



# Architecture

Issue 2:1992

New Jersey

LIBRARY & ARCHIVES  
1735 New York Ave., N.W.  
Washington, D.C.

SEP 1992

Preservation/Adaptation



SINCE 1910

FACADE RESTORATION:  
CHEMICAL CLEANING  
STONE REPLICATION  
TUCK POINTING  
WATERPROOFING  
ROOFING

CATHEDRAL OF THE SACRED HEART  
Restored by The Newman Company  
1986 through 1988

*We design professional liability insurance  
as carefully as you design projects.*

You, as a design professional, have very specific insurance needs. We, as recognized design professional insurance specialists, have the experience and staff it takes to determine your firm's individual insurance needs. Take a look at your present policy. Are legal fees covered under your deductible? Does it provide coverage for hold-harmless agreements? Does it provide complete retroactive coverage? These are just some of the unique professional liability insurance coverages we can offer you. We invite you to make a comparison of your present policy coverages and premium with those offered by Minet Professional Services. You've nothing to lose...only a more comprehensive policy to gain.

ADMINISTRATORS OF GROUP WORKERS' COMPENSATION PROGRAM FOR DESIGN PROFESSIONALS

*Minet*   
*Professional  
Services*

THE ATRIUM • E. 80 ROUTE 4 • P.O. BOX 902 • PARAMUS, NJ 07653-0902 • NJ (201) 843-6700 • NY (212) 480-9000 • FAX (201) 843-9409

*A World of Professional Services • Australia • Canada • The Netherlands • New Zealand • The United Kingdom • The United States*

# Get it all out of your system.

High-efficiency central heat,  
to lower your heating costs.

High-efficiency central air  
conditioning, to lower your  
cooling costs.

Cash rebates, to reduce  
your cost-of-purchase.

Special electric rates available  
for heat pump users.

Total comfort conditioning,  
to maintain ideal temperature  
and humidity levels.

Environmental control, to  
keep the air your family breathes  
dust and pollen-free.



The heat pump. For year-round comfort and efficiency, no other system comes close. And no other system does both.

In summer, the heat pump is a high-efficiency central air conditioner. It extracts heat trapped inside your house and carries it outdoors. In the winter, it's a high-efficiency heating system. It extracts heat from the outside air, and uses this "free" heat to warm your home. Today's high-efficiency heat pump. The most energy-efficient system available. Bar none.

To get more information on the high-efficiency heat pump and cash rebates, call Rockland Electric's energy experts at 1-800-537-3503 today.

**Comfort you can afford to come home to year-round.**

**OR** ROCKLAND ELECTRIC COMPANY



One Blue Hill Plaza, Pearl River, New York 10965  
Attn: Toni Graziano

Name \_\_\_\_\_ Phone \_\_\_\_\_

Company \_\_\_\_\_

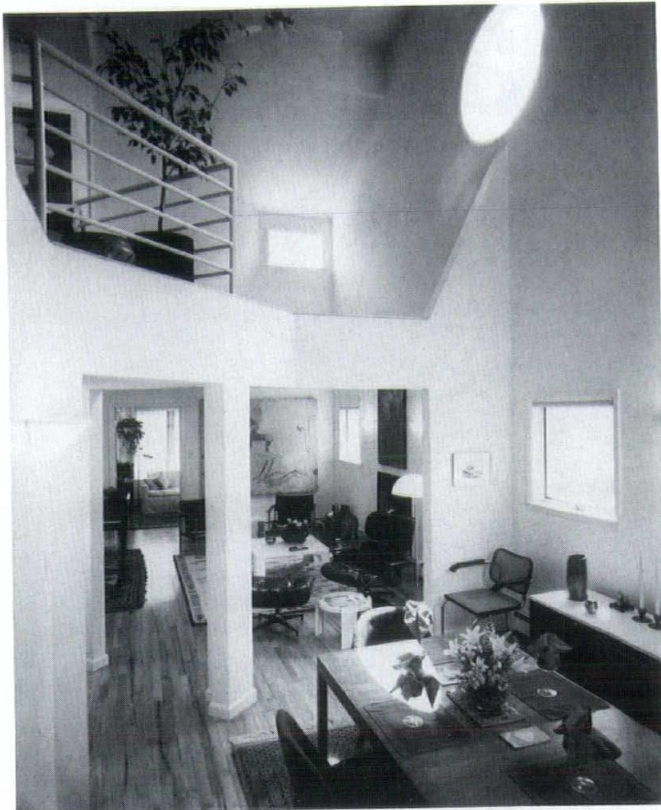
Rockland Electric Account No. \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

ANJ 3-92





melabee m miller  
908 527 9121

*Photography*

29 beechwood pl hillside nj 07205

## PROFESSIONAL LIABILITY INSURANCE

Discover how your premiums are developed and what YOU can do to better them.

Thomas J. Sharp & Associates, Inc. has been servicing design professionals for over two decades. We have dedicated ourselves to educating

Architects, Engineers and Land Surveyors about their needs and questions concerning professional liability insurance.

As specialists in professional liability insurance, let us show you:

- How you can improve your premiums and work to improve your coverage by thorough application review
- Coverage for full- or part-time practices
- How to understand your policy
- The insurers that best fit your practice
- Your contractual exposures and how to limit them
- How to better your cash flow through premium financing

DESIGN PROFESSIONALS TODAY NEED PROFESSIONAL INSURANCE BROKERS



**THOMAS J. SHARP  
& ASSOCIATES, INC.**

P.O. Box 275, 3648 Valley Road  
Liberty Corner, N.J. 07938

(908) 647-5003  
FAX (908) 647-6725

Thomas J. Sharp, President  
Richard N. Hartman, Executive Vice President

# Architecture

Vol. 28, No. 2

New Jersey



page 15



page 22

## Preservation/Adaptation: A Matter of Choices

7

Chapel of the Miraculous Medal  
*Short and Ford and Partners*

Winants Hall  
*The Hillier Group*

Deserted Village of Felville  
*Watson & Henry Associates*

Barnegat Lighthouse  
*Watson & Henry Associates*

West Trenton Train Station  
*Clarke & Caton*

74 Perry Street  
*Hewitt Architects*

Roebing Complex  
*Clarke & Caton*

17 Witherspoon Street  
*Michael Burns, AIA*

New Jersey State House  
*Short and Ford/Johnson Jones, Architects*

Lambertville Station and Inn  
*Kanalstein, Danton, Johns, PA*

## Historic Preservation and Code Compliance

20

by Michael J. Mills, AIA

## Preserving New Jersey's Industrial Heritage

22

by John R. Bowie, AIA

## Guide to Preservation Offices & Programs in New Jersey

24

compiled by Betty Jean Fernandez

## Heating, Ventilating & Cooling Historic Houses

26

by Michael C. Henry, PE, AIA, & Betty Jean Fernandez

## Additional Project Credits

26

## Books: Haddonfield Historic Homes

27

reviewed by Charles Weiler, AIA

## AIANJ News

28

*Cover:* New Jersey State House  
Short and Ford/Johnson Jones, Architects

*Cover Photo:* Brian Rose

Architecture New Jersey (USPS 305-670) is a publication of the New Jersey Society of Architects, a Region and Chapter of the American Institute of Architects. It covers projects of current interest, news of architects, and issues in architecture. The purpose of the publication is to increase public awareness of the built environment. The publication is distributed to all members of the New Jersey Society of Architects, to consulting engineers, to people in fields related to architecture, and to those leaders in business, commerce, industry, banking, education, religion, and government who are concerned with architecture. Views and opinions expressed in Architecture New Jersey are those of the writers and not necessarily those of the New Jersey Society of Architects.

Architecture New Jersey is published bi-monthly by the New Jersey Society of Architects, Nine Hundred Route Nine, Woodbridge, NJ 07095. Subscription price \$15 per year.

Postmaster: Send address changes to Architecture New Jersey, Nine Hundred Route Nine, Woodbridge, NJ 07095.

CHARLES S. CHESKIN ASSOCIATES, P.A.  
 STRUCTURAL ENGINEERING CONSULTANTS  
 BLOOMFIELD, NEW JERSEY 07003



**SKILL IS OUR BASIC PRODUCT**

*SKILL in listening to our clients' needs.  
 SKILL in understanding the total problem.  
 SKILL in researching alternatives.  
 SKILL in providing an effective solution.*

FOR STRUCTURAL DESIGN/INVESTIGATIONS  
 CALL 201-429-7220

## AIA New Jersey

New Jersey Society of Architects

A Region of the American Institute of Architects  
 Nine Hundred Route Nine, Woodbridge, NJ 07095  
 (908) 636-5680

## Architecture New Jersey

Vol. 28, No. 2 1992

### Editorial Board

Philip S. Kennedy-Grant, AIA, Chairman  
 Robert D. Cerutti, AIA, Vice-Chairman  
 John Doran, AIA  
 Thomas A. Fantacone, AIA  
 Michael Farewell, AIA  
 Gerard F. X. Geier, AIA  
 Glenn Goldman, AIA  
 Herman C. Litwack, FAIA  
 Sharon Ayn McHugh  
 Regan Young, AIA

### Issue Editors

Regan Young, AIA  
 Michael Farewell, AIA

### Layout Assistant

Victor Sittig

### Consulting Editor

Susan Doubilet, MRAIC

## Advertisers' Index

Bavaro Associates, Inc. ....	21
Bridgewater Wholesalers, Inc. ....	27
Cheskin, Charles, Associates .....	4
DuBrow 's Nurseries .....	Inside Back Cover
Fypon.....	6
Glen Rock Lumber .....	21
Handi-Lift, Inc.....	5
J & J Aquaduct Pools .....	6
Manufacturers Reserve.....	Back Cover
Melabee Miller Photography .....	2
Minet Professional Services.....	Inside Front Cover
Mobility Elevator & Lift Company .....	Inside Back Cover
Newman Company, The.....	Inside Front Cover
O'Donnell & Naccarato .....	27
Rockland Electric .....	1
Sharp, Thomas J., & Associates, Inc.....	2
Terra Designs.....	23
Todd Associates.....	5
Tremco.....	24

### Montage

Marketing & Production, Inc.

### Publisher

Nancé Carlson

### VP/Print Production

J. Bert Carlson

### VP/Sales and Marketing

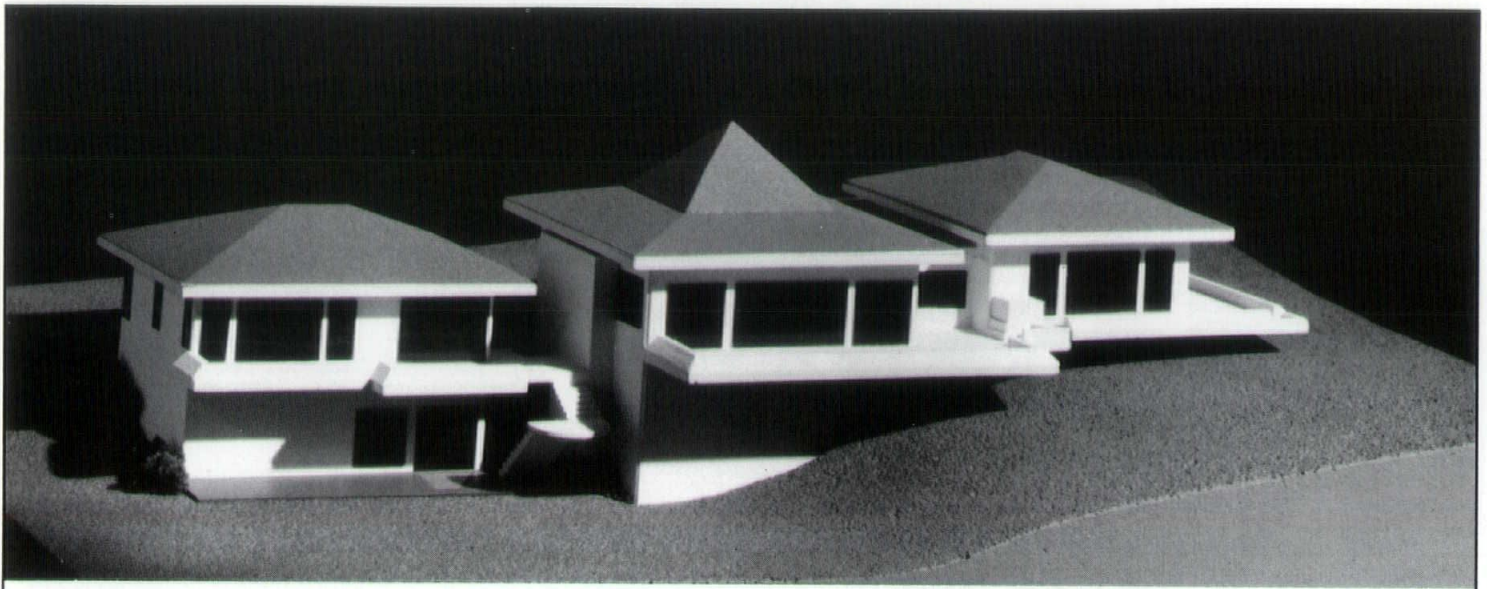
Ty Carlson

### Senior Account Executive

Kim Welsey

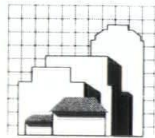
## Advertising Offices

294 Third Street  
 Atco, New Jersey 08004  
 609/767-2929/2190FAX



1" = 20" scale model of proposed residence in Virgin Gorda, B.V.I.  
 Architect: Roger Downing  
 Photographer: Louis Checkman

Makers of quality study, concept and presentation models for over twenty years.



