CORRUGATED REFURNISHES **HOLE IN ONE:** A CLUBHOUSE WELL ABOVE PAR **A WAKE-UP CALL** FROM FRANK LLOYD WRIGHT
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THE OFFICIAL MAGAZINE OF AIA IOWA

Craft Issue

Detail-oriented:
Celebrating a well-built world

BLOCK

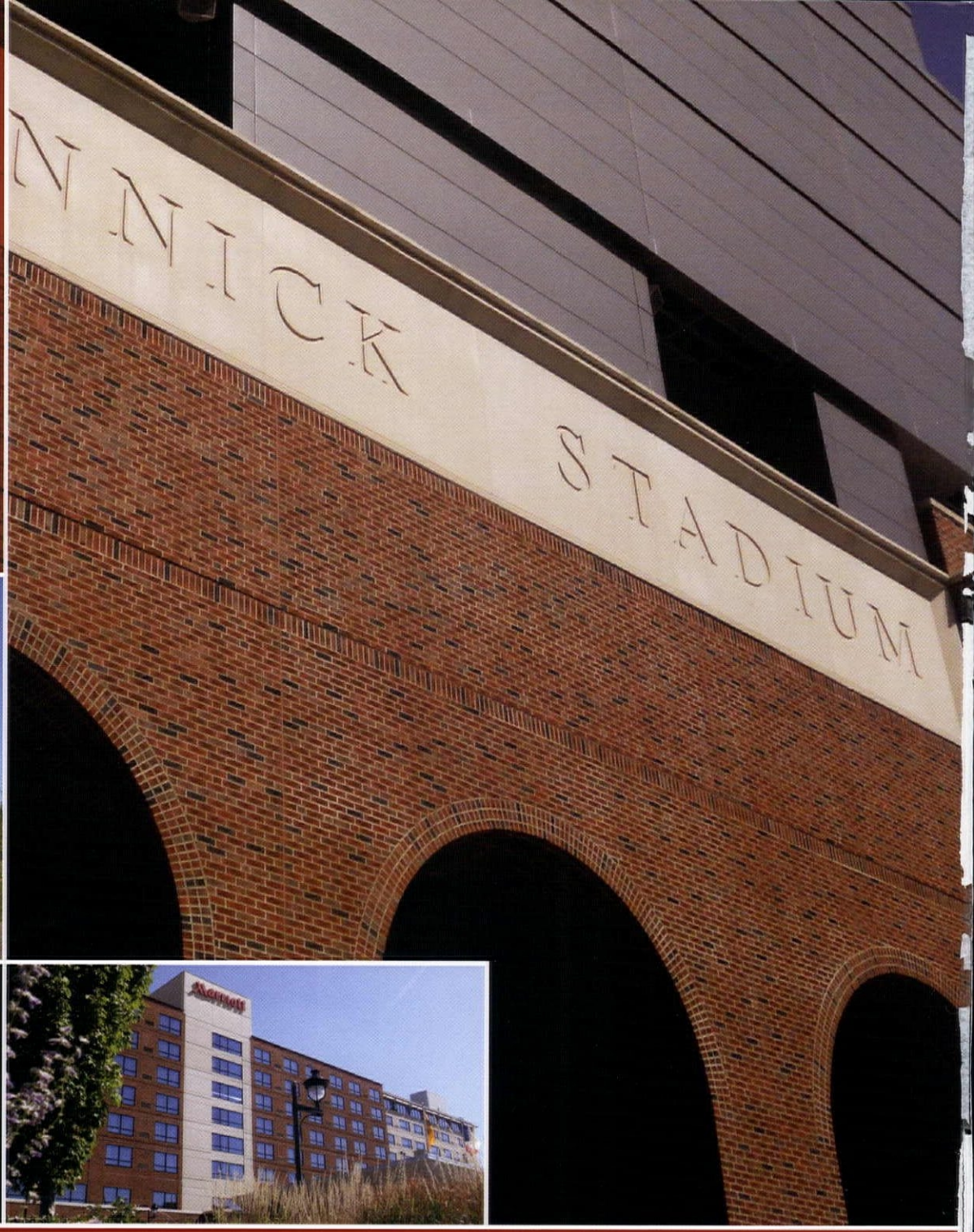
BRICK

PAVERS

STONE

REDI ROCK

ECO/GREEN MATERIAL



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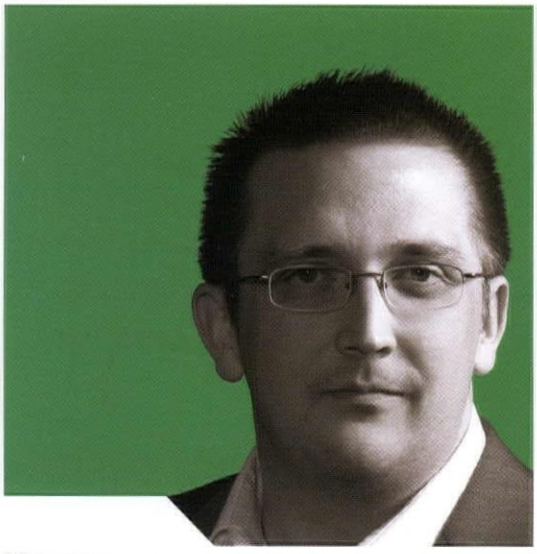

> Craft is about that moment of clarity. —*Jody Brown, AIA, LEED AP*[1]

Welcome!

From the meticulous and amazing restoration of the only remaining Frank Lloyd Wright-designed hotel in the world to the modernist re-use of the Tifereth Israel Synagogue, this issue of *Iowa Architect* explores the moment of clarity in craft.

The notions of craft are ever-present in the process of creating architecture. The search for elegant solutions is an iterative process often cluttering the design studio with beautiful drawings, intense dialogue among colleagues, renderings and models. Then the architect moves on to communicate the clarity of these ideas by crafting the documents the contractors and artisans use to execute the vision of the client-architect team. Ultimately, contractor and architect enter a constant negotiation to execute the vision—leading to elegant solutions the world didn't realize it needed.

We also take a look at the people who work in the field with the arduous task of executing the project. Iowa is rich with talented craftspeople who have been working side by side with us in the creation of elegant spaces. Biennially, the Excellence in Craft Award honors those whose work is their art. If the projects on the following pages are any indication, the jury will have a fruitful year.

Brad Davison-Rippey, AIA
Editor, Iowa Architect

[1]Jody Brown, AIA, LEED AP: "The Craft of Architecture," 02 Nov. 2011, archdaily.com/180775/the-craft-of-architecture

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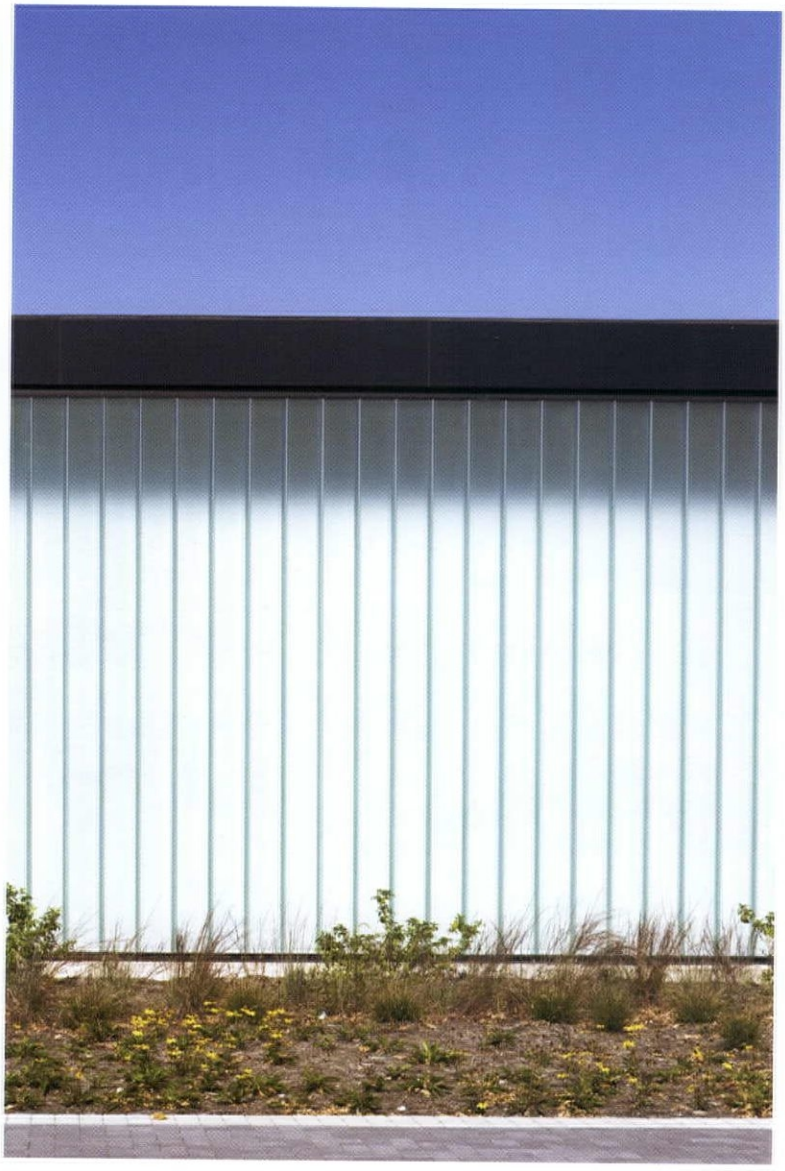

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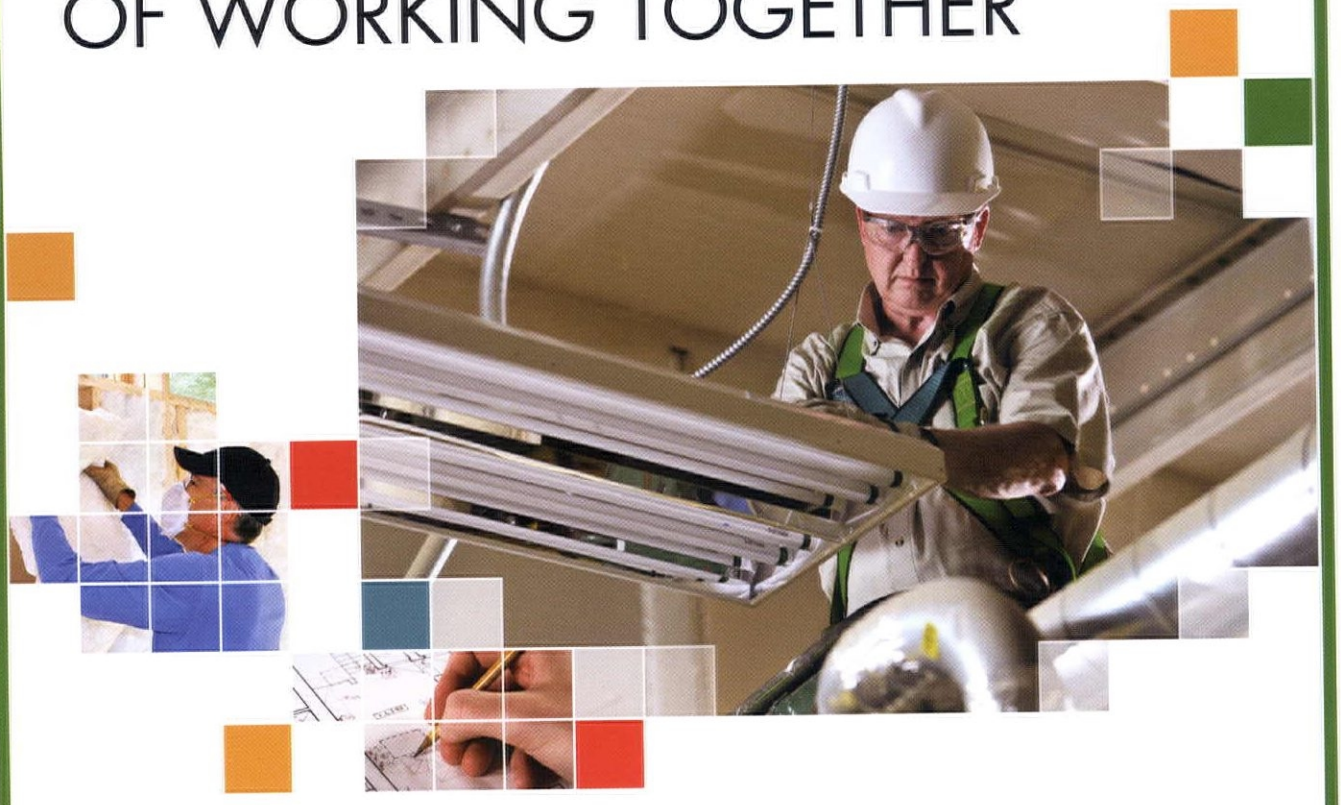

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Real Good chair
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INTO THE FOLD

Furniture that puts your origami skills to the test. Approachable and innovative design is often a difficult combination to grasp. Starting from flat stock and folding into a final form allows the user to engage with the making of his or her furniture. It is a process that is tactile, youthful and fun. ia

Foldschool / A collection of do-it-yourself cardboard furniture for kids. Patterns and a manual can be downloaded from the Internet for free. The concept of "foldschool" is based on sustainability playing out the qualities of a recycled material: Folding a flat piece of cardboard according to ergonomic and formal considerations enhances its substandard value and generates a spatial structure. And, cardboard is a highly suitable material for kids' furniture. It's lightweight and the kids can paint it. Once it has served its time, it can be disposed of with a clear conscience. Swiss-based architect Nicola Enrico Stäubli designed the furniture. ***foldschool.com***

Real Good chair / Riffing off their award-winning 2d3d collection of steel accessories, Blu Dot brings the concept of flat pack to a chair. The Real Good chair is a seat shell made from laser-cut, powder-coated steel on top of bent tubular legs, all packed into a convenient, one-inch-thick package. Customers can walk out of the store with a chair in each hand. The laser-cut seat comes flat, ready for the customer to bend into three dimensions, to form a remarkably comfortable seat. The chair is also the subject of a short film, *The Real Good Experiment*—available on the Blu Dot website—and opens a discussion about the value of well-deigned objects. ***bludot.com***


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ART & CRAFT

WORDS: BRENT HOFFMAN
IMAGES: AMY WORTHEN

Printmaker Amy Worthen focuses on the art of architecture.

