You can forget about having a Wisconsin Bell public phone.

You can forget, because we never do.
We handle installation, maintenance and repair for you. Free.
In fact, you'll only have one reason to remember there's a Wisconsin Bell public phone on your premises:
The commission check in your mailbox.
For information on all the free services available with a Wisconsin Bell public phone, call us toll-free at 1 800 924-2772.

© 1989 Wisconsin Bell
Wisconsin Society of Architects Board of Directors: Jay A. Mclean, AIA, President; Richard W. Eschner, AIA, Vice President/President-Elect; Roger D. Roslansky, AIA, Secretary/Treasurer; Dennis L. Olson, AIA, Past President; Ross T. Porter, AIA; Harry A. Schroeder, AIA; Brian F. Larson, AIA; James E. Larson, AIA; Douglas H. Smith, AIA; Kevin J. Connolly, AIA; Lisa L. Kennedy, AIA; Douglas N. Kozel, AIA; Horst W. Lobe, AIA; Robert H. Grapentine, AIA; Erick D. Hansen, AIA; E. Mitchell Spencer, AIA; Tim Larson, AIA; Kent A. Calloway (Associate Representative); Lisa Realty Hauer (UWM SARUP Student Representative); Ann Tabaska (MSOE Student Representative); William M. Babcock, Executive Director.

Wisconsin Society of Architects/AIA: 521 South Hamilton Street, Madison, Wisconsin 53703—Phone (608) 257-8477.

Wisconsin Architects Foundation Board of Directors: S. Lim/mon Sirett, AIA; Richard E. Arnold, AIA, President; Jack L. Fischer, AIA, Secretary/Treasurer; Paul H. Graven, FAIA; Robert C. Greenstreet, Clarene Huefftenrauch, AIA, FCSI; John F. Jacoby, FAIA; Robert L. Yarbro, AIA; Valentine J. Schure, Jr., AIA; William M. Babcock, Executive Director.

North Central Region AIA: Robert C. Murchier, AIA, Director.

Southwest Wisconsin Chapter: Douglas N. Kozel, AIA, President; Horst W. Lobe, AIA, Vice President/President-Elect; Robert E. Shipley, AIA, Secretary/Treasurer.

Southeast Wisconsin Chapter: Kevin J. Connolly, AIA, President; Lisa L. Kennedy, AIA, Vice President/President-Elect; Walter L. Wilson, AIA, Secretary/Treasurer.

Northwest Wisconsin Chapter: E. Mitchell Spencer, AIA, President; Tim Larson, AIA, Vice President/President-Elect; David G. Peterson, AIA, Secretary/Treasurer.

Northeast Wisconsin Chapter: Robert H. Grapentine, AIA, President; Erick D. Hansen, AIA, Vice President/President-Elect; Stan M. Ramaker, AIA, Secretary/Treasurer.

Wisconsin Architect, Inc.; Board of Directors: Jay A. Mclean, AIA; Richard W. Eschner, AIA; Dennis L. Olson, AIA; Roger D. Roslansky, AIA.

Wisconsin Architect Editorial Board: Peter J. Schuyler, AIA, Editor; Robert C. Greenstreet, Douglas C. Rybn, C. Lorraine Laughinghouse, William M. Babcock, Chapter Coordinator; Robert E. Shipley, AIA; Daniel J. Becker, AIA; David G. Peterson, AIA; Dennis L. Olson, AIA.

Magazine Staff
Editor
William Babcock

Coordinating Editor
Grace Stith

Advertising & Production Manager
Grace Stith

Cover: Chicago Fish House
Dan Thompson, AIA
Photographer: Daniel Prusak
Wisconsin Manufacturers & Commerce, Madison
General Contractor: Madsen Corporation

A primary, distinguishing feature of this building is the special arch-top window that stretches into a ribbon of windows encircling the entire structure.

Ver Halen installed a wood clad frame system glazed with 1" bronze insulated glass. All windows were custom-sized to meet exact opening requirements.

Wisconsin Architect May/June 1990
Clear Advantage

Profile™ Shower. To get a shower into better shape, look for a better angle. The Profile Shower by Kohler. It gives a bath a spacious, modern look. A clear-cut solution because it can work as a one, two or three-sided shower, in a corner or against a single wall. Profile Shower’s heavy tempered-glass doors come in a variety of sizes, with posts and receptor in decorator colors, and all-black gloss hardware. Versatile. Elegant. From all sides, the Profile Shower is a clear improvement.
Win contracts with Smart Money.

Increase the chances of winning your next contract by including Wisconsin Electric's Smart Money cash rebates and interest-free loans in your proposal. We'll pay your clients to install energy-efficient equipment as part of our unique energy conservation program for business. We'll pay for:

- fluorescent and compact fluorescent lighting
- air conditioning systems
- refrigeration systems
- heat recovery systems and more.

We'll even help you determine, at no cost, your client's payback period for investing in proven efficiency measures.

So, get a jump on your competition. Let Smart Money help sell your next project bid. You'll be a hero to your clients and gain a reputation as someone who looks out for their interests.

For more information, call Wisconsin Electric toll-free at 1-800-544-7989. In the Milwaukee area, call 221-4900.

Wisconsin Electric's
Smart Money
For Business

Available only to projects served by Wisconsin Electric. Some restrictions apply. Offers are available for existing facilities and new construction projects.
I am not the one to be giving advice since it has been too long since I have actively practiced architecture. The world is becoming too complex. 

When planning in terms of organic architecture, one has to practice as an individual. Departmentalized offices are becoming unnecessary, with someone who understands design as well as structure, technology and uses of the computer.

However, there are a few philosophical ideas that I feel do not change with time. The idea or statement of post-modernism seems to be ridiculous since anything built today is modern no matter what so-called style it is in. Designing a building should always be studied in the next larger context. What are the surroundings? Is the site in the country or the city? Should the project relate to residential or public buildings?

What are the materials and character of neighboring buildings?

If one thinks out these solutions in terms of organic architecture, one is never out of style. One has style, not a style. This has always been my "Apostles Creed."

William V. Kaeser, AIA
Let Fly Ash do great things for your concrete.

Fly Ash can do some great things for concrete. It can make it stronger and more workable; it can increase density; it can increase resistance to leaching, acid or alkali attack.

Powder-fine Fly Ash also has great lubricating effects. It makes concrete easier to pump, flow and finish. It fills forms completely. Gives you sharper, chip-resistant edges and fine details. And since Fly Ash concrete takes less water, it’s more impervious.

The best thing is, Fly Ash does all this for your concrete without costing you more.

Fly Ash suitable for use in concrete is available from Wisconsin Public Service's Weston III power plant. Careful monitoring and regular lab testing assure the best quality Fly Ash possible. We will provide design assistance to convert your conventional mix to an equivalent Fly Ash mix.

For more information contact Charlie Severance, P.E., at the Wisconsin Public Service Corporation address below.

Fly Ash. Just what you need for better concrete at lower cost in foundations, garages, driveways, floors, walls, pools, and roads. Let Fly Ash do great things for your concrete!
Why Look at the Walls When You Can Enjoy the Four Seasons

Sun Rooms Unlimited, Inc. 132nd & National Ave. New Berlin, WI (414) 797-8818

System 9 Straight Eave Wood Beam

Outdoor Living Indoors

Design & Remodeling Centers

Four Seasons Greenhouses

Appointments Preferred
(414) 797-8818
Sat. 10-4
Mon.-Fri. 10-6
Showroom Hours

Display or call for an appointment
Selection of Four Seasons Rooms and Spas on
Visit our Milwaukee Showroom and see the wide

system of Ro: 4

d and sealed between two dead air spaces with a 35-

n affected. The insulated, thin glass is extremely strong.

four Seasons hoop structures heat multi-glass in all of his

red cedar beams, oak beams or engineered lumber.

curved wood sides or custom finishes. Meaning a

choose from our four seasons styles: straight eave

shop drawings.

we can provide architectural specifications and com-

Before designing your next sunroom project, link to the

SUNROOMS
Architectural Technology
Two-Year Associate Degree

CURRICULUM

First Semester

<table>
<thead>
<tr>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Drafting 1</td>
<td>4</td>
</tr>
<tr>
<td>Materials for Building Construction</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Writing</td>
<td>3</td>
</tr>
<tr>
<td>Computer-Based Communications</td>
<td>3</td>
</tr>
<tr>
<td>Technical Mathematics 1</td>
<td>5</td>
</tr>
</tbody>
</table>

18

Second Semester

<table>
<thead>
<tr>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architectural Drafting 1</td>
<td>4</td>
</tr>
<tr>
<td>Structural Drafting 1</td>
<td>3</td>
</tr>
<tr>
<td>Architectural Computer-Aided Drafting</td>
<td>3</td>
</tr>
<tr>
<td>Technical Mathematics 2</td>
<td>4</td>
</tr>
<tr>
<td>Technical Science 1</td>
<td>3</td>
</tr>
</tbody>
</table>

17

Third Semester

<table>
<thead>
<tr>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveying for Related Programs</td>
<td>2</td>
</tr>
<tr>
<td>Architectural Drafting 2</td>
<td>4</td>
</tr>
<tr>
<td>Structural Drafting 2</td>
<td>3</td>
</tr>
<tr>
<td>Reporting Technical Information</td>
<td>3</td>
</tr>
<tr>
<td>Technical Science 2</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

18

Fourth Semester

<table>
<thead>
<tr>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architectural Drafting 3</td>
<td>4</td>
</tr>
<tr>
<td>Building Mechanical Systems</td>
<td>3</td>
</tr>
<tr>
<td>American Institutions</td>
<td>3</td>
</tr>
<tr>
<td>Human Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

16

Graduation Requirement 69 Credits

Suggestive Electives

<table>
<thead>
<tr>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Development</td>
<td>3</td>
</tr>
<tr>
<td>Building Estimates</td>
<td>3</td>
</tr>
</tbody>
</table>

CALL TODAY
FOR INFORMATION
ABOUT THESE GRADUATES
NORTHEAST WISCONSIN TECHNICAL COLLEGE
PROUDLY PRESENTS THE 1990 ARCHITECTURAL
TECHNOLOGY GRADUATING CLASS.

Graduates of the Architectural Technology program at Northeast Wisconsin Technical College are provided with technical knowledge and drafting skills needed to produce drawings for use in building construction. The graduates have been trained in modern drafting techniques in a computer-aided drafting and design lab.

Graduates of the program work for architects, engineers or material manufacturers to produce detail drawings for wood, steel, masonry and reinforced concrete structures.

For further information on any Architectural Technology graduates, write or call:

Michael Rusboldt, Placement Office
(414) 498-5429

John Defenderfer, Instructor/Architect
(414) 498-5619

Gary Magee, Instructor
(414) 498-5623

Kenneth Schultz, Instructor
(414) 498-5628

Toll Free 1-800-272-2740

Northeast Wisconsin Technical College
2740 West Mason Street
P. O. Box 19042
Green Bay, WI 54307-9042
AQUARIUM DISPLAYS
SALES, SERVICE AND LEASING
P.O. Box 51562 - New Berlin, WI 53151
414-797-0948

ADD LIFE TO YOUR DESIGNS!

(See Cover Photo)
Custom built tanks, cabinets and other aquatic displays for any setting.
Complete set-ups, installation and service.

HEAT YOUR HOME BAREFOOT WARM

With Infloor® Heating Systems you’ll experience barefoot comfort year-round.
Infloor embeds electric cables or hot water tubes into the floor with a patented Gyp-Crete floor underlayment. The system gently warms the surface of the floor, radiating heat into the room. It’s cleaner, quieter and more energy efficient than other forms of heating.
Whether you’re constructing a new home or adding to your existing home, ask your contractor about Infloor Heating Systems.

Available from:
Infloor Heating Sales & Distribution
675 Industrial Ct., Suite B
Hartland, WI 53029
414-367-5528

PRESERVATION PLAN ON IT
Planning on restoring a house, saving a landmark, reviving your neighborhood?
Write:
National Trust for Historic Preservation
Department PA
1785 Massachusetts Ave., N.W.
Washington, D.C. 20036
Lighting Techniques for Image and Identity

Providing for a five-fold expansion of the Midwest’s largest fresh and frozen fish distributor was a challenging opportunity for Thompson Associates Inc. of Milwaukee. Chicago Fish House requested a high profile expansion of existing distribution office and customer retail hospitality center facilities. The highly visible site, adjacent to the Kennedy Expressway, approximately one mile north of Chicago’s loop, is an irregular shaped two block area necessitating a multi-story concept with below grade customer and employee parking, two stories of processing/distribution and cold room facilities, office facility and retail store, each designed to accommodate varying heights of vertical expansion.