**todd**  
**architectural**  
**models**

35 North Middaugh Street • Somerville, NJ 08876-1806 • (908) 722-8550

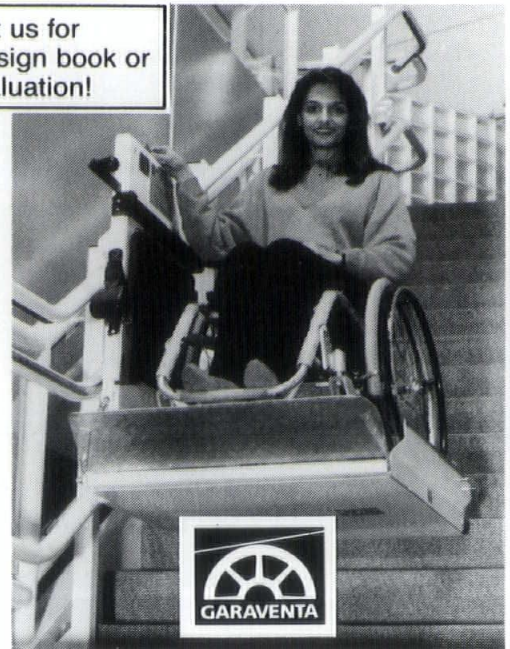
# You can stake your reputation on Garaventa quality and experience.



No other company can match Garaventa's 14-year incline lift history and 3,000 installations. Ask anyone at the Pentagon, the United Nations Building, the USS Arizona Memorial, Disneyworld or Hearst's Castle!

Model GSL-1

Contact us for new design book or site evaluation!



Model GSL-2

## HANDI-LIFT, INC.

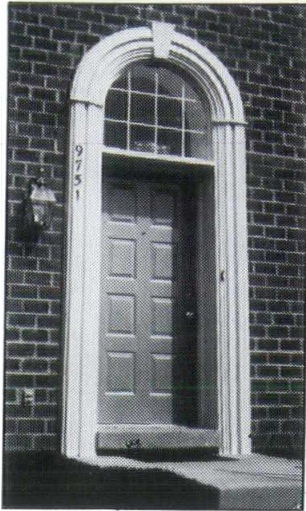
436 W. MAIN STREET  
 WYCKOFF, NJ 07481  
 PHONE 201-891-8097  
 1-800-432-LIFT  
 FAX 201-891-5741

**MEETING YOUR  
 ACCESSIBILITY NEEDS  
 FOR 40 YEARS.**  
 Commercial or residential  
 Incline or vertical  
 Electric or hydraulic

The Facts About ...

# FYPON<sup>®</sup>

MOLDED MILLWORK<sup>®</sup>



- FYPON is the undisputed leader in the formed millwork industry.
- FYPON has over 2,500 items available.
- FYPON has infinite custom capabilities.
- FYPON is virtually maintenance free.
- FYPON is competitively priced.

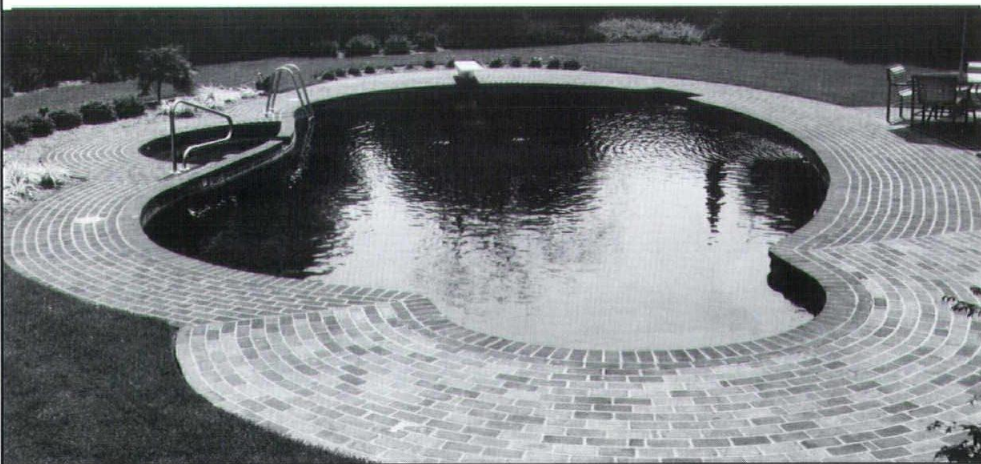
For more information, contact FYPON's largest stocking distributor:



**Bridgewater Wholesalers, Inc.**  
Architectural Support Department  
210 Industrial Parkway  
Branchburg, New Jersey 08876  
1-800-242-7207

## J&J aquatech<sup>®</sup> pools

PROFESSIONALS WHO PRIDE THEMSELVES IN  
WORKING WITH PROFESSIONALS



**AWARD-WINNING SPECIALTY POOLS, SPAS  
AND FOUNTAINS SINCE 1956**

Commercial ● Residential

771 Shrewsbury Avenue Shrewsbury, NJ 07702  
(908) 741-3000 FAX (908) 741-4740

## AIA New Jersey

New Jersey Society of Architects

A Region of the American Institute of Architects  
Nine Hundred Route Nine, Woodbridge, NJ 07095  
(908) 636-5680

### President

Michael J. Savoia, AIA

*President-Elect*

Robert H. Lee, AIA

*First Vice-President*

Ronald P. Bertone, AIA

*Second Vice-President*

Charles J. Weiler, AIA

*Treasurer*

Albert F. Zaccone, AIA

*Secretary*

Christine L. Miseo, AIA

*Immediate Past President*

Daniel R. Millen, Jr., AIA

*Director, New Jersey Region, AIA*

Joseph D. Bavaro, FAIA

### Board of Directors

*Architects League*

Peter Pagani, AIA

Gary Chartoff, AIA

Thomas E. Hitchins, AIA

Joel E. Jenkins, AIA

Robert P. Weissner, AIA

*Central*

Robert Sussna, AIA

Robert F. Barranger, AIA

James A. Gatsch Jr., AIA

Robert J. O'Neill, Jr., AIA

John R. Rivers, AIA

Fred Travisano, AIA

*Newark Suburban*

George Kimmerle, AIA

Jerome L. Eben, AIA

Roger W. Keller, AIA

Steven A. Safary, AIA

Kenneth A. Underwood, AIA

*Jersey Shore*

Jay Measley, AIA

Paul Barlo, AIA

Richard Villano, AIA

*South Jersey*

David Jacobson, AIA

Michael J. Ryan, AIA

Thomas Sidrane, AIA

*West Jersey*

Ronald D. Franke, AIA

David Danton, AIA

Harold Lichtman, AIA

*Past President Director*

Herman C. Litwack, FAIA

*Ex Officio*

Dean Urs P. Gauchat

School of Architecture

New Jersey Institute of Technology

Dean Ralph Lerner, AIA

School of Architecture

Princeton University

*State Board Liaison*

Charles A. Spitz, AIA

*Executive Director*

Katharine E. Shuler



## **Preservation/Adaptation: A Matter of Choices**

"That's why I'm against the neutron bomb," Luther Miller, an architect with KCF in Washington once said, "because it just kills people and leaves behind old buildings!"

Like the neutron bomb, preservation IS a selective process: The preservationist makes a series of decisions as to what stays and what is changed. And despite the irreverent introductory quotation, preservation is now an accepted part of the value systems of both architects and public.

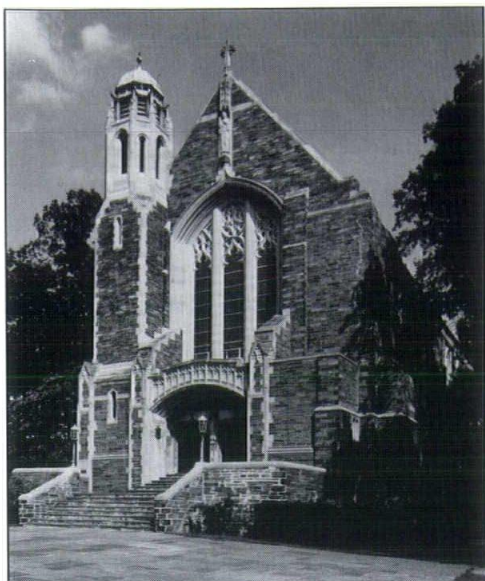
Even on a museum-quality preservation project, some elements must be altered. Codes require accessibility and provisions for emergencies, and mechanical systems must often be integrated into existing structures to bring them close to current comfort standards. On projects approached on a less stringent archaeological basis, some of the materials and systems may be changed, and the actual use of the building may be altered. The most difficult problem, from a strict preservation standpoint, may well be adding to historic buildings; even the Department of Interior standards for additions are subject to differences in interpretation.

Thus, preservation is not a pure discipline: It is both an art, involving subjective aesthetic components, and a science. Because of the inherent conflict between the desire to conserve and the need to intervene in response to current needs, hard choices must be made. In this issue of ANJ, we examine a number of projects and reflect on the decisions taken.

RY/MF

# Chapel of the Miraculous Medal, Princeton, New Jersey

*Short and Ford and Partners, Princeton, New Jersey*

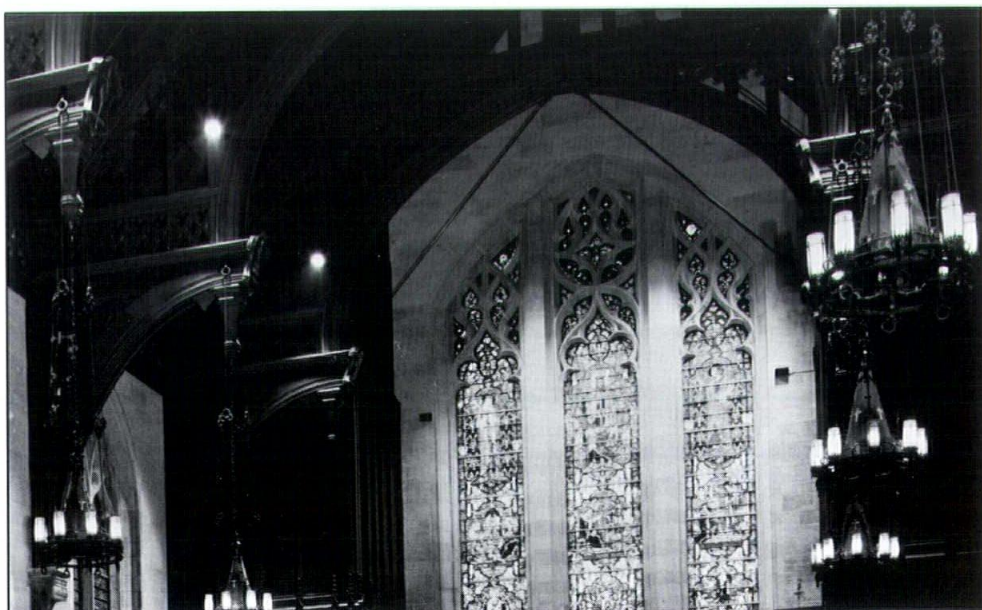


Exterior

As in most preservation projects, discretion was the goal in all interventions to this 1932 Gothic Revival chapel, part of St. Joseph's Preparatory Seminary. The introduction of new mechanical, fire detection, and electrical systems, for example, was made almost invisibly. Repairing the gutters and roof, cleaning all interior architectural woodwork, refinishing the panelling and pews, poultice cleaning the stone, and refinishing the exceptional iron baldachino, were all done with the classic preservation aim in mind: to restore the building to its original appearance. One operation, that of reinforcing the hammer beam trusses, involved a design decision based on examining numerous choices. The solution selected—the use of steel tension rods with plate connectors—was felt to be the least visible of the options. When noticed (see photo detail), they do lend an interesting Viollet-le-Duc touch to the structure. □



Restored interior



Detail showing tension rods reinforcing wood trusses

# Deserted Village of Feltville/Glenside Park, Watchung Reservation, New Jersey

*Watson and Henry Associates, Bridgeton, New Jersey*



1910 photographs



Photos: Watson and Henry Associates



1990 photograph of plot 34

This enchanting project illustrates a broad range of preservation activities (archival research, on-site documentation, conservation, long-term planning, on-going archaeology). It also exemplifies an important tenet of preservation philosophy: to preserve and reflect the multiple layers added to a site over centuries.

In 1845, on a site that once held a copper mine and that, at an earlier period, served as an Indian seasonal village, Brooklyn entrepreneur David Felt constructed the vernacular Greek Revival-style Village of Feltville. It was to serve as a utopian workers' village for his stationary and book finishing business, an enterprise which lasted less than two decades. The deserted village was converted to use as a resort community in the 1880s, and Adirondack-style porches were added. In the 1920s, the Union County Park Commission acquired the 130-acre site as part of the Watchung Reservation. Ten of the 33 village structures remained. The site and structures are now listed on the State and National Registers of Historic Places.

Some of the houses will undergo museum-quality restoration and will be used as interpretive museums for the site, and some will be restored on the exterior and used as offices or custodial residences. The County will direct an ongoing archaeological program to study the site. Two of the houses are currently undergoing restoration, and more will soon follow. □



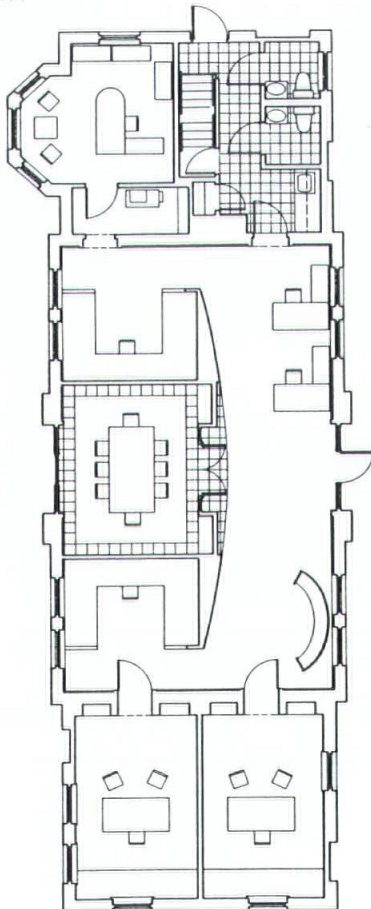
Documentation drawings of plot 16

# West Trenton Rail Station, Trenton, New Jersey

*Clarke & Caton, Trenton, New Jersey*

The restoration of this 1929 neo-Georgian train station follows, in an orthodox manner, philosophies basic to the Secretary of Interior's Standards for Rehabilitation: Preserve and restore as much of the original as feasible; and clearly differentiate new interventions from original fabric.

