G Home system are available, with 40+, 50+, 60+, or 70+ ratings (Ener G Home 40+, for example, is said to be 40 percent more energy-efficient than the HUD recommended standard). Ener G Corp.

5

Circle 105 on reader service card









Gunlocke

Prism and Gunlocke. An unbeatable combination for discriminating design solutions.

Prism

The industry's premier panel system from the industry's premier wood craftsmen.

THE GUNLOCKE COMPANY Wayland, New York 14572 800-828-6300 Division, HON INDUSTRIES Circle No. 358



THE MOST EFFICIENT LINE OF ULTRA LOW-FLUSH TOILETS UNDER THE SUN.

Nobody offers more ways to save water and money than Briggs.

Take our TurboFlush™ toilet for example. Tested and proven, this Ultra low-flush toilet uses a patented pressurized Flushometer tank operating system to send a powerful self-cleaning flow of water to the bowl. TurboFlush also features a large water surface area and a re-designed bowl which enhances its efficiency.

But Briggs commitment to quality and innovation doesn't end with our state-of-the-art TurboFlush toilet, we also have a *complete* line of gravity fed 1.5 gallon toilets that meet all manufacturing standards and codes for performance and quality. The result is the most efficient line of 1.5 gallon flush toilets on the market today available in round-front, elongated-front and handicapped models.

Architects and builders, both residential and commercial, will also find a wide variety of quality lavatories, bidets and urinals available. And as with all Briggs products, our warranty is your added assurance of quality. When considering quality, selection, proven efficiency and value, selecting Briggs is an idea that's easy to warm up to.

So contact Briggs today for our complete catalog of water-saving toilets, bidets, urinals and lavatories. BRIGGS, Marketing Services Department, 4350 West Cypress Street, Suite 800, Tampa, FL 33607. (813) 878-0178.



Circle No. 362

(continued from page 130)

New Products and Literature



Vinyl Windows

Insulating glass with "WarmEdge" spacer technology (available with low-E glass and argon) used in the recently introduced "Magna-Frame"® residential vinyl window series is said to be energy-efficient. The frame of this "maintenance free" window is warranteed against rust, corrosion, and cracking. Single-hung, twoand three-lite sliders, picture windows, and architectural shapes may be specified. Alcoa. Circle 110 on reader service card

Low-Cost Roof Edge System

"Econome" is a "low-cost," factory-fabricated roof edge system with pre-punched fastener holes, warranteed paint finishes, and manufacturer-precise tolerances. Twelve-foot lengths are available in a variety of materials (various gauge galvanized steel or aluminum) and colors. Metal-Era. Circle 111 on reader service card

Wood Window and Door Directory

This 1991 directory of wood window and door manufacturers and supplier members lists company product lines and services. National Wood Window and Door Association. Circle 200 on reader service card



Vinyl Siding Guide

The new Exterior Design Guide and Specifications book includes case studies, product descriptions, dimensions, specifications, test methods, and installation notes.

Wolverine Technologies. Circle 201 on reader service card



Glass Block

"NEG Glass Blocks" for wall construction are available in ten transparent and nontransparent patterns, six sizes, and eight colors. The blocks' high insulating heat value makes them an energy-saving material. NEG American. Circle 112 on reader service card

Water-based Silane Sealer

"Enviroseal[®] Double 7" is a new water-based silane sealer for vertical masonry and concrete block wall surfaces. It keeps out water while allowing water vapor to escape from the substrate; it also meets EPA volatile organic compound requirements. Hydrozo[®]. Circle 113 on reader service card

(continued on page 134)



(continued from page 133)



Aluminum Ridge Vent

The "Highpoint[®] Shingle-Over Aluminum Ridge Vent" is an enamel-coated, all-aluminum, triple baffle ventilating system available in eight-foot lengths. North American Building Products.

Circle 114 on reader service card

Radiant Heating Literature

The energy saving performance quality of radiant and hydronic heatings systems are described in a series of case studies. Wirsbo.

Circle 202 on reader service card

Air Handling Duct Catalog

Fiberglass duct, duct liners, and duct wrap insulation for use in residential, commercial, and industrial heating and air conditioning systems are described in the *Air Handling Systems* catalog. Manville.

Circle 203 on reader service card



Stucco Construction Guide

The Stucco Construction & Fome-Cor® Board guide explains how two-coat stucco walls with accordian-folded "Fome-Cor" board can be constructed in a third of the time required to install three-coat stucco walls. Monsanto.

