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LANDSCAPE ARCHITECTURE MAGAZINE

THE MAGAZINE OF THE AMERICAN
SOCIETY OF LANDSCAPE ARCHITECTS

PIET OUDOLF

His career hits a turning point

A CERTAIN SHADE OF HOUSTON

James Burnett at Rice University

WHAT, INTERN, TO DO?

Recession woes at the entry level

OVER THE ROAD

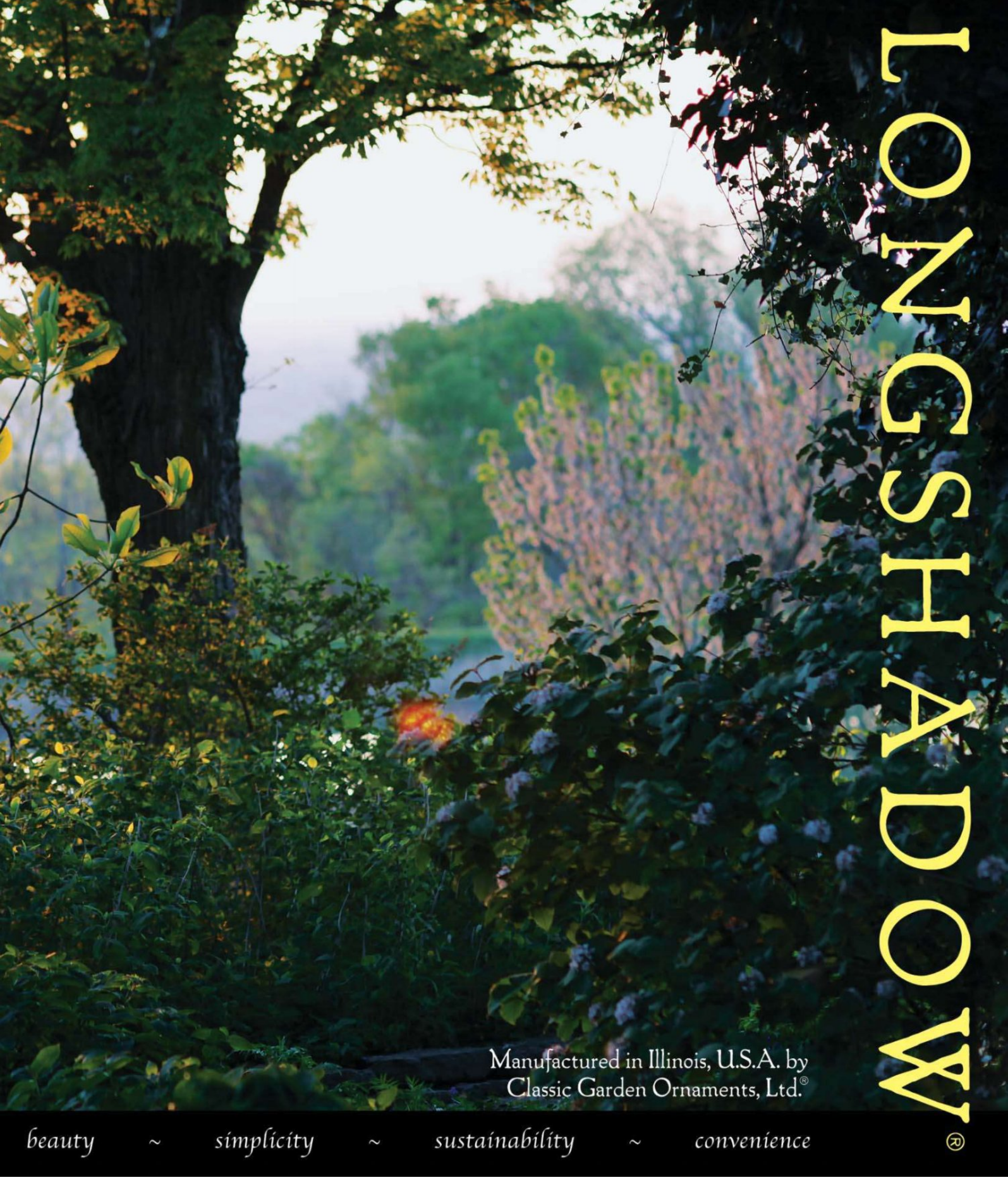
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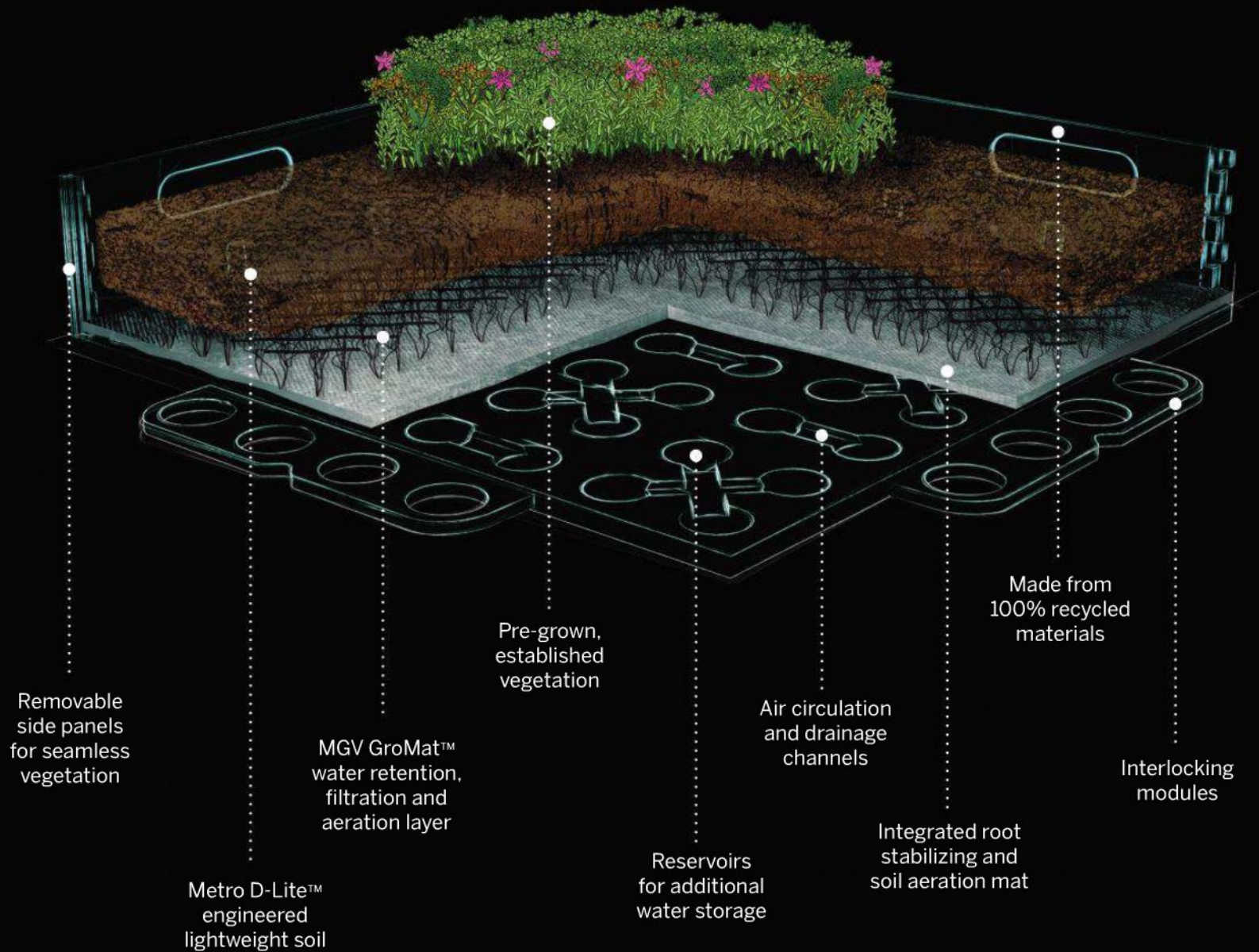
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LANDSCAPE ARCHITECTURE MAGAZINE

THE MAGAZINE OF THE AMERICAN
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LAM

10 LAND MATTERS

12 LETTERS

FOREGROUND

22 NOW

Small, overlooked parcels get new love in two cities; a millennial tree and a train appear at odds in Silicon Valley; in Cleveland, reality programming involves haze; a microbe that may turn sand into sandstone paving wins a big prize; and more.

EDITED BY LINDA MCINTYRE

34 IDEAS

Safer Passage

An international competition asked designers to develop wildlife crossings over a major interstate highway in Colorado. Here's a look at the intriguing results from the winner and four runners-up.

BY LINDA MCINTYRE

46 SPECIES

A new section debuts with reports from the plant and animal kingdoms. This month, the search for the right tree at Ground Zero, the journey of Russian sage to American gardens, and the scourge that is the Asian long-horned beetle.

BY CONSTANCE CASEY

54 FOOD

Post-Oil Groceries

In Vermont, Ben Falk founded Whole Systems Design to develop self-sustaining food supplies for a time when gas reaches \$10 a gallon. The fruits of his landscape agri-tecture speak for themselves.

BY ADAM REGN ARVIDSON, ASLA

64 GOODS

Pint-Sized Clients

Tough, colorful outdoor seating and play sets for kids are versatile and offer great value for grown-ups.

BY LISA SPECKHARDT

66 HOUSE CALL

Work History

Jeffrey Miller, ASLA, designed the spaces in and around the Pacific Cannery Lofts to help fuel a social revival on the historic blocks of industrial West Oakland, California.

BY JOANNE FURIO



“I WAS LOOKING
FOR SOMETHING
DIFFERENT, WITH MORE
SPONTANEITY.”

—PIET OUDOLF, P. 78

FEATURES

78 A PLANTSMAN FOR ALL SEASONS

For years, the Dutch wizard Piet Oudolf has been known as a prodigious nurseryman who designs gardens. But now his nursery has closed and his design work is taking the better part of his time.
BY ALEX ULAM

94 A GENTEEL MODERNISM

At Rice University in Houston, a new campus commons design by the Office of James Burnett adopts the simple regional atmosphere of the ultralight pavilion at its center.
BY JENNIFER ZELL, ASLA

104 LEAP INTO WHAT?

In landscape architecture firms, the struggles of the recent economy trickle all the way down to internships, which are harder to find these days. But some principals are committed to continuing their training programs, believing the future of their firms and profession is at stake.
BY ERNEST BECK

THE BACK

112 HISTORY

Sculpture for Everyone

In 1970, the PepsiCo World Headquarters opened in exurban New York with a first-rate sculpture garden designed by E. D. Stone Jr. Unlike a lot of neatly arranged corporate campuses, however, this one opened with—and maintains—a public spirit few people know about.
BY FRANK EDGERTON MARTIN

126 RESEARCH

Research Design Connections

Schools with views into nature may have higher-performing students; unbuffered forests near development are likely to be trashed; and parks' cooling effects on cities are determined by several factors.

BY SALLY AUGUSTIN AND JEAN MARIE CACKOWSKI-CAMPBELL, ASLA

132 BOOKS

144 DISPLAY AD INDEX

145 BUYER'S GUIDE INDEX

160 FORWARD

Evil Twins

Enough with the imitation landscapes, already.
BY GWENETH NEWMAN LEIGH,
INTERNATIONAL ASLA

ABOVE

A plan for the garden of Piet and Anna Oudolf at Hummelo, Holland.

IMAGE CREDIT

Piet Oudolf

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ON THE COVER

The front house garden
of Piet and Anna Oudolf,
Hummelo, Holland,
page 78.

IMAGE CREDIT

Piet Oudolf

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GOT STORMWATER?

Recently someone active in ASLA told me of a conversation with someone from the architecture world. The talk turned to how the work picture is looking for landscape architects, which is to say, maybe not optimal but certainly not as bad as it is for many designers during this construction depression. “Well,” said the architecture person, as if to explain a presumed advantage, “you own water.”

It’s true. Among designers, landscape architects do own water. And in that regard, this month of March—and I mean between now and March 31—brings a real run-don’t-walk moment for landscape architects, as the U.S. Environmental Protection Agency urgently shapes the next generation of stormwater regulations nationwide.

Right now, the EPA is in the middle of an effort to rewrite the federal rules for managing stormwater around new development or redevelopment projects. Although the agency has been regulating the impact of stormwater from major sources such as cities’ sewage systems and construction activity since the 1990s under amendments to the Clean Water Act that Congress passed in 1987, there’s been some frustration that we still have too much filth turning up in our waterways.

THE EPA IS TAKING GREEN INFRASTRUCTURE SERIOUSLY. BUT IT NEEDS LANDSCAPE ARCHITECTS’ INPUT. SOON.

In 2006, the EPA asked the National Research Council (NRC) to do a front-to-back review of its approaches to stormwater regulation. The NRC suggested that the EPA deal more aggressively with the unchecked impacts of sloppy (but, alas, routine) development, particularly the rampant paving of good, absorbent ground and the nonchalant destruction of natural areas where rain might soak in gently rather than run off and carry pollution to streams as it erodes their banks.

The EPA’s effort to put this advice into effect is well under way. It plans to prepare a draft set of rules covering more diffuse sources of stormwater runoff later this year and make them final some time in 2012.

Here is where landscape architects come in. The agency seems extremely interested in making low-impact development strategies and green infrastructure major parts of the new rules. The official push appears to be to incorporate more rain gardens, bioswales, green roofs, porous paving, curb cuts, rain barrels and cisterns, and other strategies that keep stormwater close to where it falls. ASLA, of course, wants to promote this interest on EPA’s part in any way it can.

Think about it: Finally, the federal government is taking green infrastructure seriously. But there is antagonism toward the idea. The National Association of Home Builders and the National Association of Flood and Stormwater Management Agencies oppose the idea of new rules that require better retention of stormwater on sites, so landscape architects need to build the more persuasive case to help make green infrastructure a more common reality.

ASLA’s goal is to hand the EPA the details of 300 successful green infrastructure projects to show what strategies work best and why. If you have designed a project that handles stormwater with green infrastructure, think of this as not optional. Here’s what to do: Go to www.asla.org. Click on the News tab. Click on Advocacy and select “Share Your Green Infrastructure Design Stories.” You’ll arrive at a survey questionnaire that may take a bit of time to complete. Also, if you have colleagues who you know have completed good green infrastructure projects, send them the link and tell them to weigh in, too. Sooner is better—ASLA needs its 300 examples to send to the EPA by the end of March.

This push is especially crucial given the new political atmosphere in Washington right now, which is rather dismal where land-use issues are concerned—check out the rest of ASLA’s advocacy updates while you’re at the web site. There is plenty of grassroots work to go around. Meanwhile, please help the EPA’s effort if you can. Remember, you own water! And you want to keep owning it.



BRADFORD MCKEE
EDITOR



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THE BIG CHANGE

I just received my copy of the new *LAM* (January). I had looked forward to the updated format keeping the journal current and fresh. Imagine my disappointment to discover I need a magnifying glass to read the articles! I had no trouble reading the old version of *LAM*, but looking at the one I received today is causing eyestrain. Graphically the new format is beautiful...but the point is to present information with both pictures and words. The new text size is too small to facilitate easy reading. I am very disappointed.

JACKIE COLESTOCK, ASLA
PASADENA, MARYLAND

When I first looked at the new concept for the magazine (January 2011), I thought, "Oh no, *LAM* has sold out!" It has a modern feel, which immediately reminded me of other architecture/engineering publications in circulation. I was determined to give it a chance, however. Much to my surprise there was movement on the pages! The headlines, info graphics, and geometrically framed photos contributed to this movement. Full-page photos, a change in paper, and the white space Editor Bradford McKee referenced in his column present a richer feel, similar to that of a book. The nerd inside of me was happy to see a traditional serif font used for the body copy. You can't change everything, right? So, maybe I made a judgment too quickly. I look forward to reading other issues in the coming months.

SETH CONN, ASSOCIATE ASLA
DES MOINES, IOWA

Wow! It really looks like a design magazine, at last.... Thanks for this great first new issue. And for revealing the process of designing it.

DONNA WALCAVAGE, FASLA
NEW YORK

I am living in the Philippines, so I have to read *LAM* on Zinio. I just wanted to say that I love the new fonts and cover design! And I appreciate the reduced number of sections! What a breath of fresh air.

Also, I have to say that I just love *LAM*. I always look forward to reading it even though I'm not practicing at the moment. Thank you for producing such a consistently high-quality publication.

JEN CRISTOBAL
MANILA, PHILIPPINES

The new design of *Landscape Architecture* has rendered it almost unreadable in many places, such as Land Matters, thanks to the tiny typefaces and the minuscule figures. All the glitzy headings, diagonal angles, and highlighted quotes don't make up for illegible gray type. Don't hide an important source of design information behind ineffective graphics. Take the magazine back to its previous format and your readers will thank you.

DAVID GODSCHALK
CHAPEL HILL, NORTH CAROLINA

It is with a good deal of pleasure that I write to you regarding the new format for *Landscape Architecture Magazine*.

In a time where almost every publication I come in contact with is reducing its content or simplifying it to a point of "why bother," I am very pleased with the new layout and content of the magazine. I found it very creative (as befits our profession) and so much less "stodgy" than I fear the old format was.

I had reached a point where I was only flipping through my *LAM* every time it came, because there was so little content that I cared about, and it was presented in a very dry, technical style that was truly boring. Not so the new mag; it is visually snappy, artistic, and even edgy, which I really relate to.

A licensed landscape architect for nearly 30 years, I need some professional stimulation from time to time, and the new magazine seems like it will provide that. Congratulations on what I consider a very successful rebirth of *LAM*!

CAREY B. ORWIG, ASLA
FULLERTON, CALIFORNIA

Sorry to report, but the new typography doesn't work for my aging eyes. Won't be reading the articles as a result.

PHIL PUZICK, ASLA
MANASSAS, VIRGINIA

I am not sure why you decided to reduce the size of the typography font in the new *LAM* layout. It is much more difficult to read than the old style, even with my reading glasses! White space is nice, but don't sacrifice the practical aspect of comfortably being able to read the article.

JEFF GLANDER, ASLA
OLYMPIA, WASHINGTON

Look, I get it. I'm a landscape architect. Design is important. The layout looks good.

I'm also a former editor. I appreciate the thoughtfulness and organization of the format.

However, I take umbrage with your selection of font size. To reduce your font to such a size and parade around all this extra white space is infuriating. It's to the point of being rude.

Maybe the magazine does reflect the profession: forgo the practical to preserve the design aesthetic?

Please reconsider.

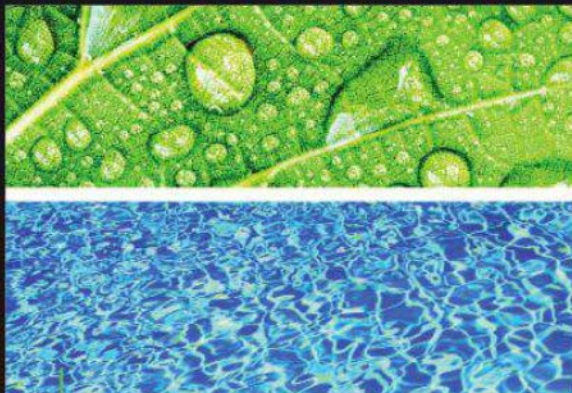
KAREN TWISLER, ASLA
COLLINGSWOOD, NEW JERSEY

Thank you, thank you, thank you for finally making this a pleasant magazine to look at. I won't miss the *Architectural Digest* feel of the old format at all.

ERIC DROP, STUDENT ASLA
ITHACA, NEW YORK

The new design is terrific with the exception of the font size. It is too small. I wear glasses and find that I have to hold the magazine close to my eyes to read without strain. Is this something that can be remedied in future issues?

GEORGIA SILVERA SEAMANS, ASSOCIATE ASLA
NEW YORK



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LAM has been my favorite magazine for years. Several days ago I took home the January edition to savor the reading.

Darn, I couldn't read the fine print. The distraction of cross hatches and backgrounds kept me from smooth reading.

White space is essential. Functional font size too.

This hip is not functional. Too bad. I hope things change.

TERESIA HAZEN
PORTLAND, OREGON

My goodness, I certainly noticed the white space! Now I'm looking for the tiny print.

Although I'm aging, my eyes aren't too bad and I find reading it unpleasant, not really difficult, just not as easy as it should be. The first criterion in typesetting should be readability.

Other than that, the layout is great. Except for the illustrations that are architectural drawings just scaled down to the required size. Classically, illustrating was done by taking detailed engineering drawings and redrawing for publication, organized for clarity at the given size, and done to illustrate the particular point being made. A certain artistic and editorial talent was required. Now laziness has taken over, illustrating is a lost art, illustration departments have mostly vanished to save money, and it shows.

