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SMALL SPACES



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CEO/Publisher	Ann Gray, FAIA FRICS
Editor in Chief	Alexi Drosu alexi@formmag.net
Advertising Sales	Jerri Levi jerri@formmag.net 818.726.1765
Art Direction + Design	studiofuse.biz
Office Manager/ Production Coordinator	Sheila Mendes-Coleman sheila@formmag.net
Digital Editor	Lisa Bingham Dewart lisa@formmag.net
Contributing Writers	Michael Webb Lisa Bingham Dewart Andrea Cohen Gehring
Printing	Navigator Cross-media
Reprints	Peter Shamray Navigator Cross-media 626.222.5646 peter@navcm.com
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EDITOR'S NOTE

Four years ago, my husband and I decided it was time to shop for a bigger house. We fell in love with a Spanish beauty built in 1929, and suddenly our living space almost tripled. I remember sitting in our bare living room and hearing my

3-year-old daughter crying hysterically upstairs. When I scooped her up in my arms, she told me she felt lost in our house. That's when I wondered, is this place too big for us? Don't get me wrong. I love my house but, yes, it's too big for us. There are rooms we hardly use and the upkeep can be exhausting. We could be just as happy in a smaller, more efficient space. And, we're not the only ones asking this question, so is AIA President Andrea Cohen Gehring in her essay (p.8) this month. In fact, identifying just how much space one needs is becoming a hot topic in urban enclaves where housing is scarce and expensive—writer Michael Webb explores



the rise of micro-units in *Small Spaces* (p.23). Of course, these smaller units often incorporate earth-friendly living solutions, and, in this month's Workbook section (p.16), we investigate how different projects apply the latest sustainable methods. Lastly, lighting plays an important role in projects big or small, requiring different solutions for intimate versus larger spaces. In this issue, we excerpt innovative lighting applications from the Office of Visual Interaction's newly released monograph (p.28).

... Drog

Alexi Drosu Editor in Chief



origins collection | tonal textures | vintage color palette | recycled yarn content | interiors and exteriors

RICHARDFRINIER COLLECTION



ON MY MIND

When Is Small Big Enough?

Transition: noun. The process of changing from one condition to another. BY ANDREA COHEN GEHRING, FAIA, LEED AP



Andrea Cohen Gehring is a Design Leader at DLR Group and this year's AIA/LA Chapter President.

MY FIRST APARTMENT WAS A SMALL STUDIO UNIT in Culver City. Amazingly efficient yet spacious, it was simply a large open space that supported all of my daily activities like cooking, sleeping, and entertaining. A few walls defined a small closet and bathroom. The best part of the unit was a generous balcony with a glass wall, which provided an abundance of natural light. It was no more than 500 square feet. For a young and single architect, it was like a wonderful little cocoon.

I realize now that throughout the various transitions of my life, my living space has adapted to meet my needs. As both my practice and family grew, so did the size of my home. Like most architects, my husband and I fell in love with a fixerupper that had great potential, and after six renovations, our home grew to 3,400 square feet! For the last 18 years, it has served our family well with enough room to host out-of-town guests, dance parties, office gatherings, and most importantly, give everyone space during those tumultuous teenage years. But now that we are empty nesters, has our home grown too big?

At one time or another, we all experience the emotional attachment to a large living space rather than a more scaleddown version that may better meet our needs. It's a dilemma we often evaluate for our clients as well. As architects we are responsible for leading our clients in sustainable design, and scaling down in size is a key component to achieve this goal. We help them understand and process their expectations and preconceptions, as they are not always supported by their project budgets, goals, and objectives. We help them with their transitions just as we live through our own; it's an important aspect of our practice that brings great value to our clients, especially in the programming phase of a project. Also, small spaces have a reduced ecological footprint and can actually perform better than their larger counterpart.

As the next issue of FORM explores sustainability in the context of the latest trends in micro units and scaled down office space, I ask myself, is it time to scale down? Perhaps we would be more content in that little cocoon once again.

S/0.1.