Chicago Fish House has developed a marketing concept utilizing its retail store as a high profile showroom to showcase its products and provide cooking training demonstrations for the public as well as groups of chefs for restaurants, hotel chains, etc. The use of varying lighting techniques was a natural in providing image to the passerby, as well as interest to the customer.

The exterior of the building was of special concern to the owner and architect, evolving a lighting effect believed to be a first. There was the need to make the building very identifiable as a continuing sign for Chicago Fish House. There was also the need to maintain the design integrity of the building.

Typically, surface mounted individual illuminated letters, perhaps the typical back lit suitcase or pylon signs, would be used. The architect wished to achieve the appearance that the fascia of the building was a slab of cut stone. The signage would appear to be from lighting sources behind the stone with the logo signage and letters defined by the silhouette of the cut stone. Each “Chicago Fish House” sign band is composed of individually illuminated units with the surface of each recessed 5 inches behind the surface of the exterior finish system. Gaining coordination of sign designers, EIFS fabricators and electricians was monumental. All neon transformer and wiring access is achieved in the space behind and above the store ceiling and required provision of 17 flush access panels in the linear metal store ceiling. There is a permanent merger of lighted signage and architecture.

Of primary importance to the retail store is the entrance vestibule bringing customers from three parking levels. This is a high profile design area leading customers easily into the store while providing image and interest. The below grade under cover retail parking is lighted with 150 watt recessed incandescent downlights. Customers are led to the entry door by a neon logo retail store sign.

The lower vestibule is surrounded by a curved bubble patterned glass block wall behind which is painted an illuminated mural conveying the lighting impressions experienced by the architects during scuba diving. The glass block and the mural are back lit by nine above mounted, adjustable monopoint halogen low voltage lights controlled by a four-zone cycling dimmer providing the undulating effects of under water light. Members of the architect’s staff actually painted the mural and had to coordinate with the Miami design firm of Architectonica in the installation of the West German made glass block wall. The aquarium tower serves to provide a dramatic exterior image for the store as well as to draw people up to the upper level retail location. The aquarium on the tower’s

Dan Thompson and his staff chose a concept of a chiseled monochromatic stone appearance of interacting solids to provide a background for the nautical character to be conveyed. A Combination of blue-green and titanium coated glass was chosen to give the feeling of water.
upper level, is visually unified by a lighted shaft of rising bubbles appearing to be a continuation from one aquarium up to the next aquarium and up, piercing through the reflective ceiling. The imagery is actually provided by two individual lighted bubble tower segments, each composed of twelve varying diameter water filled lucite tubes, each of which is fitted with an ariator providing bubbles to catch the light and give the motion of sea water. All lighting in the tubes and aquariums is by low voltage halogen fixtures. The utilization of various color lenses can be used to change the color of the towers and, therefore, periodically change the color mood of the building.

In order to make the building a visitor destination, as well as entertain children and family members during shopping or demonstrations, a lower level viewing platform was provided for children, while also providing housing for the water filtration and treating equipment.

After reviewing a number of holographic techniques on display at the Holographic Center in Chicago, it was decided that it would be possible to provide a 30 by 40 inch back lit hologram of a Great White Shark for the upper vestibule level. The hologram was prepared and provides the motion effects of lunging at the approaching onlooker. The actual shark was photographed in a museum in New York after research was done looking at large fish from various natural museums around the country. To gain the necessary back lighting intensity in this light competitive environment, a special fixture was mounted at the rear of the holgram surface.

From the lower vestibule one's eyes are focused towards a 36 inch in diameter hexagonal fresh water ocean aquarium, the lower unit of an aquarium sculpture and water lighting effects tower 22 feet high.
The ceiling of the vestibule as well as the retail store is surfaced by a bright chrome steel linear ceiling to provide the effects of looking up at the surface of the water. The ceiling is pierced only by the adjustable recessed incandescent downlight fixtures necessary to punctuate various display and passage areas. To lead one into the retail store and provide a unifying lighting effect from the building exterior, a 62 foot long “S-curved” neon sculpture is provided on a background of a gloss blue laminate ceiling drop leading from the vestibule across the entire retail store. The curved surface provided a challenging situation for the mounting of the multi-curved turquoise neon segments. The resulting neon sculpture and its reflections on the ceiling have provided visual effects that have become a trademark of the building.

The architect has long had an interest in lighting as one of today’s underutilized techniques and tools in the field of architectural design. Lighting provides a relatively economical means of providing function, security, message conveyance and design expression. The chance to utilize a number of lighting design concepts requires a good client as well as a good team of designers and fabricators.
Credit List

Milwaukee area companies involved were:

Lighting and Electrical Consultant:
Leedy and Petzold Co.

Neon Design and Fabrication:
Terminal Neon

Mural Design and Fabrication:
Thompson Associates, Inc.

Mural Lighting Effects:
Lappin Lighting Co.

Aquarium:
Living Art Aquarium Displays

Aquarium and Bubble Tower Fabricator:
Atlantis Aquariums, Inc.

Aquarium Cabinet:
Craftsman Woodwork, Inc.

Photography: Daniel Prusak

Aquarium tower, 22 feet in height.
Design With

PRODUCERS OF ORIGINAL LANNON STONE
- Cut Stone • Flag Stone
- Field Stone • Retaining Wall
- Thin Veneer Stone
- Landscape Stone • Weatheredge
- Crushed Stone • Rip Rap

Architects and designers are invited to visit Halquist's four-acre landscaped outdoor display and extensive indoor showrooms for ideas in the finest showcase of natural stone anywhere!

HALQUIST STONE
P.O. BOX 308 / 23564 WEST LISBON ROAD • SUSSEX, WISCONSIN 53089 • 414/246-3561
INTERSTATE WATS 1-800-255-8811 • FAX 1-414-246-7148
Excellence in Masonry

1989 Award of Recognition

Presented to Venture Architects

for superior design, installation and use of Concrete Masonry Units

by the Wisconsin Concrete Masonry Association
The Bradley Center  Milwaukee, Wisconsin

Program: Sports and Entertainment Center
Architect: Venture Architects (Kahler, Slater, Torphy, Engberg - Zimmerman Design)
Consultant: Hellmuth Obata Kassebaum
General Contractor: Huber Hunt Nichols
Mason Contractor: Knuth Masonry
Structural System: Poured in place concrete, Steel Roof
Major Materials: Poured in place concrete, Ground CMU's
Mechanical System: HVAC, Ice Rink, Food Service
Size: 22,000 seats

The Judges Comment...

"An excellent expression of the flexibility and compatibility of concrete masonry units with other materials. Craftsmanship in the installation of the masonry excells, particularly at details in the concave and angular walls as viewed from the walk-ways."
Rudolph Zemanovic

"Quality craftsmanship with a simple, straight-forward use of ground-face block. The use of the block was very functional for the space and accented the concrete ceilings."
P. K. Schultz

"Appropriate detailing and good craftsmanship help make this material a good choice for this high use facility. The scale and relationship to other materials reinforces the overall materials palette."
Todd Davies

The Architect Comments...

In search of an interior wall surface material for the Bradley Center, the design team was challenged with selecting a material which met some very strict design requirements for such public assembly buildings.

In selecting scored ground faced masonry units, the design team achieved a durable, economical surface which required minimal maintenance throughout the life of the building.

However, most important was the warm natural stone appearance which enhanced the aesthetic and scale of the interior spaces.
### Performance Zoning: A New Concept for Door County

Typically, when architects or others think of zoning ordinances the notion which most often comes to mind is the control of land use, bulk, setback, and requirements for the man-made built environment. In the not too distant past, the natural features were not an issue which was dealt with in zoning matters. In fact, many zoning ordinances even promoted the destruction of such features through the inappropriate assignment of zoning classifications or other regulations which oftentimes fostered their destruction. Examples can be found in many communities where floodplains and wetlands have been filled in, where woodlands have been destroyed or steep slopes severely compromised to make way for urban or suburban development.

Until only the last twenty-five years, or so, the preservation of natural resource features was not a concern for regulation within the context of zoning ordinances. This omission certainly changed during

#### METHOD FOR CALCULATING TOTAL RESOURCE PROTECTION LAND

This table identifies the natural resources of concern and the proportion of the area encompassing the resource or limitation which must be left in open space.

1. Measure the area (in acres) containing the Natural Resource Features listed below that are present on the site. Calculate the required area of Resource Protection Land of each feature.

<table>
<thead>
<tr>
<th>NATURAL RESOURCE FEATURE</th>
<th>ZONING DISTRICT OPEN SPACE RATIO (OSR)</th>
<th>ACRES OF LAND IN RESOURCE</th>
<th>RESOURCE PROTECTION LAND = OPEN SPACE RATIO X ACRES OF LAND IN RESOURCE FEATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RH</td>
<td>SV</td>
<td>VC</td>
</tr>
<tr>
<td>Water Bodies</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Floodplain/Floodway</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Wetlands</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Shoreline Buffer</td>
<td>1.0</td>
<td>1.0</td>
<td>.70</td>
</tr>
<tr>
<td>Forests:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mature</td>
<td>.96</td>
<td>.50</td>
<td>.30</td>
</tr>
<tr>
<td>Young</td>
<td>.92</td>
<td>.40</td>
<td>.20</td>
</tr>
<tr>
<td>Cliffs/Bluff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Escarpment</td>
<td>1.0</td>
<td>.80</td>
<td>.80</td>
</tr>
<tr>
<td>Drumlins</td>
<td>1.0</td>
<td>.80</td>
<td>.80</td>
</tr>
<tr>
<td>Dunes</td>
<td>1.0</td>
<td>.80</td>
<td>.80</td>
</tr>
<tr>
<td>Eskers</td>
<td>1.0</td>
<td>.80</td>
<td>.80</td>
</tr>
<tr>
<td>Ridges</td>
<td>1.0</td>
<td>.90</td>
<td>.90</td>
</tr>
<tr>
<td>Sinkholes</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Steep Slopes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+30%</td>
<td>1.0</td>
<td>.90</td>
<td>.85</td>
</tr>
<tr>
<td>20-30%</td>
<td>.92</td>
<td>.65</td>
<td>.70</td>
</tr>
<tr>
<td>10-19%</td>
<td>.90</td>
<td>.00</td>
<td>.20</td>
</tr>
<tr>
<td>Prime Farmland</td>
<td>.50</td>
<td>.96</td>
<td>.00</td>
</tr>
<tr>
<td>All other land</td>
<td>.50</td>
<td>.00</td>
<td>.00</td>
</tr>
</tbody>
</table>

2. BASE SITE AREA =

3. TOTAL RESOURCE PROTECTION LAND =
the 1960s with the advent of the protection of floodplains through the use of sound planning and zoning techniques. Later, such protection of floodplains was mandated by the Federal Insurance Administration (reorganized during the Regan Administration and now called the Federal Emergency Management Agency) for community flood insurance program participation.

Within the last decade, wetlands have emerged as a nationally recognized natural resource, as witnessed by legislation at both the federal and state levels mandating their protection. In Wisconsin, for instance, shoreline wetlands are required to be properly mapped and zoned by local communities for protection. Architects, landscape architects, engineers and planners, therefore, have been aware of the importance of both floodplain and wetland zoning in preserving these two very important natural features.

In some areas of Wisconsin, however, it is necessary to advance the level of natural resource protection to other elements of the resource base. Under some circumstances in Wisconsin, such resources form the basis of the structure of the local economy itself. These are areas of the state which are dependent upon its natural resources for its sustained economic vitality. Such a place is Door County.

In 1988, the planning consulting firm of Lane Kendig, Inc. was retained by Door County to draft both a development plan and its implementing zoning ordinance for the County. The County development plan addresses the County’s goals and objectives, growth pressures, community character, natural and cultural resources, agriculture, public facilities, transportation, recreation, economic development, and plan implementation. Paramount in all areas addressed in the plan is the preservation of the County’s natural resource base, not only to maintain the County’s unique resources, but to protect its tourist-related economy which is based upon the maintenance of these features.

Recognizing the importance of natural resource preservation, County officials and the consultant determined that a more progressive approach to zoning would be necessary in order to meet the County’s resource protection needs. The approach used was called “performance zoning.” Performance zoning, unlike traditional zoning, imposes minimum levels of performance by setting standards which must be met by each land use—including both man-made and natural resource uses. In many respects, “performance zoning” is very similar to and, perhaps, analogous with the performance specifications which an architect may use for the construction of a building. Performance zoning, as applied to Door County, addresses both the regulation of the man-made and natural environment of the county in an effective fashion.

In Door County there are many natural resources worthy of protection to some degree. These resources include water bodies such as lakes, ponds and streams; floodplains; wetlands; shoreline buffer; forests including mature
and young woodlands; cliffs, bluffs and escarpments; drumlins; dunes; eskers; ridges; sinkholes; steep slopes; and prime agricultural lands. Some of these features are shown in the accompanying illustrations.