RALPH BERGGREN
SANTA FE, NEW MEXICO

Wow. LAM now looks like a professional design magazine. Congratulations and thank you.

T. CARTER CRAWFORD, ASLA
RALEIGH, NORTH CAROLINA

White space surrounding articles in a 10-point font may be trendy in magazines right now, but it looks like the editors are trying to save money by omitting photographs. I subscribe to this magazine for the pleasure of reading and learning. If I want choppy sound-bite messages, I'll go online.

When one considers the notion that your advertisers might also want your magazine—and thus their products—to arouse the interest of readers likely to specify their products, it seems counterintuitive to alienate any potential customers. Tiny type makes it all too easy to abandon the article, thus defeating the reporter's work and the advertisers' messages.

Please increase the size of the type. This will solve the problem.

MARTHA HORTON, ASLA
NOKOMIS, FLORIDA

I am sure that you will get plenty of long-winded and overly dramatic letters and e-mails regarding the new format of LAM. Some will love it; some will hate it. Very briefly, my two cents: I very much like the visuals in terms of page layout and a new emphasis on photography to help "tell the story." The one thing that I am very disappointed about is the print font. Granted I do not have the best vision, but if you have a 30-year-old, like myself, complaining about the font, I can only imagine the difficulties that some of your more age-advanced readers may be having!

Thanks for all the improvements, but I hope that you will at least consider a font size adjustment.

PETE MARSH, STUDENT ASLA
COLUMBUS, OHIO

I am sure you are receiving a great many comments on the new LAM layout, and that these comments range all over the map. Here are my own:

I recognize the value of using a smaller font size for most of the text in terms of allowing more content on the same number of pages; but as members/readers like me get older we find it more difficult to read with ease and pleasure articles with such small type.

Related to the first comment: The two title pages for the "Save Us from Ourselves" article with the title in letters over two inches in height, combined with your new blue panels with white type, constitute a totally unappealing and almost tasteless introduction to the piece. The "arty" inclusions in the middle of articles such as page 124 in the middle of the Cornell article wastes an entire page with just a few words in a huge font that disappears off the top of the page. This space, as well as the empty space above the text on most other pages, could have at least partially been used to accommodate a bit larger and more readable font.

The uniform introduction of angled patterns inserted into articles, cutting across photos and used for text or just open space, adds nothing whatsoever to the substance or attractiveness of the articles.

The insertion of advertisement pages within the articles is really objectionable, but I recognize that this is not a new issue. One has to assume advertisers are charged more for this placement.

I am sure the new format will win accolades from the professional graphics community, but it at least to some degree mirrors the problem many of us have with the overall trend in both architecture and landscape architecture magazine articles to favor style and image over substance.

I think the new cover style is absolutely perfect; excellent, low key, and right on target.

CRAIG CAMPBELL, FASLA
SANTA FE, NEW MEXICO

Congratulations on the redesign of LAM. It has a great look and I am happy to see it.

In your Land Matters opening you asked what we think. Let me just say I'm a designer, an educator, and not a fogey or traditionalist. After I paged through the magazine I realized that it is a bit hard to read—sure, my eyes are failing a bit. While the white spaces add a dramatic effect, I found that I was not really willing to engage a struggle with the smaller font and the wide columns. I was just skimming.

I'll admit I will get used to it.

RONALD R. STOLTZ, ASLA
TUCSON, ARIZONA

I have just finished the Big Change issue of LAM. Awesome graphics, variety of layout, article presentation, beautiful ads, and changing page design; however, I have one concern. The font size is just short of unreadable for this 60-year-old! Or perhaps it's the spacing. The picture descriptions almost disappear off the paper as they appear too light. Just looking at the text takes an effort to want to read it. For example, side by side, I found *Fortune* magazine to have a more readable font or spacing. In summary, the change is great for our image, but ease of readability is important. I want to keep reading, not have it sit on a table.

GRAY GENTIL, ASLA
ANNAPOLIS, MARYLAND

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Rather disappointed in the New Era look of *LAM*. Whatever happened to “if it ain’t broke, don’t fix it”? The old *LAM* was elegant and easy to read. The new cover design reminds me of a throw-away architecture rag I used to get. And the typeface? Obviously the design firm has no one over the age of 50 on staff. Guess I’ll have to invest in a good magnifying glass for future issues. Otherwise, I appreciate the intent, nice try, see if you can get a mulligan on this one.

JEFF SARGENT, ASLA
PEORIA, ARIZONA

I have been reading *LAM* for over 30 years and very much enjoy the thoughtful articles, quality layout, and aesthetic sensitivity in the new presentation. One comment: The print is much smaller than before. Why so small? I regularly read numerous periodicals, and this print is especially small. Also, one specific problem is on page 93: creative but ineffective, having print on top of a shadow image, which makes it very difficult to read. And in some cases where the captions are faded, it is hard to read the faded lettering. If possible, change the print to be larger. The quality/content of the writing is excellent.

JOHN TROY, ASLA
SAN ANTONIO

New magazine looks great. It’s hard to read with the much smaller font and all the white space. I’ve read it from cover to cover for the past 10 years so look forward to reading it, not just looking at the pictures and white space. Please go back to larger font even if it means losing some white space as I feel I aged from 35 to 65 years when I picked up the latest copy.

PAUL KUHN, ASLA
CARY, NORTH CAROLINA

Per your request I am letting you know what I think about the changes in the January 2011 *LAM* layout design. I have not written the editor of *LAM* before, but as you will quickly note, I am very dissatisfied with the changes that were made.

Smaller and gray font as well as reduced-size plans in order to provide “gorgeous white space” do not make for enjoyable reading and understanding.

Change should only be made to improve, not for “so much fun.” Change for change’s sake is not “necessary at times.”

I did notice that the advertisement pages do not suffer from the superfluous white space in the serious articles meant to be read.

I realize you will not return to the previous layout and font. I will just have to try to restrain my irritation with the layout kitsch you say “expresses the dynamism, huge potential, and the discovery that thrives in landscape architecture today.”

GERHARD R. TEGEDER, ASLA
LITTLETON, COLORADO

Our office just received the January 2011 *LAM*, and at first glance we gave a collective “WOW!” Nice work!

KATY HALLGREN, ASLA
BALTIMORE

Congratulations on the new *LAM* redesign. I think this fresh look will make the magazine stand out on the bookstore shelf and help our profession appeal to a wider audience. Just one concern, however—can you control the quality of the advertisements featured in the magazine? Some of them appear undesigned like someone just put together a Word document at the last minute. Those ads bring the quality of the magazine down. Other than that, I am loving the new mag!

JOSHUA LLANEZA
LOS ANGELES

On January 21 in a bunch of Christmas sales catalogs, I received the January issue of *LAM*, and from its cover, I thought it was a sales catalog, too, and I almost pitched it into our recycle bin.

Later, in browsing through *LAM*, I read in *LAM/Land Matters* of some changes, like “gorgeous white space is built into our redesign.” The white spaces are a bit glaring to my eyes, and they make the page composition seem scattered, but that may be due to the angular printed lines, graphics, weak color, and photos. The smaller, lighter photo caption print is difficult for me to read.

Most of the articles I found of interest, especially the one on Ed Blake, whom I helped teach landscape architecture and from whom I learned much then and since.

I am a retired landscape architecture educator, and now, at 82, my feelings about the new *LAM* may be antiquated. The changed *LAM* may relate more to changing times than I do, and that is great, if so, but is it good design?

EDWARD C. MARTIN JR., FASLA
BLACK MOUNTAIN, NORTH CAROLINA

Your new design is lovely and fresh but not very functional for me. In certain areas the print is not easy to read even with appropriate light conditions and reading glasses. The captions are particularly tough to read. The type size is too small, the weight is too light, and the type is in a gray color. I hope this problem can be addressed.

LANA KORB, STUDENT
AFFILIATE ASLA
TORONTO

I have been practicing landscape architecture for 30 years. For the past 10 years I looked forward to each new issue of *LAM*. It was informative, relevant, and as a publication it was clearly organized and easy to read. It was a very rewarding experience and a wonderful investment of my time. I am sure its layout was “dated.” But like Central Park and other wonderful old urban spaces, it simply worked. The new format might be “cutting edge” in the magazine world, but as a reader I cannot find one thing I like about it. The “gorgeous white space” comes at the expense of larger photographs and font size. I find myself straining to read the content. The slanting bylines and all the multiple juxtapositions of text and photographs create a sense of anxiety as I try to negotiate each page. In trying to be new and contemporary it looks like you have reverted back to the 1970s, 1980s, and early 1990s. I never read *LAM* during that time, and I am sure advertisers will hate to hear that many of us will not be reading this latest reincarnation either.

Please give it some thought.

TOM KEITH, ASLA
GREENVILLE, SOUTH CAROLINA



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LONG LIVE NATURE!

I have to take issue with the statement that nature is dead ("Nature Is Dead: Long Live Design," January)—it makes for a catchy headline, but my belief is that we still live in the natural world, regardless of how much we pave the ground, channelize the waterways, and install painted pickets to symbolize—well, whatever painted pickets are meant to symbolize. (For the most part, "primordial nature" hasn't ever been part of the urban or human-habitation experience—found in the most pristine and uncultivated places, it is only one manifestation of nature.) I agree that we need to advocate for a greater appreciation of our natural and designed landscapes. But our designed landscapes also exist in nature, and our greater appreciation of nature itself and its role in our inhabited places will lead to better designs.

Regardless of the condition of a place, we still breathe the air, we still rely on plants for oxygen, we still live in a world where rain falls and fills the rivers and streams, and where those rivers, streams, and wetlands—degraded or not—shelter and nurture life.

SUBMIT

Please e-mail comments to LAMletters@asla.org or send via U.S. mail to:

**AMERICAN SOCIETY
OF LANDSCAPE ARCHITECTS**
636 EYE STREET NW
WASHINGTON, DC 20001-3736

Whether we recognize its ubiquity and respect it in its myriad forms, or claim, hubristically, that it is dead, nature is alive—in some places alive and well, in some places doing not so well—and it will persist long after we are gone. A design approach underlaid by that idea and directed toward the intelligent incorporation of natural systems will likely endure far longer than an approach that simply imposes geometric shapes and stylized forms on a place.

On the other hand, the aesthetic style of a design may offend one's sensibility, but it may be worth exploring the question of if that style is important or not, as long as the design's elements jibe with or effectively replicate the endemic natural systems of a place.

DEBORAH HOWE, ASLA
NORWOOD, MASSACHUSETTS

SEPTEMBER COVER

I'm a big fan of your magazine but was surprised when I saw the September issue's cover photo. No one realized that the sky was a chem-trailed mess? Those weren't clouds of water vapor; they were a combination of heavy metals such as barium and aluminum, polymers, "fibers," and other toxic materials. I'm amazed at how many times photographers will take a picture that looks like someone who was blindfolded took a can of white spray paint and went nuts. The spray paint would actually be healthier. Check out bariumblues.com to learn about chemtrail spraying.

DAVE KARNEY
MORRISTOWN, NEW JERSEY

Rene Bihan writes: "Nature Is Dead: Long Live Design." He makes a case from a design perspective that better landscape design should be more "visible."

As a design lover and a low-status participant in the "design elite," I am astonished with the repetitive reuse of the "Nature Is Dead" motif. Of course Bihan, myself, and all the people who read or do not read this opinion will in the end find ourselves dead. Recycled and processed in the billions-year-old system of nature that is so extravagantly complex and enormous that the claims that it is dead by some little human are, frankly, ridiculous. Our efforts are like those of ants in the natural world.

In fact there are more ants by weight than humans on the planet. They have been around a lot longer and have shaped more land and built larger structures. There is less of the planet's biomass devoted to termites than humans, but boy, can they build. New York City is not looking so astonishing if you compare its scale to the vastness of the termite fields in Africa. No green initiative, by any monkey relative, approaches their performance standards.

Really it would be more accurate to say "Design Is Dead: Long Live Nature." Of course as a designer I would make the case that our profession is in fact alive, but perhaps on life support, as the world falls apart around us.

I take solace in knowing that when design does finally give up the ghost, nature will be there to clean up the mess we have left behind.

I would feel much better if we designers stopped with the Ayn Rand hubris and got down to the business

of addressing the disaster, for our own species, that our anthropocentric worldview has unleashed.

The ants will be just fine.

JON PIASECKI, ASLA
WEST STOCKBRIDGE, MASSACHUSETTS

HERE'S TO CAROL

Congratulations to Carol R. Johnson, FASLA, for her 50 excellent years of landscape architectural practice and to LAM for providing the interview with Carol in the December issue. I was fortunate to have been one of her part-time employees in the lean early years of her practice in 1965 while a student at the Harvard Graduate School of Design. That summer there were just Carol, her big black poodle, a part-time secretary, and me in the office. I chose to work with Carol instead of with one of the large popular firms because I thought I'd learn more and preferred the small office atmosphere. It was a good choice. I will always remember and respect Carol's quiet courage and gritty perseverance in the face of widespread prejudice against women practitioners. I especially recall her fuming frustration upon returning to the office after an encounter with an especially patronizing city engineering official. Since then I have followed the growing success of Carol R. Johnson and Associates and the profession's recognition of Carol as a wise voice as well as a talented leader. It is good to see her receiving the respect and credit she so richly deserves.

JON COE, FASLA
HEALESVILLE, VICTORIA, AUSTRALIA

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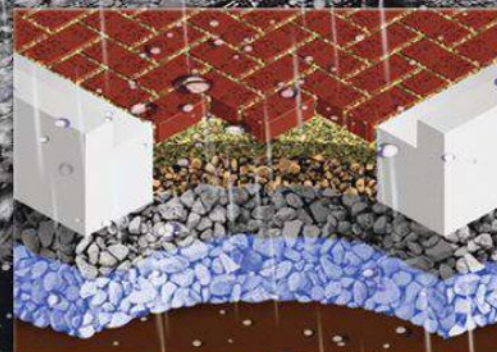
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An aerial photograph of a multi-lane highway. A wide, landscaped median runs down the center, featuring a mix of green trees and yellow flowering shrubs. Several cars are visible on the highway lanes. The image is split diagonally by a white band containing text.

FOREGROUND

NOTES AND REPORTS FROM THE FIELD

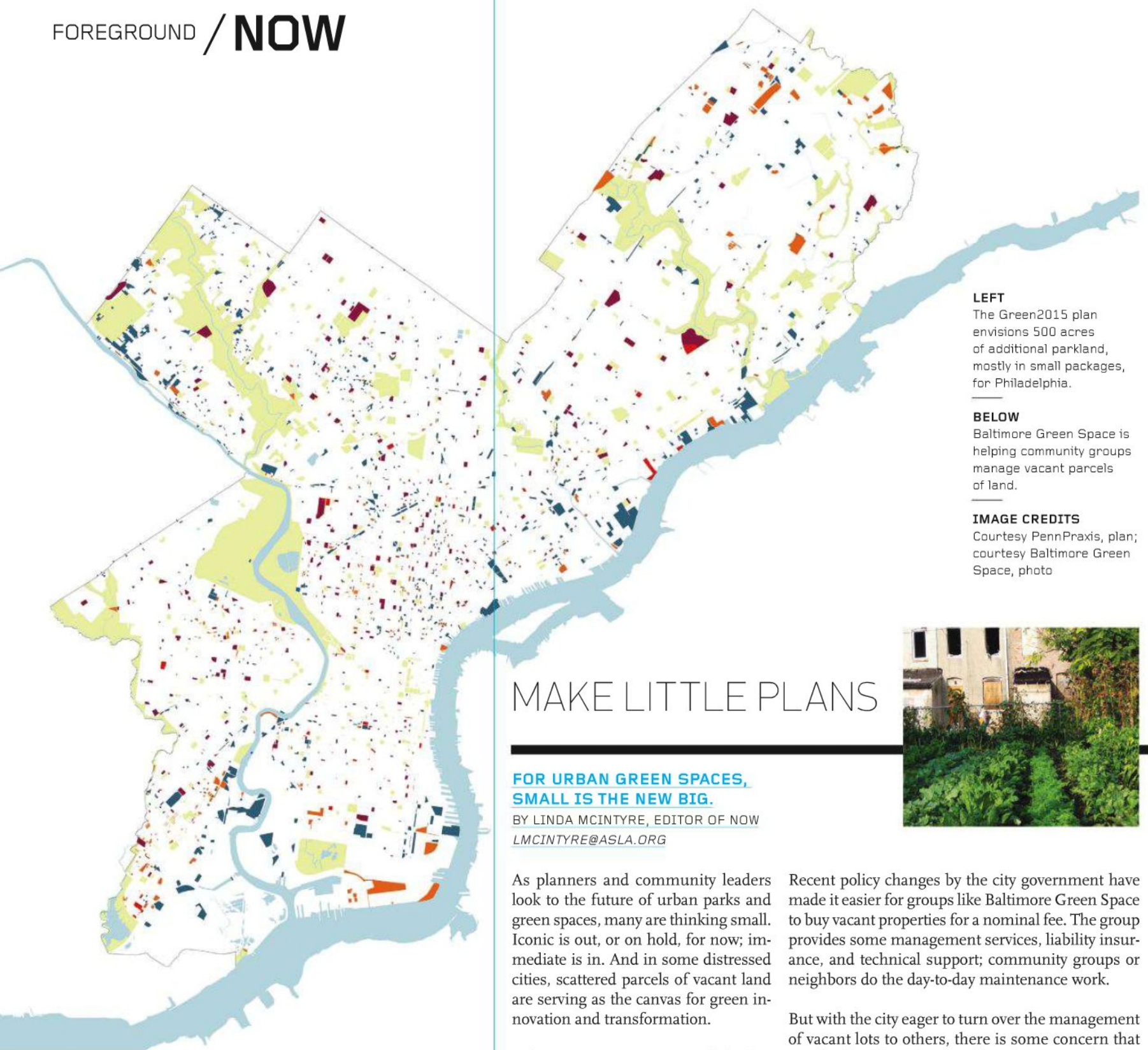
Plans for small vacant spaces in Philadelphia and Baltimore could have a big impact, an unstoppable train meets an unmovable tree, and people in Cleveland can now see what they're breathing in

NOW. A competition calls for easier road crossings for animals in **IDEAS.** We cover swamp oaks, the sage that would be Russian, and mean baby beetles in **SPECIES.**

A Vermont firm is planning to grow crops like there's no oil tomorrow in **FOOD.** Check out the tyke-friendly outdoor furnishings in **GOODS.** And a spent industrial complex in Oakland becomes a new neighborhood in **HOUSE CALL.**

IMAGE CREDIT

OLIN, Courtesy ARC Competition



OPPORTUNITY SITES

- Recreation centers and underused PPR sites
- Private underused land
- Schoolyards
- Public underused land

LEFT

The Green2015 plan envisions 500 acres of additional parkland, mostly in small packages, for Philadelphia.

BELOW

Baltimore Green Space is helping community groups manage vacant parcels of land.

IMAGE CREDITS

Courtesy PennPraxis, plan; courtesy Baltimore Green Space, photo

MAKE LITTLE PLANS

FOR URBAN GREEN SPACES, SMALL IS THE NEW BIG.

BY LINDA MCINTYRE, EDITOR OF NOW
LMCINTYRE@ASLA.ORG

As planners and community leaders look to the future of urban parks and green spaces, many are thinking small. Iconic is out, or on hold, for now; immediate is in. And in some distressed cities, scattered parcels of vacant land are serving as the canvas for green innovation and transformation.

Baltimore Green Space, established in 2007, is a land trust for community-managed open spaces. It works within urban neighborhoods to support community gardens, pocket parks, and other small landscapes. "We have a lot of vacant property here," says its founder, Miriam Avins. "The city owns some lots, but the rest are just abandoned. Often neighbors want to clean up these places, but they don't know who the owner is."

Recent policy changes by the city government have made it easier for groups like Baltimore Green Space to buy vacant properties for a nominal fee. The group provides some management services, liability insurance, and technical support; community groups or neighbors do the day-to-day maintenance work.

But with the city eager to turn over the management of vacant lots to others, there is some concern that it will sell off lots that neighbors have revitalized to speculators. Keeping track of thousands of properties is a big job, and without good record keeping, revitalized lots could fall through the cracks. Fortunately, Avins says, advances in smartphone technology have made sophisticated mapping possible even for nonprofit groups reliant on volunteer labor. Volunteers can snap photos on their phones, which automatically log geographic data for the site. "Now we can sort through the data and figure out what's out there, whether sites are gardens, parks, or





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—Steve King, FASLA
Co-founder and Chairman, Landscape Structures

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ABOVE
The report notes that schoolyards can be more sustainable and inviting...