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FORGET THE MOTORCAR

AND BUILD THE CITY FOR LOVERS AND FRIENDS

- Lewis Mumford

NEW URBANISM FILM FESTIVAL LOS ANGELES • NOV 6-9 NewUrbanismFilmFestival.com

MARKET WATCH

A Material Difference

Incorporating sustainable materials has long been a driving force in design, but today's array of products—from sustainable cork to recycled aluminum and glass—are eco-friendly and meet high-quality design standards. Moreover, manufacturers are focused on effective and earth-friendly purification techniques, saving water and energy during the manufacturing process, and a commitment to reforestation. Prepare to be floored!



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EXPERT'S CORNER





Tom Bassett CEO of Bassett & Partners

With more than 20 years experience in branding, advertising and design. Tom Bassett understands the importance of communicating one's vision into an influential brand. After working with leading companies, such as Nike, Microsoft and Sonos, he has drawn from his interviews with notable figures to identify key elements of the creative process. This fall, Bassett debuts *Briefly*, a short film about tackling "the brief" from the perspective of creative visionaries, such as Frank Gehry and Yves Behar. Here, he sounds off on filming, technology and the importance of creating a brand.

Tell us a little more about *Briefly* and the genesis of the idea.

Briefly was born out of a genuine curiosity about the similarities and differences in the way great creative people think about the brief. The focus of most content is on the end product and/or about the creative process. But since the brief is the starting point for *every* project, I wanted to shine a light on that. I also felt it was important to hear from the creative visionaries themselves because we worried that if we asked business people or strategists, they would make the brief sound too easy and perfect. I was less interested in what one particular creative discipline thought, and more driven to learn about the brief from a multi-disciplinary POV.

What were some of the key themes you heard?

The main theme is that the brief is more of a verb than a noun—the brief isn't supposed to be a static, rigid and near-contractual document. It's an organic, fluid process, driven by unorthodox research, and open to serendipity. The goal is identifying a simple emotional truth that provides the foundation for a project of any scale. John Boiler [of 72andSunny] puts it very elegantly at the end of the film when he says not to use the brief to say What and How, but use the brief to ask Why. As a natural extension of the ideal process, relationships trump artifacts; great creative talent needs to be allowed the trust to challenge boundaries in order to deliver the most exceptional end product.

Who and what surprised you the most?

When Frank Gehry visits foreign countries, he hires a human rights lawyer from that country to travel with him because he wants to understand the deeper cultural issues in the community surrounding his projects. For example, when he first went to Bilboa, the steel workers were highly suspicious of him and his motivations; but once they realized what his intentions were, they embraced him.

You come from a branding background. What advice would you give architects and designers?

To me, everything is an expression of brand—buildings, advertising, products, illustrations—down to the smallest detail. Figure out what YOUR brand stands for first, then determine whether that vision aligns with the projects you're pitching. Ultimately, fit is everything, or you're just chasing work and the client's demands will define you. Developing a brand for yourself will be contingent on your ability to create a relationship and a culture that allows your vision to take shape.

You've worked with designers to help create new products. Can you tell us about that process?

David Rockwell put it best when he said, "what starts to emerge is something that comes out of the brief, but not linearly from it, and that's the DNA of the project. What's the engine that's going to drive that project forward emotionally?" Great strategists act as catalysts for the 'birth' of the idea that kick-starts the creative process. It doesn't mean they have to solve it. In fact, the best work seems to come when creative people are allowed the wiggle room to take ownership of the brief and solve it in their own way.

What are some online resources that you think are helpful to any service-oriented business? This will sound self-serving because I am the founder, but MindSwarms has been a great tool for Bassett & Partners and its clients. It's a mobile video survey company, and it collects video-based insights from consumers all over the world. It's been a powerful tool for ad agencies in pitches, and designers in the creative development process because it gives creative people access to visceral qualitative input in a format that creative people relate to—real human stories.