I'm in the basement studio of artist and Des Moines Art Center curator of prints and drawings Amy Worthen, at her home on a quiet Waterbury street. Here, she gives me a lesson in the art of intaglio printmaking, a method in which an image is incised onto a copper plate, then printed. I place the burin, or engraving tool, in the palm of my hand and begin to make incisions into the copper plate. I am told to make the burin an extension of my arm ... to relax and engage the plate with less force. I have stepped out of the world of architecture and into the world of printmaking.

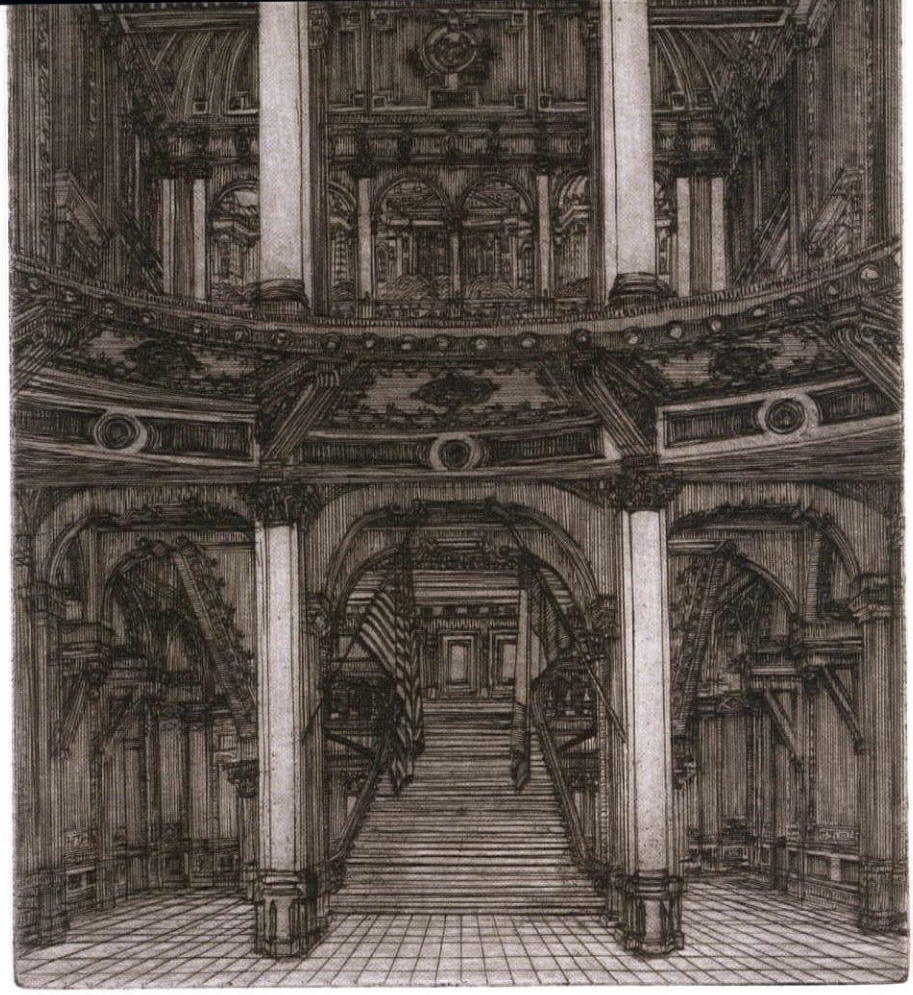
Intaglio has not changed much over the centuries; tools used today are not very different from the ones used in the early 1400s. "I concentrate on engraving, which is direct cutting on the plate. Not too many people do this in the world today, for two reasons: They don't learn well or they don't have enough patience," Worthen says. "You need to be absorbed in the technique." Her intaglio prints require diligence, experimentation and are rich with the history of their subject matter. "The copper plates are very beautiful, but they are a means to an end," she notes.

Worthen splits her time between Des Moines and Venice, Italy. Her prints are in many collections across the country, including New York's Metropolitan Museum of Art, the Smithsonian Institution's National Museum of American Art and the Museum of Fine Arts in Boston. These stately buildings are an appropriate home for Worthen's art: Her intaglio prints use architecture as a point of emotional and structural reference.

A Bronx native, Worthen attended the High School of Music & Art in New York City, where many of her drawing assignments required her to study and draw people, construction sites, churches and bridges. She recalls becoming fearless with drawing in public, a habit that persists to this day.

Worthen attended Smith College in Northampton, Mass., where prolific printmaker and scholar Leonard Baskin introduced her to woodcuts, lithographs and etchings. He encouraged Worthen to become well educated in art history and arranged for her to intern at New York's Museum of Modern Art in the Department of Prints and Drawings. There she cataloged Surrealist drawings and collections in Modern art. This experience was a turning point for her—it gave her a glimpse not only in the world of printmaking, but also the world of curating. Baskin encouraged her to pursue

Amy Worthen is a nationally recognized artist, scholar and printmaker. Her works have been featured in museums all over the country, including the Metropolitan Museum of Art in New York and the Museum of Fine Arts in Boston.



> Finding history in the space is what defines the fanciful for me. —*Amy Worthen*

postgraduate studies at the University of Iowa, studying intaglio printmaking under local master Mauricio Lasansky.

A trip to Washington, D.C., played an important role in Worthen's life. During a walk, she came across the National Mall Carousel. As she began to sketch, she became fascinated with the arrangement of the animals on the carousel and the buildings in the background. "The resulting print was a breakthrough piece for me," she recalls. Drawing architecture came easily, but it was the combination of architecture and fantastical animals that allowed her to begin seeing the world from a different point of view.

Annual trips to Europe with her husband allowed Worthen to sketch churches, palaces and museums. It was during this time that architecture became the main focus of her art. After a trip to Italy in 1975, Worthen quickly realized she missed creating renditions of those influential European buildings. She rediscovered the Iowa State Capitol and it became her inspirational substitute.

Her early works dealt with decorative elements and fantasy. She began to look for cues that visually opened a space. "Seeing space through a doorway into another space, mirrors that reflect the space behind—these are what satisfy me more than a simple one-point perspective," Worthen says. "Finding history in the space is what defines the fanciful for me." Architecture became the emotional container for her art.

There was period when Worthen banished decorative detail and dealt strictly with form, space and structure, leading to ever more complicated situations and allowing her to develop a firm grasp on multipoint perspectives. Spaces began to speak to Worthen in a poetic way. As she progressed, the path of her work became a repetition of going back and forth between the observed and the fantasized, and spaces became stages for psychological placement.

Worthen works from her sketches, not from photographs. Wherever travels take her, her sketchbook is close at hand. She emphasizes that her sketches are ink and not pencil. She likes to have something that is unforgiving, like India ink. "You can't worry about making mistakes, you just need to work with it," she says. One of her favorite places to sketch is the Basilica di San Marco in Venice—over the years she has made more than 100 sketches there.

Her drawings are loose and sometimes partial. She may revisit the space, depending on her interests or to gather additional detail. Her observations don't capture an iconic view, but rather suggest a sense of "looking around" to create a coherent space, one that is unable to be captured looking through the lens of a camera or by looking in one direction.

Before becoming a full-time staff member at the Des Moines Art Center, Worthen was a guest curator. This opportunity allowed her to study the various artists she exhibited, who at times have influenced her own work. She explains that there is no separation between the art of now and the art of the past. "All art was contemporary at one point in time," she says. She feels that she has a direct connection to these artists of the past.

"We all have the same human problems, and we might approach them in different ways, and we have different style and techniques, but I draw inspiration from all periods." Having the opportunity to work on a print collection, putting together exhibitions, and the knowledge of printmaking as a hands-on artist influence the way she organizes print exhibitions. Her openness to its entire history brings it all together.

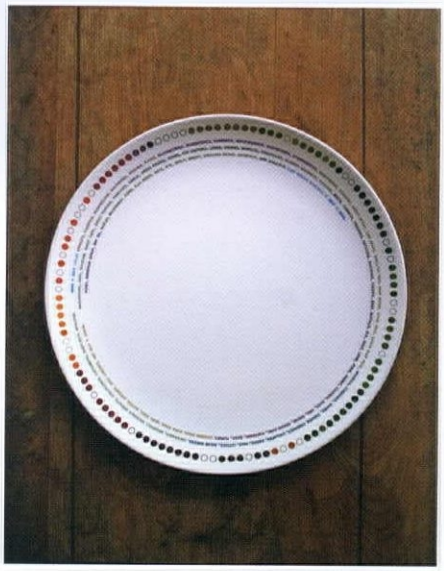
While staff are not allowed to show their work at the Des Moines Art Center, the Art Center acquired her works prior to hiring her. She made a decision to focus her career on curating, which has impacted her renown. "At a certain point, you figure, you leave it to history and for fate to figure it out and hope that it stands the test of time."

For architects, this thought contains an essential truth: As decades pass, the buildings designed will reflect the ideologies of the past and become learning vessels for the future, much like Worthen's art. la

WORDS AND IMAGES: MICHAEL THOMAS, AIA

A Fork in The Road

Well-crafted presentation of information can enable efficient, comprehensive and effective communication.



When crafted effectively, information graphics can make complex, comparative information thoroughly accessible in a manner that makes a lasting impression. Familiar and traditional infographic tools include maps, line graphs, bar graphs and pie charts. In recent years, new tools for processing information and generating graphics have opened a vast array of possibilities for communication.

Edward Tufte, a renowned expert on the graphic presentation of complex information, makes the case that well-presented information is a tool to assist thinking, comprehension and absorption. In his books, *Envisioning Information* and *Beautiful Evidence*, he promotes a new and elevated standard of visual literacy. Tufte is an outspoken critic of oversimplified and often deceptive presentation tools. He provides practical advice about how to explain complex material by visual means, with extraordinary examples to illustrate the fundamental principles of information displays. His books are superbly crafted showcases of interesting visuals.

David McCandless, in his books *Beautiful Information* and *A Visual Miscellaneum*, offers visually stunning displays of information that blend facts with their connections, context and relationships—making information meaningful, accessible, entertaining and beautiful. His work stems from an investigation of how, when confronted with massive amounts of information, one might use visuals to better comprehend and present it to others.

Information graphics with a local flair can be seen in the works of Hilary Dana Williams. An adjunct professor of graphic design at Drake University, Williams took on the challenge of crafting a message about the positive impacts of buying food locally. She hopes to raise awareness about issues such as the scale and consequences of our industrial food system, and to simultaneously facilitate a response to this newfound understanding.

The challenge was to present information in a fashion that raises awareness and understanding; is impactful and prompts action; and is actionable and instructive.

Williams has chosen a variety of media to communicate her message. In exhibition installations in Des Moines and Knoxville, Tenn., she has created multimedia displays that are designed to bring observers into the information using multiple modalities, among them: visual, tactile, kinesthetic, olfactory and interactive. She displays what many of us would recognize as an oil barrel in the middle of 1.1 million dots that represent the barrels of oil that are used in the growth, processing and distribution of meat products in any given week in the United States. The viewer is confronted with the massive array of black dots and asked to multiply each dot by 44 gallons to better comprehend the total use of oil.

Among the most intriguing tools are the Iowa Ingredients Food Calendar and Iowa Ingredients Dinner Plates. Here Williams uses graphics with everyday objects to communicate the types of foods that are locally available at various times of the year. Using simple graphics, she provides a tool to help the consumer make deliberate choices in food selection and preparation. For more on Williams' work, visit aforkintheroad.org.