INSET
...than old-school paved playing courts. The improvements would be affordable and easy to implement.

IMAGE CREDITS
Courtesy PennPraxis

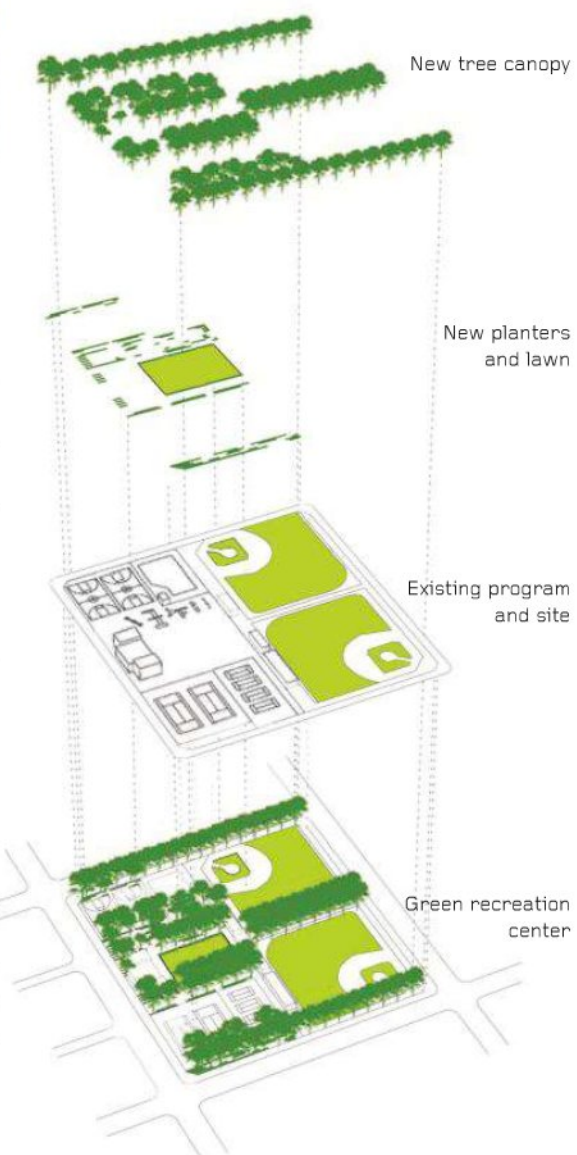
horseshoe pits, and register block and lot numbers with the city."

Vacant land is also a long-running issue in Philadelphia. But a new plan prepared for the city's Parks and Recreation Department by PennPraxis, an arm of the University of Pennsylvania's design school, aims to transform vacant spaces to city-owned parks. The plan, Green2015, would satisfy a 2009 pledge by Mayor Michael Nutter to add 500 acres of parkland to the city by transforming vacant or underused sites into parks, some as small as a quarter acre. The parks would be collaboratively planned, built, and maintained by the city with a lot of help from neighbors, businesses, developers, and Philadelphia's strong network of nonprofit community groups.

The process of drawing up the plan has already sparked widespread interest, says Harris Steinberg, executive director of PennPraxis. "We worked with as many constituencies as possible in different ways, getting them to vet ideas and circulate them so we could analyze and synthesize the feedback," he says. One of

the main objectives of the plan, based on that feedback, is to give all city residents access to a park within a half-mile, or a 10-minute walk. Currently, about one of every eight residents lacks this kind of access.

The report, available at <http://planphilly.com/green2015-action-plan-first-500-acres>, identifies available sites and potential partners and funders. It builds on successful existing programs, such as the Pennsylvania Horticultural Society's Philadelphia Green. That effort has, with financial support from the city, transformed vacant lots around town with modest improvements such as fencing, grass, and trees (See "Thinking Big...and Small," LAM, March 2010). Green2015 is also designed to fit with the city's 25-year comprehensive plan and other environmental goals, such as better stormwater management. ●





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E-WALL

A MALAYSIAN DATA CENTER TAKES THE "GREEN" IMPERATIVE LITERALLY.

BY ROBERT SUCH

LEFT

The building was certified Gold under Malaysia's Green Building Index system.

INSET

Plants were selected for tolerance to drought and other tough conditions.

IMAGE CREDITS

Robert Such

The DiGi Technical Operations Center for a Malaysian mobile telephone service provider houses offices and cavernous spaces for racks of energy-hungry computer servers. It stands in Subang High Tech Industrial Park, a low-rise industrial area some 10 miles southwest of the Malaysian capital, Kuala Lumpur.

Wrapped around the data center building is a low-maintenance continuous vertical wall of yellow screwpine (*Pandanus pygmaeus*) and green mondo grass (*Ophiopogon japonicus*) that removes dust and carbon dioxide from air passing through ducts into the building's air-conditioning system. "The plants act as natural biopurifiers," says the architect Ken Yeang of T. R. Hamzah & Yeang, the firm that designed the building. "Through a number of processes such as the absorp-

tion of carbon dioxide and photosynthesis, they break down and remove airborne contaminants such as volatile organic compounds." They also reduce the need for cooling, which is important in this tropical climate.



Mondo grass was planted on the north and east sides and screwpine on the west and south sides. "We selected species that were hardy, noninvasive, and will survive in a vertical condition with minimal irrigation, especially on the hot east and west sides of the building," says Yeang.

"In our design work," says Yeang, "we regard the built form as a human-made ecosystem, and seek to bring in the equivalent of the bioconstituents in an ecosystem to counterbalance the inorganicness of buildings in the form of biomass and organic material." ●

● A TREE-TRAIN COLLISION?

IN CALIFORNIA, A HISTORIC REDWOOD VS. HIGH-SPEED RAIL.

Usually tree huggers and train supporters are striving in tandem for environmental sensitivity and preservation. In the posh northern California town of Palo Alto, however, a new statewide high-speed rail system and an iconic tree are seen by some observers as mutually exclusive.

El Palo Alto, also known as the Stanford Tree (it appears on the university's seal and serves as an unofficial mascot of its sports teams) is a coast redwood (*Sequoia sempervirens*) estimated to be about 1,070 years old. It sits next to existing Caltrain tracks and has been used as a survey mark-



ABOVE

The El Palo Alto redwood tree, at right, is estimated to be more than 1,000 years old.

IMAGE CREDIT

Courtesy Palo Alto Historical Association

er since the mid-1800s. Early plans for the high-speed rail line would widen the tracks to make room for the new trains, though alternatives such as a trench or elevated track are also under consideration.

During its long life, El Palo Alto has cycled through periods of robust health, decline, and recovery. Dave Dockter, a planning arborist and environmental specialist with the city of Palo Alto, says the tree is healthier today than it was a century ago, owing to stewardship, better management of the region's water, and the existing train system's change from coal to diesel fuel. But any disturbance to its immediate environment poses a danger, especially since its root architecture and deep-soil biodynamics are largely unknown.

"Any changes could be catastrophic," Dockter says. The best solution, he says, would be to abandon the existing, heavily used rail trestle and move the right-of-way a couple of hundred feet away from the tree. "I believe there's a way to build the high-speed rail project carefully and still retain the redwood, but only after a state-of-the-art investigation of the tree's physiology and stability."

Rachel Wall, a spokesperson with the California High-Speed Rail Authority, says that as the environmental impact review required by state and federal law goes forward, the segment of the project with potential to affect the tree will be subject to rigorous evaluation. "Our priority is to avoid impacts altogether when it comes to that tree," she says.

The first segment of the 800-mile system, which will ultimately run from San Diego to Sacramento, is due to break ground next year in the mostly agricultural Central Valley.

For more information on El Palo Alto, see www.cityofpaloalto.org/treeprograms. ●



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ABOVE
The hazecam provides Clevelanders with vivid evidence of poor air quality.

IMAGE CREDIT
Courtesy Cleveland Hazecam

I CAN SEE CLEARLY NOW. BUT LATER...?

CLEVELAND HAZECAM MAKES AIR QUALITY VISIBLE.

Many of the effects of air pollution are invisible, which makes them easier to ignore. But the Cleveland Hazecam is putting air pollution, and its impact on the urban landscape and public health, in your face—or at least in the faces of those who tune in at *clevelandhazecam.org*. The site generates a new live image of the city skyline every 15 minutes, sometimes vividly illustrating Cleveland's (widely shared) status as a nonattainment area, that is, an area that does not meet the national ambient air quality standards for fine particle air pollution.

This isn't just an urban problem. Haze has been a big problem in parks and wilderness areas—the Environmental Protection Agency (EPA) estimates that in parks in the western half of the United States, visual range has dropped from 140 miles to 35 to 90 miles. In eastern parks, it has decreased from 90 miles to 15 to 25 miles. Also, according to the EPA, the particulate matter that produces hazy skies not only causes respiratory and pulmonary illnesses, but it also contributes to the formation of acid rain.

The Cleveland Hazecam started by chance. Pulmonologist Sumita Khatri, welcoming a visitor to the MetroHealth hospital, was told that the 10th floor of the hospital, with its sweeping view of the city skyline, was perfect for a hazecam. Khatri had never heard of such a thing (there are hazecams in other cities), but she loved the idea and, with colleagues, “MacGyvered” a camera/computer gizmo on the inside of the window and archived the images in an external hard drive.

Seeing those images drove Khatri to take the project to the next level. She bought the domain name and brought in as partners the regional planning authority charged with air quality attainment as well as other public health organizations. The resulting web site is simple but full of accessible and easy-to-navigate information on air pollution in northeastern Ohio and throughout the nation. She's now working to set up an outdoor assembly at her new workplace, the Cleveland Clinic. “With an outdoor image, we can correlate air quality readings with [an] aethalometer, which measures the opacity of the air,” she told me. “It would be fun to measure and compare the qualities of images as they're archived.”

Khatri and her hazecam partners hope to raise public awareness and ultimately inspire Clevelanders to push for better air quality. “People are surprised by the dramatic changes in visibility that one can see in the hazecam images,” says Ellen Wells, the coordinator for the Center for Environmental Health and Human Ecology at the Cleveland Museum of Natural History, a partner in the project. “Knowing that air pollution is a problem is different than literally seeing haze affect our skyline and realizing that this is the air we're breathing. From there, we can expand the conversation to discuss actions that each person can take to improve air quality: increased use of public transportation, carpooling, biking, walking, telecommuting, and not idling cars or other vehicles.” ●

● HONORS, ETC.

TWO LANDSCAPE ARCHITECTS CELEBRATED IN CHICAGO.

Every year since 1995, the *Chicago Tribune* has identified one or more “Chicagoans of the Year in Design.” Usually the honor is bestowed on architects, but this year it was shared by landscape architects Peter Schaudt, FASLA, and Ernest Wong, ASLA. “Chicago's pantheon of architects is revered around the globe, but its landscape architects are often overlooked, despite the presence of Prairie School parks by the likes of Jens Jensen,” wrote critic Blair Kamin of the designation, maintaining that these designers' bold, modernist work has helped bring the city's landscape architecture firms attention and renown from around the world. ●

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ABOVE

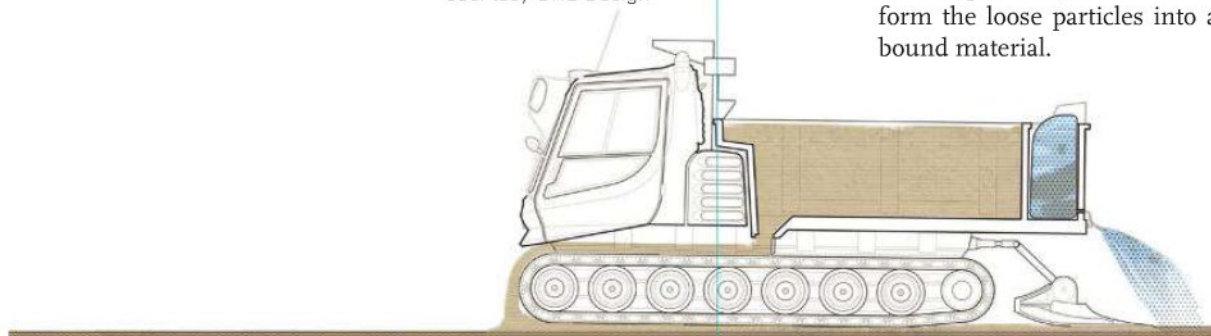
The roads envisioned in the project would be built up in four-inch layers of sand transformed into cement by microbes.

BELOW

The sand would be fed through a gravity-driven hopper, compacted, and sprayed with a microbial solution.

IMAGE CREDITS

Courtesy ORE Design



The asphalt and concrete our roads are made of are not the most environmentally friendly materials. A pair of designers thinks they have a better idea, and the judges in an international competition agreed.

The proposal, called sand.stone.road, by Brooklyn-based designers Thomas Kosbau and Andrew Wetzler of ORE Design, won the grand prize in the Incheon International Design Awards. The competition for innovative green design ideas was organized by a business group in Incheon Metropolitan City, near Seoul, South Korea, and the Italian design portal web site *Designboom*. More than 4,000 entries were submitted from 95 countries.

The team proposed paving roads with “a biologically treated and processed paving material that uses a common microbe to alter the properties and behavior of loose sand into sandstone.” Trucks would lay down courses of sand, spraying it with a solution of *Bacillus pasteurii*, which would transform the loose particles into a hard, bound material.

It’s not as far-fetched as it might seem. “This issue really started with our aversion to asphalt and the vast amount of petroleum and harmful pollutants involved in paving our roads and parking lots,” says Kosbau, an architect and industrial designer who has also studied chemistry and physics. “We started researching alternatives and came across the designer Magnus Larsson’s proposal to use bacteria to stabilize sand in an effort to halt Saharan desertification. His research led us to the research being conducted at the University of California Davis’s Soil Interactions Laboratory, from which we deduced that *Bacillus pasteurii* would indeed be feasible for low-volume road construction.” Taking the existing technology a step further, Kosbau says the competition entry “supposes an improved strain would allow us to ‘grow’ sandstone roads for all applications.”

Since the award announcement, Kosbau says his firm has been contacted by a wide range of organizations and firms, most of which are looking for market-ready products. “I have to tell everyone honestly that it will require a significant amount of on-site testing to build the first sandstone road, which doesn’t fit most of their needs,” he says. “We are beginning discussions with a developer and a municipality to have a working prototype installed, but we haven’t confirmed a date of construction yet.” ●

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POSTSCRIPT: SUICIDE BARRIERS

CDC REPORT SUGGESTS BARRIERS IN NATIONAL PARKS, BUT PARK SERVICE ISN'T RUSHING TO BUILD THEM.

Suicide barriers, used to restrict access to places where people might jump to their death, seem to be getting a lot of attention lately even though their ability to save lives is questionable (see "Save Us from Ourselves," *LAM*, January). In late 2010, the Centers for Disease Control's *Morbidity and Mortality Weekly Report* published a study on suicide in the national parks. From 2003 to 2009, the study notes, the Grand Canyon and Blue Ridge Parkway had the most suicide events (including attempts), with 21 each. It recommends "barriers on bridges or other means to block access to the most common locations."

But there won't be any rush to slap chain-link fence along the edge of the Grand Canyon, according to the National Park Service. The analysis of successful and attempted suicides in parks from 2003 to 2009 was done because of concerned inquiries from the public and anecdotes that suggested the prob-

lem was growing, but the data shows it isn't. "One of the important takeaways is that suicides are not increasing in national parks," says Steve Whitesell, the National Park Service's associate director for park planning, facilities, and lands. During the seven-year study period, 84 national parks reported 286 suicide events, and only 19 percent of them involved jumping. So, over the past seven years, the entire National Park System has averaged fewer than eight jumping suicide events per year.

The agency, Whitesell says, has no "national policy" on the placement or nonplacement of barriers—decisions are made at the local level by park superintendents, and any potential action must be balanced against the Park Service's mission to protect natural, cultural, and historic resources.

Sara Newman, the director of the National Park Service's Public Risk Man-

agement Program and one of the paper's authors, says that crunching the numbers helped to put the problem into perspective: Suicides in national parks accounted for about 0.0008 percent of the national total during each year of the study period. "We hope one of the effects will be for [the Park Service's] leadership to think about ways to support staff, who deal with not only fatal but attempted suicides," she says. A lot of rangers have sought training on identifying and helping potential suicides and have intervened to stop them. She hopes to follow up with more research, and the CDC has expressed interest in future collaboration. "I hope the next step will be for us to capture those lessons," she says.

For more information, see www.cdc.gov/mmwr/preview/mmwrhtml/mm5947a2.htm. ●



ABOVE
The landscape around Austin's iconic blue *SunFlowers*—huge artist-designed solar collectors—consists of native Southwestern grasses, shrubs, and wildflowers.

IMAGE CREDIT
Marty Carlock

MORNING GLORIOUS BLUE-BLOOMING SUNFLOWERS SPROUT ON TEXAS HIGHWAY.

BY MARTY CARLOCK

Ask anyone in Austin if they know where the *SunFlowers* are, and you are likely to get a polite shrug. Show them a picture, though, and most people will recognize them immediately: "Oh, sure! Those are over behind the Best Buy."

SunFlowers: An Electric Garden consists of 15 huge blossom-shaped solar collectors, soaking up watts by day and

illuminating a bike trail after sunset. Created by a well-regarded husband-wife team of Boston artists, Mags Harries and Lajos Héder, in collaboration with TBG Landscape Architects of Austin, the installation lies between a strip mall and the ever-busy Interstate 35.

Matt Jagunic, the project designer for TBG, masked the asphalt lot behind the stores with a three-foot rise in elevation and planted endemic grasses and shrubs. The grassy strip beneath the sculptures themselves is sown with wildflowers native to the Southwest, and a pathway that connects into Austin's park system snakes alongside them.

The solar array contains blue LEDs for nighttime lighting. Its surplus, averaging 15 watts a day, is sent back into the power grid and will power three to five homes. The original concept was that the flowers would articulate to track the sun across the sky, Jagunic said, but the cost was too high. They are simply oriented due south.

The project cost roughly \$500,000, Jagunic says. Funding came from the developer, Catellus Development Group, a grant from Applied Materials Inc., and a rebate from Austin Energy. ●



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SAFER PASSAGE

**FIVE DESIGN TEAMS
COMPETED TO HELP ANIMALS
CROSS A ROAD.**

BY LINDA MCINTYRE

- 1 EXCLUSIONARY FENCING
- 2 BICYCLE PATH
- 3 STORMWATER INFRASTRUCTURE CONNECTIONS
- 4 FOREST, SHRUB, AND MEADOW PLANTING
- 5 HYPAR VAULT STRUCTURE BELOW
- 6 JACK-TUNNEL WILDLIFE UNDERPASS
- 7 WET MEADOW AND WATER CATCHMENT
- 8 AGS RAIL
- 9 EXPANDED VEHICULAR TRAFFIC LANES
- 10 BREAKDOWN LANE AND SNOW SHOULDER

ABOVE

The winning design, by HNTB + MVVA, would extend the habitat corridors and landscape bands at West Vail Pass, Colorado.