The building, which is listed on the State and National Registers of Historic Places, now serves as offices for the architects who bought and renovated it. On the exterior, the restoration was as faithful to the original as possible. On the interior, the original perimeter of the waiting room was retained, and details that had survived and were deemed essential—the dentil moldings, for example—were restored. The new partitions are clearly distinguished from the original surfaces, both by their abstract vocabulary and the use of glazing where the old ceiling plane is met. While the major new partition's symmetry, abstracted gridding, and central door are responses in Modernistic idiom to the original building's symmetry, centrality, and mullioned windows, some of the wall's features—its curved plan, its stepped top—are intuitive moves, shorthand notations proclaiming the 1980s. □



First Floor Plan  
10 Architecture New Jersey 92:2



View through entrance to reception and new partition



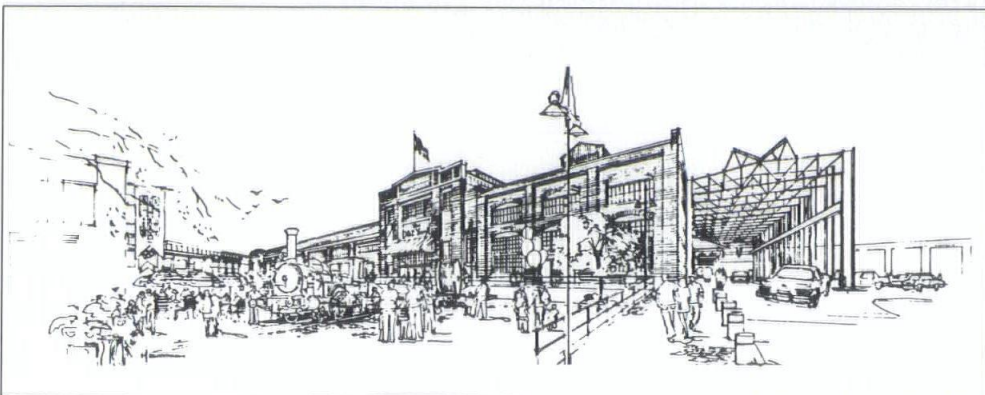
Restored street facade.

# Roebling Complex, Trenton, New Jersey

Clarke & Caton, Trenton, New Jersey



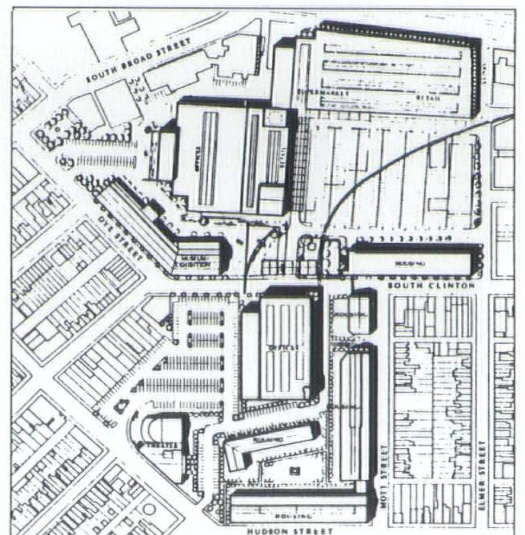
View of northwest sector of existing complex



Renderings of renovated complex

This project represents a classic two-part preservation problem: (a) how to salvage an unused industrial complex; and (b) how to retain the original tough character. Judging from numerous cases found across America—Faneuil Hall, Southstreet Seaport, and so on—the past few decades have produced a pair of classic responses to the problem: (a) find new uses; and (b) accept that much of the original flavor, if not the details, will be lost. No matter how sensitively the adaptation is designed and executed, a commercial gloss inevitably slips in with the banners, signs, cafe tables, and new pavement. But on the positive side of the preservation equation, the complex IS saved; and the public (the introduction of which in itself alters things) gets to enjoy it. The adapted Roebling Complex will undoubtedly offer both the benefits and some of the drawbacks of the process.

Clarke & Caton was retained by developers to prepare a master plan for the 50-acre site where the renowned cable company operated for over a century, beginning in 1948. Phases I (whose construction is about to begin) and II will introduce a supermarket, shops, offices, housing, and an industrial museum into several of the buildings, and create an active outdoor space in the old mill yard. Some building demolition will occur to provide adequate access to the site and parking space, and the steel frames will in part be retained for a gateway and for framework for signage. Future phases will add more housing and offices, and will create a performing arts center in an existing building to be expanded for the purpose. □



Master plan

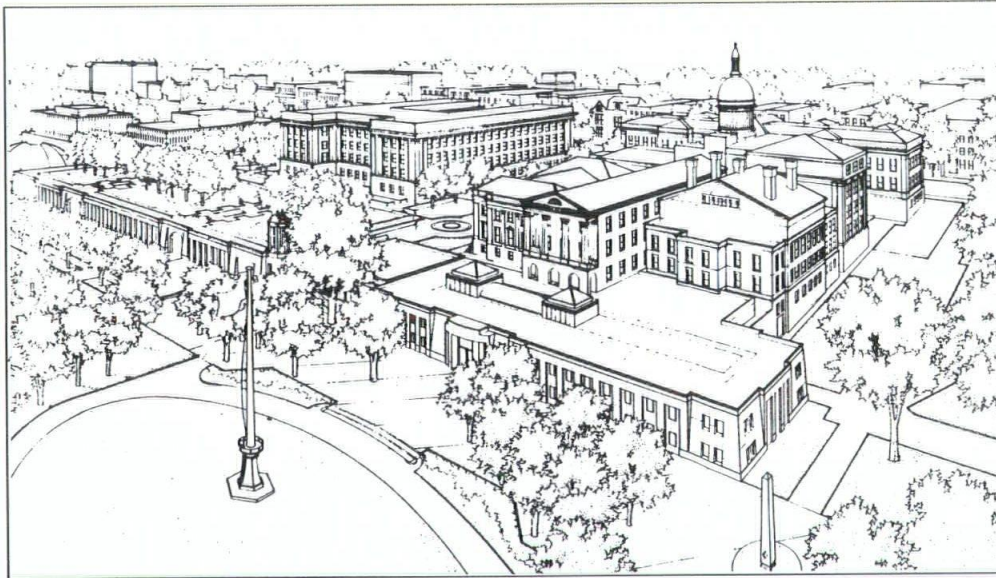
# The New Jersey State House, Trenton, New Jersey

*Short and Ford/Johnson Jones, Architects, Princeton, New Jersey*

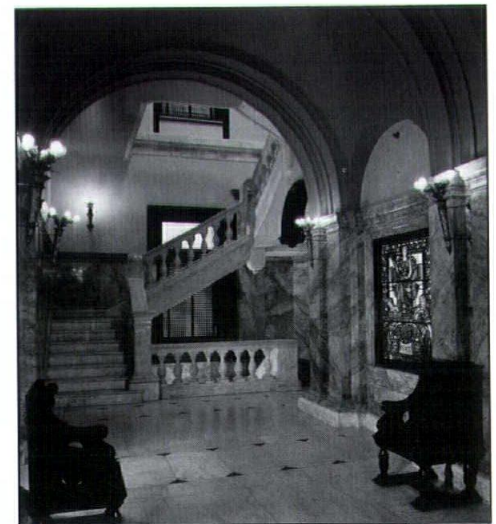
In this high-quality restoration of the state's Capitol, Phase I of which is now complete, a primary aim was the meticulous reflection of the additions made to the building over the 200 years of its use. In the Assembly Chamber Caucus Room, for example, the wainscoting, the doors and windows, and fragments of the ceiling, all from different periods, were retained, leaving the room with the eccentric but fascinating appearance of an archaeological site. When changes were required, they were to

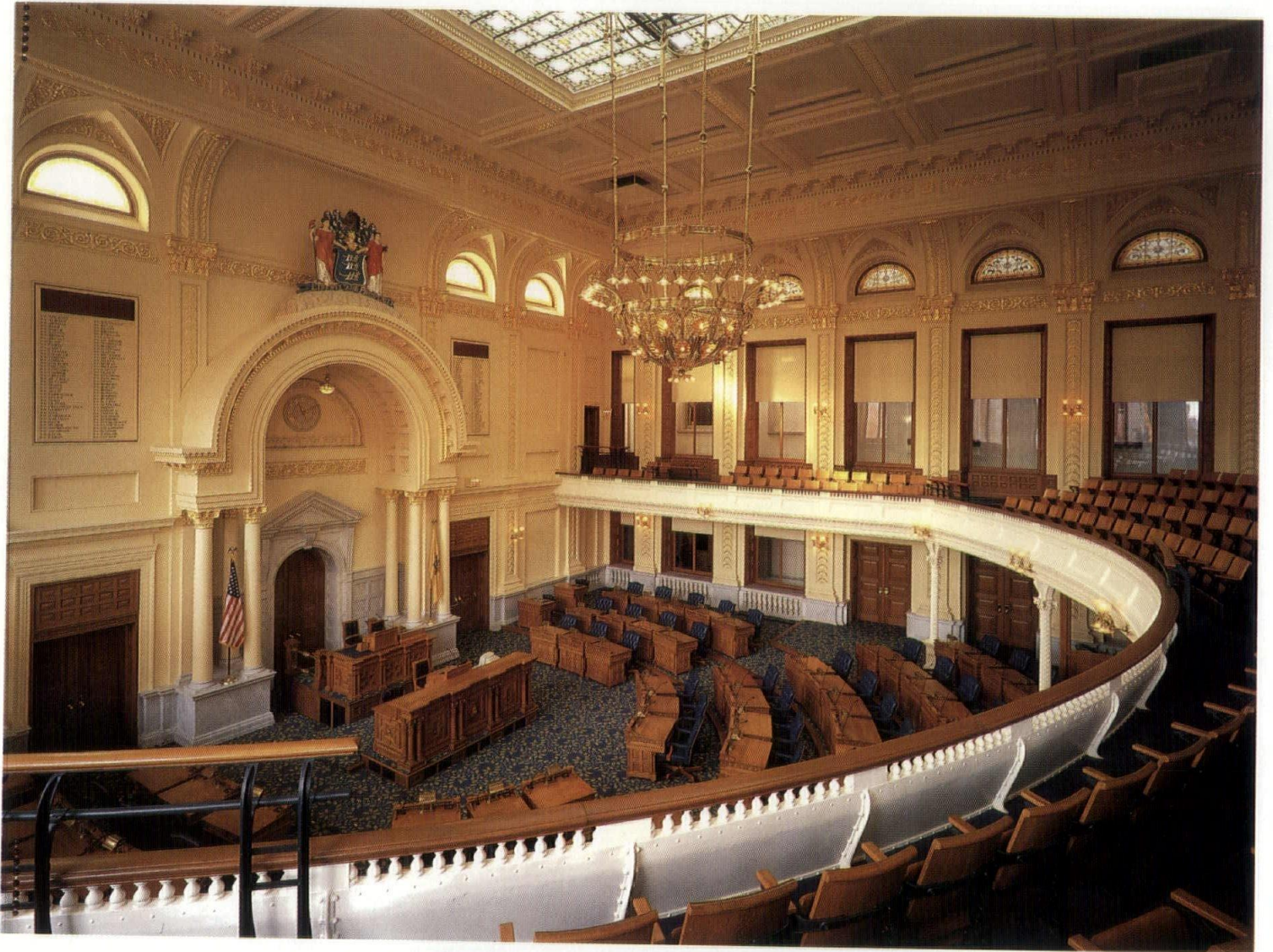
be historically "interpretive." In the Senate Chamber, for instance, a new ceiling treatment was gracefully added to suggest the original pochée that had been removed in the 1950s from between two alcoves to provide space for additional seats. The project's major addition, a two-story base, set itself a difficult task: to unify a disparate complex. The Phase I fragment of the base is, and looks, incomplete; its totality, as seen in design drawings, is an Acropolis into which the older buildings are sunk.

The Late Victorian General Assembly Chamber (1891-2) and the Beaux-Arts Senate Chamber (1903-4) received careful restoration of decorative plaster, stained glass, gold leaf, and oak millwork, as well as the subtle incorporation of new HVAC and fire safety systems. In the Senate Chamber, the oil-on-canvas murals and the scagliola wainscot and columns were restored, as was the historic Edison chandelier in the Assembly Room. □



**Left: Proposed Master Plan.**  
**Above: Assembly Chamber Caucus Room, with eclectic elements.**  
**Left: Senate Chamber.**  
**Below: Senate Lobby.**





Above: Assembly Room.  
Right: Senate Chamber, alcove detail.  
Below: Senate Majority Conference Room.



# Winants Hall, Rutgers University, New Brunswick, New Jersey

*The Hillier Group, Princeton, New Jersey*

The restoration of this National Register building represents the most extreme preservation option this side of demolition—total gutting, with the reinstatement of a few selected interior spaces. Even the windows were rebuilt rather than repaired. The Hillier Group, like any preservation-minded architect, carefully considers the alternatives, and attempts to conserve, before following this route.