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WORKBOOK

Model Behavior

Elegant and sustainable solutions

For Workbook credits, please see page 35



ASB North Wharf Auckland, NZ Designer: BVN Donovan Hill Website: www.bvn.com.au

The seven-story office block, designed in collaboration with New Zealand architect Jasmax, speaks to the client's request to place their employee's wellbeing at the forefront of the project while also serving as a model of sustainable design. "From project inception through to commissioning, the driver for the design has been to set new standards in terms of indoor, environmental quality and energy performance" says the designer.

The location of the building serves as part of the regeneration of the Wynyard Quarter, a gateway to Auckland's North Wharf, and the team focused on using the local environment to dictate the way they approached the sustainable elements of the design.

"During the concept design the team embraced first principles—the physics of how air, light and water work in the built environment—to incorporate and maximize the passive features of the site and building to deliver significant energy reductions and environmental benefits," says BVN.

According to the architect, the design solution employed the first fixed bin displacement mixedmode ventilation system in Australia or New Zealand. "Harnessing the local mild climate and cool breezes, the mixed-mode design empowers tenants with the ability to open windows when conditions are favorable through an elegantly designed red light/green light notification system," says BVN. "The shape and form of the buildings atria and funnel ensure effective mixed-mode operation."

Photography by John Gollings

21 Acres Woodinville, WA Designer: ArchEcology Website: www.archecology.com

The 12,000-square-foot building that houses the 21 Acres Center for Local Food and Sustainable Design is the first commercial design in a rural farm setting to receive LEED Platinum certification. The center and working organic farm is divided into three main areas: a year-round, indoor farmer's market and retail store; a large demonstration kitchen; and a community learner center outfitted with classrooms and meeting spaces.

The team wanted the project to serve as an educational resource for the local community, spotlighting wastewater management, alternative and renewable energies, and other sustainable solutions. Principal architect and environmental consultant Nancy Henderson, AIA, of ArchEcology, notes that it's the sum of all these parts—photovoltaic arrays, pervious pavers, ground source heat, insulated concrete forms, bio-digesters—that creates an innovative design.

"The building functions much like a living system, inhaling fresh air though large ducts that pass through an earthen berm," she says. "Its energy is generated from the sun. Heat is extracted from the earth and distributed throughout the building via tubes in the concrete floors. Depending on the source, wastes get distributed into one of the various composting systems: bio-digesters for greywater; composting toilets for human waste; and for everyday kitchen waste, vermicomposting."

Half of the center's roof area is covered in photovoltaic panels, skylights and mechanical equipment, while the remaining half features an extensive living roof. Over two-dozen species of drought-tolerant sedum were planted to reduce irrigation and maintenance requirements.

NY.

Photography by Robert Inn and Caren Morris







BIQ House

Hamburg, Germany Designer: SPLITTERWERK and ARUP Website: www.splitterwerk.at; www.arup.com

In 2008, Peter Head, ex-Director of Arup, delivered a lecture on the "ecological age" where he broached the subject of façade-applied microalgae to efficiently capture CO2 emissions. The idea served as a spark; and when Austrian architects SPLITTERWERK approached Arup to join its design team for a competition on a smart-materials house for the International Building Exhibition (IBA) it initiated the SolarLeaf project, a bioreactive façade that has been applied to a four-story residential building known as the BIQ House.

"During the design process we developed the concept for the facade integration of flat panel photo bioreactors (PBRs) to facilitate photosynthesis in a controlled environment," says Dr. Jan Wurm, Associate Director and Materials Consulting at Arup. "The bio-responsive façade aims to create synergies by linking different systems for building services, energy and heat distribution, diverse water systems and combustion processes. We believe this system holds huge potential as a complimentary technology to PV cells for new built or retro-fitted medium and large scale developments. The technology allows linking the flows of carbon emissions, heat, water and biomass to create closed cycles and the implementation of zero energy and zero carbon settlements. On a building scale, most efficient use is installation on buildings that have constant CO2 output and a heat demand."

Photography courtesy of Colt International, Arup, SSC GmbH



make

Carlsbad, CA Designer: Rapt Studio Website: www.raptstudio.com

Southern California developer Cruzan will transform an industrial warehouse built in 1965 into a 175,000-square-foot office redevelopment project, featuring refurbished shipping containers to create various community spaces, such as a state-of-the-art café and a bike share distribution hub.