IMAGE CREDIT

Courtesy ARC Competition

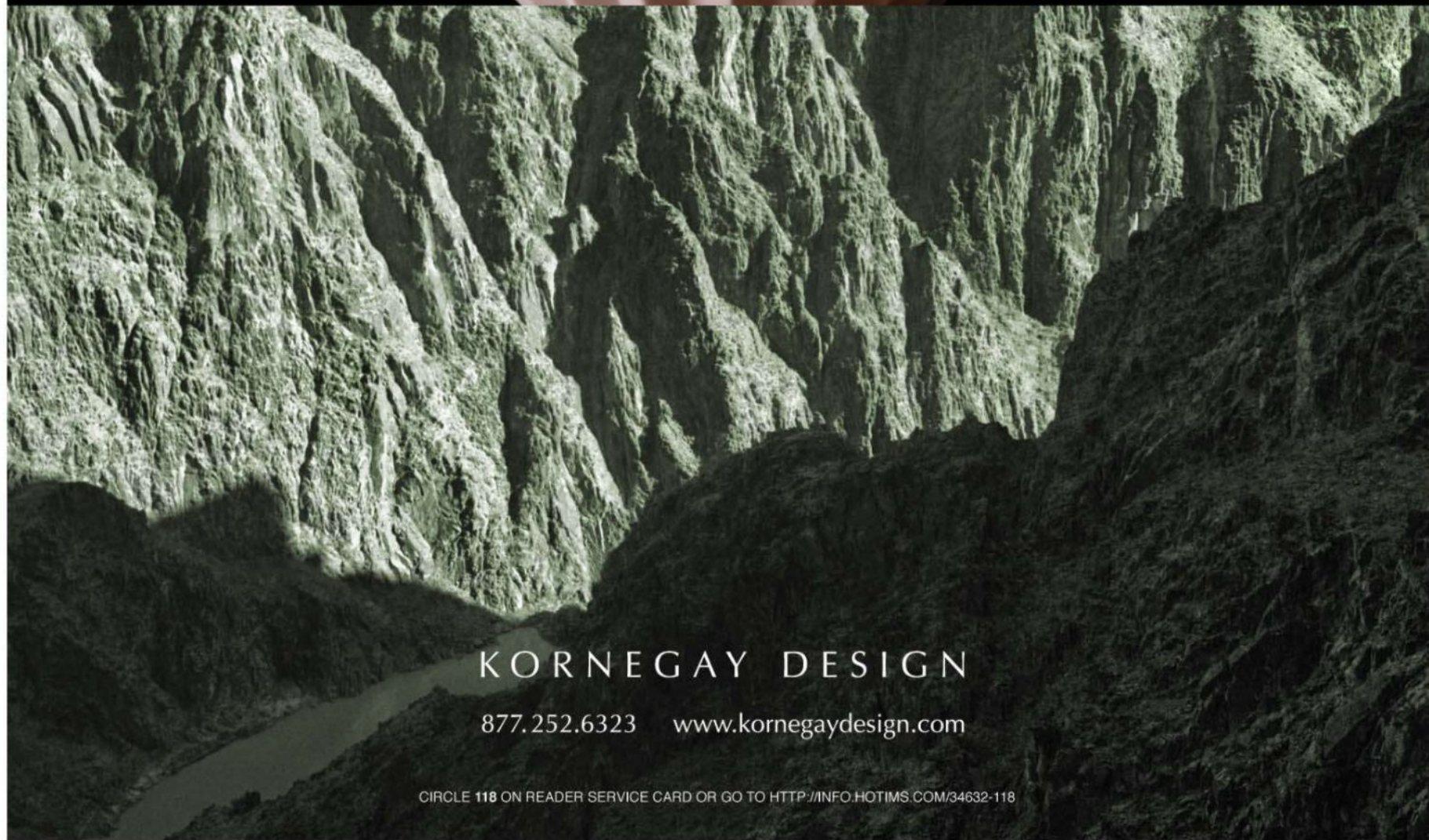


Where roads crisscross habitat, danger lurks for both animals and drivers. Deer account for most car-animal collisions—the Insurance Information Institute estimates there are more than 1.6 million of these crashes every year, resulting in about 200 human deaths, tens of thousands of injuries, and more than \$4.6 billion in medical and auto repair costs. But millions of other animals—moose, bear, and elk as well as smaller mammals, amphibians, and invertebrates—are also killed by drivers each year, taking a big toll on species populations.

Planned crossings that funnel creature traffic over or under roads can make everyone safer, says Tony Clevenger, a wildlife ecologist with the Western Transportation Institute (WTI) at Montana State University. He has studied the use and impact of crossings in Canada's Banff National Park, where a series of 22 underpasses and two overpasses has reduced wildlife fatalities among species including wolves, grizzly bears, elk, lynx, mountain lions, and moose by 80 percent.

But Clevenger says the structures are considered luxury items rather than much-

needed tools to help remedy habitat fragmentation because they're so expensive. The cost of overpasses, which are usually made of traditional road-building materials such as cast-in-place concrete and steel, has tripled over the past 12 years, and there has been little innovation in design or materials aimed at cost reductions. In addition, says the ecologist and planner Nina-Marie Lister, the surface of many of these crossings is simply a "green toupee" of soil and plants slapped on top of the crossing with little thought given to habitat quality, let alone design.



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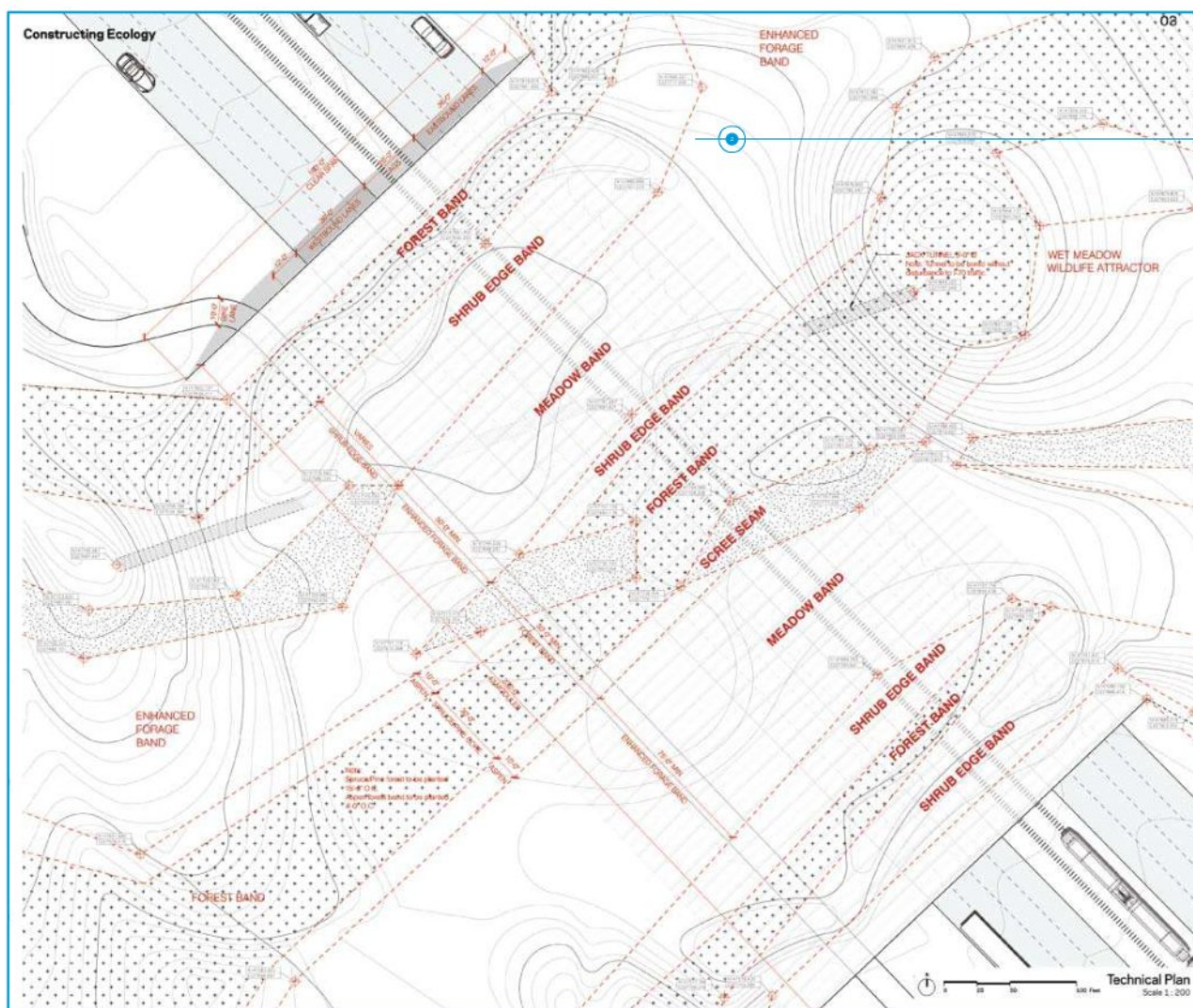
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RIGHT

The planting and landscape plan for the HNTB + MVVA design would encourage wildlife movement with understory planting, selective thinning of the tree canopy, and controlled burns.

IMAGE CREDIT

Courtesy ARC Competition



The compelling data compiled by Clevenger and other researchers inspired a group led by the WTI and the New York City-based Woodcock Foundation to sponsor the first ARC International Wildlife Crossing Infrastructure Design Competition in 2009. The competition brief sought designs for a site on Interstate 70 in West Vail Pass, Colorado. Landscape architecture firms were integral members of the five teams whose designs made it to the final round. The winning design, created by engineering firm HNTB and Michael Van Valkenburgh Associates (MVVA) with Applied Ecological Services, was announced in late January, at the annual meeting of the National Academies' Transportation Research Board after presentations by each finalist team.

Lister, who served as a consultant to the competition, says organizers hope the competition will raise the profile of wildlife crossings. They're increasingly common in western North America but still relatively rare in other areas. The organizers also wanted to amp up the crossings' effectiveness—and their

design quotient. "We know they work to reduce collisions and both animal and human mortality," she says. "Now we want to show what the possibilities are, with more interdisciplinary design that can attract more species and new materials that can improve habitat."

The competition brief emphasized feasibility and adaptability as well as ecological sensitivity. Cost effectiveness was also an important consideration for the jury, chaired by Charles Waldheim, Affiliate ASLA, who heads the landscape architecture program at Harvard's Graduate School of Design. The winning HNTB + MVVA design is based on precast concrete modules that can be combined in wide or narrow applications and adapted to a wide range of roadside terrain and

foundation types, lowering future design costs. Another team, led by Balmori Associates, proposed glue-laminated beams made from local pines killed by the devastating outbreak of pine beetle. A novel approach was also suggested by the team led by Janet Rosenberg + Associates, which called for inexpensive wood-core fiberglass in a striking red hue. The colorful supports would invite human attention (education was part of the program) but read as unflashy gray to most other mammals.

Each finalist received a \$15,000 honorarium, and the winning team picked up an additional \$40,000. No funding has been allocated to build a crossing at the competition site yet, but all finalist teams are considered prequalified

for any requests for proposals that the Colorado Department of Transportation (CDOT) might issue to build a crossing there.

The timing for the competition was ideal, says Monique DiGregorio of the Western Environmental Law Center, the Colorado liaison for the competition. Planning is currently under way for a stretch of Interstate 70 between Denver and Glenwood Springs. CDOT's environmental assessment of the area is due this spring, and funding will be based on this document. DiGregorio is enthusiastic about the winning design. "As someone who works often with engineers at CDOT, I think they will find this an approachable way to work with this challenging location," she says. ●

HNTB + **MVVA** (NEW YORK) WITH APPLIED ECOLOGICAL SERVICES

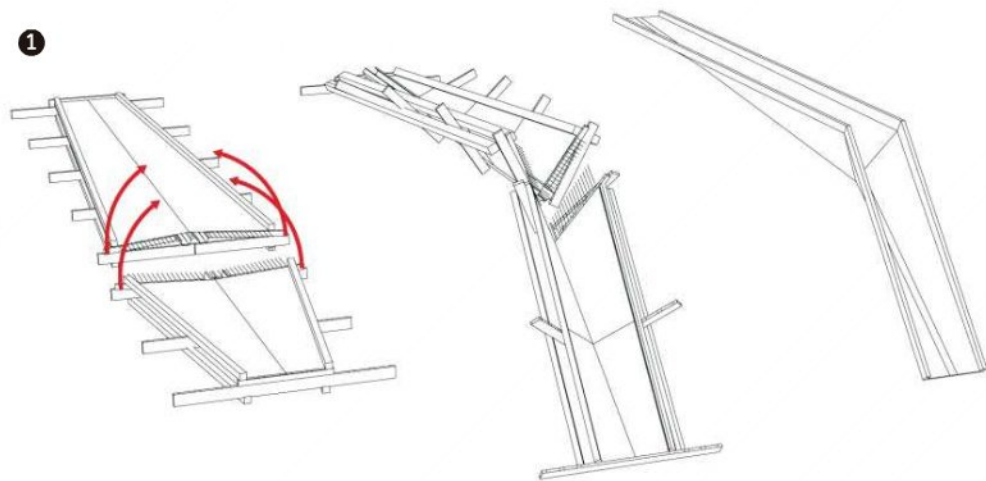
HYPAR-NATURE

The crux of the winning design is a precast thin-shell concrete module in a hyperbolic paraboloid or “hypar” vault shape. Two of the modules could be joined at the center to create a three-hinged arch across a roadway, and the modules can also be configured to create retaining walls, sound barriers, bike path shelters, and fencing supports. The vaults are designed to lock together, and the concave shape of each piece would promote efficient drainage of the entire built structure.

Ted Zoli, the technical director for bridges at HNTB, says the design could easily be built from commercially available forms, and that precast concrete facilities are accessible around the United States—no location is more than 250 miles from a facility. “We tried to evolve existing technology, not invent something new,” he says. The jury cited this elegant use of everyday materials in its announcement.

Robert Rock, a senior associate at MVVA, says the landscape architecture challenge for minimal disturbance on a mountainous site was slightly counterintuitive. “Usually we try to balance cut and fill on a site,” he says. “But here the best solution was an additive process—the only real cut at the site would involve using a backhoe and cutting a trench for footings.”

The team hopes a prototype of its scalable design can be built soon. “It doesn’t have to be the size of a football field, or cost \$8.3 million,” says Rock. “It can be a half, a third, a quarter of that size. But if we don’t start building, we won’t get to the next steps for innovation, education, and research.” ●



1 DRAINAGE

The cast concrete module would promote drainage and could be used for a variety of structural purposes.

2 GRADE CHANGE

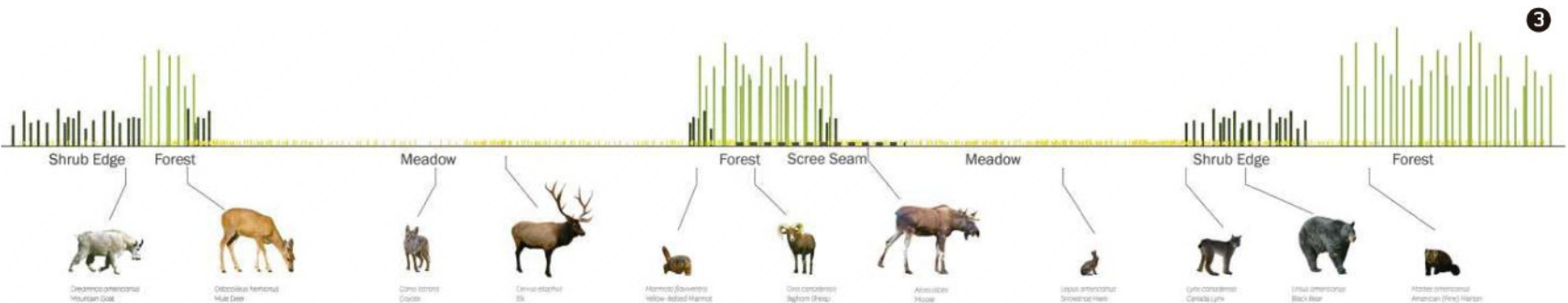
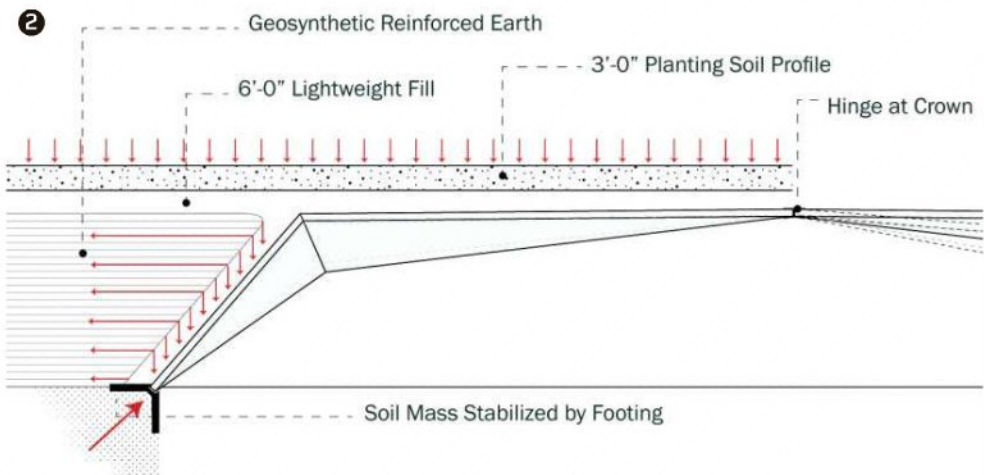
Most of the grade change would be fill, minimizing site disturbance.

3 VARIED PLANTING

Varied planting provides both shelter and open views to the other side.

IMAGE CREDITS

Courtesy ARC Competition



BALMORI ASSOCIATES (NEW YORK) WITH STUDIOMDA, KNIPPERS HELBIG INC., DAVID SKELLY, CITA, BLUEGREEN, JOHN A. MARTIN & ASSOCIATES, AND DAVID LANGDON

MCS—MODULAR CROSSING SYSTEM

The team's Modular Crossing System is designed to be adaptable and easy to install. "It's a tool to create a future network of bridges," Diana Balmori, the team's leading principal, said during the presentation. She and her colleagues describe their entry as a methodology rather than a design per se. The process envisions an analysis of the movements of existing animals to determine the placement of the crossing, and the prefabrication of an overpass's elements off site from locally harvested kiln wood. The structure would take the form of a wide continuous beam, eliminating the need for joints or supports in the roadway. The team says the components could be transported in a standard tractor-trailer and installed quickly without shutting down the freeway.

Each crossing would be designed to blend visually and texturally into its surroundings. The plant palette would be based on local flora. After studying the research, the team agreed that width was a crucial element for any successful crossing, and that any structures designed under the system should be at least 50 meters wide to promote the safe passage of a diverse array of species. To make sure a crossing is working optimally, motion-activated heat-sensitive cameras would record animal movements to allow additional analysis that would inform future installations. ●

RIGHT

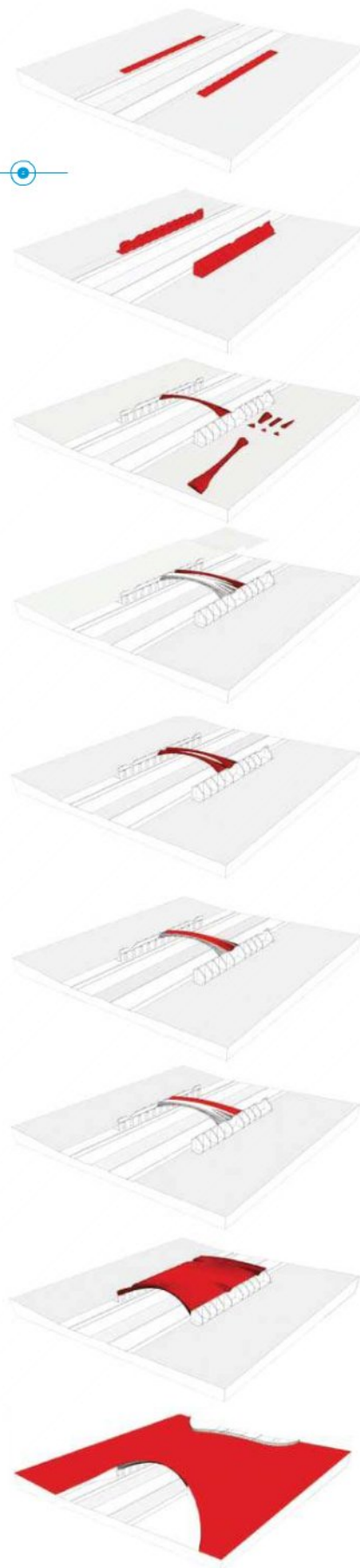
The crossing structure is designed as a wide continuous beam without any joints for strength and durability.

BELOW

It would be built from locally harvested wood, layered to support varying loads of soil and plants.

IMAGE CREDITS

Courtesy ARC Competition



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OLIN (PHILADELPHIA) WITH EXPLORATIONS ARCHITECTURE (PARIS), BURO HAPPOLD (LONDON), AND APPLIED ECOLOGICAL SERVICES

WILD (> <) ING

The OLIN-led team drew on that firm's considerable experience designing landscapes over structures such as buildings and parking garages. To promote adaptability, the design envisions a system of crossing structures based on a master form in a toroid, or doughnut, shape, from which a large variety of smaller forms comprising a grid of rhombus-shaped cells could be cut, allowing for differences in topography and scale. The concave, saddlelike shape of a crossing structure derived from this kind of model would reduce vibration and sound effects while remaining essentially open, says David Rubin, ASLA, of OLIN. "It's less a tunnel, more of an event for both animals and drivers," he said at the presentation.

The structural grid would support a smaller-grid lattice, and each cell in that smaller grid would be planted with a glass-reinforced plastic insert filled with layers of insulation, lightweight fill, drainage material, soil, and plants—like a more complex version of a green roof modular tray. This modular approach would allow for easy adjustment in response to shifting wildlife patterns.