Winants Hall was built as a dormitory in 1889, designed by Van Campen Taylor with a variety of Colonial Revival and Queen Anne elements. In the 1980s, the heavy timber frame was found to be severely strained, and the decision was made to gut the building, bracing the exterior masonry walls and inserting a new steel frame. The exterior brick and stone banding was cleaned, cornices were reconstructed following the original profile but with concealed gutters, and stained glass windows were cleaned and restored. Inside, the front hallway and two adjoining dining/assembly rooms had been identified for restoration. Among their most impressive features were four Roman brick fireplaces which were restored in situ and braced, and a marble floor and monumental four-story oak staircase which were carefully removed piece by piece. Fire stairs and an elevator were integrated into the building, and the remaining floor plans were adapted to the building's new use as the home of the Rutgers' Foundation. □

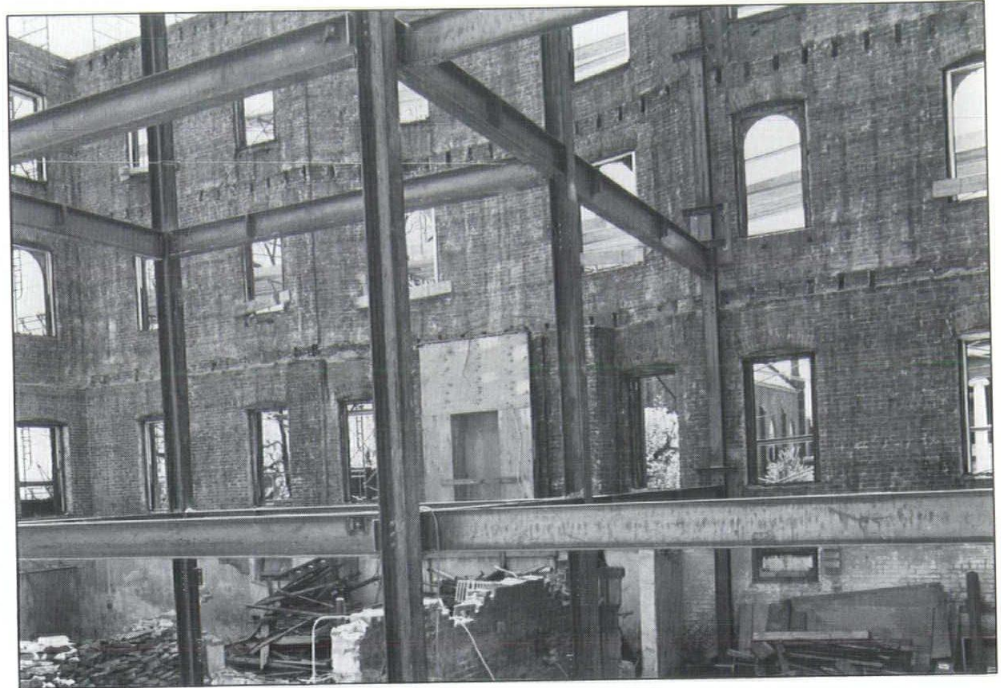
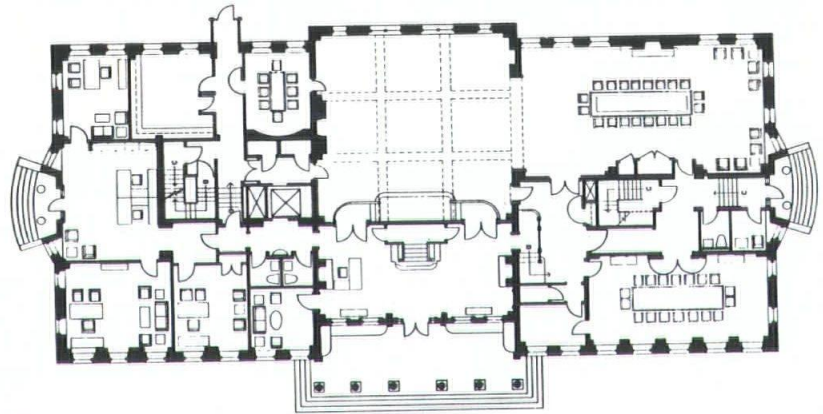


Photo: Ted Hausner

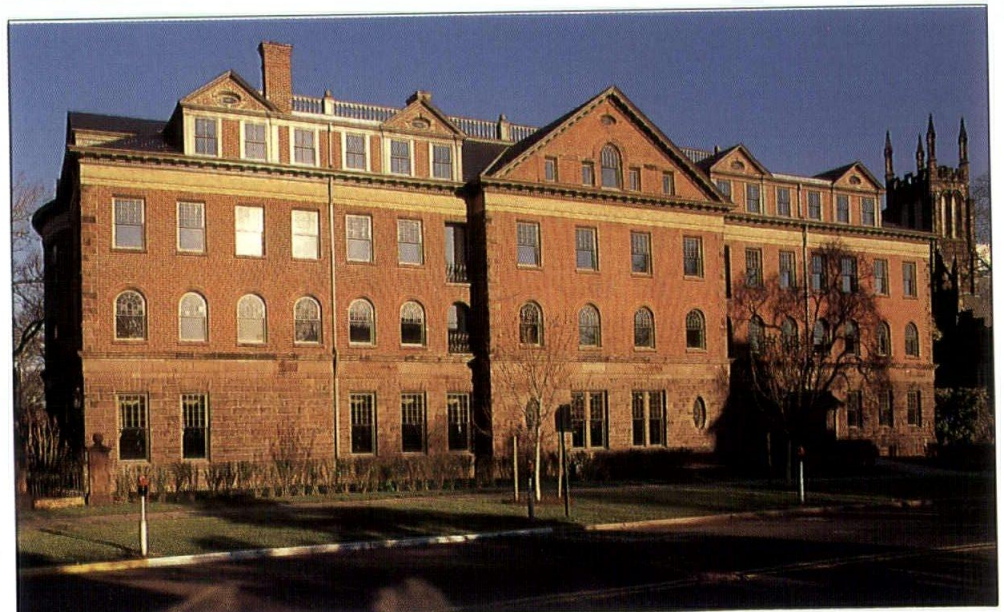
Gutting and Structural Intervention of Interior



Floor Plan



Renovated Interior



Renovated Exterior



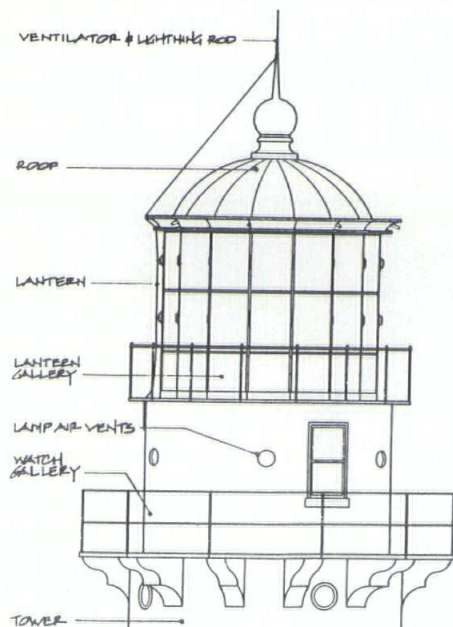
# Barnegat Lighthouse, Barnegat Lighthouse State Park, New Jersey

*Watson and Henry Associates, Bridgeton, New Jersey*

When choosing materials with which to repair and reinforce a historic structure, preservationists are faced with balancing two basic and sometimes conflicting aims: achieving historical accuracy, and providing the best resistance against the elements. Lighthouses—which are subjected to the harsh marine environment, stand on exposed and unprotected sites, and are now likely to be long unused and insufficiently maintained—represent extreme examples of this preservation problem.

Barnegat Lighthouse, built circa 1857 and out of use since 1926, suffered from numerous problems. These include cracking of cast metals due to corrosion jacking, galvanic corrosion due to dissimilar materials (caused in part by mild steel used in repairs) and the failure of masonry and metal coatings.

In the \$550,000 restoration (partially funded by the New Jersey Historic Preservation Bond Fund), the structure was repaired, cast iron and masonry were restored, and the vestibule house was restored. A quality assurance/control program was developed to prescribe correct application of high performance coating systems. In addition, the New Jersey Shore Foundation retained the architects to prepare an interpretive plan and signage program for the lighthouse, which receives about 70,000 visitors annually. □



Lantern detail



Photo: Janet Sheridan Watson & Henry Associates

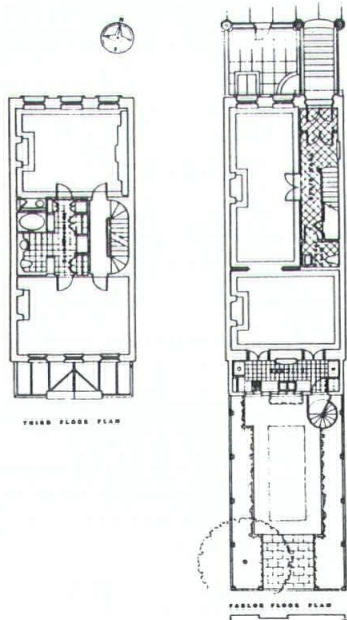
Restored lighthouse

## 74 Perry Street, New York, New York *Hewitt Architects, Hope, New Jersey*

In many preservation projects, success is measured by the barely perceptible nature of the results, and is achieved by painstaking, disciplined effort. This is the case in the facade restoration of an 1866 Italianate townhouse, part of a row in the Greenwich Village Historic District. (While equal care was paid to interior alterations and a rear addition to the house, this article will describe the facade work, as an example of "pure" conservation/restoration.)

To replace the original brownstone stoop and cast iron balustrade removed in the 1940s, the intact adjacent "twin" house served as a model for replicating the carved brownstone ornament as well as all millwork and ironwork for the elaborate Italianate doorway.

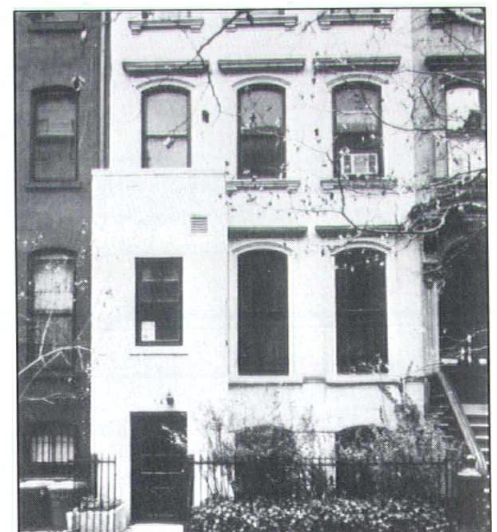
The brownstone facade was initially cleaned of all paint, using a Peel-Away paint removal system with specifications developed in consultation with Columbia's Center for Preservation Research, to avoid undue damage to the surface of the stone. As it happened, after paint removal it was determined that the stonework was too extensively exfoliated to permit retooling or patching with new stone. The architect elected to perform a complete stucco refacing, using a "recipe" of crushed brownstone, Acryl 60, lime, and Portland Cement similar to that recommended by the Landmarks Preservation Commission. The three-coat process was completed by highly-skilled Spanish craftsmen under the architect's supervision, resulting in a very accurate replication of ornament from the adjoining house. □



Restored facade



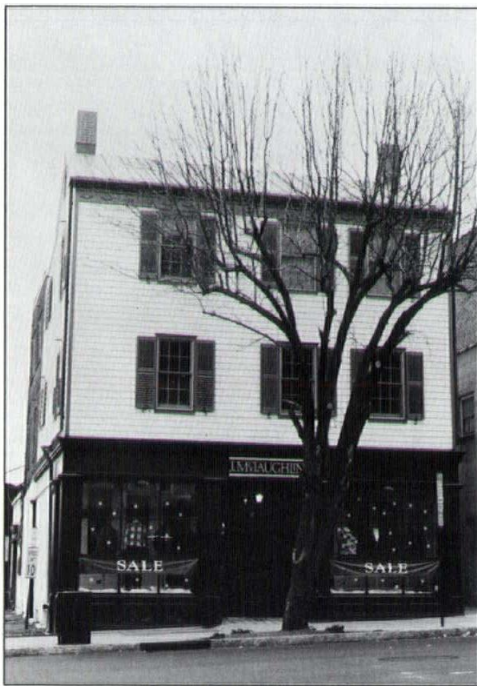
Stonework



Before renovation

## 17 Witherspoon Street, Princeton, New Jersey

Michael Burns, AIA, Princeton, New Jersey



Renovated exterior



Entry detail

This scheme manages to achieve two of its architect's goals: It unifies a building which, over its history, had jarring changes made to it; and it conforms to the merchandising theme of its retail occupant, a purveyor of traditional English clothing.

The building, which began life in the 1840s as a two-story residence, was jacked up around 1918 to provide commercial space at street level as Princeton's business center grew. A distinctive wood cornice provided a strong horizontal separation between the glass-fronted store and the upper stories. During the 1940s, the storefront was shoddily "modernized," an act which the recent renovation reverses. To give an overall order to the building, the architect chose a Classical system and expressed the ground floor as a base—a wood entablature carried on wood columns—in a tripartite scheme. The building's 1918 version, however, might have provided another model: Then, the wood entablature above the storefront spanned from side wall to side wall, imparting an exceptional vigor to the scheme. □

## Lambertville Station and Inn (Restaurant), Lambertville, New Jersey

Kanalstein, Danton, Johns, P.A., Cherry Hill, New Jersey

Given this train station's quality and pedigree (it was designed by Thomas Ustick Walter, architect of the dome of the United States Capitol), it might well have merited museum-quality preservation. Instead, the choice was made to adapt it to a new use as a restaurant, and while the restoration was earnest, some new elements are distracting. □

The exterior of the 1867 building was restored to its original state, with hand-carved doors, slate roof, copper cupola, and original, reglazed, windows. On the inside, the building was gutted to reveal the structure, and some reconfiguring of levels took place. Some of the elements tend to be glib, commercial-grade Victoriana: the new vestibule, the signage, the new red oak staircase, a recreated "ticket office" used for reception. But one added element is quite brilliant: A pair of boxcars was permanently attached to one end of the building to serve as kitchen space.



Photo: Berry & Homer Photographics, Inc.



# CONCRETE CONCEPTS

An Up - To - The - Minute Guide to Clayton's Masonry Products and Services

## Clayton Concrete, Block & Sand - Rock Solid Reputation

**R**alph Clayton and Sons is one of the foremost concrete suppliers in the state, as well as the nation, and the company's ability to deliver ready-mix concrete on site and on time, regardless of the size of the job, means that Clayton customers get the quality and service that they demand. With size comes industry responsibilities and recognition, and Ralph Clayton and Sons has been a consistent winner of industry awards. In 1990, the company won a Grand Award from the New Jersey Chapter of the American Concrete Institute and the New Jersey Concrete and Aggregate Association for the ammunition pier at Naval Weapons Station, Earle. 1991 brought not only the Grand Award for the Ocean Place Hilton project in Long Branch, but honorable mention for a number of other Clayton supplied projects as well.