Crafting a presentation can be valuable for communicating complex information and ideas in a manner that makes them accessible and actionable. Well-presented information leads to a more thorough understanding, and improves the likelihood of appropriate and informed responses. It can promote deeper understanding, a more holistic view of our world and more thoughtful considerations of our actions. ia

A TAKING OF ARCHITECTURE

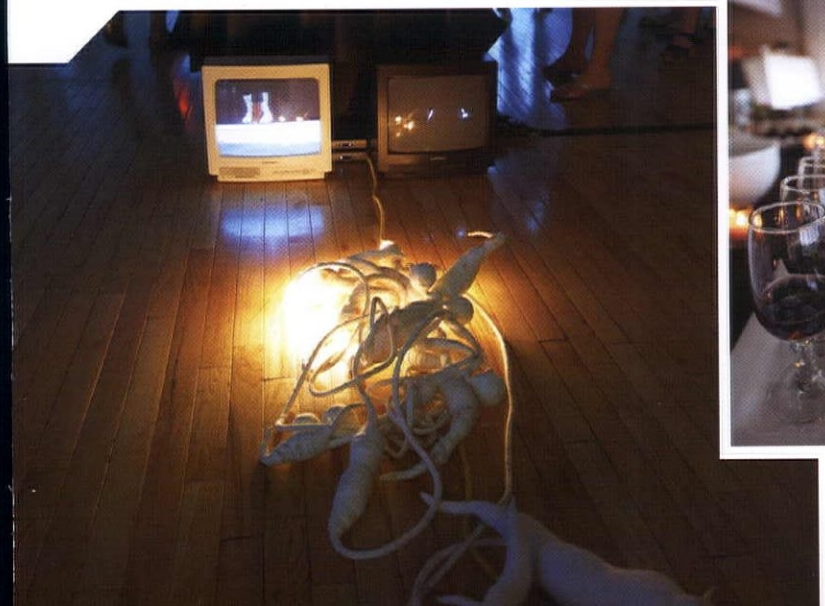
WORDS: NORA WENDL
IMAGES: CAMERON CAMPBELL

Forget your regard for history: Architecture has no origin story.

Unlike painting and drawing, mythically born as a young woman traced the profile of her departing lover on a wall, or sculpture, in which a man lavished attention on a marble form for so long that it finally sprung to life and into his arms, architecture has fire and a primitive hut. Who, how and to what end—the stuff of stories—is not fully described, even by Vitruvius. Architecture's origin is up for the taking.

It is precisely architecture's origins that were recreated on June 18, 2011 by an avant-garde chef, Carly Groben, and an avant-garde scholar, Mitchell Squire, an architect whose career is enjoying its own come up in the realm of contemporary art. At Des Moines, Iowa's Proof restaurant, for two fleeting hours precedence was replaced with sustenance, and history with myth in an immersive and fully sensory installation. Now, because this installation suggests the mythological birth of both a protagonist (played by Squire) and, by extension, the discipline of architecture, let it be no surprise that it is comprised of food, of sumptuous multichannel videos running on continuous loops and of sculpture—all of which work together to achieve the title of the installation: *Appetite Fulfilled*. Featuring birth, appetite and consummation, Mitchell Squire's videos, *Birth of a Fighter—Nascita de uno Scultore (Birth of a Sculptor)* (2010), *Threatened by Suspicions of a Fixed Outcome* (2010) and *The Annunciation* (2010) are spatially configured in concert with a tableau of ripe, pluck-able treasures prepared by Carly Groben, presented here as an overlay of the *Homeric Hymn to Hermes: Tableau Delectable* (2011). We have been invited (free of charge) to consume all to our appetites' content.

In *On the Art of Poetry*, Aristotle states, "the greatest thing by far is to be a master of metaphor." Flexing the strange word, he says, is a sign of genius, an ability to perceive similarity in the dissimilar. As you sip wine and watch Mary Mattingly, cast in *Birth of a Fighter* as a rich-tressed nymph, and the unnamed Korean émigré, cast in *Threatened by Suspicions* as an encountered tortoise at the courtyard gate, bite through the viscous-sweet, blood-red licorice cords to give birth to the sculptor/fighter in one video, and become the gateway to freedom for a practiser of soft enchantment in another, know that here Squire is writing the truth and origin of all human invention: that we invent out of hunger, that our appetite is not simple and that, like a fire, feeding it does not make it go away. Instead, our appetite for invention grows, and with it our imagination is relentlessly at work remaking the world to excessive abundance. For as the protagonist in *The Annunciation* repeatedly sings, sweetly and determinedly, to the point of his own exhaustion—"The fight, the fight's the thing, Wherein I'll catch the conscience of the king." Squire makes clear his wiliness, and that we're more than likely going to love watching every minute of it at work, again and again: even as architecture's origins are recomposed in this work, we feel a coy tug inviting us to play along.



Light spills from white root forms (*left*) a signature object in Squire's sculptural lexicon—that tangle on the floor, seeming to spiral out of repurposed television monitors looping with the digital video *The Annunciation* (2010).

Bright bursts of color (*above*) fruit, chocolate and sweet concoctions—meet visitors to *Appetite Fulfilled* at Groben's *Tableau Delectable*.

Blueberries cluster (*inset*) in shallow pools of wine on the *Tableau Delectable*, Groben's contribution to *Appetite Fulfilled*.

WORDS AND IMAGES: BRIAN LEE

Graduate Thesis Project;
Cranbrook Academy of Art, 2012

Kinetic **Pergola**

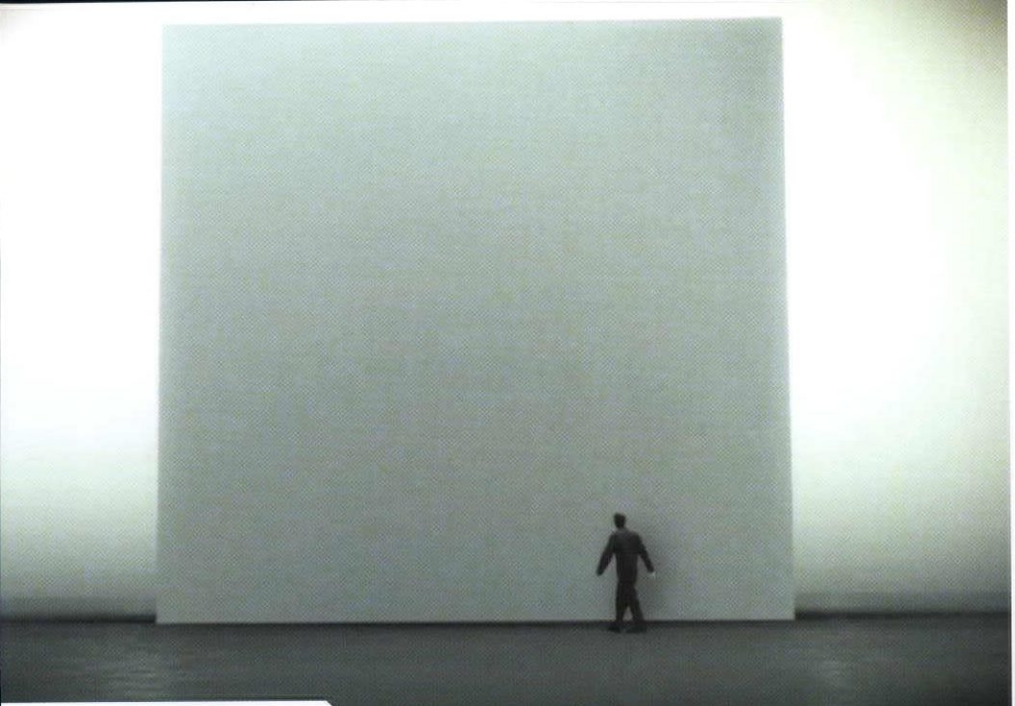
Due to the efficiency of the structural grid, architecture has become a box.

The spaces we inhabit every day can be most easily described as boxes. Even the most complex forms remain boxes, beautiful containers for objects or events. The individual is made a passive observer of form and light, moving through the static accumulation of visual cues but rarely interacting with the form physically. The place of the body is usually accommodated by furniture or things contained within a building, not the form of the building itself.

Blurring the boundaries between architecture and furniture, this work dissolves the abstract relationship between architectural form and the body into one of a more direct experiential correlation, questioning architecture as static object and proposing an architecture where form is the direct result of the act of use.

Sitting is one of the basic human activities that occur within architectural space. This activity usually does not require interaction with or influence architectural form. *Kinetic Pergola* uses basic mechanics and the weight of the seated body to manipulate form through the act of sitting. Interactive wall sections collapse into a seat when sat into and return to their vertical position when the occupant stands. Roof panels attached to the top of the seating elements act as a counterweighted lever to provide resistance while sitting and raise the panels to their upright position while standing up. Each roof panel contains 68 pounds of steel in the end opposite of the seating element. Learning from mockups and previous chair studies, details were worked out and digital files were prepared for fabrication. No gears, springs or off-the-shelf components were used. Each seating element acts independently to provide an individual experience for each user with his or her interaction having an effect on the form.

Although other applications have not yet been developed, the present configuration could be used as a bus stop that indicates the presence of riders. Solar panels could be incorporated into the design to power lighting for nighttime use. ia



WORDS: ASH LETTOW, AIA
IMAGES: BRANIT VFX

WORLD BUILDER

Craft is a collective fabrication. This is not a collaborative fabrication in the act of making itself, but how the act of making is perceived in historical/societal conceptions. Craft by the hand is no less of a contrivance than fabrication conducted through the digital. Both processes are produced, marketed and circulated in relation to one another and often as opposing practices in order to elevate one as more authentic or the other as more efficient. Upon recent viewing of the short film *World Builder* by Bruce Branit, this seeming dichotomy is rendered in sharp relief.

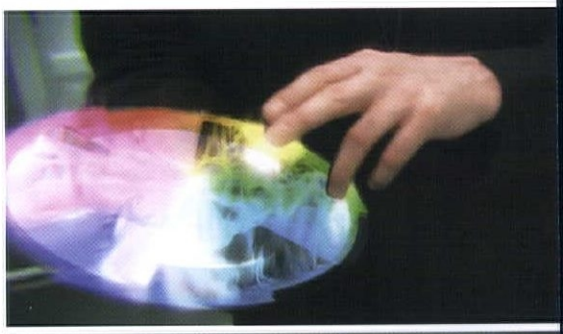
The basic premise of the film is that a visitor—a married man clad in overalls—occupies a holographic chamber in which he is allotted one hour to construct a world of his choosing from a selection of his memories. As time ticks away, he constructs all aspects, from houses to flowers, of his selected world. This world is an urban street comprised of structures derived from architectural history, save for the modern, which is depicted through electric lines and other forms of mediating infrastructure. Starting with a series of nondescript gray masses, he carves doors, windows and subsequent detail, seeming to operate through subtraction of material versus accretion of elements. Once the masses are shaped, textures and colors are applied to the varied surfaces of the streetscape. When time is up, he must recede into a doorway and remain hidden from his chosen visitor, his own wife cloaked in a hospital gown. Their exchange can only occur through the materials and experience of this fabricated landscape. The intent behind the space, the evocation of a prior feeling and the conception of how this place came to be, is what binds them together.

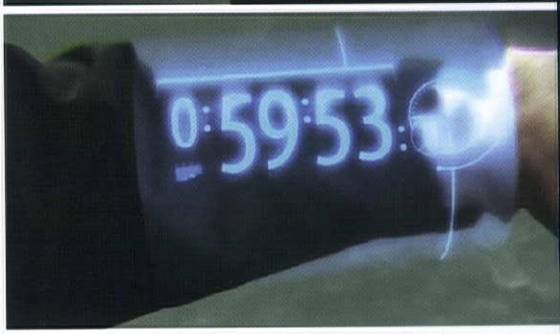
The intent behind the space, the evocation of a prior feeling and the conception of how this place came to be, is what binds them together.

Varying forms of tactility—or the body's relation to material—are demonstrated throughout the film. The uniformed builder deploys digital tactility through his use of invisible technologies and touchscreen techniques, such as the stretching of forms, scrolling through colors and textures, and typing signage. Physical tactility is exhibited through actions portrayed by the infirmed visitor when she rubs her palm across weathered wood doors and her fingers along wrought-iron balustrades. Both of these demonstrations are no less authentic in their performance, but the physical gestures toward the artifacts of wood and iron subsume the reality of those materials' formation. These materials are formed of the same virtual matter as that used to depict stone, glass and trees, and they are articulated through similar techniques of surface application. However, these actions by the visitor underscore the misconception that these objects, by the perception that they are historical, are legitimate because they have the currency of valued expertise and therefore are imbued with a greater presence of craft.

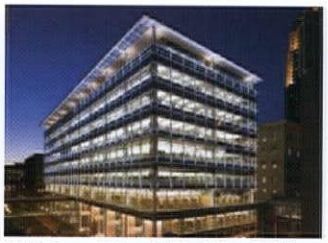
This perception is not altogether different from our current vantage, for we seem to operate as if, for example, structures and objects from the 19th and early 20th centuries are individual pieces, yet they too are assembled from machined components and prototype catalogs. Time and technique provide a mediating distance for assessing these historical objects in relation to current construction. This, coupled with the contemporary proclivity to continually legitimize the authenticity of digital fabrication prevents a productive repositioning and possible recuperation of the value of expertise and the conception craft itself.

The professed efficiency and flexibility of digital fabrication by its advocates is just as much a contrivance as the perceived authenticity and singularity of handcraft by its agents. Much like modernity necessitates the production of antiquity, both procedures are produced in relation to one another in order to legitimize their distinct positions within the construct of the built environment. The world built in the film may at first appear contrived in the virtual; however, it demonstrates the real tension between the physical and the digital in the conception of craft.





Pomeroy Wind Farm - Pomeroy



Wells Fargo Financial NorthStar Building
Headquarters - Des Moines

Tyson Events Center - Sioux City

University of Iowa Hancher
Auditorium - Iowa City

Iowa State University
Hach Hall Chemistry Building - Ames

University of Iowa
Kinnick Stadium Renovation - Iowa City

Mercy Medical Center
Surgery Renovation - West Des Moines

Marriott Hotel & Conference Center
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profile

John Ritzler
Craftsman at RCS Millwork, L.C.