The design for the West Vail Pass crossing would include six habitat types: spruce and fir forest, xeric shrubland, mesic shrubland, wet meadow, mesic grassland, and xeric grassland. Visitors could take in the view, as well as delayed video feeds of animal crossings, from an observation platform. ●

DRAWINGS

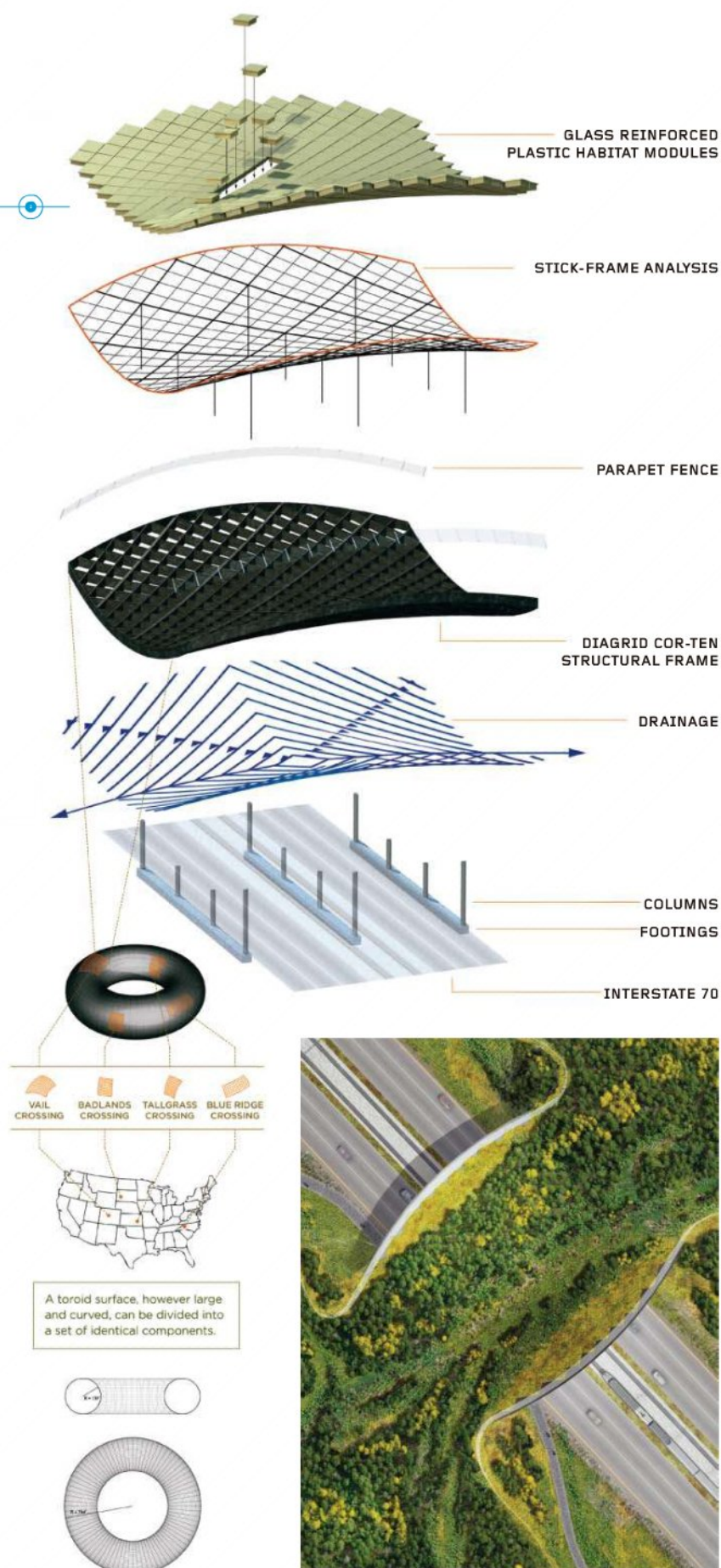
The grid structure and modular planting approach make this design adaptable.

RENDERING

The planting plan includes six distinct habitat types.

IMAGE CREDITS

Courtesy ARC Competition





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JANET ROSENBERG + ASSOCIATES (TORONTO) WITH
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ASSOCIATES, AND ECO-KARE INTERNATIONAL

RESEARCH EVOLVE DESIGN

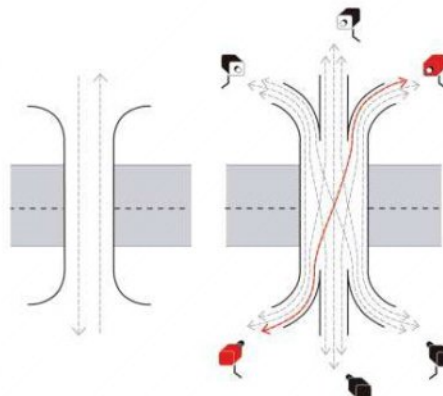
The design by this team stands out, and not just because its structural elements are red. Instead of a single wide landing at each side of the overpass, three narrower landings, or “strands,” extend deeper into the habitats on either side of the road. Working with the team’s ecologist, Kari Gunson, and the animal scientist Temple Grandin, the designers tried to replicate the animals’ existing patterns of movement. “We’re trying to pick up cues from habitat rather than trying to re-create habitat,” says Rosenberg.

The design allows for tree planting in undisturbed soil in the voids between the strands. With this approach, less soil, supporting a simpler plant palette, is required on the crossing structure, reducing its loading requirements.

About that red: It’s the cladding of the wood-core fiberglass used for the barrier panels along the edges of the strands and bridge structure. The bright color pops for humans, drawing attention to this new kind of landscape element, but reads as gray to other mammals, blending into its surroundings. Rosenberg says the team chose this material, available in a range of colors, because it’s strong, lightweight, durable, and easy to install. ●



2 Contacts = 2 Routes 6 Contacts = 18 Routes



ABOVE RIGHT

This design reaches deeper into the existing habitat to extend existing “strands” of movement used by animals.

RIGHT

Bright red fencing catches the human eye for branding and education but reads as gray to most mammals.

IMAGE CREDITS

Courtesy ARC Competition





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ZWARTS & JANSMA ARCHITECTS (AMSTERDAM) WITH **OKRA LANDSCAPE ARCHITECTS**, IV-INFRA, SJEF JANSEN PLANECOLOGIE, ARCADIS US INC., BATES ENGINEERING, INC., WITTEVEEN + BOS, AND ETH ZÜRICH.

LANDSCAPE

This team, led by the Dutch firm Zwarts & Jansma Architects (ZJA) working with OKRA Landscape Architects, has experience designing wildlife crossings—ZJA designed a crossing in Rijssen in 2003, and the two firms collaborated on nine crossings for Veluwe National Park in 2007.

Their competition design organizes around a system of curves in a hyper or saddle form that follows the natural curves of the site but is adaptable to different topography. The structural engineering is high-tech: A lightweight concrete shell would be cast in place on a temporary formwork and support system, the components of which would be reusable or recyclable. But the landscape elements, including dry-stone walls and rough-hewn poplar fences, are humble and natural; the biodegradable fences are designed to disappear eventually, after animals become accustomed to the crossing route.

The landscape for the West Vail Pass site includes a stream and two small ponds on the structure to collect snowmelt water and attract animals. Its plant palette is dominated by low-growing varieties. "For elk and mule deer, openness and overview are essential to safe passage," says Sjef Jansen of Planecologie. "[We designed] a half-open vegetation situation whereby the animals can safely take passage and see possible predators from a distance." •

ABOVE

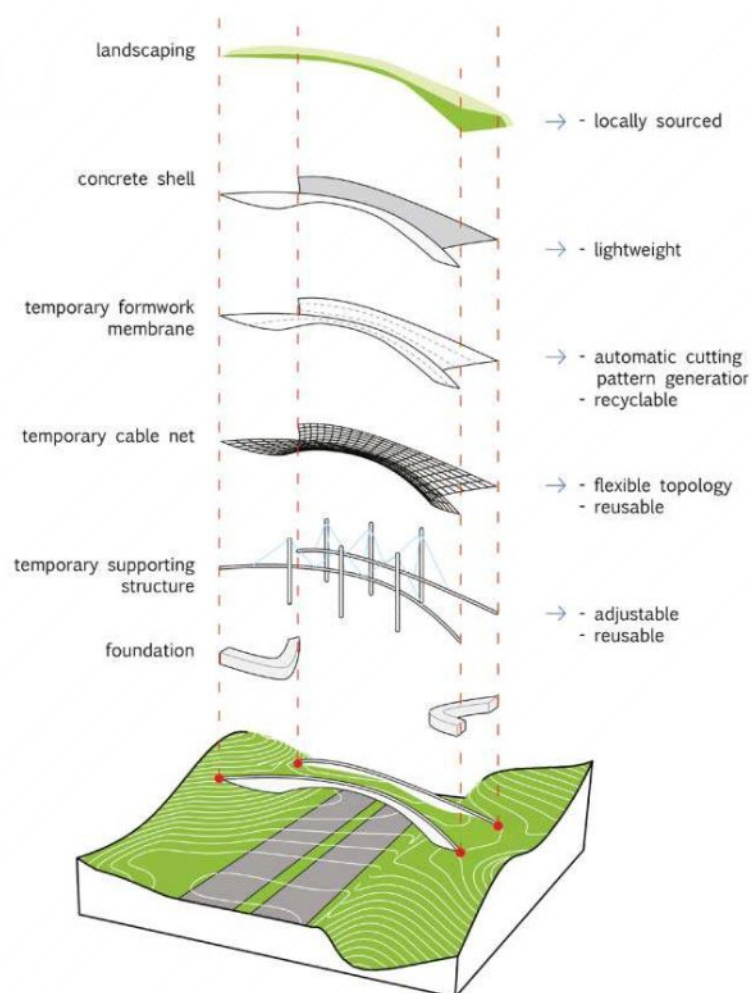
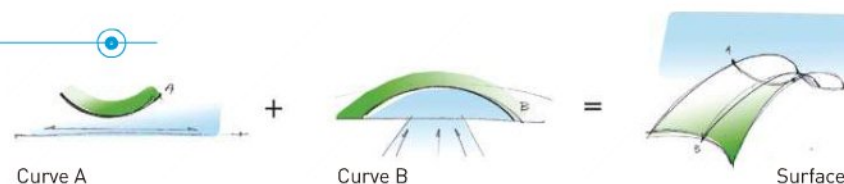
The simple curving design can adapt to different situations.

RIGHT

Forms are reusable, and the crossing can be built without disrupting traffic.

IMAGE CREDITS

Courtesy ARC Competition



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NOTES FROM THE WORLD OF LIVING THINGS

BY CONSTANCE CASEY



TOUGH CHOICES AT GROUND ZERO

ABOVE

Peter Walker, FASLA, didn't originally choose only swamp white oaks at the memorial. But they're resilient and he's happy with them.

IMAGE CREDITS

Courtesy National September 11 Memorial & Museum

The eight-acre World Trade Center Memorial Plaza gives the landscape architect Peter Walker, FASLA, the most sensitive site on the globe, perhaps the most important assignment of his career, and a large, varied group of clients who have had a famously hard time making decisions. The happy ending involves a compromise none of the principals involved is eager to discuss in detail and the choice of a good tree. And not only good, but one of the connoisseur Michael Dirr's Noble Trees.

Planting has begun, and more than 400 swamp white oaks (*Quercus bicolor*) are aligned in rows on the Memorial Plaza site around two pools that mark the footprints of the destroyed towers.

The swamp white oak is a good bet to fulfill the highest purpose of a memorial tree, which is not to die. Native to the Midwest and northeastern United States, in zones 4 to 8, this oak can grow in sun or shade. Though, as the name implies, it likes moister situations than the

white oak, the swamp white oak resists drought and tolerates compacted soil.

Early in the planning, Walker envisioned a combination of tough trees—locust, linden, sycamore—all common on New York's streets. As the proposal advanced, the trio of types became a duet—oaks and a line of sweetgums (*Liquidambar styraciflua*).

"When we started, I assumed we had dozens of choices," Walker says. "White

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FOR THE WORLD TRADE CENTER MEMORIAL, THE SWAMP WHITE OAK IS EXPECTED TO BE MOSTLY WORRY FREE.

oaks, red oaks, sycamore, every kind of tree that we knew would work for lines of trees." But the "experts," as he terms them, advised that he couldn't plant them in the city. "They had a very conservative approach to actual infestations or possible future ones."

Walker hoped that the sweetgum's famous fall foliage would provide a splash of red beginning around September 11 every year. As late as September 2010, an official WTC Memorial

news release stated that "hundreds of swamp white oaks and sweetgum trees are being tended to at a nursery in Millstone, New Jersey." The plan must have advanced, because 39 sweetgum trees were purchased at \$500 apiece. (The cost of the planted plaza is estimated at \$8 million.) But then, apparently, the site's architect, Michael Arad, worried that the line of red would draw attention away from the pools. A "hot topic," says a Walker associate who preferred not to be quoted by name.

Now the planting will be a chorus of baritone oaks, minus the high notes of the sweetgum. On the positive side, the rows of the same tree casting heavy summer shade will be orderly, serene, and quiet—an antidote to chaos and memories of destruction. Maturing at 60 feet tall, if all goes well, they'll be magisterial, deserving of the term Mighty Oak.

Walker says he is happy with the solemn effect of his final choice: "When the trees are pruned up, the effect will be of a Gothic arch." ●

Everyone has seen *Perovskia*, maybe on an airport berm with its partners in the New American Garden style, *Rudbeckia* and *Echinacea*. Landscape architects have put it on the plant lists for thousands of sunny sites. But 30 years ago, you wouldn't have seen it in a catalog, though it had been used by Gertrude Jekyll and Russell Page. Then, in the 1980s, it was everywhere, and by 1995 it was the Perennial Plant Association's Plant of the Year. Easily propagated and forcefully marketed, it's now ubiquitous and sometimes inappropriately used. But where did *Perovskia* spring from?

It is known as Russian sage but is not actually from Russia. It is from Central Asia, an area that Russia tried hard to make part of Russia right up until 1989. The troops of Czar Nicholas and Queen Victoria probably brushed by *Perovskia* in the 19th century, in the war that came to be called the Great Game. Russia hoped to dominate the continent; England fought to fend off Russian encroachment on India.

You may imagine a bespectacled botanist named Perovski—a Professor Ivan or Boris or Sergei, perhaps even Natasha—found and named the plant for him- or herself. It was in fact named by the Russian botanist S. G. Karelin in honor of General Vasil Alexeivich Perovski (1792–1856), an important Russian player in the Great Game.



FROM RUSSIA
(OR NOT),
WITH LOVE

ABOVE
Perovskia, the almost Russian sage.

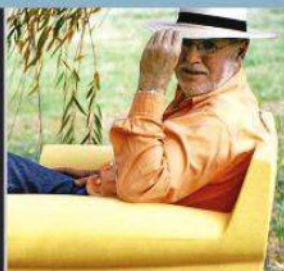
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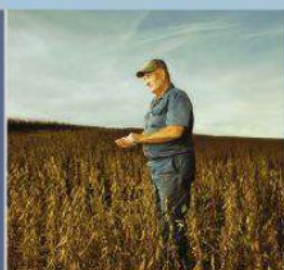
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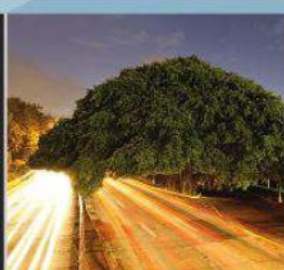
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LANDSCAPE ARCHITECTS**

In the winter of 1838–1839, General Perovski, “brave, but unfortunate,” a British historian writes, marched south from Orenburg across the steppes of present-day Kazakhstan to counter a British advance into Afghanistan. He was forced to turn back after losing more than 1,000 of his 5,000 men (and half of his 10,400 camels) in a series of blizzards.

Fast forward to the 1960s, and the general’s namesake plant is grown copiously by the Maryland nurseryman Kurt Bluemel, who left Czechoslovakia in part, he says, to get away from Russians. Bluemel became an important supplier to Wolfgang Oehme, FASLA, and *Perovskia* became one of the pillars of the New American Garden style created by Oehme and James van Sweden, FASLA. Bluemel introduced *Perovskia atriplicifolia* ‘Filigran,’ the most upright of the cultivars, to the U.S. market.

Perovskia’s popularity isn’t surprising. The plant takes any well-drained soil. It thrives in baking sun, smiles through heat and drought, is unfazed by high humidity, and has a sagey scent that deer seem to dislike.

The lavender-blue flowers, spread along a stem above finely cut silver foliage, have a misty look that’s welcome on hot days. Those small, tubular, two-lipped, mint-family flowers bloom from June

to November, in zones 4 to 9. The plant does fine even if not whacked back in early spring to its woody stems, as recommended.

Perovskia looks good with all the blue-toned ornamental grasses, and its gray cools down the warmth of companions like yellow *Achilleas*, orange daylilies, or rust *Helenium*. It’s a great combination with late-summer whites like *Nicotiana sylvestris* or phlox.

Perovskia is often marketed at garden centers as easy for beginners. It has popped up, sometimes with tall grasses and *Echinacea*, in distinctly non-meadowy places like tiny urban yards and shady courts in Georgetown, Beacon Hill, or Pacific Heights. Oehme and van Sweden’s gardens broke away from formulas and also matched the spirit of their sites. Others have taken up the formula and put the plant in the wrong places.

Where *Perovskia* is a bad fit, consider this alternative—an underused native of the Eastern United States—*Pycnanthemum incanum* or mountainmint; the name means dense blossoms. It likes a lot of sun. It’s not precisely a double for *Perovskia*, but it has many of the same advantages. The plant is a magnet for bees, wasps, and small butterflies. ●

BELOW

Perovskia’s lavender-blue flowers are profuse from June to November.

IMAGE CREDIT

Gary A. Monroe
@ USDA-NRCS
PLANTS Database



TINY JAWS OF DEATH

In its native China, the Asian long-horned beetle, a glossy black creature with white spots, bears the poetic name “Starry Sky beetle.” But poetic is not the mood of the entomologists, microbiologists, and arborists out to detect and destroy the wood-boring creatures before they kill more hardwood trees in North America.

For those of us who choose trees to plant and how they’re configured, the scientists have this advice: Species-rich environment, yes; monoculture, no.

American scientists observing the beetle in China say that it is a pest of windbreaks, greenbelts, and ornamental plantings—all typically monocultures.

The worst destruction occurs where host trees group closely together, like the Norway maples lining the streets of Worcester, Massachusetts, where an extensive infestation was discovered in 2008. Or a hillside of sugar maples, a prospect that has Vermont’s syrup makers very nervous. (The Vermont border is 45 miles

north of Worcester.) The Asian long-horned beetle has a fondness for maples, particularly *Acer mono*; they are so appealing that the beetles give up their usual reluctance to fly. (Luckily, they’re not as mobile as the current other major tree destroyer, the emerald ash borer. The Asian long-horned beetle is likely to spend its 30-to-40-day adult life span on the tree where it hatched.) In a USDA Agricultural Research Service experiment, hundreds of beetles flew to small potted *A. mono* trees over 10 days.

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AMERICAN SOCIETY OF
LANDSCAPE ARCHITECTS

ASLA Honor Award Recipient, Bassil Mountain
Escape by Vladimir Djurovic Landscape Architecture
(photo by Geraldine Bruneel)

TREES DAMAGED BY THE BEETLE IN ASIA BECAME SHIPPING MATERIALS BOUND FOR THE UNITED STATES.

Though they're not skilled flyers, these beetles are resourceful and adaptable—not qualities you want in an enemy. As the newly formed adults hatched out of wooden pallets, crates, and spools off container ships from Asia, they found some of the same maples, poplars, birches, horse chestnuts, elms, London plane trees, and willows they'd fed on back on the other side of the Pacific (or their close relatives.) They left their predators, including Asian woodpeckers and parasitoid wasps, behind.

Most [of the other] beetles that bore into living wood attack only one or two kinds of trees, having evolved [to get] around those trees' specific defenses. The Asian long-horned beetle has a long list of palatable hosts.

Scientists who have researched the beetle over the past decade at the Inner Mongolia Forest Institute and the Agricultural Research Service have identified two trees with resistance to the beetle. Asian long-horned beetle eggs laid in the bark of *Tilia* (linden) and *Elaeagnus angustifolia* (Russian olive) usually failed to hatch. If they did hatch, the larvae died before boring into the tree's xylem.

The larvae cause the fatal damage. They hatch and spend a year tunneling from just under the bark, where they disrupt the tree's vascular system, into the heartwood, where the damage is structural.



The larvae have evolved to have very hard and sharp mandibles. In entomologists' laboratories, they've been seen chewing through plastic.