Site capacity calculations are at the heart of the natural resource protection standards set forth in the County zoning ordinance and are indicated in the accompanying table. Such calculations are based upon the notion that every site is truly unique with unique natural resource features. Just as a farmer would turn to a soil manual to help determine the relative productivity of two farms as a guide to what he would pay for them, the site capacity calculation tells the landowner or developer what can be done with an individual site. This is in sharp contrast to traditional zoning where the developer simply determines the zoning district of the property to discover the permitted uses and densities, but is not required to account for the unique physical features of the land. Such calculations, as outlined in the County zoning ordinance, begin with the gross site area, and subtracts the acreage that is unbuildable, such as land used for existing streets, easements, etc. Then, the developer identifies the natural resource features present on the site and multiplies each by the appropriate natural resource protection standard to determine how much of the resource must be preserved for their protection.

The new County zoning ordinance also addresses other important issues using the concepts of performance zoning. For instance, residential performance standards are established for such characteristics as open space ratios (OSR, the minimum proportion of a site which must be devoted to open space) as well as net and gross density. Nonresidential performance standards are established for such characteristics as landscaper surface ratio (LSR, the minimum proportion of a site which must be devoted to vegetated area) and floor area ratios (FAR, the maximum proportion of the floor area of a site to site area). Also, detailed bufferyard requirements are established for use between land uses of varying intensities and based upon the relative opacity level of the landscaping comprising the bufferyard. The new County zoning ordinance also sets forth methods for the County to adequately protect its very sensitive visual resources as well.

Collectively, the performance zoning strategies, as used in Door County, should assure the preservation of both the natural resource base of the community as well as its tourist-oriented economy. Indeed, the performance zoning concept may be used as a model for other Wisconsin communities relative to zoning regulation. The new Door County zoning ordinance is the second such zoning ordinance to be prepared for a local unit of government in Wisconsin. The first was for Sun Prairie, near Madison, in early 1989.
The Washington Highlands, a planned neighborhood in Wauwatosa, Wisconsin, was added to the National Register of Historic Places on December 18, 1989. The nomination of the Highlands was prepared by Cynthia D. Lynch, historic preservation planner, and architect Bruce E. Lynch, AIA, President, Lynch & Company, Ltd. Their architectural and development firm was retained by the Washington Highlands Home Owner Association to research and coordinate the project which occurred over a two year-period.

The Highlands spaciousness and greenery is immediately apparent—a feeling that distinguishes this residential district from its surrounding context of straight streets and rows of housing on narrow lots. What is remarkable about the Highlands is its ingenious design. The Highlands was designed to attract families of varying incomes by providing housing of various sizes, styles and costs. It is dense by today’s suburban standards which usually require one acre lots. Averaged over its entire 133 acres, the density is three units per acre.

As depicted on the frontispiece of the Highland's brochure, the entry to the Washington Plaza is set off by cubic clipped lindens and simple concrete gateway pylons. This landscape reveals the German influence of noted German expert Dr. Werner Hegemann, planner of this unusual residential neighborhood, and the skills of American Architect Elbert Peets.
Discussing the Highlands in today's lexicon of statistics clearly illustrates a point recently made by Robert Geddes, in a guest editorial for *Progressive Architecture*, where he argues that architecture and landscape architecture should be reunited. The point is that architects and planners have lost their ability to create places because they are focusing on objects. The creation of space is overlooked in the rush to redesign something to fill it. In the Highlands the architecture of individual residences is only important if it relates to the role of the house as part of an ensemble. Grouped in a certain way, around a plaza or by varied set backs around the intersections, the house facades create spaces, which are the essence of "placeness."

In documenting the Highlands, Mrs. Lynch identified three areas of significance—Community Planning, Landscape Architecture, and Architecture for this model residential district of 377 residential structures. The design of the Highlands is especially noteworthy for its use of advanced concepts in English garden suburb planning. Innovative design features include the street layout, preserving natural topography and tree coverage while providing sites for single family homes, double houses, four flats, a small commercial center, parkways, and a school (not built). All of these are the essential elements in a comprehensive plan for a neighborhood. In the decade from 1910 to 1920, with rampant speculation producing gridiron blocks of narrow lots, this was the pressing urban issue of the day.

This romantic cottage by architect William F. Thalman, with its Germanic jerkin gable, castellated turret and steep roofs is one of the most picturesque in the Highlands. Its forms are emphasized by the textural quality of lannon stone walls and cedar shingle roof sited along the creek and surrounded by willows with the curving street beyond, it creates the perfect picture of "home spirit" where settlement and nature are in harmony.
The land plan reveals the harmonious interplay between two landscape design concepts utilized in the Highlands. The axial layout of Mt. Vernon Boulevard (now Washington Boulevard) from the Plaza to the Apple Croft counterpoints the curving layout of Washington Circle and other streets which follow natural contours. Aligned with terminus of Washington Boulevard, the vista looks from the Plaza over the valley to the Apple Croft, the highest location in the Highlands. Trees, hedges and houses are set back in such a way that the visual perspective of this vista becomes more dramatic, recalling scenes in the design of grand boulevards of the City Beautiful Movement, but on a more intimate domestic scale.

The 1916 design of the Washington Highlands was carefully conceived and planned by the firm of Hegemann & Peets. Nationally recognized in Germany for his advocacy for improved housing conditions, Dr. Werner Hegemann (1881-1936) was an international authority on the Garden City Movement in Europe. He established an office in Milwaukee with Landscape Architect, Elbert Peets (1886-1968), who prepared the plan for Greendale, Wisconsin, some 20 years later. Hegemann and Peets were also the original designers of Kohler, Wisconsin, and completed comprehensive plans for other communities, among them, Berkeley, California, Wyomissing Park, Pennsylvania, and Madison's vanished Lake Forest city. In 1916, the firm also completed a study for the City of Milwaukee calling for a comprehensive city plan which would highlight the city's unique proximity to the Milwaukee River. This is finally being realized 75 years later with proposed plans for promenades along the river.

In their landmark publication on the design of urban spaces, The American Vitruvius, an Architect's Handbook of Civic Art, Hegemann and Peets discuss the Washington Highlands as an example of enlightened neighborhood planning which provided a safe, healthful and pleasant place for families.

The rolling site with variations in topography of 150 feet was originally traversed by a small stream and was part of a 217 acre stock and hops farm owned by Captain Frederick Pabst of the Pabst Brewing Company. In the design, natural topography was preserved through use of innovative road designs, such devices as split-grade boulevards, which avoid extensive cutting and filling required by the typical gridiron pattern of streets.
The parkway curves through the Highlands roughly paralleling the bends and twists of a brook which flows across the district. At Mt. Vernon Ave. (now Washington Boulevard), a bridge over both the roadway and creek was built of cobble stone supported by a great sweeping structural arch which provides access to both sides of the valley.

The focal point of Mt. Vernon Boulevard (today known as Washington Boulevard) is the Apple Croft, a sloping hillside park which affords vistas of downtown Milwaukee and an overlook of the Highlands. As originally planned, the Apple Croft was to be surrounded by a group of English style manor houses to form an enclosed green. One such residence was built at the top of the hill to terminate the view from Mt. Vernon Boulevard and the plaza below. Of lannon stone with beam work and stucco in-fill surmounted by a steep tile roof, it is the very essence of the style. That 25% of the residences in the Highlands were designed in some variation of the English tudor style, reveals its popularity with homeowners and architects alike.
Deed restrictions controlled setbacks and lot coverage of houses insuring open space on each lot. Dedication of unique topographical features like the hillside or valley for parklands, as well as plazas and ornamental planting enhanced its spaciousness. Each drive into the Highlands is designed as a distinctive gateway which allows access but subtly discourages thru traffic, considered undesirable in residential neighborhoods.

An architectural design review process was established by the creation of a Homes Association to insure that guidelines for the design of houses and buildings were followed and that harmony in architecture was maintained. As a result, home owners and architects enjoyed stylistic freedom in the designing of houses, as evidenced by the presence of 14 different architectural styles. The most common style found is the English Tudor Revival, ranging from cottages to manor houses, which was utilized in 110 homes. Unlike other communities which limited owners to three styles—Colonial, English, or French revival styles, the Association approved the unique designs like Germaine cottage with its distinctive clipped or jerkin gables. The wide range of stylistic variation includes French Norman, Colonial Revival, Neo-Classic, Dutch Colonial, Italian Renaissance Revival, Spanish Eclectic, Mission, Monterey, Oriental, Arts and Crafts, Prairie Style, and Craftsman.

The Washington Highlands was designated as a Milwaukee County Landmark in the early 1970's. With acceptance to the National Register of Historic Places, its rank with other planned suburbs in both American and Europe is clearly substantiated. The Highlands now has an honored position among the distinctive communities which span a century in community planning such as: Riverside, Illinois, by Frederick Law Olmsted c. 1869; Forest Hills, New York, by Olmsted Brothers c. 1911; Hampstead Garden Suburb, London, England, by Parker & Unwin c. 1905; Shaker Heights, Ohio, by William Pease c. 1909-1926; Letchworth Garden Suburb, England, by Parker & Unwin c. 1903; The Country Club District in Kansas City, Missouri, by Hare and Hare c. 1913, and Radburn, New Jersey, by Wright and Stein c. 1925.

The Craftsman style, with its expressed roof framing and varied materials like brick, wood shingles and stone trim, harmonizes with the more decorative styles. This double house has splayed porch peirs, leaded glass and other crafted architectural details like the double beams at the eaveline. There are 45 residences and duplexes exhibiting the Craftsman style in varying detail but comparable form.
The few finely crafted residences in the English Arts and Crafts style are distinguished from their English Tudor counterparts by simplicity in form and materials. The sheltering roofs, plain brick facades, groups of windows and lack of ornamentation are evidence of true design sophistication.

Two of the more charming buildings in the Highlands are in the French Norman style distinguished by steep roofs, stout towers and rounded windows. The shops have similar domestic qualities: steep slate roofs, conical tower, and a brick first floor with beam work infilled with stucco above. Both buildings have openings with lannon stone surrounds emphasizing their arched forms.

An architectural anomaly which is very striking is the oriental bungalow with the characteristic irimoya-yane roof consisting of gables on a hip roof. The oriental tile roof with flared eaves creates a surprisingly authentic appearance.

Photography: David Biegler
Cynthia Lynch
Illustrations and Plan: Elbert Peets, Landscape Architect
Baby Tizio!!!

Introducing Tizio 35. A 20% smaller version of the original with all its qualities.

Available at:
808 Merchandise Mart
Chicago, IL 60654
312/644-0510

INTRODUCING THE ARCHITECT SERIES FROM PELLA.

A remarkable new Pella® innovation called Integral Light Technology® has made it possible to create a 7/8" true divided light window with insulating glass that satisfies the demands of energy efficiency, while recapturing the beauty of the classic single pane window styles of yesteryear.

BUILT TO IMPOSSIBLY HIGH STANDARDS. OUR OWN.

The Pella Window Store®
Wisconsin Designs and Builds with POINT LINE® CADD

Call for a Point Line Presentation
MASTER BLUE PRINT
1-800-873-7238 Madison
1-800-283-7238 Fox Valley
REPROGRAPHIC TECHNOLOGIES
1-800-686-7376 Milwaukee

DESIGN SAFETY AND ELEGANCE INTO YOUR DRIVEWAY ENTRANCES and reduce property owner’s liability for ditches, culverts, large stones, etc., hidden by vegetation, darkness, or snow. Install a pair of PARKLANE reflective markers to greatly increase the visibility of these hazards and make it easier for driveway owners [and guests] to find their driveways. This spectacular, yet tasteful marker is forged of heavy gauge structural steel. It is sealed with an extremely durable, baked-on, powder paint for long term weatherability and resistance to road salt. A pair of blue, crystal-like reflectors mounted on each side of the white hexagon adds a touch of elegance while maximizing nighttime visibility.

Unique side anchors maintain the marker’s vertical alignment and position despite heavy rains, frost upheavals, and being womped with heavy snow thrown from roadside plows.

Call 1-800-875-8401, Ext. 33A-480 for full information. Patent pending.

PARKLANE ARTISTS & CRAFTSMEN’S GUILD INC - 6900 INDUSTRIAL LOOP - GREENDALE WI 53129 - 414-423-8400

IMPORTANT NOTICE FREE COMPUTER DESIGN SERVICE FOR MASONRY WALLS

THE WISCONSIN CONCRETE & PRODUCTS ASSOCIATION IS OFFERING A NEW SERVICE WHICH WILL ANALYZE OR DESIGN MASONRY WALLS FOR LOW, MID OR HIGH RISE BUILDINGS. THIS SERVICE IS OFFERED FREE TO DESIGN PROFESSIONALS—ARCHITECTS AND ENGINEERS—IN THE STATE OF WISCONSIN.