Circle 204 on reader service card



Easy-Lift Windows

Aluminum window and door systems are now available with the "Ren-Bar Balance System," "decreasing the amount of force needed to operate a window by approximately 50 percent." Mannix Industries. *Circle 115 on reader service card*



Single Unit Building System

"Slenderwall" is a single-unit wall system constructed of a 1½ inch precast concrete exterior panel permanently attached to galvanized steel studs. An air space between concrete and steel studs has a thermal break connector system and a vapor barrier. Panel size is determined on a case by case basis; exterior finishes range from natural clay brick to a variety of exposed aggregates. Smith-Midland.

Circle 116 on reader service card

(continued on page 140)

INTRODUCING OUR NEW COLLECTION OF HYGIENIC, STAIN-RESISTANT FLOORING.

Smaragd resilient sheet vinyl is perfect for hospitals, labs, cleanrooms, cafeterias and veterinary clinics. Available in 20 new versatile colors, it resists stains and chemicals, withstands extreme loads, and is easy to maintain. To find out more, or for a free brochure and samples, call (800) 233-0475.

Smaragd. The Difference Is Obvious.



FORBO FLOOR COVERINGS, INC. P.O. Box 32155, Richmond, Virginia 23294 Circle No. 341 on Reader Service Card

New Products and Literature

Canyonstone Plus." The right recipe for a safer kitchen.



If the emphasis is a slip-resistant floor, the ceramic tile should be Canyonstone.™ □ The arch enemy of a safe commercial food preparation environment is the concentration of grease and water. Unlike trough-body products, Canyonstone's™ impervious slip-resistant surface prevents the absorption of grease and moisture. □ Canyonstone™ is available in several earthtone colors and in two different finishes: regular and Plus. Canyonstone Plus™ offers an even higher slip-resistance for commercial kitchens and similar applications. All colors come complete with single bullnose and 6" x 8" sanitary cove base. □ Contact our National Accounts Department at (214) 226-0110, FAX (214) 226-2263, or see our extensive product line in Sweet's General Building and Renovation File, section 09300/AMA, Buyline 4908.



Circle No. 351 on Reader Service Card

CREATIVE

EIFS (Exterior Insulation and Finish Systems) using Rohm and Haas 100% acrylic polymers help imagination take shape. Because they give you design flexibility superior to brick, stucco, and precast concrete. Flexibility that's unique in decorative capabilities. You can create columns, cornices, reveals, arches, pediments, keystones, spandrels, and quoins. And you can inventively blend a multitude of textures with an unlimited array of colors. This is just a sampling of the choices you acquire by requesting Rohm and Haas 100% acrylic polymers when you specify EIFS.

Now, the sky's the limit for the creative side of your brain.

EIFS-Appealing to Both

·LOGICAL

EIFS (Exterior Insulation and Finish Systems) using Rohm and Haas 100% acrylic polymers make perfect sense. Because EIFS that incorporate Rohm and Haas 100% acrylic polymers can deliver longterm resistance to the elements and long-term retention of textures and colors. Our polymers protect the aesthetics of your design against ultraviolet degradation, moisture, and environmental pollutants. Quality performance based on our decades of EIFS industry experience and commitment to EIMA's (Exterior Insulation Manufacturers Association) high standards.

Now, that's a rational set of benefits for the logical side of your brain.

For more information,write our Marketing Services Dept., Independence Mall West, Philadelphia, PA 19105.



Circle No. 318

Sides of Your Brain

(continued from page 134)



"Slate" Rubber Flooring

"Pirelli Slate" is a new rubber floor tile that has a slate-like appearance. The tiles have a sound-absorbent, anti-slip surface. Pirelli.

Circle 117 on reader service card

Energy-Saving Windows

"Heat-Smart Window Systems" have an energy efficiency rating up to 7.69 R-value. A microthin coating of Low E to inside surfaces of the glass and an argon gas-filled space between glass layers work to reflect heat out of the house in the summer and into the house in the winter. The windows reduce ultraviolet light infiltration by "85 percent," in double and triplehung versions with wood frames. Loewen Windows. Circle 118 on reader service card

Plywood Performance Standards

An updated version of the APA Product Guide: Performance Rated Panels has been published. It describes performance standards for structural wood panels and APA Rated Sheathing, APA Rated Sturd-I-Floor, and APA Rated Siding. Contact American Plywood Association, Dept., F405, P.O. Box 11700, Tacoma, Wash., 98411-0700. Cost: \$1 per copy (\$2 minimum order).