Tree workers who gather downed branches and chip tree trunks have been shocked by the Swiss cheese effect the beetles create in wood. In an unhappy twist, trees in Asia turned to Swiss cheese by the beetles were considered useless for anything except shipping materials. Recent USDA regulations require that wooden shipping materials be heat treated or fumigated before leaving ports of origin. With the boom in container shipping, though, inspection of the millions of wood pallets as they reach our ports is almost impossible; it is likely that eradication is, too. And the beetles are still coming.

There is, of course, plenty of research on biological control. Unfortunately, using pheromones—sexual attractants that lure the beetles to their deaths—doesn't work well with this beetle. Their impressively long antennae are used more to catch the scent of the volatiles exuded

by a host tree than to find a mate. The male seems to need to find the trail of pheromones right under his nose (the olfactory organ is on the palps and antennae) on the tree where she lives.

The female has to actually touch a male beetle before recognizing him as a potential mate. Then let's just say that aedeagus meets ovipore. She lays her 20 to 50 eggs with care, one at a time, taking roughly an hour to pierce the bark and do a single oviposit.

One potentially promising control method takes advantage of the beetles' strolling up and down the tree seeking each other. Cornell entomologists are studying the use of fungal pathogens to control the beetle. Fiber bands containing death-dealing fungus cultures are wrapped around tree trunks, where adult Asian long-horned beetles walk across them.

The Asian long-horned beetle invasion has a strong psychological effect on us. There's sorrow in a neighborhood when a shaded street turns into a row of stumps and becomes a hotter, noisier, and more barren place.

But there's hope for future shade, quiet, and beauty. The strategy in Chicago's Ravenswood suburb, New York City, and Worcester has been to replant with a wide variety of trees. These include ginkgo, Kentucky coffeetree, dawn redwood, honeylocust, oak, and that useful dead-end host, the linden. Perhaps this won't look as dignified and beautiful as the rows of maples and elms planted mid-20th century to create the archetypal, comforting tree-lined street. But the new trees won't be catnip to the Asian long-horned beetle. ●

CONSTANCE CASEY IS A FORMER NEW YORK CITY PARKS DEPARTMENT GARDENER AND WRITES ON NATURAL HISTORY FOR THE ONLINE MAGAZINE SLATE.

ABOVE
The Asian long-horned beetle larva lives to chew.

IMAGE CREDIT
Ellen M. Aparicio, USDA
Agricultural Research
Service

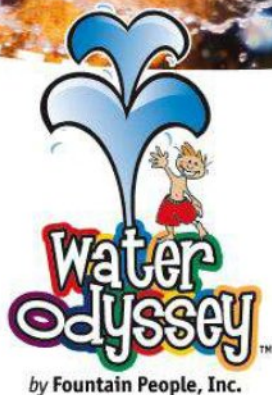


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POST-OIL GROCERIES

**A VERMONT FIRM
PREPARES FOR
FUEL SCARCITY
WITH INTENSIVE
FARMING.**

BY ADAM REGN ARVIDSON, ASLA



ABOVE

At its research farm in Vermont, Whole Systems Design is discovering ways of returning land to productivity in anticipation of peak oil. These two rice paddies will satisfy the grain needs of a family of four for a year.

IMAGE CREDIT

Courtesy Whole Systems Design

Ben Falk is growing rice in Vermont. Last fall he carved two flat paddies into a hillside above the Mad River Valley, then excavated a small pond at the top of the hill. The pond catches rain and meltwater from the upper part of his 10 acres. His three ducks, which provide eggs and eat the slugs that would otherwise overwhelm his vegetables, often use this pond as their bathroom, so the water is rich in nutrients. It also gets a lot of sun, so it's warm, like bathwater. A simple garden hose brings the water downslope to the rice paddies, keeping them wet and mucky.

Last July, the rice was bright green, obviously thriving. Falk says he'll get about 150 pounds of brown rice from these two paddies, enough to take care of the grain needs of a family of four for a year. He also has berry bushes, fruit trees,

vegetables irrigated with rainwater, and natural fences of black locust that can be cut for firewood. Portobello and shiitake mushrooms grow on downed trees in the woods, and sheep graze just about everywhere, herded from field to field with portable wire fencing.

The complex is reminiscent of a wilderness homestead, from a time when there weren't grocery stores down the road and a family needed to survive on what they could grow, gather, and store. And that's exactly the point. Falk is founder of Whole Systems Design (WSD), a landscape consulting firm that is master planning and implementing projects for a post peak oil society.

Falk and his clients believe there is a fundamental change coming: that oil is dwindling and will begin to skyrocket

in price. That would have a profound effect on society—on our ability to heat our homes, to fertilize our vast industrial monocultures of corn and beans, and to transport out-of-season produce to the local grocery store. To many, this kind of thinking is radically leftist, apocalyptic even, but there are certainly glimmers of this coming reality. Rises in oil prices have far outpaced inflation over the past decade. In some countries, such as Yemen and Qatar, reserves are drying up. And tapping the remaining, less accessible reserves is, in light of the recent Gulf of Mexico catastrophe, looking increasingly risky. Even if peak oil is still decades away, the Middle East, which accounts for half of the world's oil reserves, is becoming increasingly unstable, with uprisings in Tunisia, Egypt, and Yemen this year. Imagine

tune the light



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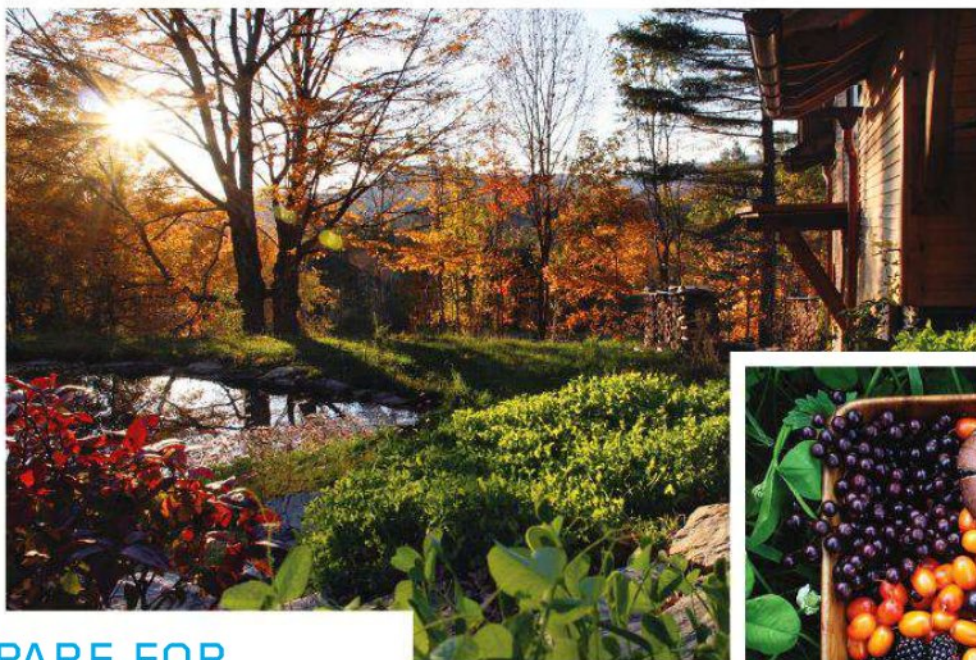
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**HOW CAN WE PREPARE FOR
WHEN GAS IS \$10 PER GALLON?
MAKE LAND PRODUCTIVE AGAIN,
SO FOOD DOESN'T HAVE TO
COME FROM SO FAR AWAY.**

ABOVE
WSD's design studio sits on the edge of a pond flanked by food crops and native vegetation.

INSET
Ben Falk, WSD's founder, harvests a half dozen types of berries, including blueberries, hardy kiwi, and Siberian seaberry, from his 10 acres, in addition to tree nuts, grains, and mushrooms.

IMAGE CREDITS
Courtesy Whole Systems Design

the effect on oil prices if Saudi Arabia's government collapsed.

But what does peak oil have to do with landscape design? "Now is the time to do restoration," says Falk, "because we can still go to the grocery store for food. We have a window." He says we need to ask ourselves what we can do now to prepare for when gas is \$10 per gallon. His answer is to make land productive again, so that food doesn't have to come from so far away. Falk's complex of rice paddies and berry patches and orchards in the Mad River Valley is a testing ground. He learns here, on the landscape where he lives, so he can apply specific principles to other projects—projects like Teal Farm.

The first major project of the Living Future Foundation, a nonprofit working toward a truly sustainable human society, Teal Farm is 1,600 acres of woods and pasture not far from WSD's research farm. WSD began work there in 2004 on a master plan that charts the next 100 years of the project site. Living Future worked with Birdseye Building Company, a Vermont-based

design/build firm, to remake several existing farm buildings as efficient, extremely low-consumption facilities, then brought WSD in to remake the landscape as a productive, low-input agricultural site. Falk refers to the site as an agricultural ecosystem.

"Everything that's created here," says Living Future's founder and executive director, Melissa Hoffman, "would enhance the living systems of the region: animals, birds, insects, soil biota." The site goes beyond organic farming to a type of farming that does not use outside inputs at all. WSD spent a year getting to know the site and producing initial master plans. The next year, the firm continued planning but began to plant the site. Another year of planting followed.

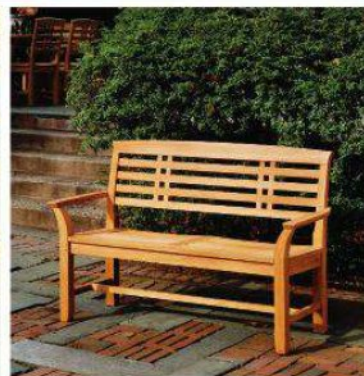
The site is harsh with winter mountain winds, so WSD designed a system of windbreaks. The land was resculpted to create sheltered garden and orchard pockets, which are home to fruit and nut trees, fuelwood trees, nectar flowers, perennial vegetables, and medicinal herbs. Eight acres have been planted to date, with more than 2,500 plants of 250 different species, including unexpected food crops like

Chilean mango, yucca, Siberian seaberry, and Korean bush cherry. These intense gardens constitute one end of a gradient of land use WSD established for the site, at the other end of which is untouched forest.

The regrading of the site demonstrates the "cheap oil now" principle Falk applies to his own farm. All the earth was being moved anyway to create a new basement for one of the barns. So the oil (much of it biodiesel) used to recontour the land ensures that far less oil will be needed later. Making the microclimate warmer and better controlling water will allow a more diverse array of crops to thrive. This will increase what Falk describes as the amount of nutrition per acre—a key to feeding more people with less energy.

WSD's principles find perhaps their fullest expression in another project in the Mad River Valley, its proposal for the Warren Common. "This is what a New England village center could be after peak oil and global financial insolvency," says Falk. WSD's master plan was produced for a private client interested in giving something back to the community. It would include a suite of





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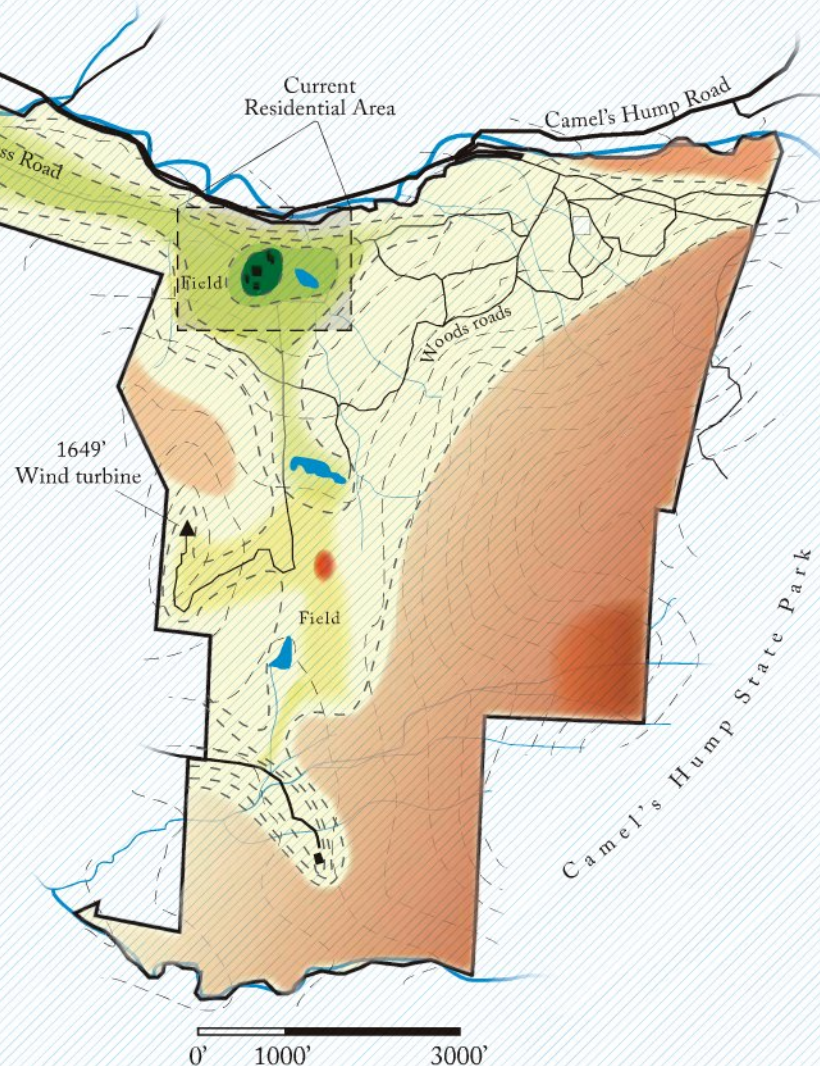
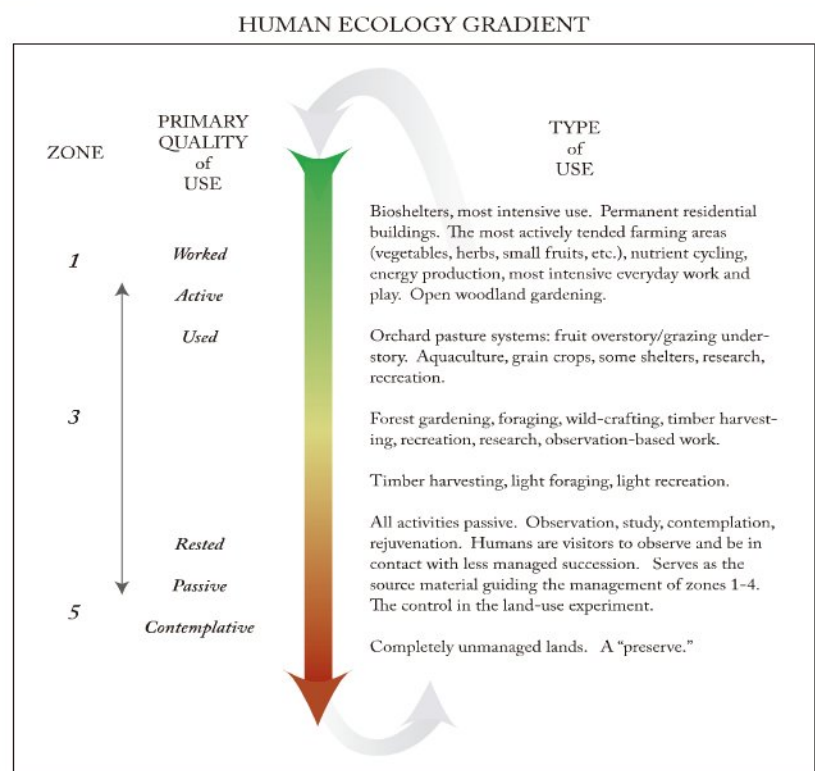
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TEAL FARM LAND USE GRADIENT



THE TEAL FARM SITE GOES BEYOND ORGANIC FARMING TO A TYPE OF FARMING THAT DOES NOT USE OUTSIDE INPUTS AT ALL.



LEFT

In the cultivated garden area at Teal Farm, WSD created a sheltered microclimate to extend growing seasons—an investment of fuel now for increased productivity later.

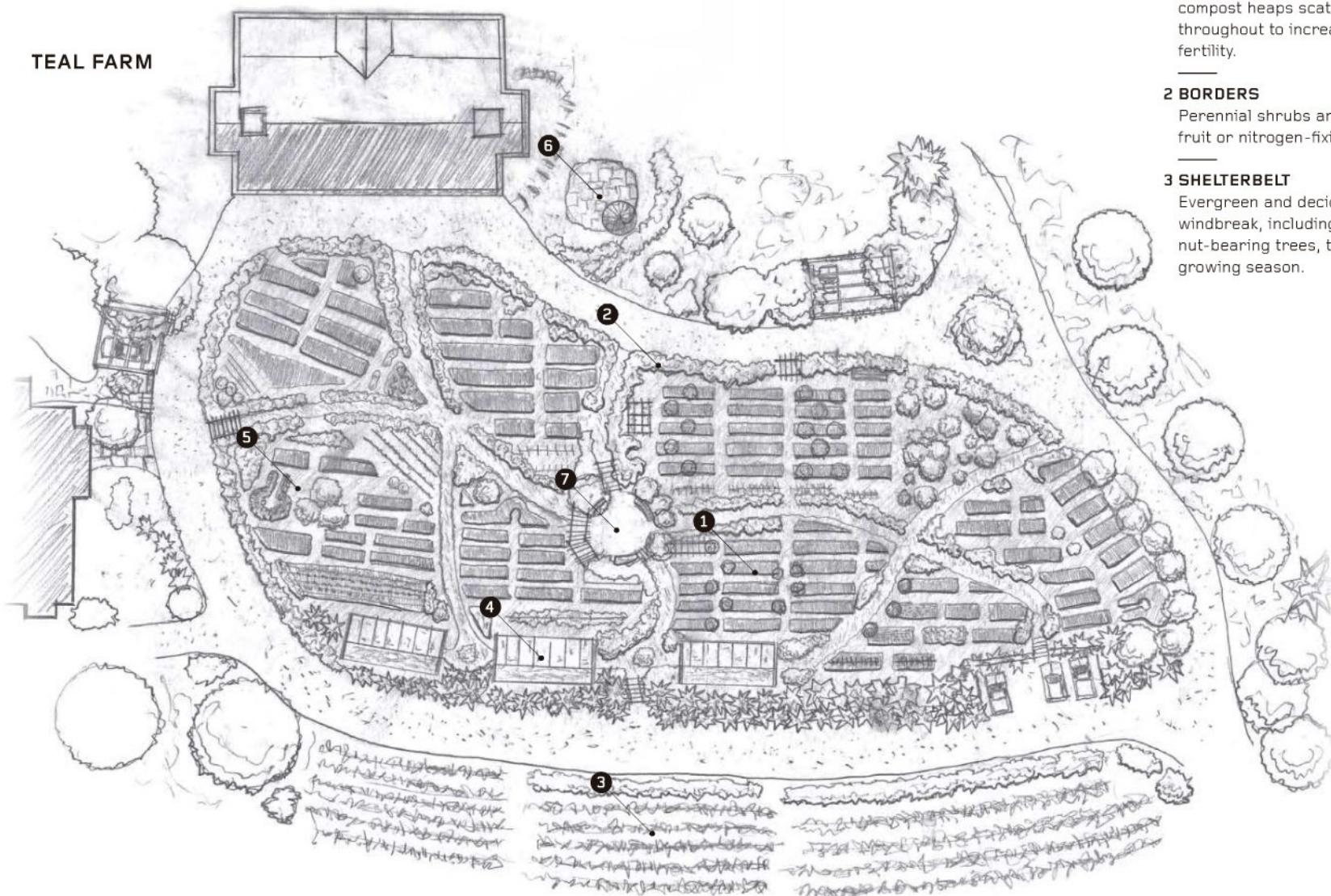
ABOVE

For its largest design project to date, Teal Farm, WSD spent nearly a year analyzing the site and creating a gradient of use intensity, ranging from highly cultivated (green) to untouched (red).

IMAGE CREDITS

Courtesy Whole Systems Design

TEAL FARM



1 INTENSIVE GARDENS

High-yield annual and perennial food crops with compost heaps scattered throughout to increase fertility.

2 BORDERS

Perennial shrubs and dwarf fruit or nitrogen-fixing trees.

3 SHELTERBELT

Evergreen and deciduous windbreak, including some nut-bearing trees, to lengthen growing season.

4 PLANNED GREENHOUSES

Space for seed starts, plant propagation, and experiments with new species.

5 DEMONSTRATION GARDEN

Showcase of methods for small space cultivation, including trellised and espaliered fruits, fruiting vines, grafted trees, and container-grown crops.