"[The] use of shipping containers in *make* came about organically as a cost effective and low-impact means of providing shared amenity spaces within public areas," says David Galullo, Principal at Rapt Studios. And, serving the community is one of the key elements driving this project.

"Our approach to sustainability isn't for show; instead it serves to make the space more functional and purposeful," says Peter Spencer, Partner, Construction and Development, at Cruzan. "We called the project *make* because there can be a lot of waste generated from creating and making new things, we wanted to take a more thoughtful approach to sustainability."

Part of the project's sustainable aim is to reuse much of the existing material on-site—concrete will be crushed and reused as backfill, trees will be milled into furniture and benches. Other environmentally friendly solutions include high-performance glass and landscaping with drought-tolerant, native plant species. An L-shaped breezeway maximizes natural light, and large sliding doors welcome ocean breezes and reduce energy expenditures.

Renderings courtesy of Cruzan





The Treehouse for MetroNational

Houston, TX Designer: Studio Red Architects Website: www.studioredarchitects.com

The design of the two-story, 14,700-square-foot MetroNational office building was inspired by the idea of a treehouse with office pods, conference rooms known as nests, and the camp, a living roomstyle community space. But the playful idea also infuses innovative technology and green building principles into this collaborative and sustainable office plan.

The building, which is tracking for a LEED Platinum certification, has incorporated a long list of sustainable solutions including: geothermal cooling and heating system; daylight harvesting lights that automatically adjust; reclaimed materials and recycled furnishings; and a rooftop garden featuring solar panels and rainwater collection. The flooring was reclaimed from the Old Cotton Concentration Company warehouses in Galveston. The idea of bringing the outdoors inside is visible in the custom-made, tree-like woodwork that wraps around the interior columns while the conference room tables are made of tree trunks.

The designer also wanted to infuse the space with the spirit of collaboration. A steel and wood bridge, that evokes the image of an old-fashioned swing bridge, extends from The Treehouse to the MetroNational headquarters, encouraging employees to visit one another in the open offices, where one can work outdoors. Moving walls allow for a flexible office space and can accommodate different sized groups.



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LIVING SNEEL

BIG CITIES PROVIDE THE IDEAL LABORATORY FOR DESIGNING MICRO-APARTMENTS

BY MICHAEL WEBB

As real estate values skyrocket, young professionals who want to live in the heart of big cities on a budget are increasingly drawn to micro-apartments that provide them with a minimum of private space as an alternative to sharing. Living small is nothing new. The poor have always endured cramped quarters—from primitive huts to tenements or trailers—and the homeless are grateful for a modest room in an SRO. Le Corbusier and his wife spent many summers in their 12-foot-square cabin in Roquebrune. When he first visited India to design Chandigarh, the master said he couldn't improve on the versatility of the linear shacks that families construct from scavenged materials beside major highways. Little has changed since then. A few years ago, architect Bijoy Jain showed me through such a shelter outside his studio in Bombay; it was a marvel of ingenuity, impeccably maintained, and he was greeted as a welcome guest.

The average size of the American home has grown from 983 square feet in 1950 to about 2400 today, even though families are fewer and smaller. Other nationalities live more frugally. In Britain the average is 818 square feet and in Hong Kong it is only 484. That prompts the question: How much room do we really need? In Los Angeles, childless couples routinely commission mega-mansions to show off their wealth and actually use only a small part of them. As Leonardo da Vinci observed 500 years ago: "Small rooms and dwellings set the mind on the right path, large ones cause it to go astray." An affluent Spanish friend, living in Rye, NY, decided to test this idea and moved his family of seven from a mansion into Ulrich Franzen's first house, a compact modernist gem. Everyone adjusted to the downsizing and treated it as a great adventure.