DATA PROVIDED: The program will check resisting moments limited by steel stress, masonry stress and deflection of the wall. It also checks shearing resistance limited by shear stress and bond strength and checks flexural compressive stresses, both allowable and actual. Once the stresses have been determined, the programs will check various masonry configurations to arrive at the configuration which would be the most economical construction.

CALL OR WRITE TODAY FOR COMPLETE INFORMATION
414 773-2888
1-800-722-4248
RICHARD H. WALTER, P.E.
EXECUTIVE DIRECTOR, WCMA
Wisconsin Concrete Masonry Association
P.O. Box 339 • Valders, WI 54245 • 414-773-2888 • 1-800-722-4248 • FAX: 414-773-2823

27 Wisconsin Architect May/June 1990
Avenue Apartments

A Victory in Housing for the Handicapped

The Avenue Cooperative provided a unique opportunity for Design Coalition architects. In mid-1988, the University of Wisconsin decided to sell an underutilized building complex on Madison’s east side. The architects worked with Madison Mutual Housing Association to prepare a successful proposal to compete with developers for the site. Both are non-profit organizations known for their commitment to finding ways to achieve quality, affordable housing. Neither before had tackled a project this large.

Program: The owner, a non-profit housing developer with 200 other units throughout Madison, blends the strong Midwestern tradition of cooperatives with the successful model of mutual housing associations that continue to flourish in Europe. For this project it intended to develop 40 apartments as a resident-managed, “intergenerational” cooperative. The project would provide affordable, quality living for a mix of people: young professionals, families, older adults, and people in need of physically accessible housing.

“Affordable” was defined in this case to mean housing and utility costs that do not exceed 30% of household income, with rents substantially lower than Madison median. To meet that goal, costs would have to be strictly controlled; Krupp Construction Co. of Madison was selected immediately after the preliminary design phase and built the project on the budget. Arnold and O'Sheridan provided consulting engineering services.

Other requirements were equally demanding: Design the grounds and all buildings to be completely barrier-free and do it in a way that isn’t noticeable. Incorporate special design features for the mobility-, hearing- and visually-impaired into some units. Preserve all possible trees and green space but park 64 cars on the surface. Also, very important, with Wisconsin Power and Light Holding Company as a primary sponsor, create energy efficient buildings and systems. And design it and complete construction in just over a year to take advantage of tax credits.

Finally, address the skepticism—even open hostility—of some neighbors to the nature of the project and its residents. This effort required months of building trust, and succeeded by giving the critics a role in decision-making. The recent success of the same owner-architect team’s Reservoir Cooperative (also built despite initial hostility, but subsequent strong support of its neighborhood) was helpful in this effort. A neighborhood advisory committee met throughout the preliminary design phase and actually became advocates of the project to their neighbors.
Site: The project site of 2.56 acres is located on the Madison east side and is a former hospital, a solid—though unhandsome—pair of yellow brick buildings and a post-war prefab structure. The grounds include numerous mature trees and has long functioned as a neighborhood park. However, the complex was built originally as a contagious disease facility and most recently used as a detox center. As a result, the site had a strong negative image to overcome. Old time residents recalled the prevailing habit of crossing the street to avoid the place. A major design challenge was simply to make the complex perceivable as a place to live.

Re-use of existing buildings: The original hospital and boiler buildings (A and B) were gutted to make way for 32 units. Building A has large laundry rooms with plentiful windows located at circulation nodes, a community room with kitchen and several bicycle storage rooms (Madison has two bicycles for every automobile). Original balconies are retained; a new hip roof at Building B links it visually to C. The loading dock area between the three buildings was recreated as a landscaped courtyard, incorporating a raised terrace and ramps.

New construction: Eight units (C), superinsulated wood frame, scaled and articulated to recall the surrounding two-unit dwellings. This structure zig-zags slightly to enclose the courtyard and preserve three well-grown conifers. With generously sized units intended mainly for families, kitchen/dining areas are oriented to provide a view of the playground. The entry commons, with laundry, also functions as space for house meetings.

Building D: Conventional wisdom would have called for demolition of this structure, in only fair condition, to make way for more housing. It was spared, however, because its two tenants are agencies that provide support services to the disabled in Madison. Improvements were limited to minor repairs and new chillers.
Barrier-free design: Madison historically attracts a large percentage of Dane County’s population with disabilities due to the availability of social services, medical facilities and attendants. Estimates are that as many as 10% of the country’s residents require some accessible housing modifications, and such well-designed housing is in short supply. The Avenue has six units designed as “barrier free” for people with physical disabilities and scattered throughout the complex. Indeed, the owner elected to refuse a HUD subsidy because it would have “ghetto-ized” those with mobility impairments. In addition to these six, 12 more units are designed to be relatively easily adapted in the future.

Meetings with a review committee of service providers and individuals with various disabilities were invaluable to help make the difficult trade-offs and to fine-tune unit design and detailing. A few examples: special kitchen and bath cabinetry; receptacles wired to the central alarm system to alert the hearing-impaired with fans or strobes; powered main entry doors, operable from any unit or in the future by hand-held radio transmitters (similar to the ones that trigger garage door openers); site-built roll-in showers, oversizes to accommodate attendants; and carpet wainscoting to prevent wall damage by wheelchairs. Mounting heights were scheduled so all equipment will be reachable, from light switches to the turn screws on the furnace filter grilles.

Occasionally such agonizing attention to detail was humorous in hindsight; after examining the drawings of blocking carefully positioned to allow flexibility of grab bar placement, the contractor in some locations simply installed plywood to entire walls.

Even the “conventional” units have many barrier-free design elements, which tends to make the “special” features elsewhere unremarkable and smooths the way for friends or babysitters with disabilities.

Energy features: All units received new windows with low-emissivity glazing, humidistat-controlled exhaust fans and individual high-efficiency furnace for maximum user control. Great care was taken with vapor barriers, especially at the original masonry walls, to avoid the brick deterioration that can accompany insulating walls not intended for insulation.

“Universally usable” playground and site: Approximately ¼ acre, designed by the architect and wheelchair accessible to foster play between children of all ages with a full range of physical abilities. Included are paved paths, underground tunnel, wheelchair accessible picnic tables, sandplay area, swings and hill slides. Still to come are raised planters with flowers and aromatic herbs. A winter sledding slope, identified by neighborhood children, is preserved.

All but three existing trees were retained, and substantial plantings added. Other textural and olfactory cues were also incorporated into the site design and plantings to enrich and ease wayfinding for those with visual impairments.

In a quiet area of the site, grouped as if in conversation, reposes a five-piece sculpture by artist Michael Burns entitled “Content.” It depicts pure forms emerging from rough metal and stone and honors University of Wisconsin Professor James A. Graaskamp, a nationally known real estate and development expert and outspoken local advocate for better land use planning. A wheelchair user, Graaskamp had once remarked, “It isn’t the package, it’s the contents.”
Summary: The strength of this project is that it achieves so many worthy objectives within one project; it comes remarkably close to being “all things to all people.” It successfully reconciles a demanding program with a modest budget ($1.8 million, including playground and sitework). In the best sense: no one is left out.

The ’60s and ’70s brought America anti-war protests, urban renewal and community design centers. Using students and professional volunteers, CDC’s sought to bring quality design work to those in need and least able to pay for it. Madison, Wisconsin seemed an unlikely venue for a CDC; it had no school of architecture from which to draw volunteers and urban problems mild in comparison to most big cities. Design Coalition emerged nevertheless from the vision and car trunks of three committed architects: Arlan Kay, AIA, Mike Saternus, AIA, and Bruce Zahn, AIA. The office remains one of approximately 60 non-profit CDC’s still active nationwide.

Photography: Ruth Funkhauser
PBBS EQUIPMENT CORP.

24 HR

HEATING AND AIR CONDITIONING
RADIO DISPATCHED SERVICE FLEET
FOR COMMERCIAL AND INDUSTRIAL
INSTITUTIONS, THROUGHOUT WISCONSIN
AND UPPER MICHIGAN

COMPLETE BOILER ROOM
ENGINEERING - PARTS - SERVICE
CLEANING - WATERBLASTING
OF ALL MAKES OF BOILERS
NON-DESTRUCTIVE INTERNAL INSPECTIONS
COMPLETE MOBILE BOILER ROOM RENTALS

AUTHORIZED
CLEAVER BROOKS SALES - PARTS - SERVICE

REPRESENTATIVES FOR
- AEI TURBULATORS
- ASCA STEAM TRAPS - SIGHTGLASSES, UNION
CHECK VALVES, WAFER CHECK VALVES,
STRAINERS
- CAIUS FEEDWATER HEATERS
- CANNAN FEEDWATER HEATERS
- CLEVELAND CONTROLS
- PROMINENT FLUID CONTROL SYSTEMS
- ICE DAMATIC ICE DUCER
- THERMO-KOOL WALK-IN COOLERS & FREEZERS

AND-CAR
AUTOMATIC BOILER BLOWDOWN SYSTEMS
- ELECTRONIC BOILER ROOM MONITORING
- ENERGY MANAGEMENT SYSTEMS
- ELECTRONIC SECURITY SYSTEMS
- OXYGEN ANALYZERS - FLUE GAS ANALYZERS

SERVICES OFFICES
- MADISON, WI (608) 249-6604
- STEVENS POINT, WI (715) 344-7310
- GREEN BAY, WI (414) 494-3675
- MILWAUKEE, WI (414) 781-9620
5401 NORTH PARK DRIVE • BUTLER, WI 53007

Advancing the Science and Art of Structural Glazing.

PRESERVATION...PLAN ON IT

Planning on restoring a house, saving a landmark, reviving your neighborhood?

Gain a wealth of experience and help preserve our historic and architectural heritage. Join the National Trust for Historic Preservation and support preservation efforts in your community.

Make preservation a blueprint for the future.

Write:
National Trust for Historic Preservation
Department PA
1785 Massachusetts Ave., N.W.
Washington, D.C. 20036

An artistic expression of our expertise - to fashion metal & glass to perfection

Professional Window Replacement
(Superior Experience)
No Obligation Survey

Arwin
Builders’ Specialties, Inc.
2145 South 162nd Street
New Berlin, WI 53151
(414)782-1090
1-800-876-1090

Embassy Suites, Brookfield, WI — Architect: Russell, Gibson, vonDohlen
ARCHITECTS!
Add more space, more light, more airiness with a Four Seasons® "SUNROOM".

Give your clients the beauty of the outdoors in with a Four Seasons "SUNROOM". It can be built into their home or added on.

The Four Seasons Solar Advantage keeps you warmer in the winter and cooler in the summer with exclusive features such as Pow-R-Vent® cooling, Heat Mirror™ glazing and built-in shading to provide year-round comfort. Perfect for spa enclosures, kitchens, bathrooms, family rooms, dining rooms and patio rooms.

3 versatile ways to solve public access requirements inexpensively.

- Space efficient and affordable cost
- Easy passenger operation
- Authorized key or key card access only
- Ideal for churches, schools or clubs
- Designed to ANSI A17.1 specifications, check your local codes

For more information write or call:
1-800-782-1222
IN WI 1-800-552-7711

Zoll Stone is proud to have furnished the Indiana limestone trim and Streator 7725-30 brick on the student housing project at St. Norbert College.

For a wide selection of Brick, Stone and Fireplaces come to
ZOLL STONE CENTER INC.
1425 S. Ashland Ave.
Green Bay, WI 54304
(414) 432-6438
As an alternative to existing dormitory housing, the program requested an on-campus apartment development to house 110 students. This was to encourage upperclassmen to remain on campus. The new units could be rented during summer to seminar students and couples.

Completed design is in two parts—townhouses for six-person apartments and a separate "carriage house" for four-person units. Two units are handicap accessible. As viewed from the Fox River, the townhouses are two stories, compatible with residential area around campus. Set back from river is the brick three story carriage house which includes seven apartments plus laundry, lounge, study, game and meeting rooms.

Townhouses are gray cedar clapboard with white trim. Carriage house repeats this on gable ends, but its red brick walls and decorative brick fence act as a transition between older campus buildings of brick and the new units. Interior was planned with minimum maintenance in mind, using durable commercial quality materials.

Photography: Jerry Turba
The stark white residence, designed for two adults, is located on a sloping wooded lot. Public and private areas of the home are defined, respectively, by a facade showing mass and solidarity at main entrance and a facade of large glass areas and deck projections toward the woods and outdoor view.