Clayton Block Company is capable of producing over 360 different block shapes, designs and textures and has successfully worked with architects and contractors to design and manufacture custom block for specific

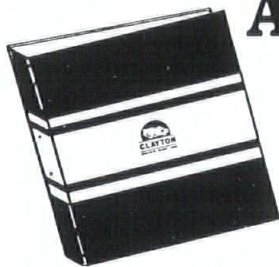


*The Ocean Place Hilton Resort & Spa  
1991 Grand Award Winner*

projects. Newer block product additions are a lightweight block called C-LITE and Allan Block Retaining Wall Systems. As a licensed manufacturer of Allan Block, which uses no mortar and is available in a variety of shapes and colors, Clayton Block has found unprecedented acceptance of this superior product by contractors, landscapers and homeowners. Clayton Block also offers customers a full line of specialty finish split face and ground face architectural block designs that have been selected for some of New Jersey's most beautiful buildings. In fact, in 1990 the company won a Grand Award for excellence in concept, design, originality and application of brick or block for

the products supplied to the Princeton University Fisher Hall building from the New Jersey State Conference of Bricklayers and Allied Craftsmen and the Mason Contractors Association of New Jersey.

This commitment to quality and a strong desire to provide customers with first rate service and delivery has helped the company grow during the past four decades and has positioned the Clayton Companies for continued diversity and growth well into the next century.



## Architecture Handbook Now Available

We are proud to present our new Architects/Engineers Handbook. The book is filled with the most current and up-to-date information regarding the products and services we provide. Take the time to have one of our Clayton representatives show you this informative book firsthand. Call today to set up an appointment to receive your copy of the Clayton Companies' Architects/Engineers Handbook.

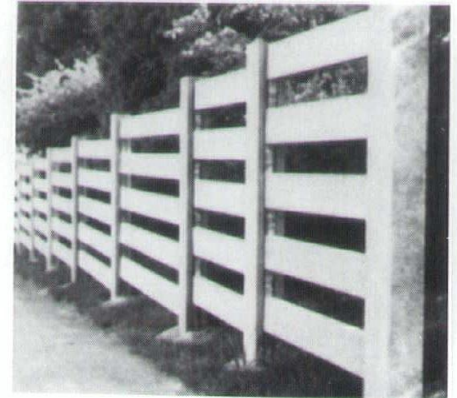
# Fence-Crete®

## The Alternative to Wood & Chain Link Fencing

Whether used as a security system or as an attractive design element or sound buffer, concrete fencing is fast becoming an appealing alternative to wood and chain link fences.

**Clayton and  
Fence-Crete® -  
Partners in  
Excellence**

Colors can also be easily added to the concrete mix. Adding liquid pigments results in consistent, uniform color. An alternative method is color coating that can be applied by airless spraying.



Utilizing a post and panel system, Fence-Crete® offers a low-cost wall system with diverse architectural possibilities. Whether you are stepping up a slope or curving the wall on an unusual angle, the fence components easily adjust to the desired look.

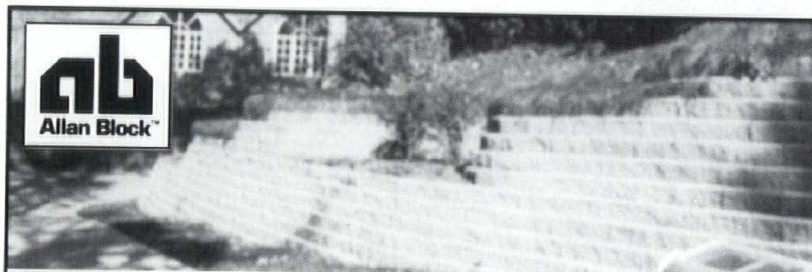
One architectural pattern that is eye catching is the "Staggered Flute". The pattern is a vertical ribbed design which can run evenly down from the top of the wall or may be staggered by flipping the ten foot panels side to side.

The rails are also available in a plainer block-textured finish that can provide needed security and beauty.

When concrete fencing is used for access control, a double benefit is accrued. The fence will absorb sound and can serve as a privacy screen, a space divider or a construction support.

Installation of these concrete fence systems can be surprisingly easy. For the precast rails and post, holes are dug at approximately one-third of the height of the fence. Once the posts are level and in position, a

concrete pad is poured to secure them. The pad also keeps the bottom rail from moving. Finally, the rails are slid or interlocked into place. A metal inserted slot can be added for occasional removal of a whole section of the fence.



Allan Block, a mortarless concrete block retaining wall system, offers unlimited design potential. Curves, corners, stairways and elaborate landscape terraces are easily achieved in both commercial and residential projects. Allan Block provides an attractive, affordable and highly durable retaining wall.

Call or send for more info and color brochure.

Main Address: 515 Lakewood-New Egypt Rd. P.O. Box 928 Lakewood, NJ 08701  
1-800-662-3044 Fax 908-367-9473

*Call  
The  
Most  
Cost  
Effective  
Manufacturer  
In The  
State*



## CLASSIC COLLECTION

### Split & Ground Face Architectural Units

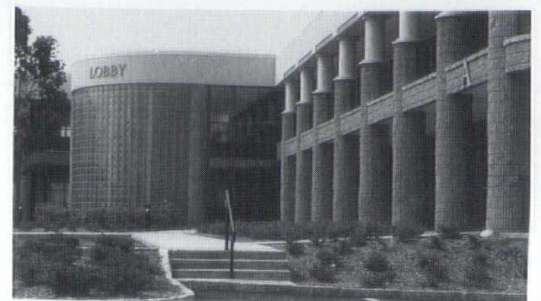
Split & Ground Face Architectural Units are the preferred choice for quality building needs.

- Standard & Specialty Colors
- Shapes & Textures • Beauty
- Thermally Efficient • Low Maintenance
- Fire Resistant • Value



For free product information or specifications call

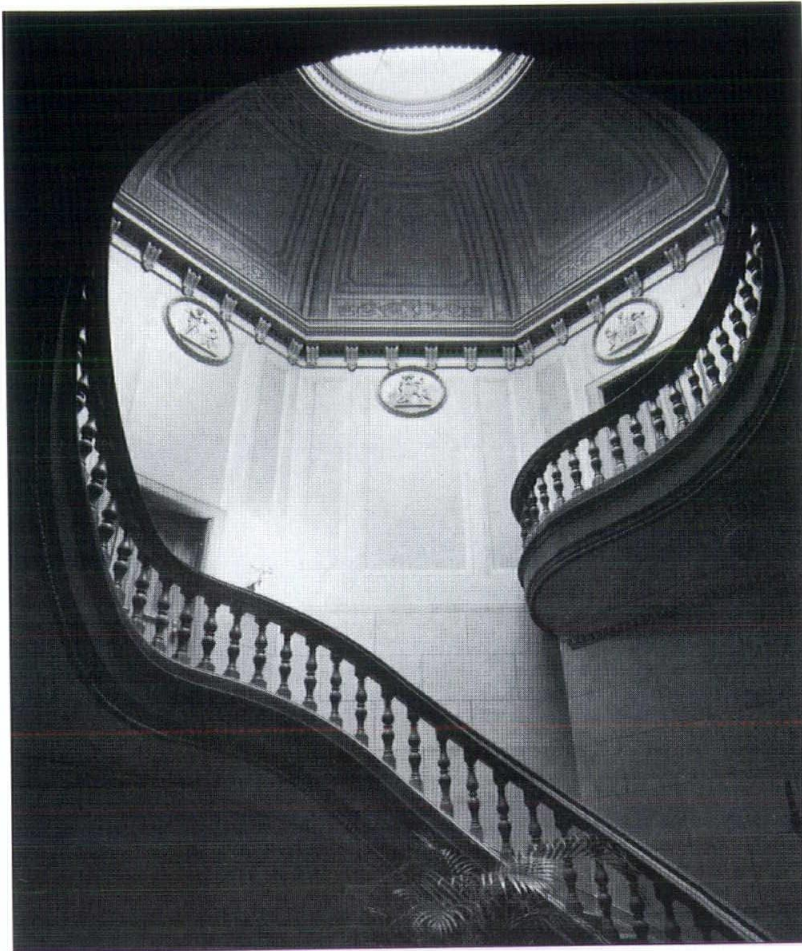
**1-800-662-3044**



12 Locations To Serve You  
Main Address: 515 Lakewood-New Egypt Rd.  
P.O. Box 928 Lakewood, N.J. 08701  
Phone: 908-363-1800 Fax: 908-367-9473  
For Free Product Information,  
Specifications, And Toll Free Ordering:  
1-800-662-3044

# Historic Preservation and Code Compliance in New Jersey

by Michael J. Mills, AIA



The rotunda and central hall (left) of Guernsey Hall, Princeton, was accepted as a rated exitway in a condominium conversion.

partment of Community Affairs (DCA) in an attempt to modify the language of the new code to ease the requirements for historic buildings. DCA was unwilling to do this, but did agree to incorporate the language of BOCA 513. This provision became Section 5:18-4.3(c) of the Uniform Fire Code.

There is only one provision in the Building Subcode (BOCA) that mentions historic buildings and how they may be treated. That is Section 513.0, which reads as follows:

*Approval: The provisions of this code relating to the construction, repair, alteration, enlargement, restoration, and moving of buildings or structures shall not be mandatory for existing buildings or structures identified and classified by the*

*state or the local government authority as historic buildings, subject to the approval of the board of appeals, when such buildings are judged by the code official to be safe and in the interest of public health, safety, and welfare regarding any proposed construction, alteration, repair, enlargement, and relocation. All such approvals shall be based on the applicant's complete submission of professional architectural and engineering plans and specifications bearing the professional seal of the designer.*

In many cases, the power of interpreting and enforcing this Code provision is in the hands of local code officials, many of whom have little experience with historic buildings. Although liability is shared between the owner and architect of record, and the New Jersey Tort Laws protect local officials in carrying out their duties, these officials may act conservatively, rejecting an application for a historic project and in effect sending the project to the local appeals board.

During the public hearings for the adoption of the revisions to the Fire Code, representatives of Preservation New Jersey, the Office of New Jersey Heritage, the New Jersey Historic Sites Council, and AIA New Jersey's Historic Preservation/Resources Committee met several times with personnel from the De-

An ad-hoc committee consisting of representatives from Preservation New Jersey, the four organizations listed above, and the Mid-Atlantic Center for the Arts in Cape May have continued to identify and study ways of protecting life, health, and welfare in historic buildings without damaging their character. General suggestions for improvements to the existing system include the following:

1. *Historic preservation guidelines drafted by the DCA to aid local officials.*
2. *A statewide preservation advisory board, consisting of architects and other experts, to assist local officials.*
3. *Reclassification of historic house museums as "Business" rather than "Assembly" use, given their limited usage and occupancy.*
4. *Deletion of the 25/50 Rule as applied to historic buildings. This rule, which judges the degree to which a building must conform to Code based on the valuation of new construction as a percentage (25 or 50) of the value of the existing building, does not begin to consider the true value of historic materials.*
5. *The adoption of BOCA Article 32, revised to correct several flaws. This article uses a point system to analyze existing conditions and achieve a general safety level.*
6. *Preservation courses for local officials, such as that sponsored by the DCA in 1987.*

Life safety is the primary aim of the Codes, but preservation of historic features need not be an incompatible goal. One of the greatest defeats for both a preservationist and a code official is the total loss of a building due to fire. It is important for architects and engineers who work with historic buildings to become as knowledgeable as possible about the provisions and intent of New Jersey Codes. Only then can appropriate solutions be negotiated with Code enforcement officials to protect the health and safety of the public while preserving our cultural heritage. □

*Michael J. Mills, AIA, is a Partner in Charge of Preservation at Short and Ford and Partners, Architects, and is a member of the State Uniform Construction Code Advisory Board.*

Few historic buildings can meet all the life safety provisions of today's codes without the destruction of many of the features that contribute to their historic significance. By current standards, many historic buildings contain, from a fire safety standpoint, built-in design inadequacies such as dead end corridors and open stairways. Even 19th century buildings of so-called "fireproof" construction may be problematic, not because of the combustibility of structural features, but because of inadequate egress or lack of rated separations. The preservation of historic features such as open staircases and wood panelling often comes into conflict with the building codes, and no architect working in the preservation field can avoid such conflicts.

The building and fire codes in New Jersey have a strong influence on the survival of historic structures. For example, in June of 1986 the State of New Jersey adopted sweeping changes to its Uniform Fire Code. For the first time, the Fire Code required not only that new building conform, but also that existing buildings be brought into conformity with all the provisions of this Code, whether or not major construction work is contemplated.

In New Jersey, code compliance in historic buildings is handled on a case by case ba-



# TRUS JOIST *The Better Building Materials*

**Residential  
TJI Joist**

**MICRO-LAM<sup>®</sup>  
L.V.L. HEADERS  
& BEAMS**

THE ARCHITECT'S CHOICE FOR

- Precision Engineered Capacity
- Building Highest Quality Floors & Roofs
- Faster, Safer & More Efficient Construction
- Meets All Major Building Codes
- Consistent Quality
- Lengths to 48 ft.

DESIGN DATA & LOADING TABLES AVAILABLE

We Carry N.J.'s Largest Stock of  
**TREATED CCA LUMBER**  
*So. Pine & Fire Retardant Lumber*  
Metal Studs & Sheetrock

Architectural Custom  
Millwork Our Specialty  
*"If we don't have it or we  
can't make it... No one else can!"*



**TOP LEVEL  
DEALER AWARD**

Presented to  
**GLEN ROCK LUMBER  
& SUPPLY CO., INC.**

In Appreciation of an Outstanding  
Contribution to the Sale of  
True Joist Residential Products

**1990**

TRUS JOIST CORPORATION

**New Jersey's No. 1 Source  
LUMBER • TIMBER • BUILDING MATERIALS**

For Industrial, Commercial & Residential

WE DELIVER ANYWHERE — ANYTIME — BOOM TRUCK TO 4 FLOORS

# GLEN ROCK LUMBER

22-09 ROSALIE ST.,  
FAIR LAWN, NJ 07410  
(201) 796-4500  
IN NJ 1-800-222-0423

In the professional liability arena, where financial ruin could hang in the balance, it's crucial to find a broker with the technical expertise and intuitive know-how to manage the most complex and unusual risks.

# NO RISK TOO UNUSUAL. NO COVERAGE TOO COMPLEX.

Such a broker is Bavaro Associates. Our excellent reputation in professional liability (you're invited to check our credentials) allows us to obtain competitive terms and favorable pricing for all clients regardless of the risk.