For architects, the challenge is to create layouts that are efficient and livable, as they have in short-term accommodations. Philippe Starck demonstrated a mastery of space planning when he transformed a women's dormitory into the Hudson Hotel in mid Manhattan, and guests now pay \$400 a night for tiny rooms that provide all the essentials for comfort and convenience. I stayed there when the price was \$99 and loved the way I could sleep, shower, shave, dress, and pack within a few steps. Commune recently performed the same feat for the Ace Hotel in downtown LA. Gregory Ain's 950-square-foot houses in Mar Vista were designed for workers' families in the 1940s, and they were so well planned that they now sell for over \$1 million to middle-class couples.

San Francisco-where technology has created a new Gold Rush, and 42 percent of the population is single-provides an ideal laboratory for living small. Fledgling techies spend most of their waking hours at work, in bars or clubs, and require little more than a bed, shower, clothes rack, and coffeemaker; for them, a large apartment or house would be an encumbrance even if it were affordable. Developers are eager to exploit this new market, but are constrained by a jungle of planning restrictions and a wave of populist sentiment opposed to gentrification. This activism is well motivated, for social and economic diversity is an endangered quality in great cities. Creatives and a wide swathe of the middle classes are being priced out of San Francisco, along with minorities and the poor. In London and New York, the crisis is even more acute. City workers are compelled to live in exurbia, diminishing the guality of life they seek, impoverishing the centers, and squandering resources.

Clearly, the answer is to build more affordable apartments and densify cities. Micro-apartments could satisfy part of the demand, but they have to be intelligently designed. In Vancouver, where an influx of wealth from Asia has driven real estate values sky-high, an enlightened developer came up with the concept of microlofts. Reliance Properties CEO Jon Stovell converted a derelict historic building into 30 units ranging from 226 to 291 square feet, which rent for around \$850 a month. The venture was an immediate success and won many awards. Other projects followed, and he recently commissioned Neil Denari to design a 380-unit tower downtown, which will include nano apartments as small as 185 square feet. Amenities must compensate for the compactness, Stovell insists. Each apartment takes its cue from the iPhone, packing high quality equipment into a small package. Shared spaces indoors and out complement the private rooms, and the tower has a richly varied urban location, with an abundance of restaurants and cafes.

For Neil Denari, whose last major project was the luxurious HL23 apartment tower overlooking New York's High Line, the challenge was to design from the inside out. "Because they are small, these apartments need to be well-lit from big windows, and offer a high level of comfort," he says. "The building has to have an urban presence, and be more than an icon of efficiency like the Nagakin capsule tower in Tokyo. However, for residents, the city is their living room."







"We want to provide affordable, entrylevel housing at the right size. It's the Goldilocks principle—not too big, not too small."

- Patrick Kennedy, CEO Panoramic Interests



The Panoramic in San Francisco will feature 160-micro apartments with spacesaving furnishings. TOP: The Table Bed is down and ready for a guest; AND, BELOW, ready for breakfast, OPPOSITE: The layout of a typical micro-unit.



Thirty-three architectural firms entered a competition initiated by Mayor Bloomberg for 300-square-foot apartments in New York, and it's likely that his successor will push even harder to foster innovative housing solutions. In San Francisco, the city authorities are part of the problem. In 2012, they revised their minimum space requirements to permit apartments as small as 220 square feet, but cautiously capped their number at 375. Panoramic Interests, a Berkeley-based developer, has already demonstrated their viability. CEO Patrick Kennedy was inspired by vacation trips he took with his wife and child in a 78-squarefoot Airstream trailer. "It provided all we needed for a few weeks and it gave me the idea of building smaller apartments,"

he recalls. "We want to provide affordable, entry-level housing at the right size. It's the Goldilocks principle—not too big, not too small."

Kennedy spent five years perfecting the concept, building a full-size mock-up in a warehouse, and inviting an MIT student to live there for three weeks and provide a critique. Based on her feedback and his own research, he built an infill of 23, 295-square-foot apartments, which were soon snapped up. The furnishings are exemplary. There's a queen-size pullout bed, and a table that can accommodate four diners, or lower to become part of a bench that doubles as a guest bed. A sliding door conceals high-end appliances, and storage cabinets are built in. A more ambitious project, the 11-story Panoramic, should be completed next summer. Located in SOMA, two blocks from the Civic Center, it comprises 160 studios and minisuites with 9-foot ceilings and a high level of sustainability. There are public lounges on every floor, a rooftop garden and a ground-floor café-lobby. A BART station, bike storage, and a City CarShare make parking redundant. "I'm curious to see if older people will be interested in renting along with young singles," says Kennedy. "I think they will."