Upon entering the house, the principle view is of the staircase set against a decorative glass block wall. Light streams down from a vaulted skylight above, accenting the insets of black granite flooring.

Enjoyment of cooking and entertaining resulted in a two story family room, a large open kitchen with adjacent spa, and wrap around deck.

Photography: Jane Jenson
When the Architect is Also the Client

The two projects featured in this story are homes designed by WSA members for themselves. For neither architect was it a first time experience.

The process of designing for oneself differs from working with an outside client. Surely the architect knows what is in the client's mind; but he is put on the spot, so to speak. He will have the satisfaction of living with and becoming a part of this design. The enjoyment comes through living with it critically and finding it successful. You are invited to share in the experiences of these two families.

Blaine and Chris Rebillot have recently completed a country residence on a heavily wooded acreage along the Kettle Moraine forest area near Delafield. This being their second self-designed home, they were aware that the architect wears many hats, especially if the budget is limited.

This house was planned to be a memorable experience for their three teenage children. In planning the first house Rebillot found that he and Chris tend to think alike. Now the children had input with the understanding that the architect had "last word" privileges.

Ideas and sketches were posted on a family bulletin board for study and group discussion. The family did not always agree; and this fact is what Rebillot thinks made the whole experience such a positive thing.

The family also physically constructed much of the house itself, including all of the rough and finish carpentry.

"Although design and level of finish were important to me," explained Rebillot, "I felt that at this point in the family's growth a more important element was the spacial and programmatic requirements of the family. We tried to resolve the functional issues for the next ten years while creating an exciting concept within an affordable budget."

Basically, the house is a forty-eight foot square with the entry corner "bitten off." There are actually five half-levels in the house with the third being the main level. Top level is the children's floor with a bridge connecting the two sides. The entire center core of the house flows openly from space to space with a skylight configuration within the square. Thus, one can see clear through from the entry door to the great room fireplace.

Looking from living area up to children's area and down to front foyer.

Looking from kitchen level to entrance and outside deck; house has three decks planned for various wind and weather conditions.

To offset the verticality of the structure, a flat roof (EPDM) and horizontal ship-lap wood siding with dark bands become appropriate.

Photography: Blaine Rebillot, AIA
Two-story glass entry is the first view a visitor would have approaching from driveway.

This unusually shaped site of two and a half acres has only 35 feet of frontage on road. To the east and northeast the land rises sharply forty to fifty feet in elevation to ridge line.
Jim and Jean Potter of Madison have designed three houses for themselves. Jim says the main difference in the architect being his own client is that the architect’s wife gets an important voice.

“The excitement of this fourth house,” reports Jean, “is that it is our first house to be designed for adults.” With the children grown up and gone, this house was planned to display the Potters’ varied art collection and to take full benefit of their beloved lake view. Also, there was no need to hurry in its planning.

The narrow lot on Lake Mendota had been in the family for years. It was a challenge, especially for their general contractor, Conserver Homes, Inc. of Middleton. The lot is fifty feet wide, 200 feet deep and drops down nearly 80 feet from street to lake level. Clinging to this steep slope is the new house, thirty feet wide and 95 feet in length. It is designed a bit like a telescope aimed at the lake. From the street one sees a garage facade with a paved U-shaped drive, textured gray roof, and bits of light gray siding and stucco interleaving.
Construction began with removal of necessary trees and use of a large crane to set in place the metal stairway which extends from house to swimming beach. Because of manipulating the construction machinery, the lake end of the house had to be built first, both levels, from footings through the framing and partial covering of the roof. Then equipment was moved up the hill to begin excavating for the street end of the house. Construction crew had to work with "elbows tucked in."

The elongated shape of the house dictated long, narrow rooms within, which was ideal for displaying their art treasures in gallery fashion. A system of concealed lighting as well as spots gives the entire house an interesting change of focus by night when the lake view is no more than a row of tiny lights in the distance.

Upper level of house is the master level—sleeping space and all on one floor. Stairways are wide and could easily accommodate a chair lift if needed. Lower level is designed for visiting children and grandchildren and includes activity and exercise space plus an area for sitting quietly around a fireplace.

Jean Potter spent months checking out materials, appliances and equipment so that everything necessary could fit in to these spaces in a convenient manner. Stacked laundry appliances were used to leave a vertical space for drying swimsuits. Potter is pleased with the efficiency of the air to air heat exchanger which provides air conditioning and hot water from what would otherwise be waste heat.

*Photography: Jean Potter and James Potter, AIA*
Digging near underground power lines, gas pipelines and other utilities can be deadly. Before you dig, uncover the facts. If you are digging in Wisconsin, call Diggers Hotline at least 3 days before digging.

1-800-242-8511 Toll-Free
259-1181 Milwaukee Area
1-800-542-2289 TDD number for hearing impaired

State law requires you to notify owners and operators of underground facilities at least three working days before you dig. One call to Diggers Hotline alerts most major Wisconsin utilities. If there are utility lines under the site you specify, the company will mark their locations for you. Save this ad. It’s one you can live with.

Simple, elegant, distinctive.

THE MANISTEE BENCH

The new Manistee Bench invites use, and can withstand it because of the heavy duty welded frame and panel construction.

The back and seat curve gently to provide elegant, comfortable support. The selection of either metal grid or perforated seat panels gives you a choice in appearance and texture.

Electrostatically applied powdercoat colors provide a beautiful, long lasting finish.

Made in the USA.

CALL AN ADVERTISER FIRST

Glass

WISCONSIN SOLAR DESIGN
414-444-1639 608-831-2112

Wisconsin Architect May/June 1990
The Boerner Botanical Gardens Competition

House and Garden: An Assessment of the Boerner Botanical Gardens Competition

As the number and publicity of architectural competitions grows, so too does the controversy surrounding them. Voices grow increasingly impassioned because the issues raised by design competitions are central to practice: professional integrity, fair market dynamics and proper compensation for services. On one side of the debate are often the well-established firms for whom competing means relinquishing a hard-earned secure market position. On the other side is the fledgling architect or the small young firm, both with high design ambitions and for whom competitions represent an opportunity to build a reputation. They offer a means of gaining larger, more prestigious commissions without having to depend as fully on a long history of built work.

There is, however, another more elusive participant in the debate which might loosely, and for lack of a better term, be described as the "culture" of architecture. This culture includes the profession, as it does us more idealistic souls in academia; it includes the interested public, clients and patrons. A healthy architectural culture promotes the dissemination of ideas, discourse and sometimes heated exchange. To the extent that competitions foster an open display of architectural ideas and methods, both the profession and the public are benefitted. Architects should be fairly compensated for their work. To that end future competitions should be more carefully funded and managed. But to the extent that design competition forces architects to clarify their intentions, to stretch their abilities, then, to that extent, the culture of architecture is well-served.

The Boerner Botanical Gardens Competition

During the winter of 1988-89 the Friends of the Boerner Botanical Gardens staged a competition for the design of a new administrative building. The grounds of Boerner consist of beautifully designed and...
curated formal gardens set within a larger landscape park of informal paths among selected three groupings (fig. 1). The gardens were begun in 1932. They were designed according to the landscape philosophy of Alfred L. Boerner, then Milwaukee County landscape architect, and built with WPA labor during the years of the Depression. Emphasizing the beauty, educational and spiritual value of nature the gardens have remained one of Milwaukee's cultural gems since their inception. Their quality in many ways surpasses many of the similar facilities of larger metropolitan areas.

The competition drew a great deal of interest from the architectural community of Milwaukee. It was certain that this kind of public building in this kind of setting offered a rare opportunity indeed. The five firms that ultimately entered the competition had a difficult task. In addition to solving the functional requirements of a new administrative building, there were three complex issues of a less quantifiable nature that needed to be addressed in the siting and design of the new building: the issue of scale and context, the issue of access and orientation, and the issue of the relationship between architecture and landscape.

Scale and Context
The existing administrative building is of historical and architectural significance. It was designed by George Spinti, a local architect, in 1935 and was intended to invoke the building traditions of rural Wisconsin. The interior features hand-hewn oak beams and carved mantel and furnishings. The stone facing of the building is of special interest as it consists of a variety of glacial boulders of differing color and composition. The boulders were hand cut by WPA workers from the terminal and lateral morains of southeastern Wisconsin.

The building contains about 1600 square feet divided between a meeting room, two small offices and a gift shop. The new program calls for about 14,000 net square feet and includes a large exhibit/lecture hall, classroom, a library, expanded offices and gift shop, a new conference room and a cafeteria with outdoor eating area. Thus the building being proposed is roughly nine times that of the existing facility. How one connects or relates to an older building of such intimate scale and crafted materials with a new building nine times larger that has a long-span hall as its dominant feature becomes an intriguing issue.

Access and Orientation
A second problem confronting the participants in the competition are the somewhat confusing and unceremonial arrival and entry conditions of the existing facilities. The access drive comes upon the gardens from the side, and the unassuming nature of the administration building makes one uncertain of where to go. Moreover, the formal gardens enter to one side of the building where there is little indication of what lies beyond. Without the signboard and utilitarian handrail the visitor would have little sense of having just arrived at the “garden gate.” Therefore, the siting of the new building with expanded parking and bus drop-off necessitated addressing the issue of entry, orientation and arrival place-making.

Architecture and Landscape
Finally, and perhaps most essentially, the Boerner competition raises the issue of the relationship between building and nature, architecture and landscape. The history of garden architecture and landscape design is long and prosaic. For some theoreticians the very definition of architecture as a human activity involves an innate desire to order and, therefore, to “dwell” in the landscape. As a way of defining the issue, one might discern four broad characterizations of the possible relationship between architecture and landscape.

- **Opposition:** In this case a deliberate dialectic is established between the building and the landscape in which it is situated. A building such as LeCorbusier's Villa Savoye can be imagined to have descended upon its site. The contrast between the two may heighten the awareness of both, but there is no attempt at relatedness.

- **Dominance:** The building may be situated in such a way, or the landscape conceived in such a way, that there is a clear hierarchical dominance of architecture over landscape. This is certainly the attitude of the great French formal gardens of André Le Notre such as at Versailles or Vaux-le-Vicomte. As a thematic variation, the Georgian manor house, with its source in Palladio and its early American descendents, is a less formal illustration of the dominance of architecture over landscape.
• Incidental: The opposite of dominance, an incidental relationship can be characterized by subservience of the architecture to the landscape. One thinks of the tradition of the English Picturesque or of the traditional Japanese garden in which the buildings often appear as isolated episodes within the stylized nature of the landscape. The architecture is part of the garden.

• Reciprocity: In this case a dialogue is established between house and garden. The architecture might engage the landscape in any one of a number of ways. Building wings may extend outward to "hold" a garden terrace. The building itself may be conceived as an "edge" to help define and give shape to the garden. There may be a total formal interdependence of one upon the other, as in the never completed Villa Madama by Raphael, or Greywalls by Sir Edwin Lutyens nearly four hundred years later. A concern for reciprocity between building and landscape in American architecture can make for strange bedfellows. It is a theme, for example, shared by both Michael Graves and Frank Lloyd Wright. In these cases the building and the garden may be said to "complete" each other.

The Projects
As with most design competitions, the effort of all the competitors exceeded expectations (and, I suspect, remuneration) by a large margin. One of the advantages of the process for the clients is the examination of a wide variety of solutions. Often, unexpected possibilities emerge, awareness of the role of architecture is heightened, and priorities are clarified. It is a process of edification that is beneficial for architecture. It is beyond the scope of this article to present a detailed analysis of the five proposals. The following paragraphs will, however, attempt to summarize the design approach revealed in the presentations. The views presented are my own and do not necessarily reflect the deliberations of the client and judges.

BHS Architects, Inc.
The concept underlying the site planning strategy of BHS's proposal may be described as that of the "campus." The new building is placed to the north and west of the existing building in the area that currently includes a portion
of the parking and lilac and tulip collections. The access road is reconfigured and new parking added, forming a more direct and formal entry auto court. Though the buildings are physically disconnected, the entrance court acts to organize the various entries much like a campus quadrangle. The relationship to the gardens might be described as "incidental." The new building presents a terrace to the south centered on and extending the cross-axis of the perennial garden. The building plan developed from an extensive functional analysis. Special functions are distributed in pavilions around the large central exhibit hall. The planning is efficient, but results in relatively massive building which the architects then attempt to offset by telescoping the gables of the pavilions. Thus, the site is transformed into a composition of independent buildings and garden elements related formally by open greens.