Insulation Brochure

The first in a series of "Tech Guide" technical literature pieces, this brochure (presented in a question and answer format) on extruded polystyrene rigid foam insulation offers information on product availability, specifications, codes, fire ratings, K-factor, R-value, roofing, wall, crawl space, and sheathing applications, and other issues. UC Industries. Circle 205 on reader service card



NEW TERRITORY PRESENTING THE PLAN FOR OUR

WE'RE ALL OVER THE MAP.

Design Material, Inc. Alberqueque, NM 505-842-1471

Stone Solutions Austin, TX 512-454-9211

Ceramic Tile Dist. Beachwood, OH 216-831-3867

Renfro Distributors Charlotte, NC 704-334-6811

Kemper Design Cincinnati, OH 513-772-8900

SpecCeramics, Inc. City of Industry, CA 818-912-9969

Ceramic Tile Dist. Cleveland, OH 216-642-1117

Knox Tile & Marble Dist. Dallas, TX 214-243-6100

Midwest Tile, Marble & Granite Des Moines, IA

515-283-1242

Design Materials, Inc. Englewood, CO 303-922-8453

Bowman Tile Supply Houston, TX North 713-440-5644

Northwest 713-462-1390

Southwest 713-626-3200

Tile Works Indianapolis, IN 317-842-6400 B.J. Tile Dist. Co. Jackson, MS 601-939-0111

Case Supply, Inc. Kansas City, MO 800-444-7202

Mohawk Tile & Marble King of Prussia, PA 215-279-2700

Polystyrene Exterior Wall System

"Econo-Form" is a new construction product for pouredin-place concrete walls. The $10'' \times 10'' \times 40''$ "lightweight" polystyrene forms lock together without mortar. Once in place, reinforcing bars are added and concrete is poured inside the modules; left in place, they can be finished with stucco or faced with other materials. The forms are said to be an efficient insulator and sound barrier. Outwater Plastic/Industries. *Circle 119 on reader service card*

Building Products Catalog

This 1991 products catalog is divided into 11 categories. "G-P Lam"[®] beams and headers and "PrimeTrim"[®] engineered wood trim are among the new products featured. Georgia-Pacific Corporation. *Circle 206 on reader service card*

Modular Housing

A two-story, three-bedroom Victorian model is part of a line of single- and multi-family modular wood frame housing; steel frame models are also available. Floor plan variations and a variety of options, from fireplaces to porches, may be ordered. Deluxe Homes of Pa., Inc.

Circle 120 on reader service card

Residential Sheathing

Styrofoam[®] Brand Residential Sheathing "provides energy savings" in frame wall sheathing applications. It is compatible with vinyl, wood, aluminum, brick, and steel siding, and can be used as a base for a one- or three-coat stucco system. (Styrofoam[®] brand plastic foam is "combustible" and "should be stored, handled, and used properly.") Dow Chemical Company. *Circle 121 on reader service card* (continued on page 142)





We plan to cover the map with Quiligotti terrazzo floor tiles. True, it's a lot of square miles. But we're starting out with a brand new plant in Dallas and the industry's only nationwide network of terrazzo tile distributors. No other source—foreign or domestic—can match our service.

And colors... Whew! We're creating irresistible colors colors you've only dreamed of. So call us. 1-800-583-8800. Once you do, your section of the map will start looking like this one.



TERRAZZO FLOOR TILES Creating a more colorful environment.

Winburn Tile Mfg. Co. Little Rock, AR 501-375-7251

W.A. Oyler Dist. Memphis, TN 901-324-6143

Ceramic Tile Concepts Mobile, AL 205-344-2242 Amsterdam Corp. New York, NY 212-644-1350

Midwest Tile Omaha, NE 402-331-3800

United Tile Portland, OR 503-231-4959 Morris Tile Dist. Richmond, VA 804-353-4427

St. Andrews Marble & Granite Richmond Hills, ON 416-737-5358

Ceramic Technics, Ltd. Roswell, GA 404-992-7029 Ceramic Technics, Ltd. St. Petersburg, FL 813-895-0260

SpecCeramics, Inc. San Diego, CA 619-743-0444

SpecCeramics, Inc. San Francisco, CA 415-468-3737 United Tile Seattle, WA 206-251-5290

Virginia Tile Co. Southfield, MI 313-353-4250

Best Tile of Syracuse Syracuse, NY 315-437-1606 Ceramic Tile Dist. Westlake, OH 216-871-7113

Watson Distributors Winter Park, FL 407-644-9619

Circle No. 342 on Reader Service Card

(continued from page 141)

Housing Related Publications

Wood Framing Cost Savers

Construction Cost Savers: Wood Framing Details (set of six, 28 pp., total) discusses joist spans and floor systems, exterior framing, house widths, and foundations, with emphasis on minimizing wasted time and material with use of modular materials and stock dimensions. Contact National Forest Products Association, Washington, D.C. (202) 463-2700.