Given these early successes, the concept of micro-apartments is bound to catch on, making cities livelier, greener, more compact and inclusive. Developers and designers are ready to act once the politicians and bureaucrats step out of their way.

SYMPHONY OF ILUMINATION

By Jean Sundin and Enrique Peiniger



You can find stunning and inventive examples of lighting design created by the Office for Visual Interaction all around the world. From the coherent masterplan of the Scottish Parliament to a novel, modular Manhattan street lamp, the practice treats lighting as a primary architectural component. The newly released monograph, Lighting Design & Process (Jovis; \$66, www.artbook. com) captures the imaginative designs of principals Jean Sundin and Enrique Peiniger through more than 400 images, sketches and graphics. Here, we excerpt a few inspired examples.



OPPOSITE: Window seat in office of MSP building. THIS PAGE: West façade of MSP building; lighting detail for window seat.

CONCEALED SOLUTIONS

Prominently situated at the endpoint of the city's Royal Mile, the Scottish Parliament extends Holyrood National Park and adjoins Holyrood Palace-the official Edinburgh residence of Her Majesty the Queen. A coherent lighting masterplan unifies the nighttime appearance of the Parliament's various buildings, while custom lighting solutions become natural extensions of the architecture, blending seamlessly during both day and night to achieve a timeless appearance with its lively architecture.

Each office in the Members of Scottish Parliament (MSP) building is distinguished by a sculptural window seat, conceived as both a means of daylighting and an intimate reading nook. The unconventional shape of the carrel precludes any traditional lighting solution. Instead, a custom sub-miniature fluorescent luminaire is incorporated in the window safety rail. To keep the profile extremely small, the control gear is remotely located and easily accessible below the seat. The compact source concentrates light at reading height, and is seamlessly integrated with the architecture.

MODULAR DESIGN

In 2004, New York City's Department of Design and Construction, together with the Department of Transportation, launched an international design competition to create a new standard streetlight for the City of New York. OVI was the lighting designer for the winning team of the "Citylights Competition", which drew over 200 entries from 23 countries, with multidisciplinary teams including architects, engineers, urban planners, lighting designers, industrial designers, and manufacturers. In 2008, the design, testing and fabrication of prototypes began based on the winning design.

The design and development of the streetlight has kept pace with the evolution of LEDs, taking full advantage of the technology's possibilities. The development of high output, "small

THIS PAGE: Streetlight assembly diagram. OPPOSITE: The first prototypes installed

in downtown Manhattan.

package" LEDs—each one the size of a ballpoint pen tip—has allowed refinement of the original proportions compared with the competition design. Instead of a 2.7 m (9') long luminaire, the final design is more balanced at approximately 2.4 m (8') long. The energy performance of the streetlight also improved: while the original competition design used (64) 3-watt LEDs, the initial prototypes generate the same light footprint with (80) 1.7-watt LEDs, a significant energy savings from the 250watt high-pressure sodium lamp and further energy savings can be anticipated.

Standard practice with earlier generations of LED technology was to attach LED circuit boards directly to the luminaire housing. Instead, the design of the New York City streetlight was the first to pioneer a modular approach which has quickly become an industry standard. In the initial prototypes, each luminaire arm accommodates five modules containing sixteen LEDs each, complete with optical lensing. Each module can be easily replaced, while the electronic drivers and luminaire housing remain undisturbed.

The use of a modular system facilitates fabrication and installation of the lights, while building future flexibility into the system. As the technology improves, lighting modules can be swapped out with new modules, which may use fewer LEDs to generate the same overall footprint and amount of light. The streetlight thus has the ability to advance with time, becoming less costly and more energy-saving as technology develops.

S/0.