Schroeder Piwoni, Inc.
Caren Connolly, Landscape Architect
Larry Witzling, AIA, Planner

This team of designers presents what is perhaps the most direct example of reciprocity between building and gardens. The proposal establishes the new building as a north edge to the formal garden. The addition extends as a narrow bar west from the existing building terminating in the exhibit hall. Not only would the gardens have a new architectural backdrop in this wall-like building; but new garden terrace is created between the old building and the exhibit hall. A small aspe-like terrace to the west of the hall extends the concept of reciprocity further by offering a connection to the rose garden. The linearity of the new building results in difficult conditions and entry and circulation, but the site strategy is well-conceived and would most likely have enhanced the experience of the formal gardens.
Hammel Green and Abrahamson, Inc.

In their elegantly executed line drawings, the firm of HGA comes close to capturing the charm and intimacy of the existing architecture. The new building is placed just north and west of the existing garden center. By virtue of an ingenious canting of the plan, the existing building is perceptually connected to courtyard composition of the new building. The courtyard is configured as a dimunutively scaled outdoor room. The design attempts a difficult combination of two formal types: the inward-oriented courtyard type and the outward garden-oriented villa type. The development of the villa type during the later Italian Renaissance illustrates a gradual replacement of the urban courtyard by a plan that opens up and extends out to the gardens beyond. HGA tries to have it both ways. A south-facing terrace is proposed that forms an extension of the perennial garden. The attempt to relate the courtyard to the terrace causes difficulties of function and movement. The architects should be commended, however, for achieving a rare spirit in their work. Their proposal emits a sense of reality, of place, scale and detail that captures the essence of the existing historical building.

Kubala Washatko Architects, Inc.

The exquisite watercolor renderings of Kubala Washatko present an ambitious architectural statement. The design invokes the picturesque massing and expressive materials of the architecture of Lutyens. Also like Lutyens, it presents a reciprocity between building and gardens. The plan is skillfully contorted to allow the building to partially shape a series of small outdoor places leading from forecourt to a sunken south-facing terrace that again links the composition to the perennial garden. The complexity of the plan yields a picturesque massing of linked pavilions, bays and gabled volumes. The three-dimensional development is quite remarkable. Not only does the building recall the English country house, but it utilizes the precedent to modulate the potentially burdensome scale of what is a relatively large building program. There are gratuitous features of the design, such as the extra volume of the entrance tower, but these result from the conviction and erudition of these very talented architects.
An unexpected siting is presented by the Zimmerman Design Group who chose to place the building to the east across the access road from the existing facility and formal gardens. As explained by the designers, the siting attempts to capture a new vista through the conifer collection. The design would thereby elevate the more natural park-like area of the gardens that might otherwise be overlooked by the casual visitor.

The building sits atop a rise in the landscape and opens up to a central terrace with a commanding view down the long green to the south. The relationship between architecture and landscape described by this scheme is that of “dominance” within the tradition of the Georgian manor house. The connection to the formal gardens occurs tangentially via a path crossing the road and forming a new east entry to the gardens.

The competition was won by BHS Architects, Inc. Due to the overall quality of all five presentations the debate was lengthy and voting not unanimous. The history of the project through the last year has not been a smooth one, either. The Friends of the Boerner Botanical Gardens have had difficulty meeting original funding projections. Expectations may, unfortunately, need to be reduced accordingly. Whether this design competition, or any other, has resulted in a better architecture than one commissioned privately will undoubtedly remain a subject of controversy. Ideally, one would like to think that competition improves the quality of the built environment. But that is by no means certain. Competitions are likely to increase the interest in architecture though, and that is ultimately healthy for the profession. The Friends of the Boerner Botanical Gardens were presented with ideas and images that helped them to clarify their needs, and that greatly expanded the understanding of the role of both landscape and architecture in giving shape to one another.

EDITOR: The author is an Assistant Professor of Architecture at the University of Wisconsin-Milwaukee.
NAME ONE OTHER DOOR COMPANY THAT LETS YOU STEP OUTSIDE THE ORDINARY.

If you're looking for something a bit unique in a door, look to Marvin. We offer the broadest, most complete line of patio doors on the market today. There are traditional wood and clad wood sliding doors. Terrace doors. Retro doors. Even two French door styles (in-swinging and out-swinging).

Pick one you like and combine it with out sidelites. Or transoms. Or design your own custom divided lite pattern. The possibilities are virtually endless.

With all the design opportunities available, you can design a door that will truly make your projects distinctive.

You can even match the lite pattern you've chosen for your windows and make your entire home that much more unique.

Contact Your Nearest Certified Marvin Door Dealer

<table>
<thead>
<tr>
<th>LAKE GENEVA</th>
<th>COLUMBUS</th>
<th>FREDDONIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>(414) 248-4459</td>
<td>(414) 623-5600</td>
<td>(414) 692-2456</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SHEBOYGAN FALLS</th>
<th>NEW BERLIN</th>
<th>LUXEMBURG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richardson Industries</td>
<td>Meyer Lumber Co.</td>
<td>Van's Lumber &amp; Hardware, Inc.</td>
</tr>
<tr>
<td>(800) 242-7676</td>
<td>(414) 786-7919</td>
<td>(414) 866-2351</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCONOMOWOC</th>
<th>RACINE/KENOSHA</th>
<th>MILWAUKEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christiansen</td>
<td>Brannum Lumber Co.</td>
<td>Burmeister Woodwork Co.</td>
</tr>
<tr>
<td>Building Center</td>
<td>(414) 633-3509</td>
<td>Lisbon Storm, Screen &amp; Door, Inc.</td>
</tr>
<tr>
<td>(414) 367-3011</td>
<td>(414) 445-8899</td>
<td>(414) 425-1141</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MADISON</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Brunsell Lumber Co.</td>
<td>McCormick Lumber &amp; Fuel</td>
<td></td>
</tr>
<tr>
<td>(608) 275-7171</td>
<td></td>
<td>(608) 244-4741</td>
</tr>
</tbody>
</table>
Federal Fair Housing Amendments Act

September, 1988, the Federal Department of Housing and Urban Development enacted regulations to implement changes that were legislated in Title VIII of the Civil Rights Act of 1968 by the Federal Fair Housing Amendments Act of 1988. The Fair Housing Amendments Act expands the coverage of Title VIII to prohibit discriminatory housing practices based on handicap and familial status; establishes an administrative and judicial enforcement mechanism for cases where discriminatory housing practices cannot be resolved informally; and provides for monetary penalties in cases where housing discrimination is found. The Fair Housing Amendments Act also establishes design and construction requirements for new multi-family dwellings containing four or more living units and which will have first occupancy on or after March 13, 1991. This has been interpreted to mean that buildings for which a permit is issued after January 13, 1990 must comply with the federal requirements.

Section 100.205, Design and Construction Requirements, of the Fair Housing Amendments Act requires that all covered multi-family dwellings have at least one accessible entrance and that the dwellings be designed for usability by persons with disabilities. Some of these requirements may differ from Wisconsin’s current requirements for multi-family dwellings.

Even though states are not required to change their regulations, the Fair Housing Amendments Act encourages states to include in their regulations procedures for determining whether the design and construction of multi-family dwellings are consistent with the Fair Housing Amendments Act.

The Safety and Buildings Division’s Committee on Barrier-Free Design is looking at revisions to the building code. However, the state code will not be changed until the Department of HUD releases the design guidelines now being developed by a special Task Force. The Division wants to insure consistency with the federal guidelines.

The following are answers to some of the more frequently asked questions about the Federal Fair Housing Amendments Act:

**What types of buildings will be affected by the regulation covering design and construction requirements for accessibility for people with physical handicaps? What facilities will be exempt?**

This regulation applies to “covered multifamily dwellings,” both privately and publicly owned. This means an entire building having four or more dwelling units if the building has one or more elevators and ground floor dwelling units in non-elevator buildings consisting of four or more dwelling units.

Two-story townhouses, where the units do not have elevators and the individual dwelling unit is not located all on one floor level, would be exempt from the Fair Housing Act’s design and construction requirements.

The Fair Housing Act prohibits discrimination because of familial status. However, the Act exempts “housing for older persons” from the prohibitions against discrimination because of familial status. The purpose of the prohibitions against discrimination because of familial status and the housing for older persons exemption is to protect families with children from discrimination in housing, without unfairly limiting housing choices for the elderly.

The federal statutory definition of “housing for older persons” comprises three categories of housing: 1) Housing provided under any State or Federal program that the Secretary of HUD determines is specifically designed and operated to assist elderly persons; 2) Housing intended for, and solely occupied by persons 62 years of age or older; and 3) Housing intended for, and occupied by, at least one person 55 years of age or older per unit, provided that various other criteria are met.

**Where can a person obtain a copy of the Federal Fair Housing Act, including interpretations?**


**Will HUD be issuing design specifications?**

Currently HUD is working on the development of accessibility guidelines to provide additional guidance to designers and developers of residential structures, and to the public, concerning the requirements of the Fair Housing Act as it relates to accessibility of dwellings for use by handicapped persons.
persons. These proposed guidelines are currently at the Office of Management and Budget for review and the public will probably have 30 to 60 days to comment when these proposed guidelines are published in the Federal Register. No estimated date for publication in the Federal Register has been determined.

**Will each entrance to the four-unit section in a garden-type apartment need to be accessible? Or, is this considered one building and only one entrance will be required to be accessible?**

At least one entrance to each four-unit dwelling unit section is required to be accessible and on an accessible route, unless the builder verifies to HUD that the building cannot be made accessible due to the terrain or unusual site conditions.

**If an apartment building has two ground floors, will both floors be required to be accessible?**

If a covered building in fact has more than one floor with a building entrance on an accessible route, then the rule requires that the dwelling units on each floor with an accessible building entrance satisfy the Act’s accessibility requirements.

**If an apartment building provides underground parking and outside parking, will both types of parking facilities be required to be accessible? If underground parking is provided, will interior circulation (elevators) be required?**

The definition of the common use areas in the regulations is a close adaptation of the definition of common use areas in ANSI A117.1 1986. Since the Act makes specific reference to ANSI, the Department believes that Congress intended that the ANSI definition apply. The House Report states that the Act’s requirement that the public and common use portions of covered multifamily dwellings be readily accessible to and usable by handicapped persons “means that hallways, lounges, lobbies, passageways among and between buildings and other common areas and facilities not contain barriers to entrance and use by handicapped persons.”

In accordance with the Fair Housing Act the definition of “common use” under s. 100.201 means rooms, spaces, or elements inside or outside of a building that are made available for the use of a building by residents of an apartment building or the guests of such residents or occupants. From this definition, both the underground parking and exterior parking would appear to be required to be accessible. If underground parking is provided, the parking must be “readily accessible to and usable by handicapped persons.”

In accordance with the definition of “accessible,“ when used with respect to the public and common use areas of a building containing covered multifamily dwellings, means common use areas of the building can be approached, entered and used by individuals with physical handicaps. This would appear to require an accessible means of vertical transportation between the parking garage and the dwelling unit floors. (i.e. elevators, interior ramps or approved lifts). However, further clarification is anticipated by HUD through the design and construction guidelines.

**Would condominiums as defined in s.703.02 (5), Stats. be considered as a covered dwelling in the Federal Fair Housing Act?**

Yes and no. Although condominiums are multifamily dwellings with individual ownership, the Fair Housing Act does not exempt condominiums if the building meets the “covered multifamily dwelling” definition.

**Would the exemption for parking and grade level entrances as specified under s.101.13, Stats., apply to condominiums meeting the definition of “covered multifamily dwellings”?**

No. Since the federal regulations are more restrictive than the state legislation, compliance with the federal regulation would be required.

**In a dwelling unit in a covered multifamily building may one room within the dwelling unit be raised or depressed one step down to a living room?**

In accordance with the design and construction requirements “an accessible route shall be provided into and through the covered dwelling unit.” Therefore a ramp or other means of accessibility between the floor levels would seem to be required.

*EDITOR: Information contained in this article was taken from the January and February issues of Wisconsin Building Codes Report published by the Safety and Building Division of DILHR.*
a financing, funding and rebate program to encourage energy-efficient commercial & industrial facilities design.

Financing at prime rate to implement the most energy-efficient options during construction.

Funding for 50% (up to $2,500) of engineering costs for the study of alternate, more energy-efficient options.

Rebates (maximum $75,000) for the implementation of the most energy-efficient options.

PLUS the long term savings accrued due to lower energy costs generated by state-of-the-art technologies.

Eligibility... All existing retail gas or electric commercial and industrial customers of WPS and new commercial and industrial customers who are planning or are involved in new construction or upgrading of facilities may qualify for the program.

For a full explanation of the DESIGN INCENTIVES program, call (414) 433-1719 and ask for DESIGN INCENTIVES. Or, write Wisconsin Public Service Corporation, DESIGN INCENTIVES-MARKETING, Dept. 60N, P.O. Box 19001, Green Bay, WI 54307-9001.
You expect hardwood floors and walls to be beautiful. But beauty that endures for generations requires something special. Like the Woods of Woodruff's solid 3/4" thickness and our specially grooved backsides that provide lifetimes of stability and warping protection.