His gig is radius millwork. His unrelenting passion is bringing custom architectural details to life. He's modest, passionate and his work, both hidden and visible, is in a multitude of spaces and buildings everywhere. Who is he? John Ritzler, a craftsman at RCS Millwork and the creator of the ark at the Tifereth Israel Synagogue in Des Moines.

It's the details that make something work and work right. In the world of custom architectural millwork, craftsmen have the job of bringing architectural drawings—as well as the client's needs and wants—to life. They are vital to a successful detail, performing the cutting, assembly and perfection of the specified blueprint provided to them. They are an integral part of the organized puzzle that involves clients, architects, designers, engineers and machines.

Q What is your background and education?

I was born in Illinois and grew up watching my dad, an engineer, build wooden boats. I went to Arizona State where I first studied electrical engineering, then switched to economics. After school, I moved to Denver where I co-owned woodshops and developed skills through practice and varied experiences.

Q How does the millwork creation work? What is the process?

The craftsman receives the parts cut by the machines in the shop, as well as the drawings provided by designers and reviewed by engineers. The craftsman then performs the final cutting and detailing, and assembles the pieces.

Q What makes your profession and what you create a "craft"?

I create custom architectural millwork to please the customer. I meet the specification, creating what is needed, and doing it right. Excellence in craft starts with excellence in the specification.

Q What materials do you like using most?

Solid woods are my favorite. Plastics and laid up materials are more difficult to use. Whatever does the job better and gets the product right is what I will use.

Q What is your No. 1 tool?

A shaper. I like curved forms. Straight shapes are child's play; I like a challenge.

Q How has the design and fabrication process changed since you began, and how has technology played a role?

Technology has made it easier. I used to cut forms by hand. The information is the same now, but a machine knocks it out. Where I used to spend a lot of time making elaborate test forms in the parking lot, technology saves me time and energy. I can focus and spend more time on what I do best.

Q Is there anything surprising about your job?

It's a hard trade to get into and it can be dangerous work. I've torn my shoulder and I've made sacrifices. However, I work at a safe, fun place. It is work, but it's pretty awesome.

Q What is the range of projects that you've worked on?

The smallest: ¾-inch base shoe corners. Largest: the ark at Tifereth Israel Synagogue. I've worked on a little bit of everything. Des Moines can be like a small town, so it's great to see your work around you, and to have people you know experience your work.

Q Do you have any secrets to your trade that sets you apart from other millworkers?

I care and I've done a lot of it. I also get to work with the best people and draw a lot from collaborating with them. Everyone at RCS is the best at what they do. We play off of each other. I work with very talented people who make me shine, and I hope I help them shine too.

Q What advice do you have for someone who wants to become a craftsman?

Stick your pride in your back pocket. Ask a lot of questions and keep asking questions.

RCS Millwork, L.C. is a national millwork manufacturer with project management and production facilities in Des Moines and Kansas City. Led by owner Dan Keller, RCS provides complete planning, manufacturing and support services to their clients with a team of more than 50 professionals. The team includes estimators, computer draftsmen, project managers, production craftsmen, finishers and installers who work with architects, general contractors and designers to create products that meet the client's needs and AWI specifications. With the combination of technology and skilled individuals, RCS is involved from the beginning of design, to installation and completion.

on the boards

Projects In Progress

City of Dubuque Intermodal Campus

Neumann Monson Architects

The City of Dubuque has envisioned the facilities to accommodate the arrival of a passenger train connection between Dubuque and Chicago. Other components of the project include the construction of an elevated parking structure with a capacity for approximately 290 vehicles, with the potential of expanding it to a 450-car facility in the future; a terminal building providing local and interstate bus service; ticketing services for the Amtrak railway system; City Transit office spaces; and public restrooms. The facilities within the campus will also incorporate aspects that are pedestrian-friendly and would be accessible via bike lanes.

Trinity Hospital, Muscatine

Heery Architecture

Heery is currently designing an addition to Trinity Hospital in Muscatine. This project contains 22,000 square feet of new construction and 25,000 square feet of renovation. When completed, the lower level will contain six operating rooms, staff lounge and lockers. This will be adjacent to the new recovery area designed by Heery as part of Phase I.

The Level 1 addition will includes an emergency department with separate walk-in entrance and ambulance garage, as well as an MRI area. Renovation on Level 1 will result in new spaces for lab and radiology staff. In addition, a new mechanical penthouse will be built to service these new areas.

Because the existing areas are needed for patient care, the project will have multiple phases to assure that these services will be able to remain operational through construction.

The new addition will complement the previous addition, designed by Heery and completed in 2007.

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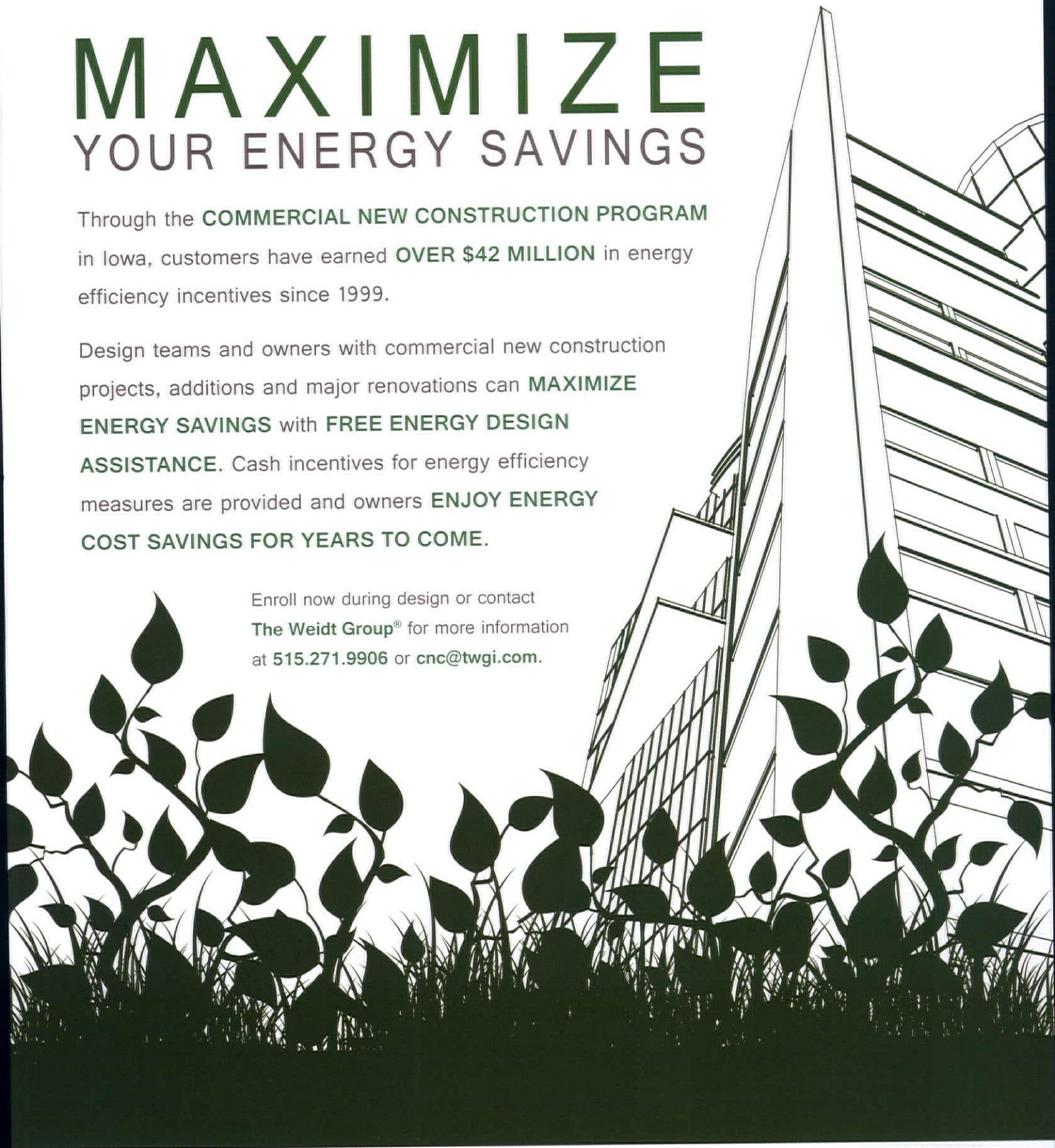

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COMMERCIAL NEW CONSTRUCTION PROGRAM

MODEL OF EFFICIENCY

ONE PROGRAM AIMS TO BOOST THE ENERGY SAVINGS OF BUILDING PROJECTS IN IOWA

WORDS: KELLY ROBERSON

Collaboration is a cornerstone of the day-to-day lives of design professionals. Architects, contractors, interior designers and engineers work intimately with one another to design and build structures that meet the needs of users.

In the 21st century, of course, there is another pressing concern for design professionals and owners: energy use. Whether motivated by environmental issues or fiscal conservatism, energy consumption of buildings has a direct impact on the bottom line.

It was something MidAmerican Energy Company realized in 1999 when it created the Commercial New Construction (CNC) program; Alliant Energy joined in 2005 and Black Hills Energy in 2009. The free program is available to businesses for new construction or renovation projects. Developed to analyze a building design for energy-saving possibilities, the program offers multilevel, optional strategies—called bundles—for improved energy conservation.

In addition to energy analysis, the CNC program provides financial incentives—and energy savings after the building is occupied. "The CNC program helps developers and owners get buildings off to the right start and ensures thoughtful energy planning to the finish," says Mindy Loveless, energy efficiency product manager at MidAmerican Energy. "Optimizing energy-efficiency strategies before construction begins allows for higher-quality buildings at a better overall value, giving businesses a major competitive edge."

> Participation in the Commercial New Construction program is approved for 3.5 GBCI CE hours for LEED professionals through The Weidt Group as a USGBC Education Provider.

NEW TECHNOLOGY, NEW USES

The CNC program utilizes complex energy-modeling software to analyze multiple building design options—from a new light fixture to an alternate method of glazing or different mechanical systems, like ground-source heat pumps, for example; in all, there are more than 100 variables. The Weidt Group, which performs the modeling for the CNC program, has become an expert in the energy modeling process over the past 20 years. "The software does a very good job of predicting comparative energy performance of buildings," says David Eijadi with The Weidt Group. "Doing something about reducing energy use is the single greatest thing you can do to impact the environment."

The three participating utilities know that encouraging energy efficiency is good for policy as well as the public, and helps with utility capacity planning. It's also beneficial for design professionals, helping them to accurately reflect value to their clients, particularly when it comes to the often confusing realm of new technology.

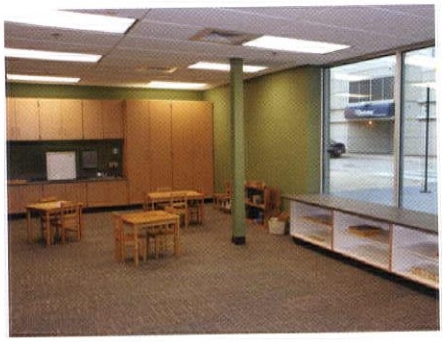
The CNC program facilitates all parties coming together and learning how different strategies may affect a building's energy use, and helps them choose the best options for their goals and budgets. "There are dozens of ways to build better than code, but the question is how you get there and at what price," says Eijadi. "This process shows what energy can be saved, what the design team is doing for the environment and how the owner can save money."

TWO TRACKS TO A FINISHED PROJECT

Earlier is better when planning for energy needs. "It's important for customers and their design teams to collaborate long before construction starts to create a truly energy-efficient building," says Jeanine Penticoff, director of energy efficiency at Alliant Energy. "Customers can control their energy use by thinking about how the building will function and identifying the right technology to reduce the building's energy needs." In addition to design assistance, strategies and financial incentives, project teams utilizing the CNC program may choose one of two tracks that offer additional options for evaluation.

Projects on the Custom Track begin analysis during design development and have an energy-savings goal of at least 15 percent above Iowa Energy Code requirements. The focus of this track is building system optimization and incorporates incentives based on modeled savings of implemented, verified strategies. Projects on the Custom Plus Track begin even earlier—during programming—and require energy savings at least 40 percent above code. This track follows the Custom Track option but includes massing, daylighting and HVAC analysis, as well as LEED certification support. Customers can request a free goal-setting meeting to determine if the Custom Plus Track option is the right fit for their project.

Multiple meetings and reviews ensure that both client and designer can develop an understanding of the opportunities and the savings. "It's a complex subject and we're making it simpler. It's usually in the second meeting that it comes together for the participants," says Eijadi. "Before then it seems abstract, but we're able to compare and contrast, and participants come to their own conclusions. It's the cumulative impact of knowing that small choices can make a big difference." ia



PROJECT:

Cedar Rapids GTC Daycare Renovation

After the flood of 2008, there was much work to be done in downtown Cedar Rapids. It wasn't just one building or even a block or two that needed to be rebuilt, but virtually an entire city center. The city needed projects that could be finished quickly, to show progress and possibilities.

One of the first was the Ground Transportation Center daycare facility renovation, completed by Ament Inc. Eight feet of water invaded the building, decimating the walls and floors, but leaving the 10-foot ceilings mostly untouched.

FEMA post-flood requirements mandated that critical services—mechanical, electrical—had to be raised or taken out of the path of danger by being placed at flood level plus one foot, says Al Varney, project architect.