We continually monitor the changing professional liability markets, both in the United States and abroad, to offer the optimum in service on a full range of coverages. If you have an insurance concern that requires more than just an average effort, don't trust it with an average broker, contact an expert.

# BA

**BAVARO ASSOCIATES INC.**

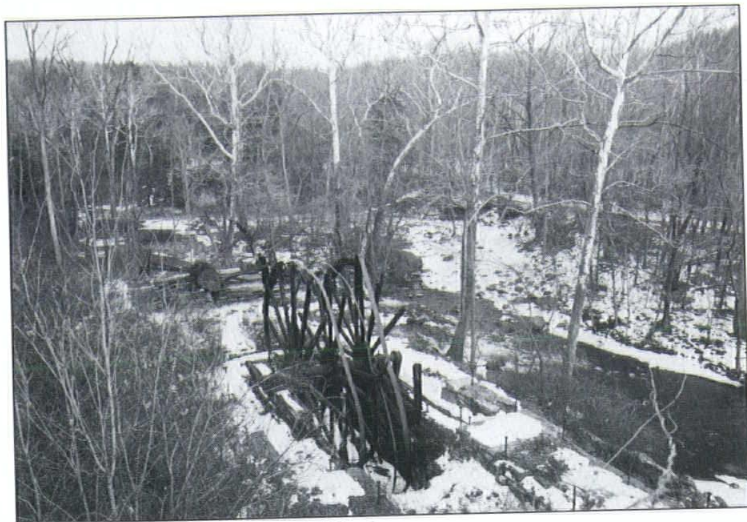
Professional Liability Experts

33 Wood Avenue South • Iselin, New Jersey 08830 • 908-321-0700  
60 East 42nd Street • New York, New York 10165 • 212-972-6999

PROFESSIONAL LIABILITY SPECIALISTS FOR ARCHITECTS, ENGINEERS, SURVEYORS, ENVIRONMENTAL AND ASBESTOS CONSULTANTS.

# Preserving New Jersey's Industrial Heritage

by John R. Bowie, AIA



Long Pond Ironworks, West Milford



Beattie Carpet Mill, Little Falls

Since the time of America's war for independence, New Jersey has been a leader in the production of manufactured goods and products for its people and the people of the growing, consuming nation. During the 19th and early 20th centuries, an infrastructure developed in New Jersey's cities and towns that responded to the needs of the thousands of companies operating across the state. Buildings were constructed to house the machines and the people who operated them; railroads, canals, and highways were built to criss-cross the state so that raw materials, unfinished products, saleable goods, and waste could be hauled between the enterprises.

Today, industrial production is at a fraction of its early 20th century level. However, many of the buildings, bridges and roads survive, providing great challenges and opportunities for architects of the 1990s. The preservation of New Jersey's industrial heritage offers not only cultural but also practical benefits. It is less expensive to adapt an existing building to new needs rather than to raze it and erect a new building of comparable size, particularly if the utilities are in place. Investment tax credits (ITCs) are available for approved rehabilitations of certified historic properties, and although recent changes in the federal tax code have lowered the amount of ITCs allowed on projects, they are still an effective means of increasing the profitability of preservation over new construction.

Preservation of our industrial heritage can assume various forms, depending upon the needs of the individual sites and the degree of cultural and technological signifi-

cance attributed to them. The Long Pond Ironworks near West Milford, for example, is a museum-quality site that possesses a high level of cultural significance because of its association with early American iron production. Its first furnace was constructed by Peter Hasenclever circa 1766. Buildings, ore roasters, charcoal sheds, and forges were later added, and new furnaces were constructed to meet the demands for iron in America during the nineteenth century. Races and water wheels were constructed to provide blast air for the furnaces and the forges. However, by the late 1880s, the demand for iron declined sharply and the site was eventually shut down. Eventually, it became overgrown and fell into ruin. Today, some features of the site are intact, but many of the important buildings and structures are gone. Fortunately, the site is part of a state park and, as such, is protected from development.

Recently, Long Pond was studied for its interpretive potential as a museum site related to the history of early American iron production and technology. An historic site survey, conducted by architects Short and Ford and Partners, with Schlesinger Associates, landscape architects, and Heritage Conservation and Interpretation, Inc., industrial archaeologists, proposed a combination of interventions. The ruins of the iron works were to be stabilized, with an observation pavilion placed nearby in an archaeologically nonsensitive area. Some of the workers' houses and the general store in the village were to be restored and reused for the museum, and a new parking area and interpretive center were laid out between

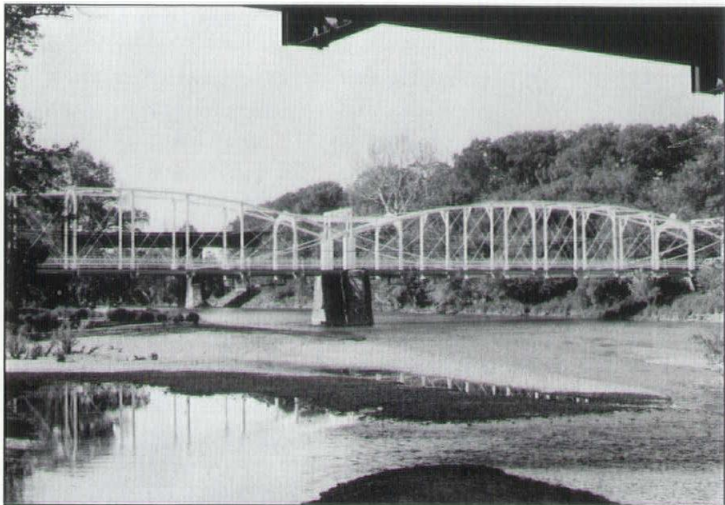
the village and the iron works, also in an archaeologically nonsensitive area.

Other New Jersey industrial sites are considered less significant than Long Pond, and they can be adapted to new uses. The Beattie Carpet Mill complex in Little Falls, begun in 1840 and gradually extended over the next 140 years, is a case in point. In 1987, five years after the company closed down, the site was bought by Andrew Jubelt and the Affirmative Development Company of New York and developed as a residential community. Architect Barry Poskanzer and preservation consultant David V. Abramson laid out 330 condominium apartments in the ten existing buildings and designed a contextual new building for the complex. In the re-use of the mill buildings, prominent architectural features, such as brick walls and window openings, were carefully preserved by the builder, Pike Construction Company.

Bridges represent a significant component of New Jersey's industrial heritage, but the problems of their preservation differ from those of industrial buildings. Since a bridge is basically an exposed structural skeleton with a deck used as a driving or walking surface, reinforcement can rarely (except in covered bridges) be installed without adversely affecting the bridge's aesthetics. The preservation options are few, and include restoring the bridge and limiting the allowable weight on it, building a new bridge beside it to take most traffic off it, or relocating it to a less demanding location.

One imaginative and highly successful solution was found for the 1886 Neshanic Station Bridge in Somerset County, the top chord elements of which had seriously deteriorated. Because it was a rare surviving

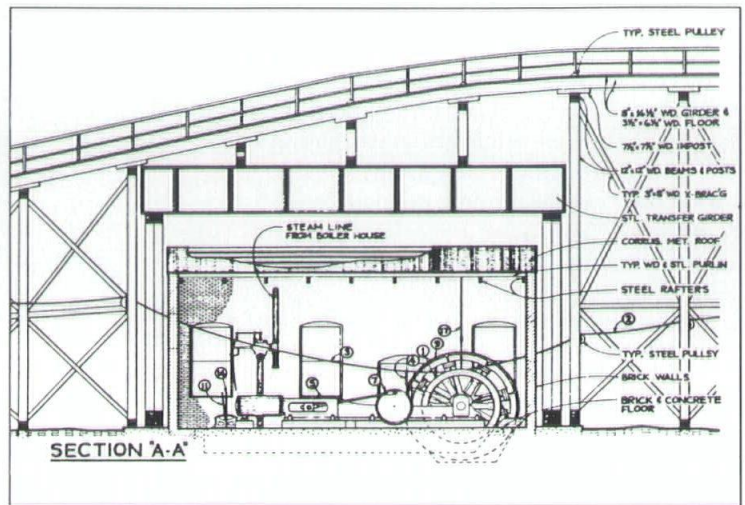




Neshanic Station Bridge, Somerset County

example of double lenticular truss design, the bridge had been listed on the National Register of Historic Places. The engineering firm of A.G. Lichtenstein & Associates developed an ingenious solution, unobtrusively inserting a composite steel beam between the two corroded steel channels of the original upper cord. As the new composite beam carries the loads, the old, elegantly proportioned channels, now merely decorative, could be safely sandblasted and painted. The aesthetics of the bridge were not compromised, and the bridge can be used by vehicles of all kinds for generations to come.

Sometimes, it is not possible to preserve a structure. Instead, the artifact is "preserved" graphically, following standards set by the Historic American Engineering Record (HAER), a division of the National Park Service, and held in the Library of Congress. The Delaware, Lackawanna & Western Railroad Grain Trestle on the Jersey City waterfront is an example of this type of preservation. For nearly 70 years, the trestle provided a means of transferring carloads of grain from the railroad onto ships docked on the Hudson River. After the DL&W facilities closed in the 1970s, the structure sat abandoned while the rest of the yard was dismantled. In the mid-1980s, the Jersey City Department of Housing and Economic Development agreed to have the Cultural Resource Group of Louis Berger & Associates document the Grain Trestle prior to its demolition as part of a waterfront revitalization program. Today, the structure is preserved through a series of measured drawings, large format rectified photographs, and a historical narrative in



Grain Trestle, Jersey City

the HAER Collection at the Library of Congress.

As architects working on design projects in the 1990s cope with questions surrounding the reuse of historic industrial buildings and sites, it is important to recognize that there are various opportunities afforded by restoration, rehabilitation, and documentation. Each site has its own mer-

its (and drawbacks), which can effectively be integrated (or overcome) in new design work. □

*John R. Bowie, AIA, is an architect specializing in historic structures, in private practice in Media, PA.*



## Engineered Ceramics



(lightbulb)

...



(crushed glass)

+



(pure white clay)

→



(Prominence® tile)



### RECYCLED GLASS TILE . . .

- SLIP RESISTANT
- UNSTAINABLE
- SUPERIOR HARDNESS
- 30 VIBRANT COLORS

- NO SHADE VARIATION
- DIMENSIONAL REGULARITY
- THROUGH BODY COLOR
- UNGLAZED

## A REVOLUTION UNDERFOOT!

DISTRIBUTED BY:



**TERRA  
DESIGNS**  
BEDMINSTER, NJ  
(908) 234-0440



**MADE IN  
USA**  
MEMBER TILE COUNCIL OF AMERICA INC

# Guide to Historic Preservation Offices and Programs in New Jersey

A number of offices and programs address the various concerns of historic preservation in New Jersey. In an effort to highlight the services those offices perform and to offer a guide to historic preservation offices and programs in New Jersey, the following directory has been compiled.

## State Government

In New Jersey the management and conservation of publicly owned historic resources is the function of the Department of Environmental Protection and Energy and the Division of Parks and Forestry under the direction of the Assistant Commissioner of Natural and Historic Resources. The various responsibilities and services are distributed as follows:

Department of Environmental Protection and Energy, Division of Parks and Forestry, CN 404, 501 East State Street, Trenton, NJ 08625 (609) 292-2885

Within the Department of Environmental Protection and Energy, the Division of Parks and Forestry is responsible for the administration and interpretation of all New Jersey State-owned Historic Sites. These include historic house museums, restored museum villages, lighthouses, Revolutionary War battlefields and major historical monuments.

Office of New Jersey Heritage, CN 404, 501 East State Street, Trenton, NJ 08625 (609) 292-2023

The Office of the New Jersey Heritage serves as New Jersey's official State Historic Preservation Office. It administers State and Federal historic preservation programs for New Jersey, and offers technical assistance to individuals, organizations and government agencies in the identification, evaluation and protection of historic resources. Some of the services provided by ONJH include:

- processing of New Jersey and National Register of Historic Places nominations;
- administration of matching grants for historic site surveys, historic preservation planning, historic preservation predevelopment projects, development projects (rehabilitation/restoration) and historic site acquisition;
- administration of Main Street New Jersey program. Established in 1987 and affiliated with the National Main Street Center (a division of the National Trust for Historic Preservation), Main Street New Jersey is a downtown economic revitalization program for historic commercial districts. Main Street communities are selected periodically statewide through a competitive application process. This comprehensive technical assistance program focuses on organization, promotion design and economic restructuring aspects of downtown revitalization.
- administration of New Jersey's Certified Local Government (CLG) Program, including approximately \$50,000 per year in federally mandated grants to Certified Local Governments, and technical assistance to local historic district commissions;
- development and promotion of statewide comprehensive preservation planning and preservation education plan;
- review of State, county and municipal undertakings for their effects on resources on the New Jersey Register pursuant to the New Jersey Register Act of 1970;

- review of federal undertakings for their effects on resources listed on or eligible for listing on the National Register of Historic Places pursuant to Section 106 of the National Historic Preservation Act;
- review of applications for certified rehabilitations under the Tax Reform Act of 1986;
- coordination with the New Jersey Historic Trust.

New Jersey Historic Sites Council, CN 404, 501 East State Street, Trenton, NJ 08625

Established by legislation in 1967, the Council reviews all State, county and municipal encroachments

to resources listed on the New Jersey Register of Historic Places, and recommends to the Commissioner project approval, conditional approval, or denial as empowered by the 1970 New Jersey Register of Historic Places Act. The Council advises the State Historic Preservation Officer and the Administrator of the Office of New Jersey Heritage on State Historic Preservation Office Programs, and recommends programs and policies for:

- the development of a broad historic sites preservation program on a state-wide and local basis;

## Roofing Quality Assurance

### The Tremco package

### for architects includes:

roof examination,

design assistance,

premium grade roof

systems, and full-time

project monitoring.

If you would like to take

advantage of this program...

**TALK TO TREMCO**

New Jersey architects call:  
William Maier 1-800-628-7501

**TREMCO**

- the acquisition, development, use, improvement and extension of historic sites, including archaeological sites;
- the identification, authentication, protection, preservation, conservation, restoration, and management of all historic sites within the State. The Historic Sites Council is supported by the staff of the Office of New Jersey Heritage.