For your next project, consider the Woods of Woodruff. In Ash, Oak or Cherry. You'll discover a superior product that's produced close to home - and is delivered on time.

Please clip and mail our coupon for a free color brochure and/or a sample of the Woods of Woodruff.
A WISCONSIN TRADITION OF QUALITY FOR OVER 80 YEARS

Brick Block Pavers Tile Stone

WISCONSIN BRICK & BLOCK CORPORATION
6399 NESBITT RD MADISON, WI 53719
(608) 845-8636

FREE CAD
MAN & MACHINE - OUR SITE OR YOURS

8 Hours Free CAD Services
• Unequaled CAD Drafting Capabilities
• CAD System Leasing / Sales
• Experienced CAD Operators
• Our Site or Yours

IDAC
Suite 550, 20900 Swenson Dr.
Waukesha, WI 53186
(414) 796-1060

Architects:
When You Write Advertisers . . .
Say That You Saw It In

Wisconsin Architect
It Will Help Us Help You.

Build A Solid Foundation

Exclusive carriers of Design Professionals Insurance Company (DPIC) Plan

Identify liabilities — both insured and uninsured

Review contracts, compare policy provisions, monitor claims

Conduct inhouse loss prevention seminars

Give your business a foundation that's rock solid — that can be built upon for years.

Klipstein
INSURANCE SERVICES, INC.

Call Paul Berta and Tom Dowling
216 N. Midvale Blvd. Madison,
1-800-792-3505, Ext. 268

Landscape Lighting

• Create safe passageways with 12 volt lighting fixtures
• Enhance your designs with a variety of effects
• See the advantages with a free demonstration

Call For FREE Literature 1-800-541-7450
Virtual Reality

Even the name sounds bizarre—virtual reality.

Compared to the physical reality perceived by our senses, virtual reality is perception created by computer. Now in its early stages, scientists speculate it may one day change the way medical students are taught surgical procedures; enhance our understanding of the interaction between molecules; and profoundly influence the way architects design buildings.

For architects, virtual reality means direct interaction between design and designer. Some architects now use computer technology to take clients on a walking tour through a realistic three-dimensional image of a building. Seated in front of a computer screen, they "walk" from room to room, studying the effects of window placement and assessing the desirability of room locations.

The virtual building can also be placed in the midst of a virtual streetscape, giving the client a curbside view of the finished product.

"Virtual reality improves the ability to visualize and to begin to experience what designed space will look and feel like," says Steve Selkowitz, who has been working with the technology as a researcher at the Lawrence Berkeley Laboratory in Berkeley, Calif. "Long before the concrete is poured, the future occupant can determine if the space meets the needs for which it is designed."

In the future, architects will slip on a computerized glove that allows them to "reach" into the on-screen image to reposition doors, windows and walls.

VPL Research in California manufactures the DataGlove, the DataSuite (a full-body extension of the DataGlove capability) and virtual reality goggles known as EyePhones. The goggles immerse the user in virtual reality by replacing visual input with tiny screens that display images in color and 3-D. The image for each eye is controlled by a separate computer, which tracks head movement and makes appropriate adjustments to the highly realistic image.

Computerized clothing enables the user to interact with the virtual world before his eyes—tossing a touchdown pass in a fantasy Super Bowl game, for example. Provide a computer link between user and robot, and it is possible to handle dangerous chemicals or clean up nuclear waste by remote control.

While virtual reality technology offers boundless potential, it is also expensive. A VPL package retails for about $130,000 for a single user. It may be some time before users can don EyePhones and DataSuits and walk into their favorite arcade game.

 Nonetheless, NASA is conducting extensive investigations of the technology that may soon provide astronauts-in-training with the "feel" of jetpack flight and give medical students experience operating on virtual appendectomies.

The various forms of virtual reality on the market today are possible due to computer chips that can store billions of calculations necessary to create three-dimensional figures. One of the best-known examples of 3-D computer output is the Academy Award-winning short subject "Tin Toy," a film generated entirely by computer. Each image took 12 trillion calculations to create.

At this rate, can virtual reality arcade games be far behind?
WSA Design Awards

Congratulations to the award-winning architects, owners and contractors involved in the eight projects selected to receive 1990 WSA Honor and Merit Awards.

WSA Honor Awards were captured by the following four projects: McClain Athletic Facility, Madison, Bowen Williamson Zimmermann Architects, Madison; Majorie/Garcon, Bayshore Mall, Glendale, JVOS Architects, Milwaukee; The Inn at Pine Terrace, Oconomowoc, Kubala Washatko Architects, Inc., Cedarburg, and the Zimmerman Design Group, Milwaukee; and Riversite, Mequon, Kubala Washatko Architects, Inc., Cedarburg.


These award-winning projects were selected among 76 projects submitted by WSA members from throughout the state. The Design Awards jury for 1990 included Deborah Dietsch, Washington, DC, Editor-in-Chief of Architecture magazine; Milo Thompson, FAIA, Minneapolis, partner with Bentz/Thompson/Rietow, Inc.; and Kate Diamond, AIA, Los Angeles, partner with Siegel Diamond Architects.

Presentation boards of the winning projects were on display at the 1990 WSA Convention in Oconomowoc in May. The awards were presented to the architects, owners and contractors at the WSA Honor Awards Banquet held in conjunction with the WSA Convention. Perry K. Neubauer, AIA, president of The Architects Collaborative in Cambridge was the featured banquet speaker.

The award-winning projects will be featured in the July/August issue of Wisconsin Architect. Also look for them in the July issue of Architecture.

Firewall Signs

As introduced, Assembly Bill 576 would have required interior fire division and separation walls in new buildings of three stories or less to be identified by an 8" x 12" sign on the exterior of the building. This proposal was sponsored by a number of state legislators and supported by the State Fire Chiefs Association.

The WSA testified in opposition to the legislation at a public hearing before the Assembly Labor Committee. We addressed a number of concerns with the proposal, including the following:

- Technical building code-type provisions like those contained in AB 576 should be carefully formulated and reviewed as part of the traditional administrative rule-making process that provides for broad public and professional input.
- Existing state code provisions having to do with fire prevention, suppression, detection and containment generally meet or exceed established model code requirements.
- Provisions similar to those proposed by AB 576 have not been adopted anywhere else in the country.
- Present rules for four-hour rated fire division walls already make these walls readily identifiable by fire service personnel.
- With the complexity of today's buildings, vertical fire separation walls and vertical fire division walls often follow irregular paths which, therefore, can make signs identifying where these interior walls meet the exterior wall useless.
- An alternative to firewall signs is to encourage fire departments to develop pre-fire plans in cooperation with building owners and architects.

Fortunately, thanks to WSA Legislative Minutemen contacting members of the Assembly Labor Committee, AB 576 didn't get out of committee and died when the Legislature adjourned for the session. However, key proponents of the proposal, State Representatives E. James Ludwig, Cloyd Porter and David Lepak, have asked DILHR Secretary Gerald Whitburn to establish a code advisory committee to review the issue.

If you would like additional information about firewall identification signs, contact the WSA office.

Annual Golf Outing

Cancel all of your appointments for June 25, 1990! That's the date for the WSA's 17th Annual Architect-Exhibitor Golf Outing. This special event is for WSA members and suppliers who exhibited at the 1990 WSA Convention.

This year's Golf Outing will be held at Old Hickory in Beaver Dam, Wisconsin. For more information, please contact Karen Linley at the WSA office.
VTAE Drafting Competition

Winners of the 1990 VTAE Drafting Competition sponsored by the WSA included the following students: Paul Alan Perez, MATC, First Place; Rebecca Dostal, WITC, Second Place; and Richelle Zwiefelhofer, WITC, Third Place. The following students received Honorable Mentions in this year’s competition: Lisa Schneider, MATC; Brandon J. Cooper, NWTC; Michael A. Zagar, MATC; and Lynn Nielson, WITC. A total of 55 students from three VTAE Districts submitted drawings this year.

The WSA established this annual drafting competition for students enrolled in architectural and civil structural drafting courses in Wisconsin's VTAE system. The goals of the competition are to open the lines of communication between WSA members and other groups and individuals involved in the planning of the built environment and to encourage excellence in technical training. The requirements of the competition are left open so the instructors and students can determine the information to be presented on the entry.

The winning entries were displayed on the exhibit floor at the 1990 WSA Convention. Thanks are in order for Jim Schlueter, AIA, who coordinated the competition again this year, and the jurors...Kevin Connolly, AIA, Bernard Albert and Dan Parsons.

Building Codes

Southeast Chapter/WSA members Mark F. Pfaller, II, AIA, Pamela Doucette, AIA, and Steven Halmo, AIA, have been instrumental in establishing the Code Advisory Association of Southeastern Wisconsin (CAASW).

The purpose of CAASW is to channel communication between code enforcers and code users in order to achieve consistency in interpretation and use. The group meets at 8:30 a.m. on the first Thursday of every month in the 9th floor conference room of the Milwaukee Municipal Building, 841 N. Broadway.

CAASW has begun to publish a newsletter, The Code Connection, which will come out six times per year. The initial issue covered proposed changes to the HVAC code, material approval procedures at DILHR, rules covering shopping mall tenant space alterations, the proposed uniform multi-family building code, Milwaukee occupancy certificate changes and other code issues of importance.

If you would like to receive a copy of the CAASW newsletter, please contact the WSA office. The codes group presently is supported by the WSA, AGC and the City of Milwaukee Department of Building Inspection, but is looking for additional funding.

Statute of Limitations

The WSA-supported legislative proposal for a new statute of limitations for the design and construction industry in Wisconsin, Senate Bill 34, never got out of the Senate Judiciary and Consumer Affairs Committee. As a result, this legislation will be reintroduced next January at the start of the next session of the Wisconsin Legislature.

WSA and AGC representatives met with State Senator Lynn Adelman, Chair of the Senate Judiciary Committee, to discuss his concerns with SB 34. Working with the coalition of organizations supporting this legislation, the WSA is responding to each of the issues raised by Senator Adelman.

It is hoped that many of the legislative questions about this statute of limitations legislation will be resolved so that our proposal can be approved and signed into law as quickly as possible at the start of the next session of the Legislature. In the meantime, if you have questions, please contact the WSA office. Also, talk about this issue with candidates as they campaign for next fall's legislative elections.

Attention Please!

The WSA publishes an annual Membership Directory in the January/February issue of Wisconsin Architect. Every effort is made to spell names correctly and to include the most up-to-date firm and mailing address information.

Believe it or not, WSA staff do make mistakes occasionally...and they want to hear about it. The following members let us know about their incorrect listings. Please correct your directory to reflect the following information:

Risley, Bruce P., AIA - SE
Kahler Slater Torphy Architects
733 North Van Buren
Milwaukee, WI 53202
(414) 271-5781

Risley, Kathleen A. - SE
The Lake Group
3717 North Morris Blvd.
Shorewood, WI 53211
(414) 276-8877

Squires, Donald C. - SE
2903 Fleetwood Drive
Racine, WI 53403
(414) 554-6937

Bruce Risley is now an AIA member, Kathleen Risley is an Associate member, and Donald Squires is a Professional Affiliate member. We regret the errors.

If you move, change jobs or just want your WSA mail sent to a different address, please contact the WSA office.
**Lillian S. Leenhouts**

Lillian S. Leenhouts, FAIA, the first woman to become a registered architect in Wisconsin, died of a heart attack in February in Milwaukee. As an architect practicing for over forty years in the Milwaukee area, Lillian exerted a profound impact upon Wisconsin architecture, the quality of the physical environment in the Milwaukee area and architectural education in this state.

At 78, she was still deeply involved in designing and seeking support for innovative housing ideas with her architectural partner and husband, Willis Leenhouts, FAIA. The concept, which she called multigenerational housing, would accommodate a mix of old and young low-income residents.

Lillian had a distinguished professional career and was considered a pioneer in the field of energy-conscious design. Her efforts through various state and local government agencies to improve the nature of design in this state are well recognized. The continued excellence of the Leenhouts' practice and their commitment to Wisconsin, the public and public service have attracted considerable attention, including a major exhibition of their work at the UWM Art Museum and Art History Gallery and a “Life Contribution to Architecture in Wisconsin” award from the Milwaukee Art Museum.

Lillian and Willis were advanced to the AIA College of Fellows together in 1975. They also were instrumental in establishing a School of Architecture in Wisconsin and remained committed to supporting the architectural program at UWM. Last spring, Lillian was awarded an honorary doctorate of humanities by UWM in recognition of her contributions to the profession and the School Architecture and Urban Planning. The School hopes to establish an annual “Lillian Leenhouts Scholarship.”