The city's goals also stated that betterments should include cost-effective, energy-saving modifications, says Varney. That's where the Commercial New Construction (CNC) program came in. "FEMA paid for only those things that were related to what the building had originally, plus mitigation," says Varney. "The bundles identified by the project team were improvements that would help push the project above what it had been before."

The architects and building owners chose enhancements that improved both energy efficiency and quality of experience, such as window glazing and insulation, as well as new atrium lighting, sequenced to operate with changes in ambient daylighting. "It can be monitored in a way that ambient light levels allow lighting to be turned off with a control system that really benefits both the city and the daycare in keeping utility costs down," says Varney.

Post-flood, the city also eliminated steam as a source of heat for the building, requiring a switch to a high-performance boiler and cooling system. Because it was a renovation, there were limited measures the architects could take, but the CNC program definitely made a difference. "With a little bit of investment, they experienced a benefit of less solar gain and glare and better heat retention," says Varney. "The school was really a benefactor."

Energy-Saving Strategies

- High-performance glazing
- Increased wall insulation levels
- Occupancy-sensing lighting controls
- Efficient lighting design
- High-efficiency gas boiler
- High-efficiency DX cooling system
- Premium motor efficiency
- Variable-frequency drives on fan motors
- Variable-frequency drives on pump motors

Based on field-review of the conservation measures, the project has the potential to save:

- $21,200 per year
- 56 peak kW electrical demand
- 150,000 kWh of electrical consumption annually

These values represent 41%–53% savings in these categories, when compared with minimum State Energy Code design standards.

PROJECT:

Iowa City Fire Station #2

A new building nearly four times bigger than the old one equals lots more space for essential services, programming and activities—but it also equals an increased demand for energy. That was one of the worries with the expansion of Iowa City Fire Station #2 in fall 2008. The city was replacing a 3,500-square-foot facility with one that is about 11,000 square feet. "They needed the increase because of changes in fire services that have occurred since the original building was built," says Will Downing, project architect with Rohrbach Associates. "Vehicles have gotten a lot bigger, too. And they also needed a third apparatus bay for the hazardous materials response team."

Rohrbach Associates had utilized the Commercial New Construction (CNC) program during other projects, but it was Downing's first encounter with the energy analysis. "It was useful because in addition to getting designers thinking about energy efficiency, it gets the owner involved early on in the process in learning how systems and design will affect future energy needs, as well as identifying cost savings," says Downing. "When they're spending on a construction project, it gets people thinking of how they can benefit in operational costs."

Because the structure was new, the CNC program was able to analyze how spending more on the building envelope insulation would save in operations over time, and how putting in more efficient but more expensive heating, ventilation and control systems would eventually offer payback. The building also gets a lot of natural light in the apparatus bay and interior work areas, and the CNC report helped evaluate a daylighting scheme, says Downing.

In the larger new building, energy usage has increased from the previous space, but not quite doubled—a dramatic savings that illustrates the value of the CNC program and process. "Clients could get something cheaper and less efficient, but when the building is owned and operated by the same group, they expect it to be in service for 80 to 100 years, so you need to think about long-term costs and payback," says Downing. "The process worked well and was a good opportunity for the entire design team to discuss energy usage and strategies. Everyone understood what the direction and tradeoffs would be."

Energy-Saving Strategies

- High-performance glazing
- Increased wall insulation levels
- Increased roof insulation levels
- Stepped daylighting controls
- Super T-8 lamps and ballasts
- Efficient direct system lighting design
- Efficient indirect system lighting design
- High-efficiency ground-source heat pumps
- CO_2 control of outside air
- Total energy recovery of outside air
- Low air return
- CO control of garage vents
- Domestic hot water efficiency

Based on field-review of the conservation measures, the project has the potential to save:

- $14,500 per year
- 15 peak kW electrical demand
- 159,000 kWh of electrical consumption annually

These values represent 30%–61% savings in these categories, when compared with minimum State Energy Code design standards.

PROJECT:

Mount St. Francis

People aren't the only things that change and grow. Buildings, also, need to adapt to changing needs, demographics and goals. That was the case of the Sisters of St. Francis campus in Dubuque. In addition to a new facility to care for infirm and elderly sisters, the sisters were also interested in a more intentional use of resources, a primary value of the Franciscan congregation, says vice president Sr. Margaret Wick. "Our goal was to have a set of buildings that were scaled to respond more efficiently to our needs. Included in the design was a change from the medical to home model for elder care."

Four years of study on how to size the campus included a Commercial New Construction (CNC) analysis. The project required a new 76-room facility and deconstruction of older facilities; design began in fall 2008, new construction began in spring 2011, and deconstruction of the older buildings is scheduled for fall 2012.

The sisters benefited from architecture firm Hoffman LLC, which has a wide-ranging background on sustainability and energy saving. Early on, the firm provided information about the CNC program. "We were interested, of course, because it was really an opportunity to look ahead and invest in something that was socially responsible, in addition to providing financial savings in the future," says Sr. Wick. "We already knew that energy-saving strategies were important to address, not only from a cost perspective, but also from our values perspective."

As is typical, the CNC program presented various bundles to both parties, allowing them to decide the cost-benefit value. "We couldn't do everything, but we wanted to do as much as what was reasonably possible," says Sr. Wick.

The recommendations prevented any surprises, except for the final energy savings, which showed that the project exceeded what was projected. It's a coherent approach that Sr. Wick would recommend: "This is a way to approach energy savings in a coordinated way. It presents the big picture and provides options and choices."

Energy-Saving Strategies

- High-performance glazing
- Increased wall insulation levels
- Increased roof insulation levels
- Daylight dimming controls
- Occupancy-sensing lighting controls
- Dual-level lighting controls
- Ground-source heat pump with variable-frequency drive pumping
- Premium motor efficiency
- Total energy recovery of outside air
- High-efficiency hot water heater

Based on field-review of the conservation measures, the project has the potential to save:

- $161,500 per year
- 345 peak kW electrical demand
- 2,050,000 kWh of electrical consumption annually

These values represent 64%–65% savings in these categories, when compared with minimum State Energy Code design standards.

PROJECT:

World Food Prize, Hall of Laureates

A building and its energy-efficient components often come together like a puzzle: its connections apparent only after time, energy and ingenuity have been put to the test. Such was the case with the renovation of the old Des Moines Central Library into the new headquarters for the World Food Prize Hall of Laureates.

The architect, RDG Planning and Design, had used the Commercial New Construction (CNC) program on a number of projects and knew how much of a boon it could be for owners. "It's really a benefit to look at multiple strategies at one time," says Scott Allen, project architect. "As soon as some owners realize the opportunities for energy savings, the idea of what they can do changes pretty quickly," says Allen. "This shows you how much of a difference it can make, and they're much more engaged and want to know what they can do to save more."

The World Food Prize and RDG reviewed four bundles and chose the most aggressive strategy—they're hopeful the building will receive Platinum LEED certification. "Our actual bundle, after the project was reviewed, was 69 percent better than code. That is pretty amazing, especially for a building built in 1903," says Allen. "There's a lot of merit to doing things like the CNC program with these sorts of buildings."

Along the way, the architects and owners kept pushing themselves to improve, too—better lighting, for example, and solar panels on the roof. "You could see where having that report was very helpful," says Allen. "The first time you review it, you can't really fathom all of the connections that these decisions you make will have on the building. But then you really start to focus on areas you know you have issues with," says Allen. "You can take those in and out of the model and see how dramatic that impact will be, and that's important to understand."

Energy-Saving Strategies

- High-performance glazing
- Increased roof insulation levels
- White roof
- Daylight dimming lighting controls
- Occupancy-sensing lighting controls
- Dual-level lighting controls
- Water-to-water heat pump
- Premium motor efficiency
- Variable-frequency drives on pump motors
- CO_2 control of outside air
- Total energy recovery of outside air

Based on field-review of the conservation measures, the project has the potential to save:

- $35,000 per year
- 88 peak kW electrical demand
- 690 natural gas therms
- 518,000 kWh of electrical consumption annually

These values represent 42%–69% savings in these categories, when compared with minimum State Energy Code design standards.

PROJECT:

Wright on the Park/Historic Park Inn

Historical preservation and energy efficiency are often uneasy bedfellows. Technology and building materials from 100-plus years ago weren't necessarily geared toward conserving resources or using fewer utilities. But today's demands are far different: Businesses, to varying degrees, depend on smart building strategies in order to keep the bottom line low.

Such were the incongruities of renovating the Historic Park Inn Hotel and City National Bank building in Mason City. Its claim to fame—it is the world's last remaining hotel designed by Frank Lloyd Wright—was undermined by its slow degradation, which began in the 1920s, just a decade after its 1910 construction.

Architects from Bergland + Cram began trying to save the building in 1999 by repairing the roof. The renovation then proceeded through the next decade, with a grand reopening in fall 2011. Along the way, strategies suggested by the Commercial New Construction program were balanced with historical preservation. "Energy efficiency was a concern, but we had some requirements in place by the State Historical Preservation Office and the National Park Service," says Scott Borcherding, project designer.

That meant many elements—walls, ceilings, windows—were adjusted as much as possible while remaining historically sensitive, and mechanical systems—often hidden from view and less apt to make an aesthetic impact—became highly efficient and technologically advanced. It's just another way that studying the possibilities can and does make sense for virtually any type of building.

Energy-Saving Strategies

- Increased wall insulation levels
- Occupancy-sensing lighting controls
- High-efficiency condensing gas boiler and water-cooled VRF
- Premium motor efficiency
- Total energy recovery of outside air
- High-efficiency hot water heater

Based on field-review of the conservation measures, the project has the potential to save:

- $21,000 per year
- 38 peak kW electrical demand
- 10,100 natural gas therms
- 117,700 kWh of electrical consumption annually

These values represent 17%–30% savings in these categories, when compared with minimum State Energy Code design standards.

PROJECT:

Third Judicial District Addition

Often, design professionals understand the energy-efficiency and cost-benefit issues involved with renovation and new construction. But as the old adage goes, a second opinion never hurts.

By the time architects from ASK Studio began work on an addition to a Sioux City Third Judicial District building, they were already familiar with the Commercial New Construction (CNC) program, says David Blum, project designer. "From an owner standpoint, it's a great way to see strategies and payback periods, and to look at those and make decisions," he says.

In this case, the project included an 18,000-square-foot addition, a 42-bed residential portion, enclosed courtyard and administrative offices; 3,600 square feet of the existing 20-year-old building were also remodeled. Both client and architect had energy efficiency on their list of priorities, but the CNC bundles outlined how various choices compared to requirements. "What we designed was way above code. The CNC analysis helped us confirm that the decisions we were making were good," says Blum.

So good, in fact, that it is expected to receive LEED certification. "As designers we want to create energy-efficient buildings," says Blum. "When we see these reports, it shows how fewer resources we're using and the financial benefit the owner gets in the end."

Energy-Saving Strategies

- High-performance glazing
- Automated blind controls
- Exterior sun control
- Increased wall insulation levels
- Increased roof insulation levels
- Daylight dimming controls
- Occupancy-sensing lighting controls
- Dual-level lighting controls
- Ground-source heat pump
- Premium motor efficiency
- Total energy recovery of outside air

Based on field-review of the conservation measures, the project has the potential to save:

- $18,300 per year
- 144 peak kW electrical demand
- 1,600 natural gas therms
- 260,000 kWh of electrical consumption annually

These values represent 53%–63% savings in these categories, when compared with minimum State Energy Code design standards.

PROJECT:

Mobile Track Solutions

By their nature, manufacturing facilities tend to be big. It takes square footage—tall ceilings and wide, open spaces—for complicated systems to build the things that make our world go 'round. The same was true for Mobile Track Solutions LLC in Elkader. The company manufactures construction-grade machines used primarily to move earth, and the energy expended is something that the company monitors rigorously. So when it came time to build a new facility, Mobile Track Solutions considered a range of options analyzed by the Commercial New Construction program.

The end result—and a key part of this project—was the technologically advanced baghouse filtration system and exhaust recovery. The owner, John P. Moyna, was particularly interested in it from an energy-saving standpoint: It accounted for 32 percent of the energy savings of the entire project but was projected to save 17,400 therms annually.

Energy-Saving Strategies

- Bag filtration system with exhaust recovery
- High-efficiency boiler for radiant heating (93%)
- Increased wall (R-21) and roof (R-43) insulation
- Increased R-Value on roll-up doors (R-17.5)

Based on field-review of the conservation measures, the project has the potential to save:

- $54,400 per year (47% savings)
- 58 peak kW electrical demand (26% savings)
- 0.27 MWh of electrical consumption annually (30% savings)
- 3,230 MMBTU's of gas consumption annually (93% savings)

WRIGHT

The fact that you can spend a night in the **last remaining Frank Lloyd Wright-designed hotel in the world** right here in Iowa is pretty amazing. Even more amazing is the process that made it possible.

WORDS: CAMILLE CAMPBELL-WOLFE **IMAGES:** MILLER HALL PHOTOGRAPHY

ARCHITECT: BERGLAND + CRAM
CONTRACTOR: HENKEL CONSTRUCTION COMPANY
SEE P. 48 FOR FULL PROJECT CREDITS

Today, there's no question Mason City's Historic Park Inn and City National Bank are architecturally significant. But the building's future wasn't always certain. First, there was the matter of finding an owner willing to restore the property to its original 1910 elegance. At one point it was even posted on eBay, but there were no takers.