Fair Housing Act of 1988

The Fair Housing Amendments Act of 1988: A Selected Resource Guide, produced by HUD USER and the Fair Housing Information Clearinghouse, outlines the new fair housing law, provides a list of resources on discrimination policy and describes financing policy among other issues. Contact HUD USER, P.O. Box 6091, Rockville, Maryland 20850 (800) 245-2691.

Make the Craftsman's Choice for Drafting.



Marsmatic is not a toy. It's a serious technical pen made to meet professional drafting standards. German-engineered by a company that's been making writing tools since 1662. Designed for both the science and craft of precision drafting.

You take pride in accurate drafting. So Marsmatic has an air-pulse ink feed system that balances air intake, regulates ink flow, and returns surplus ink back to the cartridge through a unique pressure compensation spiral. It's just one of many features which make Marsmatic accurate and reliable in any of thirteen line widths.

Marsmatic is a complete technical pen system. Pens are available individually or in sets. In addition to precision points of stainless steel, you can choose Duranite[®] tungsten carbide for film or Duraglide[®] jewel for film and paper. A specialty ink range for all drafting media and a full complement of accessories are available.



STAEDTLER, INC., P.O. Box 2196, Chatsworth, CA 91313 A303 If the last copy of Agriculture Handbook 73 you saw (1989, 260 pp., Stock No. 001-000-04547-4) still showed diagonal sheathing, you haven't seen the current edition of this venerable reference. Updated and expanded in a cooperative effort between the U.S. Forest Products Laboratory and the NAHB, this is *the* wood frame book to have – the builders you work with will. Contact Government Printing Office, Washington, D.C. (202) 783-3238.

Builders' Manual

The Canadian building science approach to construction pervades the *Canadian Home Builders' Association Builders' Manual* (1989, 284 pp.), which discusses "why" as much as "how" – and it is loaded with details. It is a detailing guide for professionals who think: Judging from the content, Canadian builders must be a very sophisticated lot. Contact CHBA, Ottawa (613) 230-3060.

Site Development

Developing Difficult Sites: Solutions for Developers and Builders (1991, 104 pp.) by Donald H. Brandes, Jr., and J. Michael Luzier provides "practical and cost-effective principles, techniques, and case studies. . . to evaluate, plan, and develop" irregularly shaped sites that hold natural and physical obstacles. Contact Home Builder Press, NAHB, 15th and M Streets, N.W., Washington, D.C. 20005 (202) 822-0200.

Modular Housing List

The Building Systems Council of the National Association of Home Builders has a list of modular housing manufacturers that includes company name, contact person, and distribution area. Contact NAHB, Building Systems Council, 15th and M Streets, Washington, D.C. 20005 (800) 368-5254 ext. 162, leave name and address on answering machine.

(continued on page 144)

142

Housing Related Publications

TCS[®] terne-coated stainless steel, has And because

High I.Q. for TCS

TCS,[®] terne-coated stainless steel, has graduated Summa Cum Laude as a superbly functional roofing material for educational buildings.

TCS has received an "A +" in the following subjects:

- Corrosion Resistance
- Freedom from Maintenance
- Life Cycle Cost Effectiveness
- Design Freedom
- Architectural Expression
- Predictable Performance

And because TCS weathers naturally to an attractive gray color, painting is eliminated and maintenance costs are reduced – allowing the school to budget money for the more important educational areas.

Follansbee is proud of TCS' performance in the educational field and would like to send you a substantiating transcript on this outstanding metal roof product.

Call us toll-free 800-624-6906.





EUROSTONE All-Environment Ceiling Panels

BEAUTY IS MORE THAN Skin Deep.

A beauty of Eurostone. A beauty born of Volcanic perlite that is expanded and mixed with inorganic binders that will not support the growth of bacteria or mold.

- An inherent beauty that features intrinsic colors that will not fade or discolor.
- A protective beauty that is impervious to both fire and water.
 - Nothing to burn or emit toxic smoke. Nothing that moisture can cause to sag or warp.
- A dimensional beauty that embraces many unique sculptured patterns reminiscent of the great ceilings of Europe.
- A beauty that adapts to all environments... from signature spaces to office suites, from hospital rooms to school rooms, from indoor pools to outdoor porticos.
- A practical beauty that allows easy installation, easy maintenance, and best of all...a reasonable price.





Domtar