New Jersey State Review Board for Historic Sites, CN 404, 501 East State Street, Trenton, NJ 08625

The State Review Board, mandated by the national Historic Preservation Act of 1966, reviews:

- all nominations to the New Jersey and National Registers of Historic Places for consistency with the criteria for inclusion in the New Jersey and National Registers of Historic Places, and recommend to the State Historic Preservation Officer (SHPO) whether or not the property meets the criteria;
- completed state historic preservation grant applications prior to submission to the U.S. Department of the Interior;

The State Review Board is supported by the staff of the Office of New Jersey Heritage.

New Jersey Historic Trust, CN 404, 506-508 East State Street, Trenton, NJ 08625 (609) 984-0473

Created by state law in 1967, the New Jersey Historic Trust is a non-profit historic preservation organization within the Department of Environmental Protection and Energy. The Trust administers the 1987 Historic Preservation Bond Program, a \$22 million competitive matching grants program to assist in "bricks and mortar" preservation projects. The Bond Program is the first major state-funded capital grants program of its type in New Jersey, and one of the first in the country. In the first two grants rounds, fifty-seven properties received matching grants ranging from \$10,000 to \$1.1 million. Over \$14 million have been awarded as of December 1991. The Bond Program aids properties throughout the State which may be owned by the State, county or municipal governments, or non-profit organizations, and which must be listed or eligible for listing in the National and State Registers of Historic Places. The Trust also operates to:

- promote preservation of the state's historic resources by encouraging cooperative efforts between public and private agencies;
- provide an emergency assistance grant and loan program for endangered properties;
- accept gifts, legacies, bequests and endowments;
- acquire, hold and dispose of personal property of historic aesthetic or cultural significance, by gift, purchase, devise, or bequest;
- give any moneys or property held by the Trust to the Commissioner for the purpose of administering, operating, or maintaining the State historical sites program.

### Local Government

At the local level, many programs address the needs and concerns of historic preservation. These include:

- County Cultural and Heritage Commissions
- County Park Systems
- Municipal Historic Preservation Commissions
- Historical Societies

### Private Nonprofit Organizations

Preservation New Jersey, 170 Township Line Road, Belle Mead, NJ 08502 (908) 359-4557

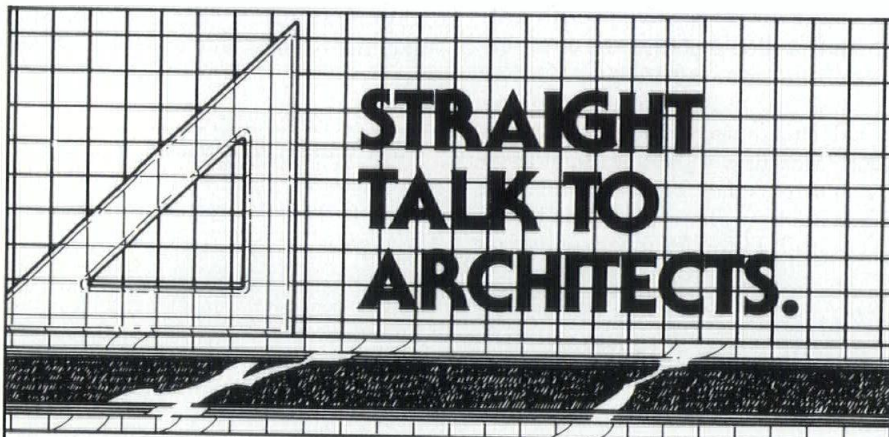
Preservation New Jersey is a statewide nonprofit organization that helps its members restore and maintain historic buildings and preserve the unique character of neighborhoods and communities around the Garden State. Preservation New Jersey has been producing programs and publications about architectural and cultural resources since 1978. PNJ offers a newsletter, publications, conferences, seminars, lectures and tours.

### Related Architectural Professional Societies

Historic Preservation/Resources Committee of the New Jersey Society of Architects, 900 Route Nine, 2nd Floor, Woodbridge, NJ 07095, (201) 636-5680

The Historic Preservation/Resources Committee of the New Jersey Society of Architects acts as a resource and provides technical assistance to Society members interested in historic preservation. It also acts as a clearing house for governmental regulations (codes, standards, etc.) and information (guidelines). □

This guide was compiled by Betty Jean Fernandez, Public Relations Coordinator of Watson and Henry Associates.



Architects need reliable engineers.

Engineers who know the construction process inside and out. Specialists who both the architect and owner can trust. But most of all, engineers who aren't afraid to discuss costs and materials up front when it counts.

Straight talk is rare in our business—but it's our way of working with clients. We always give you the most efficient design, without any last-minute budget surprises.

Why not put our word to the test on your next project?



**O'DONNELL & NACCARATO**  
STRUCTURAL ENGINEERS  
**INGENUITY IN ENGINEERING.**

BOURSE BUILDING • INDEPENDENCE MALL EAST • PHILA., PA 19106 215-925-3788

DOYLESTOWN, PA • PHILADELPHIA, PA • WEST PALM BEACH, FL

# Heating, Ventilating and Cooling Historic Houses

by Michael C. Henry PE, AIA, and Betty Jean Fernandez

Heating, ventilating and cooling historic buildings is a topic as broad as the spectrum of types and uses of historic structures. This article examines the challenges in incorporating an HVAC system in an historic house.

Historic houses present a number of challenges in maintaining a comfortable interior climate, in controlling humidity and improving ventilation. Historic building envelopes typically lack insulation, vapor barrier, and vestibules and other buffer spaces. The historic building usually has excessive air infiltration.

A modern HVAC system requires space for equipment and distribution. Generally in historic houses, space and clearances for the central appliance and fuel supply are insufficient and poorly located, and space for chases for distribution ducts or piping is insufficient. Structural capacity may be inadequate for equipment loads, and inadequate stiffness may result in the transmission of equipment vibration.

The installation and maintenance of HVAC equipment is a challenge, as well. Equipment must be moved into place via existing doors, windows and stairs. Since distribution ducts and piping should be located

in concealed locations, repairs and maintenance are difficult.

There are operational/safety considerations of HVAC systems in historic buildings. System failure may damage the building, especially water-based systems. Humidifiers can over-humidify the building, causing hidden condensation in the uninsulated, vapor-barrierless walls and hidden deterioration. High operating costs may be the result of unrealistic comfort expectations.

Knowing what the challenges are in heating/cooling the historic building, one can take steps to address those challenges in anticipating the new system. To upgrade the building envelope, steps can be taken to reduce air infiltration, especially at windows and doors. Appropriate storm window strategies, as well as strategies for appropriate insulation, should be considered. Storm window applications and insulation of existing walls can create hidden condensation problems and deterioration. Improvements to minimize the heat loss of an historic building must be carefully designed with attention to the potential for condensation. Measures should be taken to reduce the moisture intake of the building. The significant building features must be identified and prioritized so that important interior

and exterior features of the building remain undisturbed or unaltered.

A willingness to incorporate aspects of the original living patterns is preferable to over-designing systems to compensate for inherent inefficiencies of the structure. A "tolerable" comfort range should be identified, broader than today's "idealized" range, and "low-tech" measures should be incorporated, including those associated with the original design of the house, such as awnings, screens, shutters, storm sash and window operation. Understanding the combinations of window sash positions that yield the optimum ventilation effect is important.

In summary, a delicate balance must be struck between the preservation needs of a historic house and the interior climatic needs of the house's occupants. With a knowledgeable approach, an informed client and specialized professional assistance, it is possible to strike that balance and achieve a successful product. □

*Michael C. Henry, PE, AIA, is Principal, and Betty Jean Fernandez is Public Relations Coordinator of Watson and Henry Associates.*

## Additional Credits

### New Jersey State House, Trenton:

Architects: Short and Ford/Johnson Jones Architects  
Architectural team: Jeremiah Ford III, George Jones, partners-in-charge; Michael Mills, preservation partner; James Gatsch, managing partner; Michael Farewell, design partner; Walter Maykowsky, project partner, programming; Harry Labold, project architect, production

Civil Engineering: V.E.P.

Soils consultants: French & Parello

Structural consultants: Blackburn Engineering

Elevator consultants: McHale & White

Mechanical, Plumbing, Electrical, Fire Protection: J.R. Loring & Associates

Hardware consultants: Arkacey Associates

Specifications: Robert A. Schwartz

Cultural Resources/Historic consultants: Heritage Studios; Hunter Research

Stained glass: McKernan Satterlee Associates

Scagliola: Slieman Studios

Light fixtures: Rambusch Studios

Decorative Arts/Furnishings: Michael Ettema; Hughes Group

Cost estimating: MMP

Fine Art Restoration: Fred Koszewnik

Paint analysis: Frank S. Welsh

Materials conservationist: Building Conservation Associates

Telecommunications: Hi-C Sound

Acoustics: Klepper Marshall & King

Security: Stone & Webster

### Chapel of the Miraculous Medal, Princeton:

Architects: Short and Ford and Partners; Michael Mills, partner-in-charge; Alex Lisse, project architect

Mechanical, Electrical & Plumbing consultants: Seeler Smith & Associates

Structural consultants: Blackburn Engineering

Stove & Wood cleaning: Building Conservation Associates

Lighting design: Rambusch

### Winants Hall, New Brunswick:

Architects: The Hillier Group

Architectural Historian: Lawrence Schwin, III

Work done in coordination with: New Jersey Heritage

### West Trenton Rail Station, Trenton:

Architects: Clarke & Caton

Client: Zephyr Inc./Clarke & Caton

### Roebing Complex:

Architect: Clarke & Caton

Clients: DKM Properties, Inc.

(Trenton Performing Arts Center client: City of Trenton, Passage Theater Co.)

### Deserted Village of Feltville/Glenside Park:

Architectural/Engineering firm: Watson and Henry Associates

Client: The County of Union

Funding: The County of Union; New Jersey Preservation Bond Fund, administered by the New Jersey Historic Trust

Historic Paint Analysis: Frank S. Welsh, Bryn Mawr, PA  
Stabilization General Contractor: Watertrol, Inc., Cranford, NJ

### Barnegat Lighthouse:

Architectural/Engineering firm: Watson and Henry

Contracting and Using agency: State of New Jersey

Funding: State of New Jersey; New Jersey Preservation Bond Fund administered by the New Jersey Historic Trust; New Jersey Shore Foundation

Structural Engineer: Carl A. Baumert, Jr., PE, Keast and Hood Co., Philadelphia

Contractors: Circle A Construction Co.; Paint-Tech, Inc.; Douglasville Masonry Maintenance Co.; Mastercraft Iron, Inc.

Inspection consultant: Testwell Craig Testing Labs, Inc.

### Lambertville Station and Inn:

Architects: Kanalstein, Danton, Johns, PA

Project team: David Danton, principal-in-charge; George Johns, project manager; Gary Swartz, project architect.

Structural engineers: O'Donnell and Napcarato

General contractor: Demarco Investment Group

Photographer: Robert Golding, Berry and Homer

### 74 Perry Street

Architect: Hewitt Architects

Design team: Mark A. Hewitt, principal-in-charge; Dale Flynt, Lynn Bensele Hewitt, John Ota, design and production

Restoration consultant: Center for Preservation Research, Columbia University

Specifications: Robert Schwartz Associates

Structural consultant: Robert Silman Associates

Mechanical consultant: Jack Green Associates

Garden design: Deborah Nevins

Contractors: J. Hanley Enterprises/Taconic Builders; Architectural Iron; Adami Stone restoration

### 17 Witherspoon Street, Princeton:

Architect: Michael Burns, AIA

Project team: Michael Burns, Vince Babak, Eve Jordan, Todd Pardon

Photography: Michael Burns

Structural engineers: Hoisington Engineers

Mechanical Engineers: Akselrad-Debs

Contract: Ehret Construction

*Haddonfield Historic Homes: Success through Historic Preservation*

by Joan L. Aiken

Haddonfield Preservation Society, 1991.

*Haddonfield Historic Homes*, a publication of the Haddonfield Preservation Society, was written to establish a permanent record of the history and significant 18th and 19th century architecture of that Borough. The architecture has been preserved and restored through the enactment of an Historic District Ordinance in 1971, the second Historic District to be established in New Jersey. The process of developing an Historic District Ordinance—and developing community support for the preservation of cultural assets—is described in great detail in the book's final chapter, by itself of significant interest to anyone involved in Historic Preservation.

Written and edited by Joan L. Aiken, Executive Director of the Haddonfield Preservation Society, this handsome, 208-page oversized hardback book includes 899 color photographs, by Jim Cooper, of the town's historic homes and buildings. Ms. Aiken is a frequent speaker on preservation topics and is the recipient of numerous

awards for her contribution to historic preservation, including an Award of Honor from the New Jersey Society of Architects in 1985.

Ms. Aiken explains the impetus for the book in the foreword: "Unlike music and art, architecture is rarely part of our education. We often are unable to recognize the beauty that surrounds us—blind to the contribution of both architects and humble builders. Those who take time to look at their surroundings will be rewarded with the inspiration to preserve their community's irreplaceable heritage." Interested local architects and historians contributed the vivid architectural descriptions and detailed cultural history of the houses and buildings featured in the book.