Then, there was the challenge of raising funds to save a building in ruins. "The roof leaked like a sieve. There was rot all the way through the floors. And there were thousands of pigeons in the upper floors," recalls Randall Cram, AIA, of Bergland+ Cram, the project's principal-in-charge. "Bricks were falling out of the walls. Windows were gone. It was an absolute mess."

Cram remembers making a case to the Iowa Legislature for funds to stabilize the building. A $100,000 grant was unanimously approved in both chambers. "I say again and again how lucky we were that Iowa legislators had the foresight to say, 'We need to save this,' because that started the ball rolling."

The $18 million project was ultimately funded by a combination of state and national grants—including Vision Iowa, Iowa Great Places and Save America's Treasures—as well as historical tax credits and donations.

In 2005, community members formed the nonprofit Wright On The Park organization, which took on ownership and fundraising efforts. "The people on the committee had different backgrounds, interests and desires," says Wright On The Park's board president Chip Kinsey, "but we all shared a common mission to restore and preserve what we considered as one of Wright's great works."

Frank Lloyd Wright's Historic Park Inn Hotel reopened in fall 2011 after an $18 million restoration. It took years of detailed discovery to piece together what the hotel looked like 100 years ago.

In 2007, Wright On The Park acquired the City National Bank portion of the property, and for the first time in history, the entire 37,500-square-foot complex had one owner.

The biggest challenge, however, was yet to come. It took years of research to piece together what the building looked like a century ago. The original drawings didn't offer a lot of detail, and there was very little photographic documentation of the hotel. Architects and a dedicated group of volunteers had to take the building apart piece by piece to create the construction documents.

Searching for answers often took them outside the building's walls. Security grilles for the bank's clerestory windows formed a patio railing in Clear Lake. Exterior cluster lights were found at auction and measured so they could be recast. Original art glass windows and skylight panels were discovered in homes from Mason City to Des Moines. The Mason City Public Library also had one of the original Mercury statues, which it loaned out to be recast.

Another find was in the bank itself. Wright had included gold-colored glass inserts in the horizontal mortar joints above the banding, which would glow like money when the sunlight came through the clerestories.

> Part of it was an archeological dig, figuring out what was there, and the other part was a treasure hunt, trying to find all of these pieces scattered everywhere. —*Randall Cram, AIA*

"Part of it was an archeological dig, figuring out what was there, and the other part was a treasure hunt, trying to find all of these pieces scattered everywhere," Cram says. Architects and interior designers worked with the National Park Service and State Historical Society to maintain historical accuracy and meet strict restoration guidelines.

Cram credits much of the restoration's success to project architect Martha Huntington, AIA, who passed away weeks before the hotel opened. "She spent 12 years of her life working on this project. She put her heart and soul into it and way beyond. This was her passion; it was her mission to get this building restored, and she far exceeded any expectation as to how close we were able to get to the original design intent."

Countless details reflect the craftsmanship of the original design and its restoration. Matching stone was found in Arizona. The original mortar color was diligently reproduced and installed as it was 100 years ago. And every piece of original trim, terra cotta and bathroom tile that could be salvaged was reused.

Exterior cluster-light lanterns *(above)* were recast based on exact measurements of an original, which was found at auction.

Attention to detail *(left)* was critical on this project, from the terra cotta tiles to the art glass to carefully matched brick and stone.

Interior designer Scott Borcherding, IIDA, was also instrumental in recreating the hotel interior's elegance. Throughout the facility, art glass windows were either restored or recreated based on original drawings. A fan-trowel texture was painstakingly applied to all plaster walls and ceilings. And barrel chairs designed by Wright were reproduced by authorized craftspeople specifically for the project.

From the beginning, Wright On The Park planned to reopen the Historic Park Inn as a functioning, sustainable hotel. A hotelier would lease and operate it, but to be successful, it would need to offer amenities for the modern traveler.

The original hotel's guestrooms averaged just 100 square feet. There was one bathroom for every two "deluxe" rooms, and the standard rooms shared a bathroom down the hall. Today's configuration includes 27 spacious guestrooms with private baths, compared to the original 43. (One suite maintains the original, historical footprint.)

Converted to retail space in 1926, the bank portion of the building wasn't suited for modern banking needs, either. Today, it's a ballroom, providing another business opportunity for the hotel. The remaining public spaces are faithfully restored as they were originally designed, with the addition of custom-designed carpeting for sound.

The Historic Park Inn officially reopened in fall 2011—101 years to the day after the hotel first opened. "The public response has been overwhelmingly positive," Kinsey says. "So far, we've had guests from every state in the United States except West Virginia and nearly 30 different nations."

According to Kinsey, the national Frank Lloyd Wright Building Conservancy will hold its annual meeting at the Historic Park Inn this fall, and *Condé Nast Traveler* recently named Mason City one of the top 14 destinations in the world for architecture lovers.

"For Prairie-style architecture from Wright's time, this is the place to be," Kinsey says. "We want to have as many people experience it as possible."

Horizontal lines *(above)*, broad overhangs, simple design and solid craftsmanship are hallmarks of Wright's Prairie School design.

Skylight *(below)*. Volunteers carefully took down multiple ceilings to expose the original café skylight, a 16-by-16-foot grid of Wright-designed art glass. The glass itself was discovered in the sunroom of a Mason City home.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DIAMOND
in the rough

WORDS: DAVID WHITEMYER **IMAGES:** JUSTIN MEYER

JUST A HALF BLOCK FROM WHERE ANTI-LIQUOR ADVOCATE REVEREND GEORGE HADDOCK WAS GUNNED DOWN IN 1866 SITS THE NEW HOME OF INNOVATIVE BENEFITS CONSULTANTS (IBC). THIS CIRCA-1900 STRUCTURE—ONE OF MANY DECAYED BUILDINGS IN SIOUX CITY'S HISTORICAL PEARL STREET DISTRICT—MOST RECENTLY HOUSED SOLENOID VALVES AND OTHER ELECTRICAL COMPONENTS FOR DISTRIBUTOR LAKELAND ENGINEERING.

Before and After *(above)*. PLaN removed old shades and worn glass block windows to open up the simple façade.

Bare Bones *(left)*. Open joists and bridging with the polished concrete floor show the building's original skeleton.

ARCHITECT: PLAN ARCHITECTURE
CONTRACTOR: BROWN WEGHER CONSTRUCTION
SEE P. 48 FOR FULL PROJECT CREDITS

Expanding its practice, IBC selected PLaN Architecture, a young, local, seven-person firm to renovate the Lakeland building. Nathan Kalaher, AIA, architect and partner at PLaN, describes the existing conditions as mid-1970s, with imitation wood paneling, yellowed ceiling tiles and tattered sheet carpet.

"There's a seediness to the neighborhood," says Kalaher. It's littered with vacant one- and two-story brown and reddish brick buildings, but for the last few years, developers have been restoring properties and opening new businesses, including PLaN's studio, and the area is starting to boom.

PLaN's designers saw past the building's dated aspects and developed a minimal, honest design based on the primary structure of the perimeter load-bearing masonry walls, interior timber columns and concrete floors. "We utilized a reductive design strategy as opposed to an additive strategy," says Kalaher. "Demolition was used as a design tool to reveal historical construction methods and details."

With the bare bones showing, the architects laid out the walls programmatically to work with the structure, using the column grid as the organization system. They sandblasted vertical timbers to reveal their original patina, cleaned the brick walls and opened the ceilings to show their joists and bridging. All of the original materials and structural elements factored into the renovated design. "We chose not to hide anything," says Kalaher.

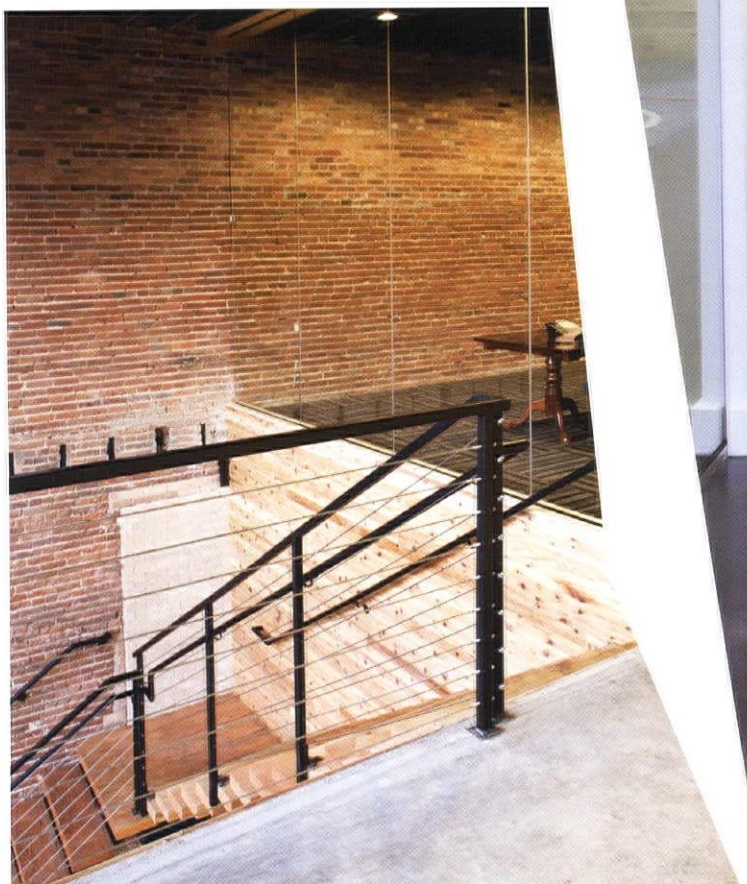
PLaN used the textures and colors of the raw building to conceive simple, elegant tongue-and-grove walls of clear cedar, many with an artistic slat pattern near the upper edge. Knotty wood near the lobby/atrium adds visual energy to the space. The existing concrete floors were simply grinded and polished. "We incorporated colors through the materials," says Kalaher. For example, the building's interior walls are white, so using woods adds warmer colors.

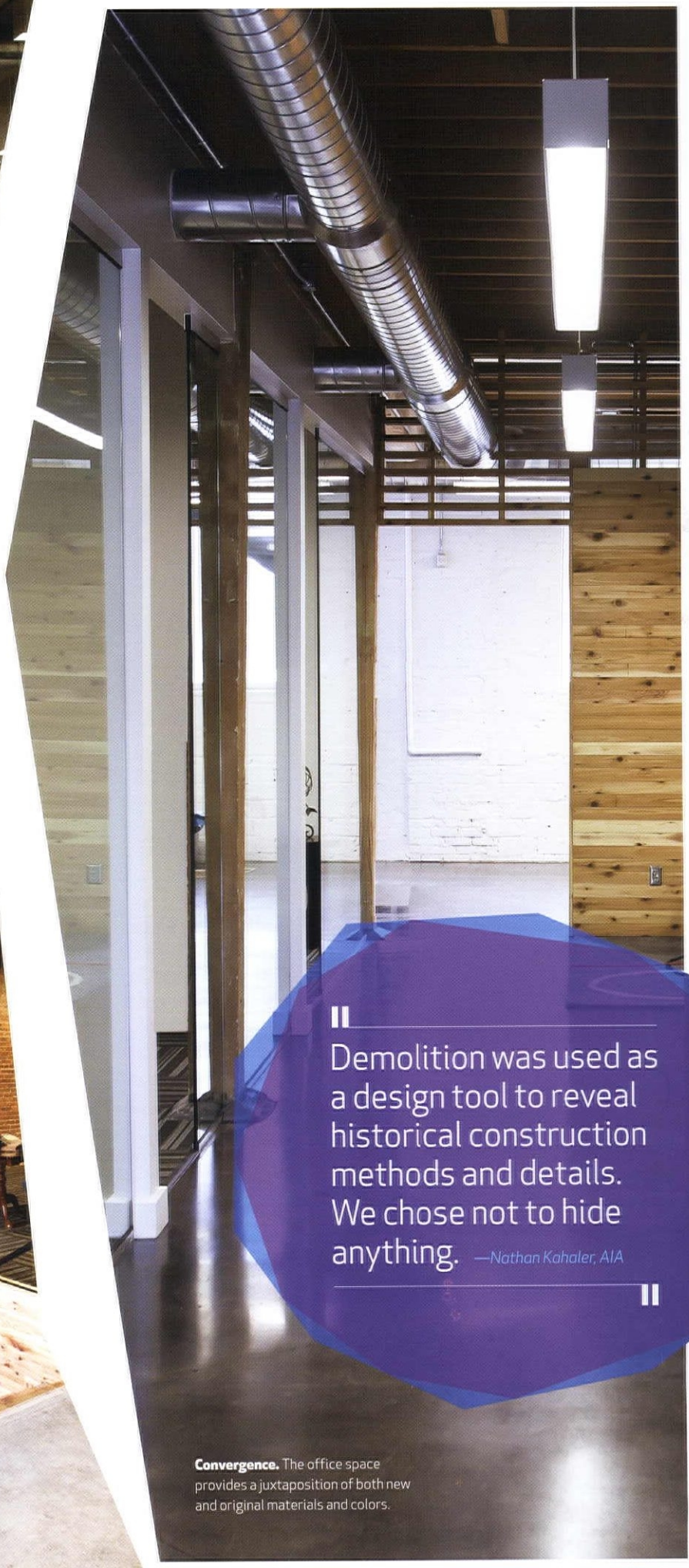
Floor-to-ceiling glass, at the front of each office, provides a bit of acoustic separation from the open workspace while maintaining a view of the building's skeleton—a dialogue between the old and the new. "One of our biggest challenges was dealing with highly machined elements, such as railings and glass, in a space where walls weren't square and columns were slightly off grid," says Kalaher. This is also where the subtle but intricately considered details shine, such as the aluminum channel of the glass that is slightly trenched into the concrete floor, making it almost disappear.