SCULPTING WITH LIGHT

Standing 412 m (135') high, the Al Hamra Firdous Tower is the tallest skyscraper in Kuwait City and the world's highest sculpted building. Carefully configured interior and exterior lighting emphasizes the structure's unique architectural identity. Lighting enhances its landmark presence as a dramatic focal point, visible throughout the city and from the Arabian Gulf.

Controlled gradations of light accentuate the twisting geometry of the tower at night. Well-shielded, narrow beam luminaires highlight the unique shape of the flared veils. Light levels intensify within the dynamic turns of the structure, culminating at its upper tip. The illuminated curved elements advance to the foreground, drawing views up to the tower's apex and beyond into the night sky.

To achieve the desired visual modeling of the tower's form, lights are grouped at specific locations. Two banks of metal halide floodlights set on the podium roof are aimed to calculated points on either side of the curved concrete veils. Additional luminaires, discreetly concealed within the parapet and building setbacks, highlight the curling tip. Together, these shape the perception of the twisting tower at night, by defining its contours and creating contrasts of light and shadow across its surfaces.



At night, the tower's curving concrete veils are brilliantly lit, forming soaring ribbons of light.





PERFORMATIVE SKYSCRAPER A new book by Scott Johnson, FAIA



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SHARPE INTERIOR SYSTEMS DRYWALL CONTRACTORS

CREDITS

21 Acres

WOODINVILLE, WA

ARCHITECT: Evitavonni Architecture; ArchEcology LAND USE PLANNING: Van Ness Feldman GordonDerr **GEOTECHNICAL CONSULTING:** Terracon **CONSTRUCTION MANAGEMENT:** Rafn Company CIVIL ENGINEER: Coughlin Porter Lundeen, Inc. STRUCTURAL ENGINEER: Michael Nouwens **PLUMBING:** Clearview Mechanical HVAC/ CONTROLS/HOODS: US Mechanical SEPTIC DESIGN: AAA Drainfield Designs MEMBRANE & LIVING ROOF: SolTerra LIVING ROOF DESIGN: Hadj Design **RADIANT HEAT & GEOTHERMAL:** Earthheat ELECTRICAL, FIRE ALARM, LOW VOLTAGE: Kirby Electric **SOLAR:** Sunergy **COMPOSTING TOILETS:** Clivus Multrum CHDS COMMISSIONING: Testmarx CX

ASB North Wharf

AUCKLAND, NZ ARCHITECT: BVN Donovan Hill with Jasmax CIVIL ENGINEER: Opus CONTRACTOR: The Fletcher Construction Company ESD & GENERAL LIGHTING: Arup INTERIORS: BVN Donovan Hill LANDSCAPE: Jasmax PLANNING CONSULTANT: Barker & Associates PROJECT MANAGER: Octa Associates GEOTECHNICAL: Riley Consultants FAÇADE ENGINEER: Janus Facades

BIQ Households

HAMBURG, GERMANY ARCHITECT BIQ HOUSE: SPLITTERWERK Architects, Graz OWNER: Otto Wulff Bauunternehmung SOLARLEAF: Arup + Colt International + SCC Strategic Science Consult CLIENT: Federal Ministry of Transport, Building and Urban Development, Germany PHOTOGRAPHER: Colt International, Arup, SSC GmbH

make

CARLSBAD, CA DEVELOPER: Cruzan ARCHITECT: Rapt Studios

The Treehouse for MetroNational

HOUSTON, TX DEVELOPER: MetroNational CREATIVE DESIGN: Acumen Design ARCHITECT: Studio RED Architects GENERAL CONTRACTOR: Anslow Bryant Construction LANDSCAPE ARCHITECT: The Office of James Burnett MEP ENGINEER: Collaborative Engineering Group STRUCTURAL ENGINEER: ASA Dally CIVIL ENGINEER: Ward, Getz & Associates LIGHTING: Lighting Design Alliance





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IMAGE

"What could a minimal home unit look like – a temporary retreat, where urban nomads in big cities and dense urban zones could find privacy?"

— Designer Werner Aisslinger



IMAGE: The Loftcube in Nagold, Germany | Photo by Alexander Huber.



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