Lillian will be missed by her many friends and colleagues. Her many contributions on behalf of the profession and the WSA, however, will remain as a lasting tribute to her career.

**Carl H. Gausewitz**

Carl Gausewitz, AIA, died in March in Ohio at the age of 70 after suffering from heart disease for many years.

Carl received a Bachelor of Science degree in Architectural Engineering from the University of Illinois in 1947. He began his own architectural and engineering firm in 1950. Joined by Robert Cashin in 1953, the partnership of Gausewitz & Cashin grew to a 22-person firm and completed such projects as the student unions at UW-Whitewater and UW-Platteville, numerous public and private schools in the Monona/Madison area, churches, libraries and student housing. He also designed many innovative active and passive solar, super-insulated earth buildings.

He authored numerous publications on design while at the UW Facilities Research Center and was head of the Department of Architecture for pre-architecture courses at UW-Platteville, where he was named a Professor Emeritus in 1984.

Through his practice, teaching and community involvement, Carl Gausewitz made significant contributions to the architectural profession and the quality of life in Wisconsin. His career touched many lives and influenced many architects in practice today, including his son Herbert G. Gausewitz, AIA, Monana.

**Ralph H. Kloppenburg**

Prominent and respected Milwaukee architect Ralph Kloppenburg, FAIA, Fox Point, died in March at the age of 83.

Ralph began practicing architecture in Milwaukee in 1928. In 1959, he formed the partnership of Kloppenburg and Kloppenburg Architects with his son, the late Jack R. Kloppenburg. He graduated from the University of Illinois with a Bachelor of Science degree in Architecture in 1926.

Ralph Kloppenburg was president of the Wisconsin Society of Architects in 1945-47, served on the Wisconsin Architects Registration Board, held senior records with the National Council of Architectural Registration Board and was on the Board of Trustees of the Wisconsin Architects Foundation from 1964 to 1970.

In recognition of his many contributions to architecture and the architectural profession, Ralph was advanced to the AIA College of Fellows in 1962.

His architectural work includes many residential, commercial and public projects in the Milwaukee area, such as the Weyenberg Library, University School, Mayflower Church, St. Christopher’s Episcopal Church and Klode Park. He perhaps was best known for his many fine traditional homes throughout the
Milwaukee area that characterized his particular attention to architectural detail, quality and scale.

The architectural profession benefited greatly from Ralph Kloppenburg's leadership and commitment to excellence. Ralph will be missed by his wife and family and his many friends and colleagues in the profession.

People & Places
Hall M. Smith, AIA, Milwaukee, and Henry J. Miles, AIA, New London, have both recently become Emeritus members. Congratulations!

The following WSA members were discovered in a recently published directory of national AIA committee members: Mike Vander Werff, AIA, Appleton, Chair, AIA Membership Committee; Mark A. Pfaller, FAIA, Elm Grove, Chair, AIA Documents Committee; David E. Lawson, FAIA, Madison, Co-Chair, AIA Government Affairs Advisory Committee, and Secretary/Treasurer, National Architectural Accrediting Board; Bob Greenstreet, Milwaukee, Secretary, Association of Collegiate Schools of Architecture; Lee Jensen, AIA, Milwaukee, AIA Building Performance and Regulation Liaison Committee; Emma Macari, AIA, Madison, AIA Women in Architecture Committee; and Arlan Kay, AIA, Wisconsin IDP State Coordinator. These folks know how to get involved and make a difference at the national level on behalf of WSA members.

John Fatica, AIA, has joined Plunkett Keymar Reginato Architects, Milwaukee, as a project architect. John has 20 years of experience and has worked extensively with medical client groups.

Associate member Lucy Nkuo, Madison, has joined the staff of Potter Design Group, Inc. Lucy is an architecture graduate from the University of Southern California and worked previously with Robert Ricciardi, AIA, in Palm Springs.

The School of Architecture at the University of Illinois at Urbana-Champaign is sponsoring three two-week sessions for high school students interested in careers in architecture. The program is called Atelier 1990 and costs $765 per session. For information, contact Professor Arthur Kaha at (217) 333-7720.

Membership Action
Please welcome the following new AIA members:

- Dziuba, John A., Southwest Chapter
- Ake, Thomas E., Southeast Chapter
- LeCompte, Peter R., Northeast Chapter
- Helt, Rodney, Southwest Chapter (Advanced from Associate)
- Johnson, Richard R., Northwest Chapter
- Kosielnik, David J., Southeast Chapter
- Bond, Tacitus W., Southeast Chapter
- Norman, John J., Southeast Chapter
- Schraufnagel, Stephen G., Northwest Chapter (Advanced from Associate)
- Davies, John W. Todd, Southeast Chapter
- Gallagher, John C., Southeast Chapter
- Risley, Bruce, Southeast Chapter (Advanced from Associate)

Meiklejohn, III, Thomas W., Northeast Chapter
Krummel, David W., Southeast Chapter
Lonsky, Debra, Southwest Chapter
Arndt, Mark C., Southeast Chapter
Everts, Michael P., Southeast Chapter

The following new WSA members have been approved for Associate membership:

- McDonald, Jerry, Southeast Chapter
- Nkuo, Lucy, Southwest Chapter
- Mueller, Dean G., Southwest Chapter
- St. Aubin, Lee James, Northeast Chapter
- Anderson, Kevin L., Southwest Chapter
- Martin, Terry R., Southeast Chapter
- Antonopolous, Anthony, Southeast Chapter
- Kubesh, Renne A., Southeast Chapter
- Dick, Neil A., Northeast Chapter
- Schuller, Joseph, Southeast Chapter

- Davies, John W. Todd, Southwest Chapter
- Gallagher, John C., Southeast Chapter
- Risley, Bruce, Southeast Chapter (Advanced from Associate)
BEFORE YOU BUILD, CALL TCT FOR SOME CONSTRUCTIVE CRITICISM.

To make sure your next project opens to rave reviews, choose Twin City Testing to be your consulting engineering firm. Call us to find out how our consulting engineering services — and renowned testing lab — can help you build better.

TWIN CITY TESTING
Milwaukee: (414) 258-0111 FAX (414) 258-1640
Wausau: (715) 845-4100 FAX (715) 842-0381

Enhance with Tile From Butler Tile Sales

While IAC ceramic tile is priced comparably to most higher grades of vinyl, carpet and wood, it’s far more durable, and a lot less trouble. There’s no stripping, waxing, sealing, or buffing — ever. And because it’s made by IAC, it resists stains, acids and other corrosive substances. In fact, IAC has more than three times the abrasion resistance of current industry standards — as well as nearly twice the breaking strength and almost five times the bonding strength of standard tile.

Tile of Distinction Ceramic Tile Showroom

- Serving Wisconsin builders, architects, and interior designers for 35 years
- Hundreds of samples on display
- Experienced design consultants available to assist you
- Fast delivery of hundreds of different tiles from our warehouse

746 N. 109th St., Milwaukee, WI 53226 • 414-476-0970
toll free 1-800-242-0847

1987
A201:
Use it or lose it in court.
Replace your office inventory of A201, the General Conditions, immediately. Many AIA Documents cross-reference A201 as the current edition, so even if you are using a 1970s version of B141, the Owner-Architect Agreement, the 1987 version of A201 applies.
Mixing and matching editions may result in chaos on the job-site and will probably increase your liability exposure.

Before you sign your next contract . . .
Significant changes have been made to many AIA Documents to further clarify roles and responsibilities, to provide remedies for nonpayment, and to require proper credit and recognition of the architect’s contribution.

Before you sign your next contract, you need to know what revisions have been made and what they mean to your relationships with owners and contractors.

Now you can get the credit you deserve.
The new editions of AIA Documents B141 and B151 (Owner-Architect Agreements) contain provisions which clarify copyright protection and ownership of the architect’s drawings. It is also required that the architect be given credit in the public media for the architect’s work.

For more information on the AIA Documents, call:

Wisconsin Society of Architects
1-800-ARCHITECT
In Madison: 257-8477
"I have built in Wisconsin for over 30 years. I know what I like and what works. On the Silvernail Woods Office Park, for example, I demanded the best building products available. I made it my showcase and I put my offices there. I used precast concrete for the structure and again on the exterior because I believe it to be the building system of the future. And, of course, I chose Spancrete."

Bryce Styza

Spancrete offers one of the more practical, versatile and economical building systems used today: PRECAST, PRESTRESSED CONCRETE.

Precast concrete buildings by Spancrete are structurally sound, aesthetically pleasing, require little maintenance, and retain high resale value. Plus, Spancrete is erected fast — in all weather conditions.

To learn how Spancrete’s precast concrete building products can be designed into your next project, call your nearest Spancrete producer. You will agree, Spancrete is A BETTER WAY TO BUILD.
Marvin Windows enhances its Computer Aided Design Program with the introduction of CAD Version 10.0. The new software reduces the labor involved in drawing and detailing windows and doors to just a few keystrokes. An array of routines create and insert standard size symbols in floor plan and elevation. Together with an architectural detail and specification manual on computer disc, the new software gives architects more time to spend on their designs. The program includes a "Special Sizes" sub-routine and is designed to work in conjunction with AutoCAD.

For more information, contact: Builders World, P.O. Box 881, Waukesha, WI 53187 414-542-8883.

Introducing E-Z Wall Systems: Simple, easy to handle one-piece units for retaining walls and decorative landscaping. Units have an automatic 3/4" setback and are available in earth-tone colors to complement any landscape setting.

For more information, contact: Rockwood Retaining Wall Systems, Inc., 7200 N. Hwy. 63, Rochester, MN 800-535-2375 or Beaver Dam, WI 800-248-7456.
DOLAN & DUSTIN, INC.
CONSULTING ENGINEERS
2266 N. PROSPECT AVENUE
MILWAUKEE, WIS. 53202
(414) 276-5502
Electrical Power • Primary & Secondary Distribution
Lighting Design • Security & Communications Systems
Grounding • Emergency Generation • Uninterruptible Power
George E. Dolan, PE
Roger A. Nass, PE
Gerald E. Braun, PE
Richard Gumpert, PE
Charles E. Mullikin, PE

FJA CHRISTIANSEN
ROOFING CO., INC.
Milwaukee, Wisconsin
LET US SHARE OUR ROOFING EXPERIENCE WITH YOU
Project Review • Job Site Investigations • Budget Pricing
Scott K. Christiansen 414-445-4141 FAX 414-449-4748

BERT FREDERICKSEN, INC.
CONSULTING ENGINEERS
3345 North 124th Street
Milwaukee, Wisconsin 53222-3195
TELEPHONE: 781-9070 (414)
HEATING • VENTILATING • AIR CONDITIONING

COMPLETE PLASTER SERVICE
ENERGY EFFICIENT & DECORATIVE STUCCO
INSULATION SYSTEMS
• Dryvit • Insul Crete
• Residential, Commercial, Industrial
• New & Existing Construction
BOLLIG LATHING & PLASTERING COMPANY, INC.
6001 Femrite Dr., Madison, WI 53704 608-222-2922

Meeting Room AV Systems Design
Want more help when you design meeting rooms? Call Mr. Flint Bridge at Wisconsin’s most experienced installer of audio-visual, video and computer systems.
Midwest Visual Equipment Co. (414) 784-5880

Rent this Space
Call: Nancy Baxter
608-257-8477

"Black & White Murals "8x10 Glossy Repros
"We Reproduce Blueprints or Masters For Making Blueprints

PHOTOCOPY
104 East Mason St. Milwaukee, Wisconsin 53202
For Service ... CALL: 1-(414)-272-1255

LA FORCE
CUSTOM FRAMES . . . MADE TO YOUR DESIGNS
Expertly engineered hollow metal frames, made to your specifications. Select any door height, profile, face dimension or jamb depth you want. Count on us to provide what you need.

LA FORCE
Hardware & Manufacturing Co.
1060 W. Mason St., Green Bay, WI 54303
(414) 497-7100
THE REPUTATION YOU CAN BUILD ON
Sculptured Rock is your natural choice for a permanent and beautiful landscape.

Keystone® retaining walls are designed to function beautifully for a lifetime, providing long term savings compared to timbers which will deteriorate.

There are no metal members in Keystone to rust away, such as found in timbers.

No cumbersome tools, mortars, cutting or preservative treatments are required with Keystone, and the wall goes up in half the time of old methods.

Build it to last!
- Individual concrete units locked together with fiberglass dowels.
- Available in 8" or 4" high mini-units.
- Choice of face, color and texture.
- Strong, permanent and maintenance free.
- Quick and easy installation reduces labor.

Manufactured in this area by Best Block Company