PLaN recognized that the building already had a craft about it, with its period materials and details, and then highlighted it with modern, functional infill. "We respected what the building was and had to offer, and we worked to find a way to appropriately mesh contemporary interventions with the historical framework." The result is a skillfully assembled jewel. ia

Balanced Surfaces. A visually energetic latticed wall is balanced against the polished concrete floor and modern glass.

Transparent Skin. Floor-to-ceiling non-reflective glass shows off the building's 100 year-old brick wall.





> Demolition was used as a design tool to reveal historical construction methods and details. We chose not to hide anything. —Nathan Kahaler, AIA

Convergence. The office space provides a juxtaposition of both new and original materials and colors.

ORE

WORDS: KELLY ROBERSON
IMAGES: MAIN STREET STUDIO

ARCHITECT: OPN ARCHITECTS
SEE P. 48 FOR FULL PROJECT CREDITS

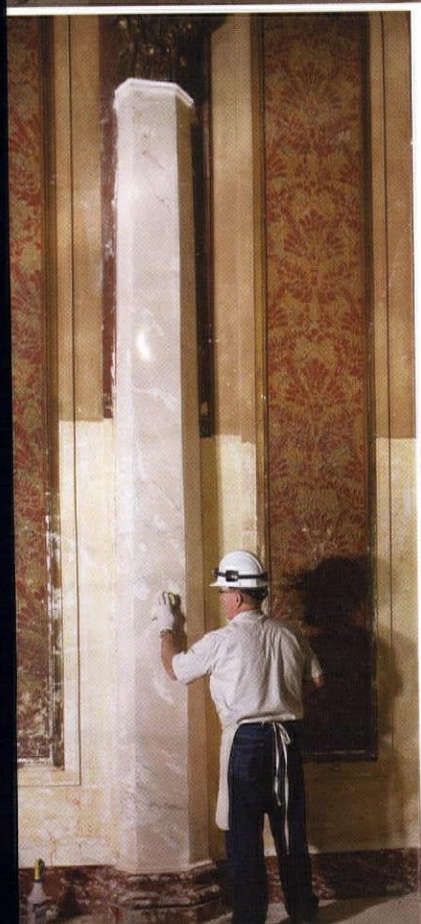
A historic view outside the 1928 Paramount Theatre. The 2008 flood waters decimated the interior.

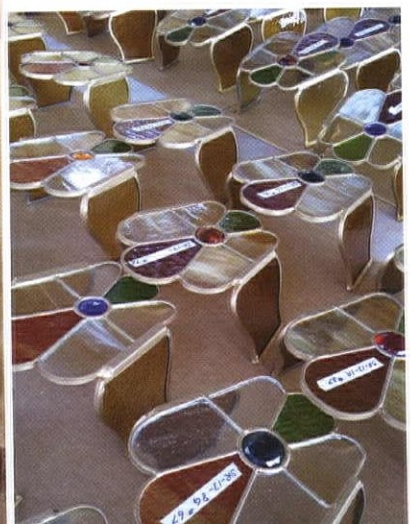
After the waters have receded and the mud has been shoveled out, after the broken furniture and moldy carpet have been thrown away, what a flood leaves is simply work: Rebuilding work, rethinking work, reimagining work. It is what consumed the City of Cedar Rapids in summer 2008, when a flood of unimaginable force tore through downtown. In its wake there was little left untouched, including the historical Paramount Theatre.

Built in 1928 as a movie house, the Paramount was, for its time, an example of all that was elegant and refined in the craft of such facilities: elaborate plaster, including marezzo scagliola, which simulated stone; aluminum leaf paints and glazes; crystal chandeliers and stained-glass light fixtures; and a Wurlitzer organ.

The flood did away with much of that—at least in the basement and ground floor; water reached eight feet inside the building. "It was pretty sobering to see," says Bradd Brown of OPN Architects. "The cleaning company had removed all of the plaster detail from the bottom of the balcony, and you could see the black metal framing that held the plaster in place. All the historic fabric was gone."

Sometimes projects are renovated for practical reasons, sometimes for purely emotional ones. The Paramount project would end up being a little of both. For the city, the Paramount was one of a number of chances officials had to make a definitive statement that Cedar Rapids, damage notwithstanding, would come back. For the artistic community in Iowa, the flood would prove to be a second chance to remake a historical building to be more in tune with modern demands. And for history buffs, architects and craftspeople, the flood brought an unexpected opportunity to dig deep and find inspiration, education and enthusiasm is historical crafts.





Critical Collaboration. Much of the historical fabric of the building was damaged or lost completely post-flood, when cleaning crews removed plaster details from the balcony down to the floor level. Craftsmen with expertise in areas ranging from historical plaster repair to paint techniques to antique lighting restoration were called upon to restore the theater down to the smallest details.

Assembling a Team

There would be many instances during the Paramount renovation where new-school technology intersected with old-school demands and structure. The first was measuring the existing building. "A building like that has all of these surfaces that you can see but you can't get close to," says Brown, including the 90-foot-tall dome.

A laser scan—a feat Brown calls craft in and of itself—captured data from 100 cameras and stitched it together, enabling OPN to, within a quarter-inch accuracy, assemble the first of many necessary CAD files.

At the same time, OPN began assembling feedback from the city's stakeholder committee, including representatives from the Paramount's primary user, Orchestra Iowa; the company that booked acts in the theater; and community members. Key was one question: If you could change one thing about the Paramount, what would it be? "We knew that if there were improvements to make, it was the time to do that," says Brown.

Components the committee wanted in the renovation included more knee space in individual seats, better acoustics, a deeper stage and back-of-house improvements, including dressing rooms and similar spaces. Those modern-day updates would also have to be coordinated with a historically accurate restoration that included plaster and paint schemes, much of which was lost to the flood damage.

Process and Progress

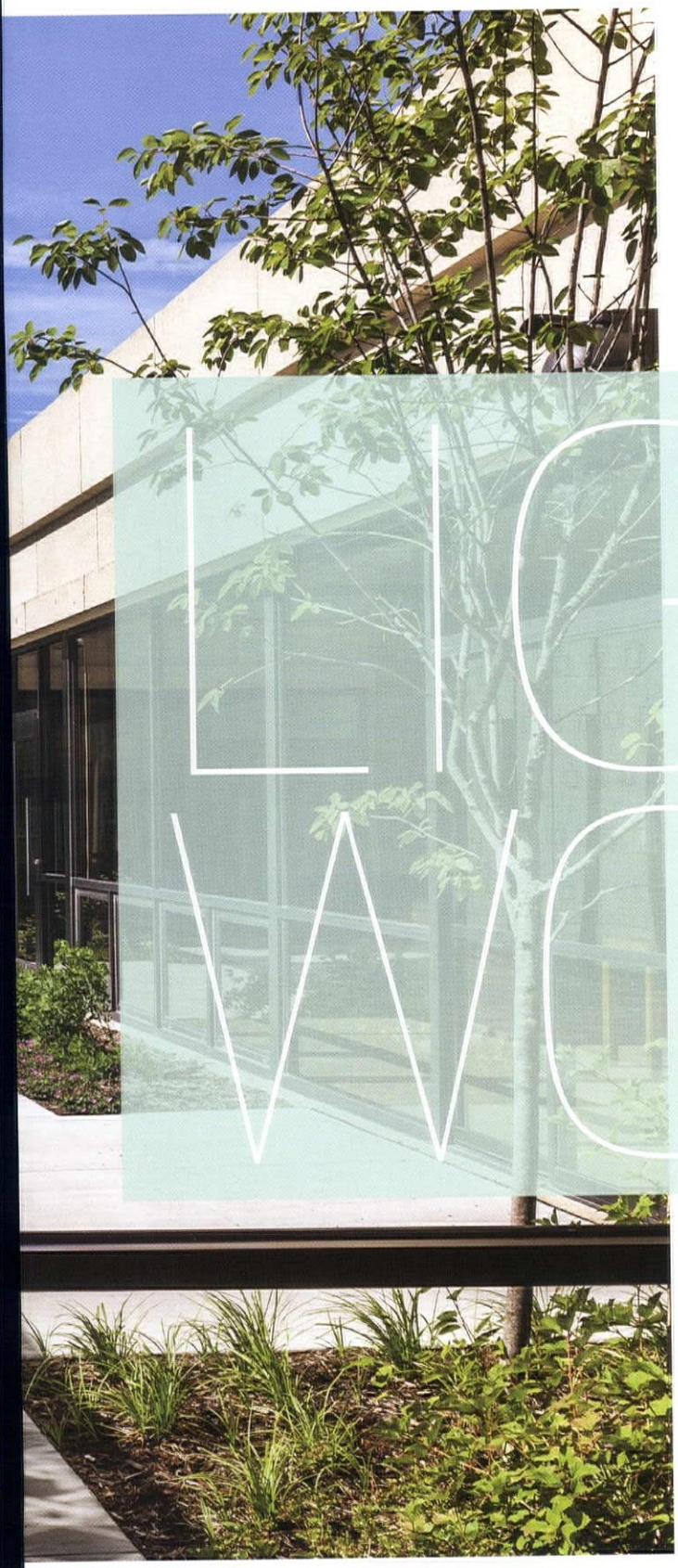
It would be that intersection of old-school and new-school crafts, as well as the team OPN assembled, that helped to guide the Paramount restoration. "We really brought together people who were experts with a great deal of experience," says Michael Thomas with OPN. "As architects we often work often with people who are specialists, but the depth of experience and knowledge of historical crafts was a unique, rich experience."

A theater consultant and a historical painter with similar restoration experience were cornerstones of the restoration. "The Paramount had been repainted in the 1970s but it was not historically accurate," says Brown. "It was interesting to watch the techniques that were involved—it is not just painting two coats of something. It really was an education and a once-in-a-lifetime experience."

To gain knee space, OPN eliminated the central aisle in favor of continental seating; they also reseated the orchestra level, which provided additional ADA-compliant seating areas. The Paramount—originally a movie house—had lots of acoustic dead spaces; plaster slights of hand, invisible to the eye, helped elevate lower notes and movement of sound. A large stage reflector, suspended over the audience, can be raised or lowered based on the needs of the act on stage, and its rigging is the same as those used for Broadway musicals, which increases the range of shows the Paramount can produce. OPN was able to get the alley behind the theater vacated, which enabled them to add 20 feet to the stage and move mechanical and electrical systems out of the basement, a FEMA mitigation requirement.

Work on the building continues, with a grand reopening scheduled for November 3. Progress, though, has done much to help those post-flood memories recede. "You could tell the building had been put together the first time with care and attention. It was tough to walk in and see how much of that had been destroyed," says Thomas. "We as the design team and the city felt compelled to put it back together as authentically as possible." ia

EXODUS
EXILE



WORDS: MARK BLUNCK **IMAGES:** PAUL CROSBY ARCHITECTURAL PHOTOGRAPHY

LIGHT WORK

Polk Boulevard is one of the most beautiful thoroughfares in all of Des Moines: One feels the 150-year history of the city when motoring down the boulevard as traditional and modern styles intermingle in an array of design and nature.

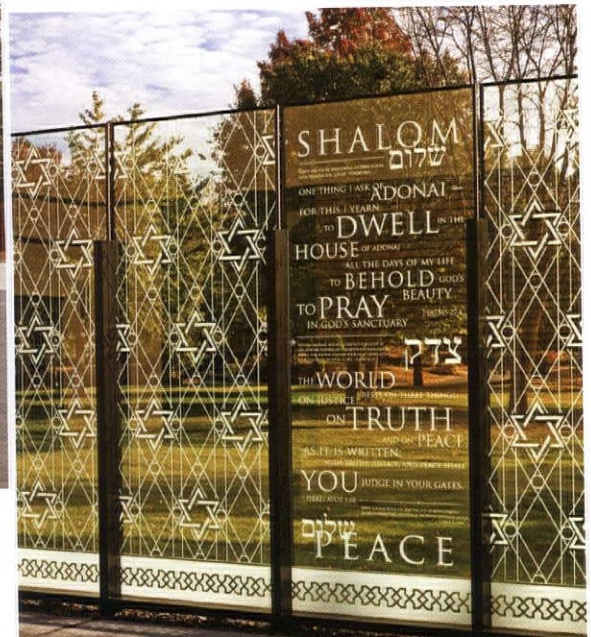
ARCHITECT: SUBSTANCE **CONTRACTOR:** BALL CONSTRUCTION
SEE P. 48 FOR FULL PROJECT CREDITS

When Tifereth Israel Synagogue outgrew its downtown location at 3rd and Crocker by the late 1920s, construction began on a new chapel along Polk Boulevard in December 1929. In the following decades, several buildings were added as educational and social gathering spaces to serve the needs of an expanding congregation. Persistent tides of time and weather eventually gave the chapel detrimental water issues, and a 1950s school wing was rarely utilized and in steady decline. These factors, combined with a substantial 30-year decrease in membership, resulted in a decision to demolish these two maintenance-sapping structures and focus attention on the 1979 social hall still in fine condition. The program now involved the rejuvenation of this 20,000-square-foot building and incorporation of the sanctuary, library, staff offices, art display and social space within a single structure.