6 OUTDOOR EATING AREA

Buffered from prevailing winds and featuring edible shrubs and trees.

7 CENTRAL GATHERING AREA

The heart of the garden, where workers and visitors can relax, talk, and socialize.

IMAGE CREDIT

Courtesy Whole Systems Design

agricultural practices used elsewhere in the world, but not regularly practiced in the United States, such as edible windbreaks, agroforestry (where crops are grown among productive trees), and wet cropping for rice and watercress. There would be traditional community vegetable gardens and orchards, but also areas managed for fuelwood and charcoal production. Seasons would be extended with greenhouses and cold frames. Soil would be enriched with a method called keylining and intensive rotational grazing, which involves creating a series of shallow ditches along a slope, then using animals to repeatedly remove cover crop biomass. In this method, water stays on the slope longer. This increases plant vigor, which in turn

improves the soil through accumulation of leaves and stems above and deeper penetration of roots below.

This is a technique Falk is using on another hillside on his own farm. This slope is dry and degraded, with shallow soil over fractured bedrock. Falk spent an afternoon on his tractor last spring digging a series of shallow ditches. The excavated soil was piled immediately downslope, creating a berm into which he planted Siberian seaberry, a nitrogen-fixing, cold-hardy shrub with easily harvested orange berries that are high in vitamin C. The ditches bring rainwater from the high ground and move it slowly along the slope, letting it sink into the ground. He left a portion

of the slope alone, as a control. Last July, the keylined slope was thick with clover and perennial flowers, and Falk said he had already scythed it twice that year. An unscythed patch came up to Falk's stomach and was thick with pollinating insects. The unaltered slope was mostly bare sandy soil with a bit of struggling vegetation. That simple solution had, in less than a year, improved the productivity of a marginal piece of land.

The search for actual solutions is what brought Falk to where he is today. He grew up in Vermont and spent his early adult life leading wilderness trips and spending extended periods of time in the backcountry. He attended the University of Vermont and developed an



FALK'S FOCUS IS ON CREATING THRIVING FOODSCAPES, NOT ON OTHER LANDSCAPE DESIGN PRINCIPLES.

ABOVE

A key principle of the master plan for the Cape Eleuthera Island School and Institute in the Bahamas is the re-creation of soil on the limestone hardpan through successive plantings of native vegetation.

IMAGE CREDIT

Courtesy Whole Systems Design

interest in ecological design through studying there with John Todd, a pioneer in the design of ecological wastewater treatment systems. After his graduation in 2001, Falk went to the Bahamas where he worked at the Island School, a nature-based high school. While there, he redesigned the campus, a project he considers to be Whole Systems Design's first.

After two years he moved back to Vermont and settled into the building trades, before attending Norwich University to study architecture. He quit after one semester, unable to stomach the focus on art rather than ecological design. He later spent a year at the Conway School of Landscape Design in

Massachusetts (see "Ten Months, One Quantum Leap," *LAM*, March 2007). Then he officially started Whole Systems Design out of his house on that 10 acres in the Mad River Valley. Early projects included a sauna and bathhouse and some small residential landscapes. About two years ago he built the two-story studio that sits at the head of the large pond on the property.

Whole Systems Design consists of just a few full-time employees, one of whom is Falk's partner, the educator Kristen Getler. Another is Cornelius Murphy, who holds a landscape architecture degree from Temple University and a permaculture design certificate from the Regenerative Design Institute in

Bolinas, California. This is not a traditional studio environment, however, given that some of Falk's, Getler's, and Murphy's work includes tending the 10-acre research farm. Murphy also spends unpaid time "apprenticing" on the farm. Falk also brings in several "apprentices" (recent college graduates) several days a week to, he describes, "learn by immersion in ecosystem agriculture." Paid help is brought in from time to time for more laborious tasks.

For his design work, Falk regularly calls on a wide-ranging network of collaborators (who are listed in the "who we are" section of the WSD web site but function more like subconsultants on call). Besides landscape design and master planning, WSD is creating lesson plans paired with educational landscapes and last February launched Whole Systems Skills, a

CALL FOR ENTRIES

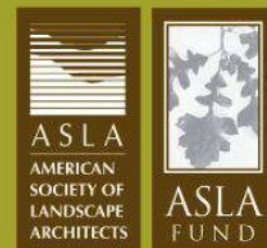
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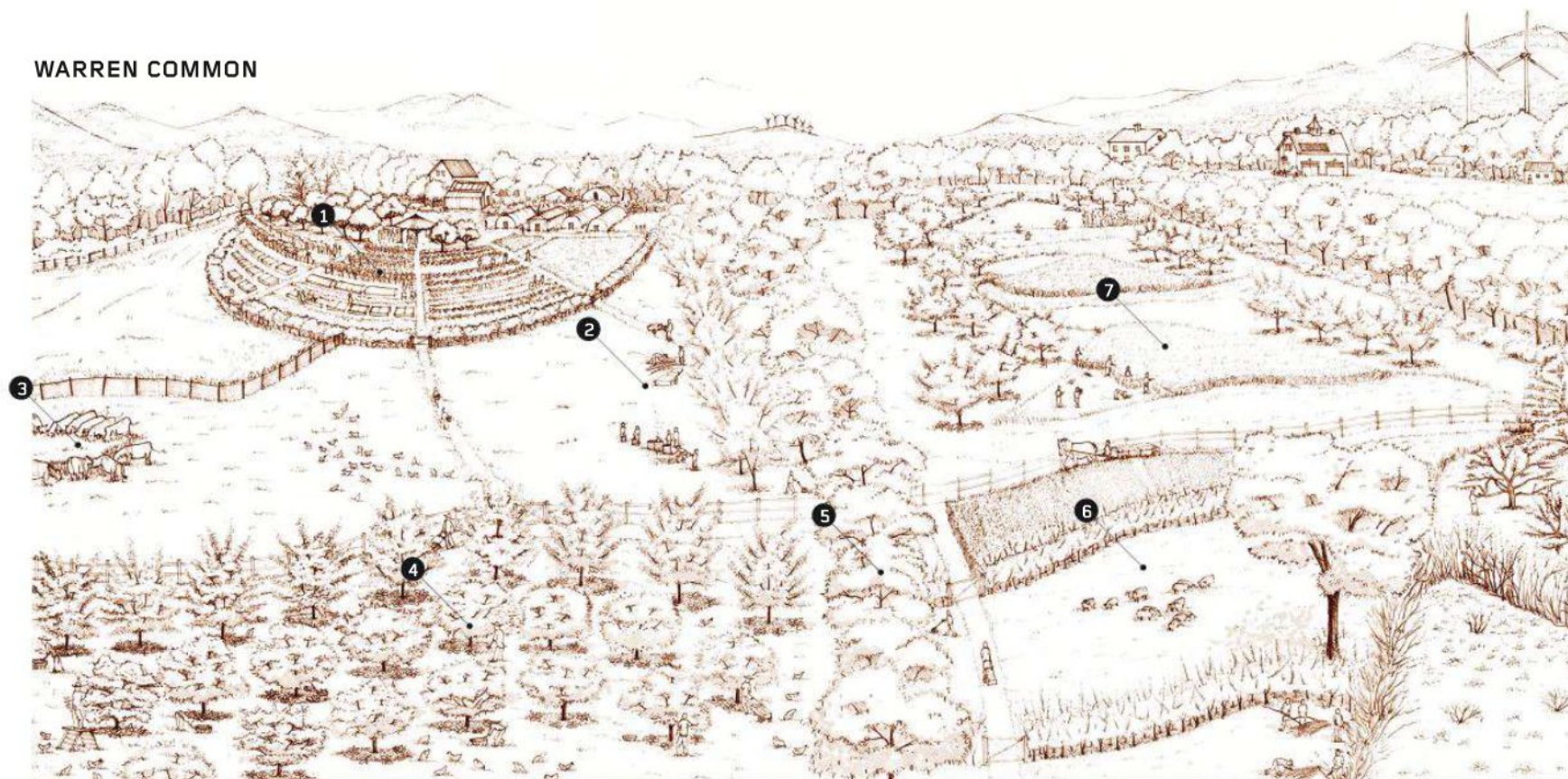
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WARREN COMMON



1 COMMUNITY GARDENS

Annual and perennial food crops for local residents.

2 FUELWOOD PRODUCTION

Coppiced hedges of black locust and speckled alder cut regularly for fuel, and scraps turned into charcoal for soil amendment.

3 ROTATIONAL GRAZING

Animals moved frequently between paddocks to promote vegetation growth.

4 ORCHARDS

Multiple species of fruit trees.

5 EDIBLE WINDBREAKS

Nut-bearing trees and shrubs as food source and shelterbelt.

6 AGROFORESTRY

Multiple species of row crops grown amid nitrogen-fixing and fuelwood trees.

7 WET CROPS

Rice, watercress, and medicinal herbs inundated by on-site stormwater.

IMAGE CREDIT

Courtesy Whole Systems Design

series of workshops and seminars centered on WSD's methods for making land productive. WSD has been featured in *Northern Woodlands*, *Mother Earth News*, and *Fast Company*—the last suggests WSD's appeal even beyond the stereotypically crunchy Vermont ecocrowd.

A major question remains, though. Is this landscape architecture or agriculture? Permaculture, the idea of creating human systems that mimic natural ones, is certainly on the minds and tongues of some academics and practitioners. But to say that the placement of rice paddies, keyline ditches, and berry patches is landscape architecture suggests that industrial farmers practice landscape architecture every spring when they decide which acres will be corn and which will be beans.

WSD's research farm isn't conventionally pretty. There aren't walkways or patios. There are wire fences to awkwardly step over from one zone of the

farm to another. Materials waiting to be used or turned into firewood are scattered everywhere. Hoses to move water from collecting ponds to crops snake through the unmowed grass. Everything smacks of practicality, except the studio and the sauna, which are beautifully designed and built wood structures with stone stairways. Teal Farm is more organized, with low stone walls providing some structure to the landscape. But Falk's focus really is on creating thriving foodscapes, not on other landscape design principles, like the creation of definable spaces, entry experiences, or landscape progressions.

Falk actually rebels against the notion of the designer's prerogative. "We're not trying to get to a solution just from our heads," he says. "We're trying to let the place and the conditions bring the process to its solutions. We try not to ask a lot of design or solution-based questions for the first few weeks or months of a project." It is true that WSD's site analysis is exceptional. The

master plans for Teal Farm, Warren Common, the Island School, and every other project on view in the firm's studio include page after page of detailed maps, sections, existing species lists, and other background information. He believes this is the catalyst for proper site solutions and that the designer's hand should be subordinate.

"That's why most design has failed us: We jump to solutions," he laments. "It's ego based. The designer comes in and says, 'Here's what the entrance needs to look like.' Right at the beginning, [designers] think they see the solution. That's really driven the field of landscape architecture, without an understanding of who inhabits the place—not just people, but the soil, the plants, the water." ♦

ADAM REGN ARVIDSON, ASLA, IS A FREELANCE WRITER IN MINNEAPOLIS AND FOUNDER OF TREELINE, A DESIGN/WRITING CONSULTANCY. HE CONTRIBUTES REGULARLY TO LAM AND FOR A FEW YEARS HAS BEEN CULTIVATING AN INCREASINGLY PRODUCTIVE 200 SQUARE FEET OF POOR CLAY CITY SOIL.



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BY LISA SPECKHARDT

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LOLL DESIGNS' BBO2 CHAIR

Loll Designs' BBO2 collection, made from durable, recycled plastic, has been listed in *TIME* magazine's Top 100 Green Products. Designed in collaboration with the Los Angeles designers Mark Rios, FASLA, Julie Smith-Clementi, and Frank Clementi of notNeutral, the BBO2 chair comes in solid colors; for the two-tone look seen here, simply order one or two of each desired color and assemble with the color combination of your choice.

FOR MORE INFORMATION, VISIT
WWW.LOLLDISIGNS.COM.

IMAGE CREDIT

Loll Designs

FURNISHING KIDS' SPACES

Adults want an attractive yard, a usable outdoor living space, a meditative garden; they can have a long list of ideas for their landscapes. Kids pretty much have one idea—they want a cool place to play that's just for them. The Trioli chair doubles as a rocker for kids who'd rather not sit still (\$286 at Hive); the Loll Designs BBO2 chair (\$190), designed by a team that includes a landscape architect, is ready for when they do want to sit and draw or join their parents for a snack; and the Piedras Children's Collection from Hive will blend into a flagstone patio and give kids their own space (\$251 for the bench, \$75 for the low chair, and \$219 for the table). But children will only sit still for so long, and the Rainbow Castle Package III Loaded (contact Rainbow Play Systems for pricing) will be the envy of all their neighborhood friends, while the Fun Station 5-Activity Panel Cluster gives the littliest children their own playground (contact Earthscapes for pricing).



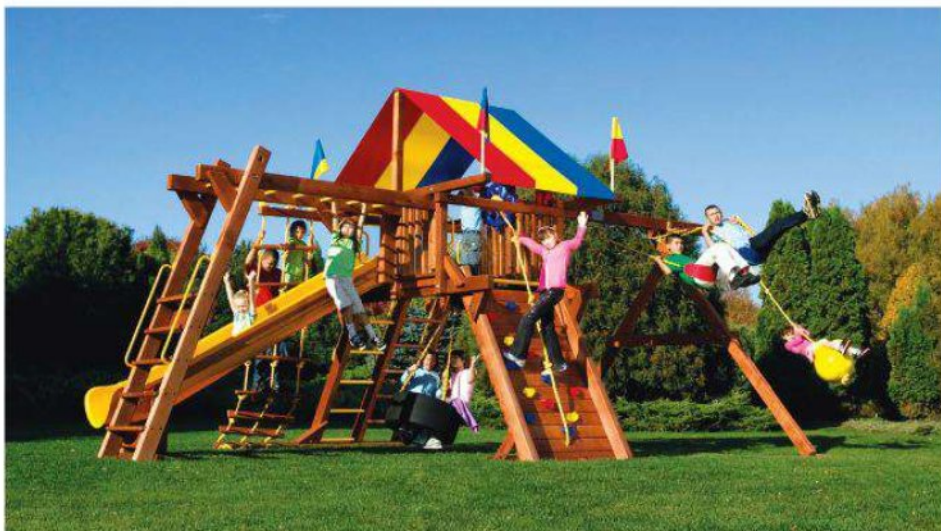
PIEDRAS CHILDREN'S COLLECTION

With a texture that imitates stone, the Piedras Children's Collection by the Spanish designer Javier Mariscal will be a good choice for a client who prefers to avoid the typical brightly colored children's furniture. The Piedras furniture is made in Italy by Magis and sold in the United States by Hive.

FOR MORE INFORMATION, VISIT
WWW.HIVEMODERN.COM.

IMAGE CREDIT

Courtesy hivemodern.com



RAINBOW PLAY SYSTEMS' RAINBOW CASTLE PACKAGE III LOADED

The Rainbow Castle Package III Loaded swing set is truly loaded with activities, including a climbing wall, monkey bars, rope ladder, slide, and swings. It's made from 100 percent North American timber and it's fully modular, so it can be added to as children grow.

FOR MORE INFORMATION, VISIT
WWW.RAINBOWPLAY.COM.

IMAGE CREDIT

Courtesy Rainbow Play Systems

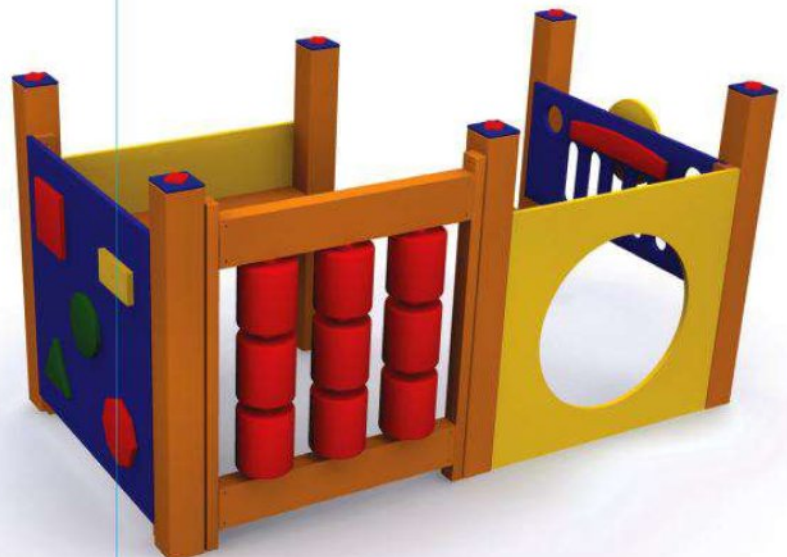
EARTHSCAPES' FUN STATION 5-ACTIVITY PANEL CLUSTER

The Fun Station 5-Activity Panel Cluster by Earthscapes is geared toward the youngest children, giving infants and toddlers five activities to tackle: a crawl-through panel, a kids' bench, a spinning shapes panel, an accessible drive panel, and either a tic-tac-toe or a dinosaur match game panel. The Fun Station is made from recycled plastic—each of the posts on the panel cluster contains an average of 260 recycled plastic containers. Because the panels are interchangeable, the unit can be updated to keep it fresh.

FOR MORE INFORMATION, VISIT
WWW.GOEARTHSCAPES.COM.

IMAGE CREDIT

Courtesy Earthscapes





LEFT

Courtyards draw West Oakland's street grid into the new development.

IMAGE CREDIT

Courtesy Miller Company
Landscape Architects

WORK HISTORY

A LANDSCAPE DESIGN HELPS REVIVE THE INDUSTRIAL PAST OF WEST OAKLAND.

BY JOANNE FURIO

During World War II, West Oakland, California, was home to a thriving industrial center, where railroads brought in the passengers and produce that would become its backbone.

At the Central Station, African Americans from the South arrived to work at nearby shipyards. In addition to being an architectural gem, the 1912 Beaux-Arts station has historic significance, being the birthplace of the Brotherhood of Sleeping Car Porters, one of the first African American labor unions.

A few blocks to the south, the Pacific Canning Company, founded by Lew Hing, one of the nation's first Chinese American industrialists, turned vegetables from the Central Valley into canned commodities that were shipped across America. At the time, the cannery was California's third largest.

The decline of the railroad, rise of the car, and failed urban renewal projects were some of the events that conspired to turn the neighborhood into a "brown-field" of abandoned buildings and warehouses. The cannery closed in the 1960s, and remained empty for decades. The station had its doors closed after the Loma Prieta earthquake of 1989 rendered it unsafe.

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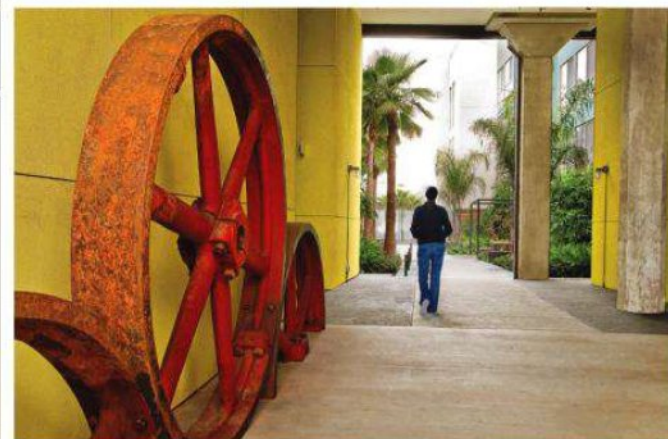
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Environmental Discovery Center by MSI Design,
(photo by MSI, Ellen Puckett Photography,
Justin Maconochie Photography)



ABOVE

The glass wall reveals a courtyard containing palms, echoing those used in a streetside plaza.

INSET

Cast-iron gears salvaged from machinery found in the former factory basement become sculpture at the western entrance.

IMAGE CREDITS

Courtesy David Baker + Partners, above; courtesy Miller Company Landscape Architects, inset

Now the 30-acre site has been reborn and renamed the Central Station neighborhood, in honor of its landmark. The depot itself is being refashioned for new uses, while the produce plant has been transformed into the Pacific Cannery Lofts, a complex of 160 loft and town house units. The new development is one of three residential projects bringing new residents—and a newfound vibrancy—to the region.

Jeffrey Miller, ASLA, has been instrumental in the creation of the new neighborhood from a macro and micro point of view. Miller designed the ASLA award-winning landscape plan for the lofts, as well as the pedestrian walkways and pocket parks that connect the residential complexes to the community at large, working over the years with developers and the city's planning department. Most of Miller's 32-year career has been devoted to urban projects that bring people together.

"I like designing gardens for individuals, but my real interest is in community

spaces and issues related to communities," Miller says.