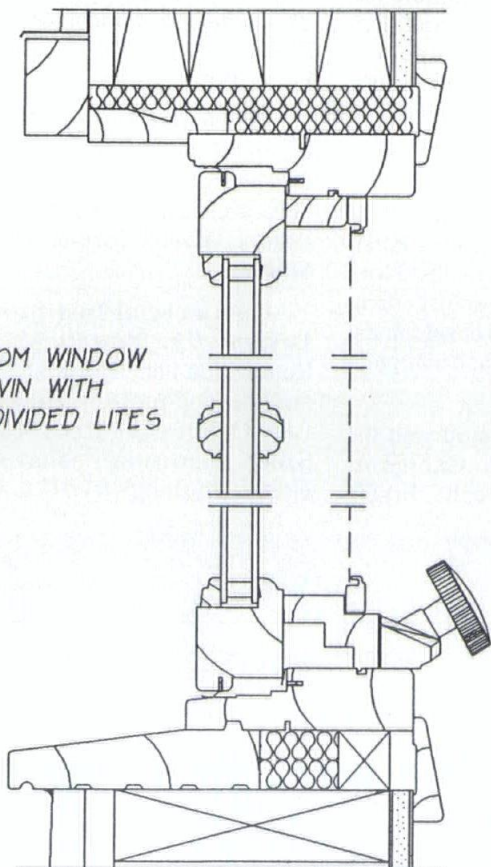
Michael J. Mills, AIA, Chairman of AIA/New Jersey's Historic Preservation/Resources Committee, wrote in his pre-publication review of the book, "The compendium of historic buildings showcases not only a part of New Jersey's rich architectural heritage, but also the successful preservation efforts in the town of Haddonfield. Joan Aiken's text and Jim Cooper's photographs combine to offer a compelling

visual and descriptive record of significant architecture in Haddonfield from the 18th and 19th centuries. Architects who work in the preservation of historic buildings will appreciate the attention to detail shown in the photographs and text. The Haddonfield Preservation Society has produced a fine volume which is useful to lay people and professionals alike."

*Haddonfield Historic Homes* traces the development of architectural style through the preserved buildings, from the earliest examples, circa 1700, of Colonial and Federal styles, to the great diversity of the late 1800's and the Victorian era. Haddonfield is considered to have the greatest number of Federal buildings remaining in any town in New Jersey.

Reviewer Charles J. Weiler, AIA, is 2nd Vice President AIA/New Jersey, and contributing architect to Haddonfield Historic Homes.

*Haddonfield Historic Homes* may be purchased through the New Jersey Society of Architects and is priced for NJSA members at \$50, including shipping direct from the publisher. Non-members \$55. Please include your full name and mailing address.



## Details, Details, Details...

Whether you are specifying standard clad double hungs, or custom sized wood casements that utilize some of Marvin's more exotic options, Bridgewater Wholesalers is able to assist you.

Our professionally trained Computer Aided Drafting staff specializes in making sure your project is specified, ordered, and built properly. Whether you need an elevation drawing to verify daylight openings, or a full set of shop drawings with installation details, we can provide it — free of charge.

So next time you're using wood windows, give us a call, and let BWI give your project the attention to detail it deserves.



**Bridgewater Wholesalers, Inc.**  
 Architectural Support Dept.  
 210 Industrial Parkway  
 Branchburg, New Jersey 08876  
 1-800-242-7207



## AIA/New Jersey Names New Executive Director

Katharine Earnshaw Shuler has been named new Executive Director of AIA/New Jersey. Ms. Shuler assumed her new position at the Society's Woodbridge headquarters January 1, 1992.

From 1985 to 1991, Ms. Shuler was Executive Director of Preservation New Jersey. From 1978 to 1984, she held managerial roles for AT&T Corporate Information Systems in several New Jersey locations.

Ms. Shuler's experience with the built environment includes her activities with the National Trust for Historic Preservation. Since 1986, she has served this organization in several capacities. She is a member of the National Trust for Historic Preservation, the International Conference on Monuments and Sites, and the New Jersey Society of Association Executives. She also is a member of the Board of Directors of Preservation Action, a national preservation lobbying organization. She has been a member of the National Alliance of Statewide Preservation Organizations and the National Conference of Preservation Executives.

"Ms. Shuler's extensive experience with the built environment both nationally and in New Jersey, as well as her proven administrative qualifications, made her an ideal choice as Executive Director of the functions of AIA/New Jersey," said Michael Savoia (AIANJ President). He added that her skills will support the Society's 1992 mission of *Education Through Communication*, a program of outreach efforts through which the Society hopes to heighten public awareness of the value of architects in planning and problem-solving as well as design.

Installation of the 1992 AIANJ officers took place in conjunction with a meeting of the Architects League of Northern New Jersey. On December 8, 1991, aboard the Spirit of New Jersey, Past-President Daniel Millen, AIA, passed the gavel to 1992 Pres-

ident Michael Savoia, AIA. Other new officers include Robert H. Lee, AIA, President-Elect; Ronald Bertone, AIA, 1st Vice-President; Charles J. Weiler, AIA, 2nd Vice-President; Albert F. Zaccone, AIA, Treasurer; Christine L. Misco, AIA, Secretary.

Leo Rutenberg, AIA, and James S. Jones, AIA, were honored by the AIANJ in recognition of their 50 years as licensed architects.

Charles A. Spitz, AIA, was one of two Monmouth County residents honored in February with the first Distinguished Eagle Scout Awards presented by the Monmouth Council, Boy Scouts of America. This prestigious award is granted to Eagle Scouts who, after 25 years, have distinguished themselves in their life work and have shared their talents with their communities on a voluntary basis.

The Passaic County Historical Society's Honor Roll Award was presented to Stan Lacz, AIA, a principal in the Little Falls firm of AEP Associates, in recognition of his service to the society as its president and trustee for over a decade.

In January, Robert Geddes, FAIA, addressed architects, planners and social scientists from most of Europe at a conference on "Urban Planning and Environmental Policy in the Context of Political and Economic Changes in Central Europe," in Prague, Czechoslovakia. Mr. Geddes spoke on "The Region as Buildings, Landscapes and Cities," a progress report on the Regional Plan Association's new plan for the New York Metropolitan area.

Daniel R. Millen, Jr., AIA, Past-President of the AIANJ, has joined CUH2A of Princeton as an Associate and project manager for the firm's research and development buildings and corporate office and computer facilities.

George A. Held, AIA, announced the change of his firm's name to George A. Held, AIA and Associates. Joseph J. Bruno,

AIA, and John DeThomasis, AIA, have been promoted to Associates in the firm.

Vincent A. Montrasio, AIA, has been appointed Project Manager at Ballinger in Philadelphia.

Robert Giacomelli, AIA, PP, has accepted the position of Managing Principal of the Haddonfield office and Associate of the Cape May County Office of The Design Collaborative, Architects and Planners, P.A.

Thomas Lakavitch, AIA, has been promoted to Senior Associate with the firm of Faridy Thorne Fraytak, P.C. of Trenton.

Michael Jaeger, AIA, has been named an Associate in the firm of KDGR Architects in Red Bank.

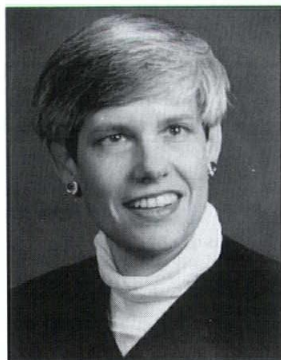
New Jersey Monthly magazine has announced its 1992 Designs of the Year award. They are:

**Commercial/Institutional Architecture:** Lehigh University College of Business and Economics, Bethlehem, PA: The Hillier Group, Princeton; Honorable Mention: Heavy & General Construction Laborers' Union, Professional Services Building, Newark: Ronald Schmidt & Associates, P.A., Hackensack.

**Residential Architecture:** Pool and Pool House for Judith Corrente, Far Hills: Short and Ford and Partners, Architects, Princeton; Honorable Mention: Island Farm, Whitehouse.

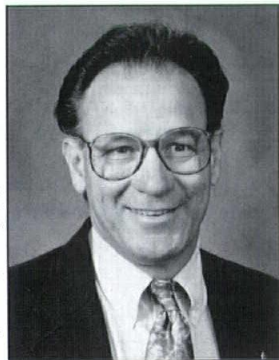
**Residential Interior Design:** House on the Palisades, Upper Grandview, NY: Jay D. Measley, Architects, Red Bank; Honorable Mention: 1902 Room Springlawn, Lenox, MA: Florence Karasik, ASID, Shrewsbury.

**Commercial/Institutional Interior Design:** The Newark Museum: Master Renovation Plan, Newark: Michael Graves, Architect, Princeton; Honorable Mention: Law Offices of Pitney, Hardin, Kipp & Szuch, Morristown: Kurt Anderson AIA; Horatio Furlong: CUH2A, Inc., Princeton.



Ralph Loewy Photography

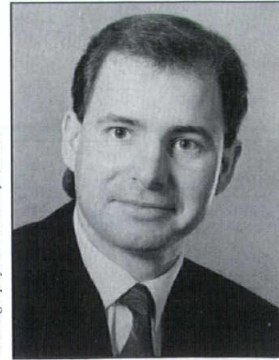
Katharine E. Shuler  
28 Architecture New Jersey 92:2



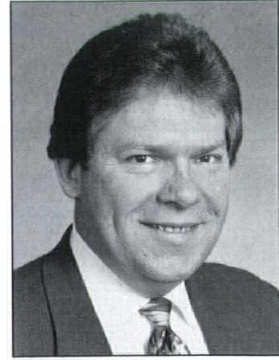
Thomas Lakavitch



Robert Giacomelli



Michael Jaeger



Daniel R. Millen, Jr., AIA

Reprints  
of  
Articles or Projects  
featured in  
**Architecture**  
New Jersey

are available  
from the Publisher.

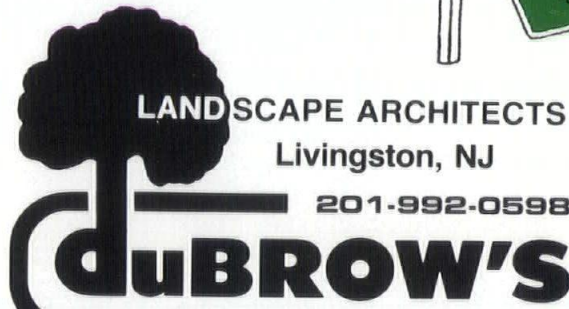
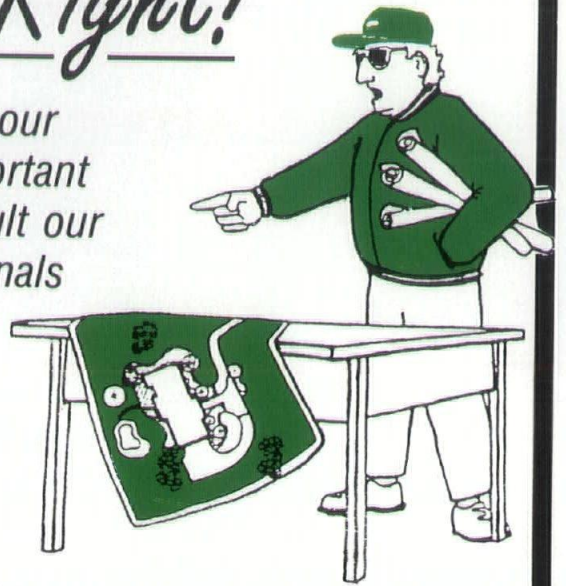
For information contact

**Montage**

609/767-2929

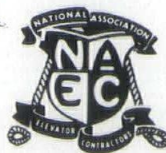
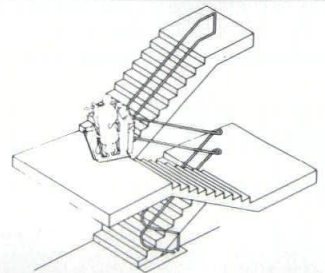
# Design Right!

*Don't jeopardize your client's most important investment. Consult our licensed professionals to create a unique site design for their home.*



- National award winning designs
- Computer imaging
- Design/build

## Ask us about the barrier-free codes and tax credits.



The **Carrier-Lift** Inclined Wheelchair Lift is designed to carry a person in a wheelchair up or down stairs on a straight run stairway or between two or more levels of stairs. It can be installed in most schools and office buildings to make all floors accessible. The unit is battery powered with a power system built into the platform.

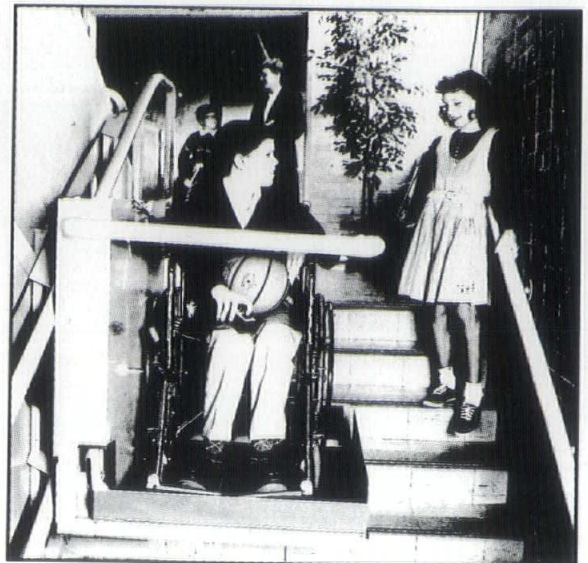
Conforms to ANSI A17.1 Parts 2000 and 2100, for inclined wheelchair lifts.



**MOBILITY**  
**ELEVATOR & LIFT CO.**

25 MERRY LANE ■ EAST HANOVER, NJ 07936

(201) 887-7500 FAX (201) 887-0442



# BLAZEGUARD™

## HAS YOU COVERED FOR LIFE.

Blazeguard Adds

"Peace Of Mind"

To Your Next Project

### FIRE-RATED

Weyerhaeuser's new Blazeguard is truly a reliable and cost effective fire-rated sheathing panel warranted for life with BOCA and SBCCI code compliance. Featuring a patented\* fire-shield laminate, Blazeguard forms a protective barrier that *exceeds* the 30-minute Class A flame spread rating as required by the majority of building codes.

### STRENGTH & DURABILITY

Blazeguard's unique fire-retardant laminate keeps the panel strong, without reducing rated panel strength for life. Under normal applications, Blazeguard will also not crack, peel or flake and offers more abrasion resistance than uncovered wood.


### Blazeguard Has You Covered For Life\* — So You Can Get On With Your Business

For More Blazeguard Product Information, Call:  
Manufacturers Reserve Supply  
800-672-1058 (in New Jersey)  
or 800-772-3658 (outside New Jersey)

### WARRANTY

Limited lifetime warranty is valid for the *life* of the original structure or improvement. Blazeguard warranty covers performance related to fire, strength, corrosion, permeability and durability of the laminate. Consult Blazeguard warranty for further information.

\*Patent Numbers: 4818595 and 4661398

 Weyerhaeuser