Project architect Brad Hartman, AIA, of Substance in Des Moines, began with this principle when collaborating with the congregation on the project. "Craft indicates the obvious choices in material, design, engineering and construction. We utilized craft in the decision-making process to remove what was unneeded and focus on maintaining the spirit of the synagogue in the remaining structure." This became the operative standard for design and material decisions throughout the process.

The synagogue staff and congregation overwhelmingly decided that the architecture and design should represent a modern aesthetic. The Tifereth building is a restrained form of Modernist design that fits well into the landscape. A peculiar anomaly existed, however, with the now-demolished chapel that subsequently informed the primary issue under consideration. "It was interesting—and no one really knows why—that the synagogue had been built all those years ago with the orientation to the west, so this was the perfect opportunity to make the appropriate change," says congregation member Pam Bookey.

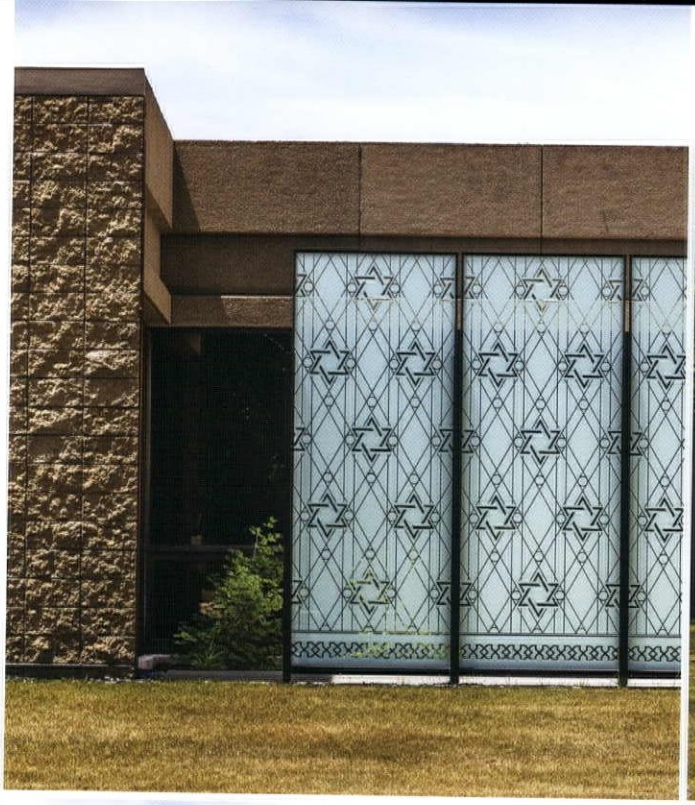
> Craft is understanding materiality and execution, which is more than just putting something together well. —*Brad Hartman, AIA*

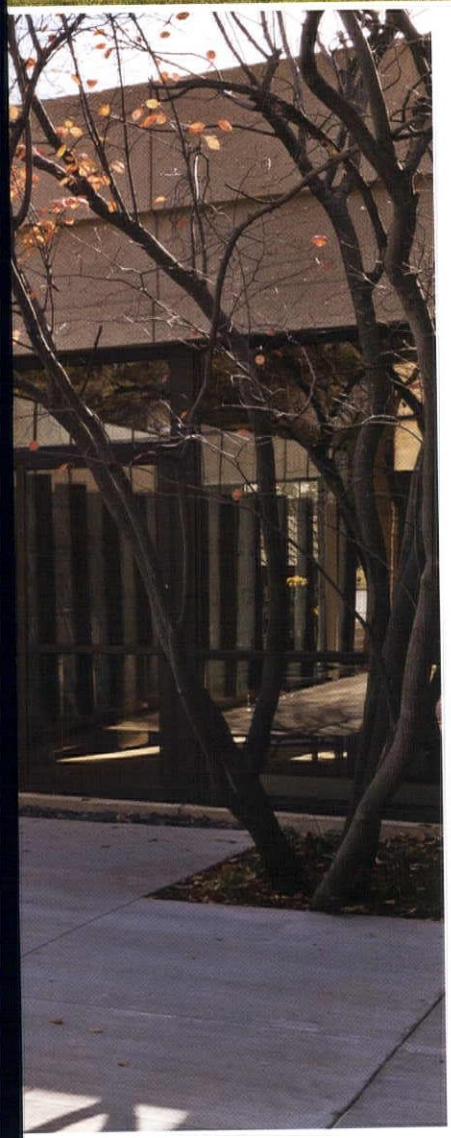


Perfect symmetry *(above)* is achieved in the renovated sanctuary and social space with the skillfully crafted ark and bimah, along with pews from the chapel exuding a sense of continuity and tradition in a relatively modern space. The ark housing the Eternal Light and Torah scrolls is built of reused walnut paneling and ark handles salvaged from the former chapel.

The large, transparent 4-by-10-foot glass panels facing the social hall/sanctuary showcase words and phrases of celebration that are important to the Jewish faith.

Literature has been the foundation of Judaic teaching and communication for thousands of years. The translucent glass panels create a sense of enclosure and intimacy with an important prayer from the Book of Deuteronomy, clarity through the prayer, on a single panel in Hebrew and English.





Since tradition calls for the ark and congregation to face east, the reorientation of space in the renovated hall rectified this issue. The open backdrop created by this shift and chapel demolition offered the opportunity to design a beautifully crafted work of modern art befitting the space. The ark contains the Torah and is the most important holy space within a synagogue. "While there are no rules for the materiality of the ark," Hartman says, "the design team felt it could strengthen the symbolic nature if honest meaning existed in the materiality. The cedar wood was chosen as a species often referenced in Jewish text. Since it is used on both the interior and exposed exterior of the ark, the wood will add the visual element of passing time as the building ages. The interior will continue to be fresh, while the exterior half turns gray and silver over the decades. In this wonderful piece of fine millwork, craft is understanding materiality and execution, which is more than just putting something together well. The cabinetry is quite complex in how it functions, yet intentionally appears very simple."

Demolition of the chapel revealed an unsightly indented street elevation, but fortunately offered a chance to create fresh design elements defining a true sense of place and improved image to the boulevard. The sparkling solution by Substance consists of a row of impressive 4-by-10-foot crystalline glass panels (the same height as the sliding ark wood panels) installed at the perimeter of new courtyard and event spaces adjacent to the library and sanctuary/social hall. The panels illustrate mastery of craft through patterned scrims, abstractly derived from historical plaster chapel components with religious text chosen by the congregation appearing on a unique panel in each space. "The congregation is thrilled with the way it looks from inside as well as from the street. Enclosed areas are enjoyed by congregants for many occasions at different times of the year, thus opening up more flexible opportunities for prayer and events," says Bookey.

Says Hartman: "The sunrise/sunset orientation seemed best illuminated by glass panels. Mornings see patterns of the shadows through the glass and surrounding landscape while evenings are illuminated by the setting sun reflecting off the brightly glowing glass. At noon the stone almost sparkles as sun glances down the face, but the panels are relatively translucent and green due to light passing through them in the thickest angle. From early evening until the building is in full shadow, the glass glows brightly and the pattern on even the transparent side is highly visible from 300 feet away."

This renovation is a classic example of good design accomplished within rigorous constraints and limitations. The view along Polk Boulevard is a substantial enhancement, and the success of the project is exemplified by increasing membership and positive reaction from the congregation and visiting guests. in


in due

COURSE

a classic golf course gains a ***bright*** new clubhouse

WORDS: MONICA GILLEN **IMAGES:** MAIN STREET STUDIO

ARCHITECT: OPN ARCHITECTS
CONTRACTOR: CPMI CONSTRUCTION, L.C.
SEE P. 48 FOR FULL PROJECT CREDITS

Golf is an outdoor game in which carefully crafted clubs are used to hit a ball from the tee to the green and ultimately into the cup. Perhaps a key design objective for a golf course clubhouse is one where graceful attention to detail merges a comfortable, organized expanse inside with the undulating knolls and manicured greens outside.

The Bright Grandview Golf Course Clubhouse, on a municipal course owned by the City of Des Moines, offers unimpeded views in many directions that enhance the experience for patrons while assisting the staff with monitoring the goings-on at the facility. Blurring the line between inside and out is a success of this building.

"There are areas in the building were one can sit and literally have views out in four directions. For those passing by on the street, portions of the façade allow views directly through the building and beyond to the course," says Isaac Bracher, project architect at OPN Architects.

Located in a 1920s neighborhood at 2401 East 29th Street in Des Moines, the east face of the building focuses attention to the golf course, both literally and figuratively, by employing extensive glass and doors to a building-length terrace, says Bracher. Far-reaching roof overhangs and a colonnade are features of the concrete patio.

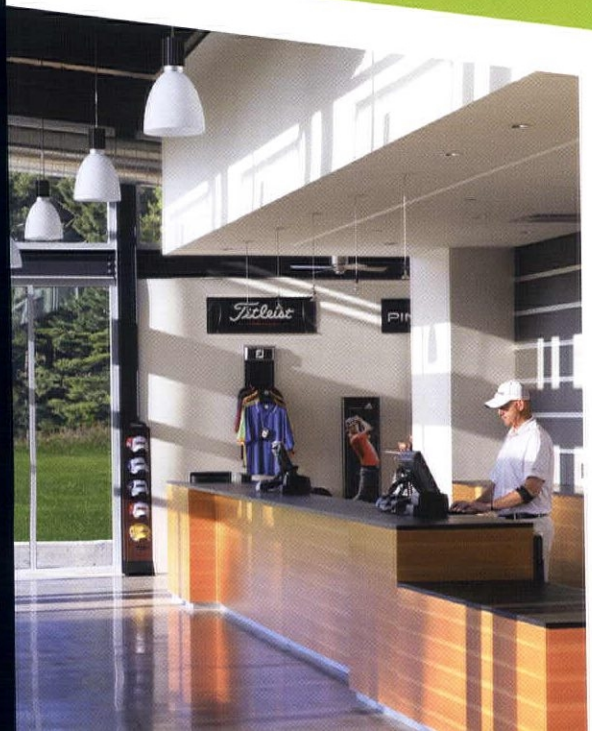
The design challenge and vision of the architects were inspired by the philanthropy and support of the neighbors.

One of the oldest in the country, the course was built in 1902, and the old clubhouse had seen better days. The new 12,100-square-foot facility is meaningful to many, which adds sentiment to the project. Bracher says the new structure, named in honor of Lois Bright and her late husband, H. Dale Bright, is a gesture to their significant donation that made the project possible. The Brights lived a few blocks from the golf course and have given to many organizations through their foundation. "I think one of the most interesting aspects of the project has nothing to do with architecture or design—it's the lesson of giving back to the community," says Bracher.

"We believe the new and improved clubhouse will once again be the place for parties, business meetings or just to hang out after a round of golf. The beautiful new building, in the words of the nearby residents, is something they are proud to show off and an asset they are glad to have in their neighborhood," says Ben Page, interim Des Moines Park and Recreation director.

Bright Grandview Clubhouse *(clockwise from top).* **Exterior wood siding** on the south elevation is detailed with custom, formed aluminum trim. Golf cart storage is located in the basement of the building. **Morning sunlight streams** into the dining room—providing an inviting place for golfers to await their tee time. **The warmth of the wood** from the exterior is carried through to the interior with the quarter-sawn Douglas fir woodwork at the bar. **Fabric solar shades** on the golf course side of the building are positioned in response to the rhythm established by a series of doors.

> ONE OF THE MOST INTERESTING ASPECTS OF THE PROJECT HAS NOTHING TO DO WITH ARCHITECTURE OR DESIGN—IT'S THE LESSON OF GIVING BACK TO THE COMMUNITY.
>
> *— Isaac Bracher, AIA*



project credits

Getting It Wright 24

Project: Historic Park Inn Restoration

Location: Mason City

Architects: Randall S. Cram, AIA; Scott Borcherding, IIDA; Martha Huntington, AIA

Construction Manager: Henkel Construction Company

Photographer: Miller Hall Photo

Diamond in the Rough 28

Project: IBC Renovation

Location: Sioux City

Architect: PLaN Architecture; Nathan Kahaler, AIA

Structural Engineer: KC Engineering

Contractor: Brown Wegher Construction

Photographer: Justin Meyer

Encore 32

Project: Paramount Theatre Restoration

Location: Cedar Rapids

Architect: OPN Architects, Inc.

Historic Paint and Plaster: Martinez + Johnson Architecture; Conrad Schmitt Studios, Inc.; Olympic Companies, Inc.

Historic Surfaces: Anthony Kartsonas

Architectural Lighting: Schuler Shook; St. Louis Antique Lighting Co.

Organ Restoration: Jeff Weiler & Associates; Crome Organ Restoration

Photographer: Main Street Studio

Light Work 34

Project: Tifereth Israel Synagogue

Location: Des Moines

Architect: substance architecture

Landscape Architect: Confluence

General Contractor: Ball Construction

Glass Contractor: Clark Glass

Millwork: RCS Millwork

Glass Panel Manufacturer: Viracon

Photographer: Paul Crosby Architectural Photography

In Due Course 40

Project: Bright Grandview Golf Course Clubhouse

Location: Des Moines

Architect, Interior Designer, Landscape Architect: OPN Architecture

General Contractor: CPMI Construction, L.C.

Project Manager: Beal | Derkenne Construction

Tensioned Fabric Sunshades: Lawrence Fabric Sunshades

Glazing and Aluminum Sunshades: Premier Glazing

Photographer: Main Street Studio

advertising index

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