That interest comes across in the way Pacific Cannery Lofts visually connects to the nearby, mostly African American neighborhood of modest wood-framed houses. The grid of the street actually continues and runs through two courtyards at the complex, visible through a glass wall in one and a slatted, steel-and-ipe gate in another. The meaning is clear: "You are part of the city," Miller says. "You are not isolated here."

The bulk of Miller's landscape plan for the lofts consists of four courtyards that the architect, David Baker + Partners of San Francisco, created by opening up parts of the old factory floor to the sky or adding new residential wings to enclose them. Miller has collaborated with Baker and the developer, Rick Holliday, on other residential projects.

In addition to making connections with the larger community, Miller's approach sought to increase interactions among

the people who live in the lofts through the use of homey outdoor rooms. He reuses artifacts from the site to keep its history alive and help make the project sustainable.

Miller is a LEED (Leadership in Energy and Environmental Design) accredited professional; this project earned a GreenPoint rating for its use of drought-tolerant plantings, drip irrigation that will connect with the city's recycled water system, and a rain garden in the entry courtyard, which serves as a water infiltration zone. The rain garden allows roof runoff to percolate slowly into the earth into beds of tumbled glass, rather than being whisked away into the stormwater system.

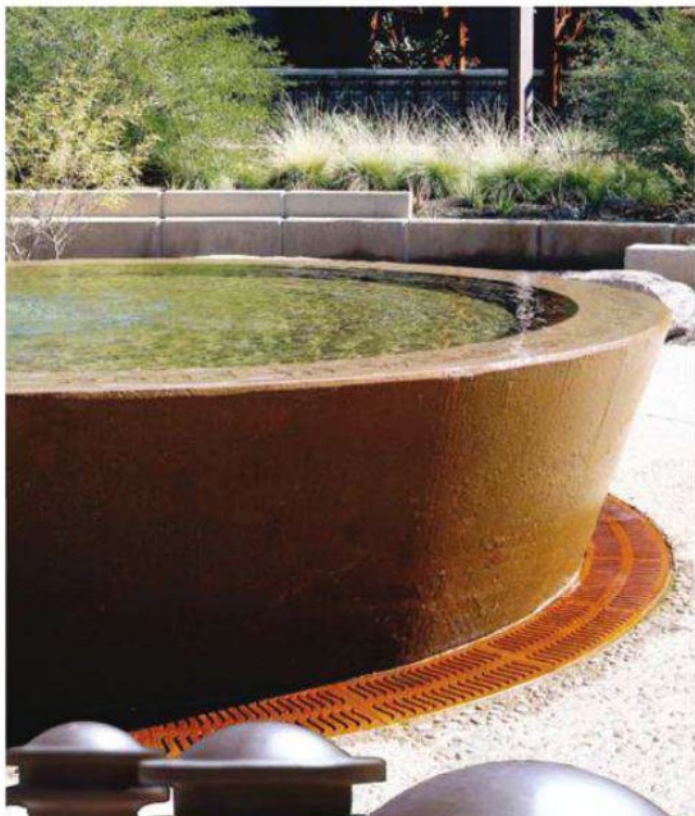
The garden also has some dual-functioning components. The glass beds, for example, besides serving as a percolation area, are underlit with rope lighting, marking pathways while creating a cool ambience for the courtyard at night. Runnels of concrete that carry water from the downspouts also act as seats that separate individual units.

To bring residents together, Miller's design/build firm, Miller Company Landscape Architects, created a "dining room" table from concrete and steel under a steel trellis.



Leadership by design

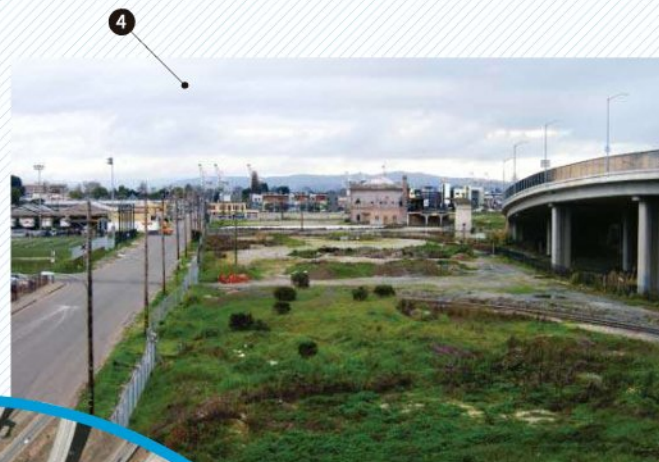
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1 PACIFIC CANNERY LOFTS

The new Central Station neighborhood includes Pacific Cannery Lofts and two other residential developments.

2 14TH STREET POCKET PARK

Historic canopy structures from the Beaux-Arts train station were refitted with translucent polycarbonate roofs that provide light and shade.

3 CENTRAL STATION

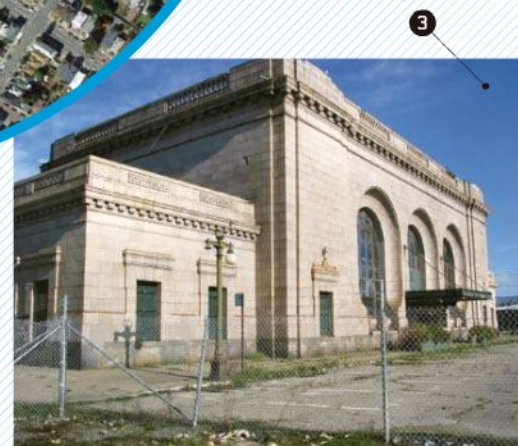
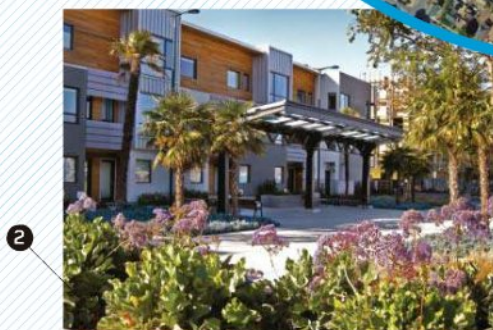
Abandoned for the past 30 years, the iconic rail depot designed by Jarvis Hunt is being considered for new uses that respect its history.

4 FUTURE DEVELOPMENT

Areas north of the train station are likely sites for market rate and affordable housing development.

IMAGE CREDITS

Courtesy Miller Company
Landscape Architects





SITE PLAN

The site plan for the Pacific Cannery Lofts shows the diversity of the four courtyards and their relationship to the built environment.

IMAGE CREDITS

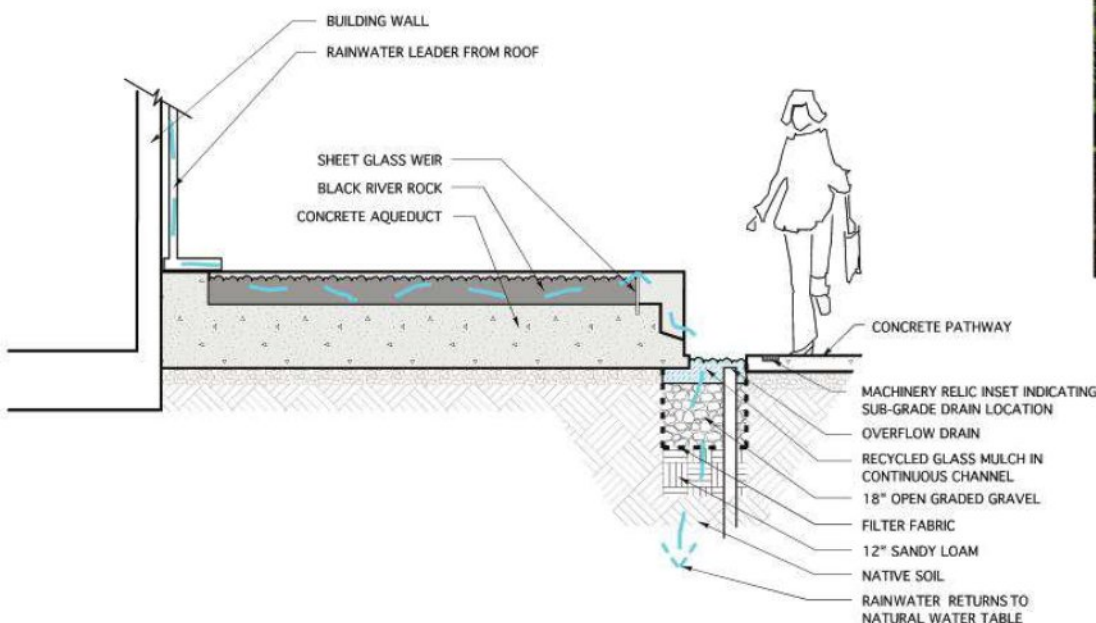
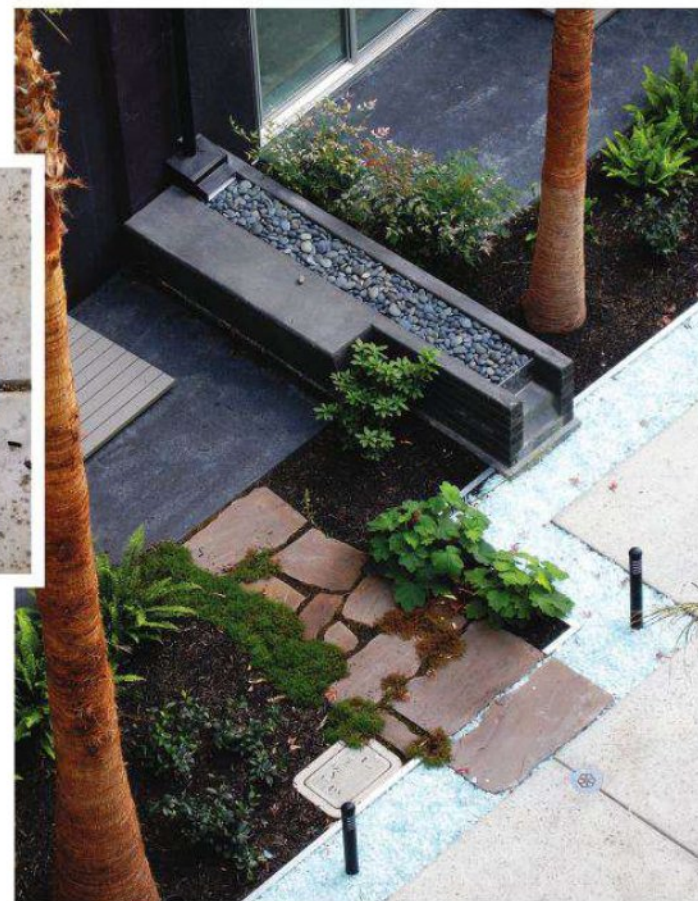
Courtesy Miller Company
Landscape Architects

FAR RIGHT

Concrete runnels that whisk away rainwater from downspouts also serve as benches near residents' doors.

INSET

Small gears from the old factory, embedded into the paving, add visual interest.



**LIGHTED GLASS PATHS
OFFER DRAINAGE,
AND CONCRETE
RUNNELS SERVE
AS SEATS.**

ABOVE

A cross section of the stormwater system illustrates how water moves into a bed of recycled glass, where it slowly percolates into the water table.

IMAGE CREDITS

Courtesy Miller Company
Landscape Architects

← Tiny cast-iron gears were embedded in concrete walkways, and massive ones, six to eight feet in diameter, were arranged like sculptures at the courtyard's western entrance. "I wanted to recall the history of the neighborhood," says Miller, "not just tear it down and throw it away."

Each of the courtyards has a different quality, though they share some stylistic attributes. "We wanted each to have its own sense," says Miller, of his approach, "yet there is a recall from place to place."

The so-called living room courtyard expands on the domestic idea introduced in the entry courtyard. In the

center of the space, residents can often be found reading or socializing on a pair of U-shaped concrete banquettes that bring to mind the ample modular sofas you would find in a home. There are low-lying tables and a "carpet," small stone tiles that break from the paving, further detailing the homey space. "These kinds of elements are really important in terms of neighbor-to-neighbor activity," says Miller.

Named after the owner of the former cannery, the Low Hing courtyard is a more contemplative space. Miller used an elevated redwood boardwalk to create the feeling of "floating" above

the sunken garden. Standing limestone elements recall Chinese path markers.

The fourth courtyard, the grove, is flanked on one side by the loading dock of the original cannery and new buildings on the other side. Instead of a concrete or asphalt walkway, Miller created a pebble pathway using California gold ginger rock, an atypical choice for a development. "I wanted this to feel more like a walk in a tropical garden rather than a walk on another sidewalk," Miller says.

Along the old loading dock, planters of corrugated steel containing Alphonse Karr bamboo (*Bambusa multiplex* 'Alphonse Karr') act as living screens between units. Here the mood is more backyardlike, with residents being able to pick the Meyer lemon



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VARIOUS OVERTURES DOMESTICATE THE COURTYARDS AND BRING NEIGHBORS TOGETHER.

trees (*Citrus meyeri*) and huckleberry bushes (*Vaccinium ovatum*) included in the edible garden.

One of the ways Miller united the spaces was through the repeated use of palms, especially Washington fan palms (*Washingtonia robusta*) and queen palms (*Syagrus romanzoffianum*). He chose palms for their aesthetic as well as their “scaling and veiling” abilities in the courtyards.

“A lot of them grow well in constricted spaces, without having a big root ball that can interfere with underground utilities,” he says. “Especially in the upper units, we wanted to get the impact of a tall tree that would give residents a bit of

a veil as they look across the courtyard from one unit to another.”

In the future, Pacific Cannery Lofts will connect to a new residential complex called Zephyr Gate through a paseo, a landscaped passageway typically found in Spanish colonial architecture, which Miller has designed. Miller’s also responsible for two pocket parks to the north, one of which has canopies originally from the Central Station and benches.

For Miller, making connections is what he finds so appealing about landscape architecture. “This profession offers tremendous opportunities to tie communities together,” says Miller, who came to landscape archi-

LEFT

The so-called living room courtyard boasts concrete banquettes and low tables that encourage interaction.

BELOW

In the Lew Hing garden, where a wooden walkway floats above a sunken garden, palms provide privacy for upper floors.

IMAGE CREDITS

Courtesy Miller Company Landscape Architects



itecture after studying sociology. “If we could design community in a way that was made for better relationships for people,” he says, “it would be a huge step toward a saner planet.” ●

JOANNE FURIO IS A BAY AREA WRITER WHO LIVES WITHIN MINUTES OF THIS WEST OAKLAND NEIGHBORHOOD.

Project Credits

CLIENT HOLLIDAY DEVELOPMENT, EMERYVILLE, CALIFORNIA. **LANDSCAPE ARCHITECT** MILLER COMPANY LANDSCAPE ARCHITECTS, SAN FRANCISCO. **ARCHITECT** DAVID BAKER + PARTNERS, SAN FRANCISCO. **CIVIL ENGINEER** SANDIS, OAKLAND, CALIFORNIA. **STRUCTURAL ENGINEER** TIPPING MAR + ASSOCIATES, BERKELEY, CALIFORNIA. **LIGHTING DESIGNER** XANDERS DESIGN GROUP, BERKELEY, CALIFORNIA. **GENERAL CONTRACTOR** CANNON CONSTRUCTORS, SAN FRANCISCO. **LANDSCAPE CONTRACTOR** MILLER COMPANY LANDSCAPE CONTRACTORS, SAN FRANCISCO.

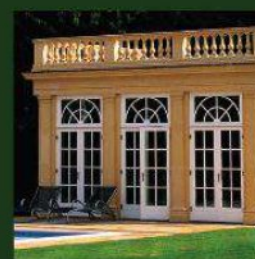
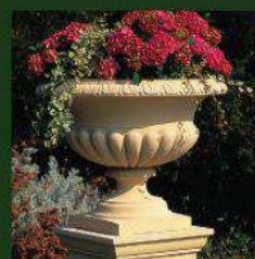
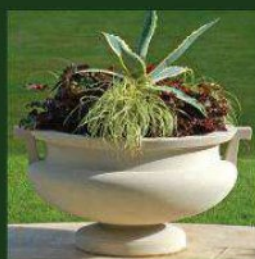
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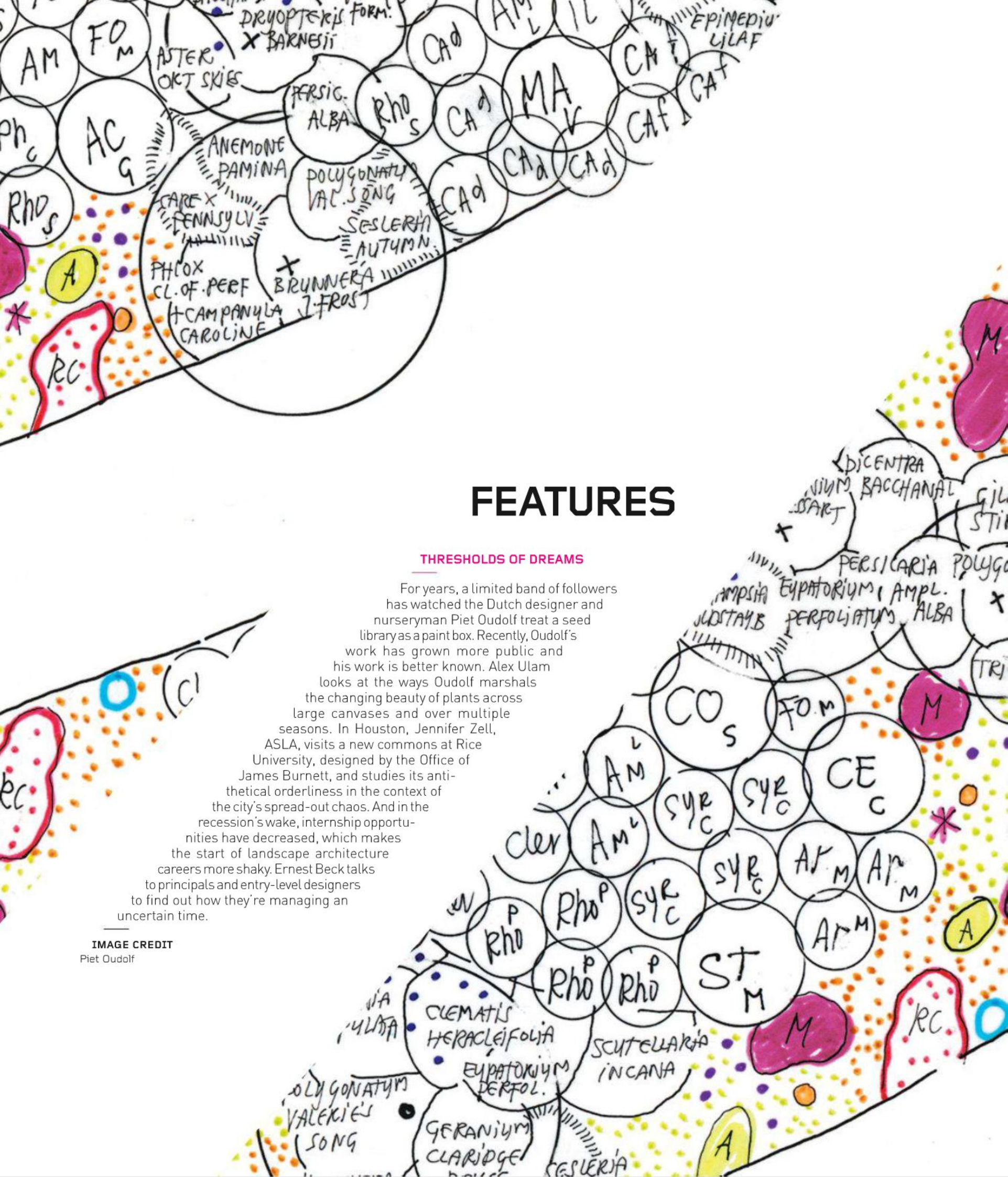
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FEATURES

THRESHOLDS OF DREAMS

For years, a limited band of followers has watched the Dutch designer and nurseryman Piet Oudolf treat a seed library as a paint box. Recently, Oudolf's work has grown more public and his work is better known. Alex Ulam looks at the ways Oudolf marshals the changing beauty of plants across large canvases and over multiple seasons. In Houston, Jennifer Zell, ASLA, visits a new commons at Rice University, designed by the Office of James Burnett, and studies its anti-theoretical orderliness in the context of the city's spread-out chaos. And in the recession's wake, internship opportunities have decreased, which makes the start of landscape architecture careers more shaky. Ernest Beck talks to principals and entry-level designers to find out how they're managing an uncertain time.

IMAGE CREDIT
Piet Oudolf