IDEAS

2012

IDEAS

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landscape as catalyst

praxis

coastal resiliency

water + wetland infrastructure

making agriculture work

safety + health

The world's population just reached 7 billion people and is projected to reach 8 billion within the next 14 years. Our resources and planet can only sustain this many people if we address the challenges inherent in this population increase: understanding how to use resources sustainably, how to organize ourselves and our cities, and how to reduce our footprint through innovative design practices. Our development, our designs, and our planet are looking for new ideas.

Landscape architecture serves as the underpinning infrastructure that allows our complex environmental, social, and economic ecosystem fabrics work together. The work of a landscape architect touches on disciplines, themes, and ideas so broad we challenge you to find an article in a newspaper that is not related to a land-based issue. Property, real estate, development, economics, density, migration, urban morphology? These are space-based land issues. Transportation, pedestrian walkability, bicycle lanes, public funding, city planning and policy? These are transportation and policy issues related directly to the use of the land. Landscape architects integrate ecology, hydrology, and environmental sustainability through initiatives that advocate greater land stewardship and responsibility in design and development.

Today, more than 70% of the US population and most of the world's cities are at (or near) a coast or along rivers. Looking at our geography and use of space—keeping in mind the pressing issues of sea level rise, hydrological considerations, limited resources, and an increasing strain on century-old city systems that are expected to perform for doubling and tripling populations—means that solving these complex issues related to land use and planning will require leadership in landscape architecture projects and ideas.

The good news is that the prowess and reach of landscape architecture as a profession is expanding. In the United States alone, there are currently 30,000 landscape architects in a country with over 370 million people. That's one landscape architect for every 12,500 people; or, put another way, that's only four trained landscape architects for every city of 50,000 people. Fortunately, the numbers continue to grow: the enrollment of landscape architects in graduate programs is rising, with university applications increasing by as much as 20% in the US, and a further twenty programs seeking accreditation. In 2009, US News and World Report ranked Landscape Architect as one of the top emerging professions. By multiple measures, we are seeing a need for increased leadership and an expanded role for landscape architecture from both internal and external factors.

Inside each of our offices, we are growing and building upon the needs of the practice, the call for leadership, and the ideas explored within our evolving universities. In this journal, IDEAS, we set out to examine the theories and inspirations behind our projects—the analysis, careful planning, and iterative thinking that goes into developing some of the complex, powerful constructions within the built environment. Behind each original piece are people, teams, and a set of carefully crafted and developed ideas. In this body of work we share essays, thoughts, processes, and designs to give a richer perspective on the projects we on work so closely. In each, we continue to elucidate the nuances of what landscape architecture is and what it can do.

IDEAS seeks to push the boundaries of what we call landscape architecture, urbanism, and the range of work that we do. As Gerdo Aquino, current President of SWA mentions in his essay, "The Re-Representation of Urbanism," our work explores both how we talk about what we do and the necessity to continue to build great work. Rene Bihan leads a call-to-arms in his provocative essay, "Nature is Dead: Long Live Design," reminding designers and city dwellers that landscape is not happenstance: it is formed and shaped; it is a creation that we are proud to be a part of. It is through idea generation, innovation, and putting these ideas into the ground by building places around the world that we continue to demonstrate leadership in landscape architecture. And Kevin Shanley, current CEO, tells the story of the Mississippi landscape's flooding river network as a design problem that stems from a narrow planning view: we need to step back and understand the hydrologic and ecologic systems underpinning our civilizations, and work with them—not against them.

Landscape architects are drivers of change; this catalysis happens through the work we do in planning, urban design, with architects, and on the boards. In this compilation, we share our built work—what's happening in our cities and landscapes today. We feature unbuilt work, fellowships, and theories behind our work—the strategies and visions for what our cities can be. These are the possibilities. This is our imagination, on paper. We are living in a time when more people are living in cities than ever before in human history and the population increase and shifting demographics are driving landscape architecture to take a leadership role in the stewardship of the built environment. Our designs and evolution as a firm reflect our embodiment of these shifting ideas and our unwavering commitment to excellence, creativity, and innovation. Welcome to our ideas.

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Cover Photgraphy by Tom Fox
"Giant Interactive Group Headquarters"
Shanghai, China

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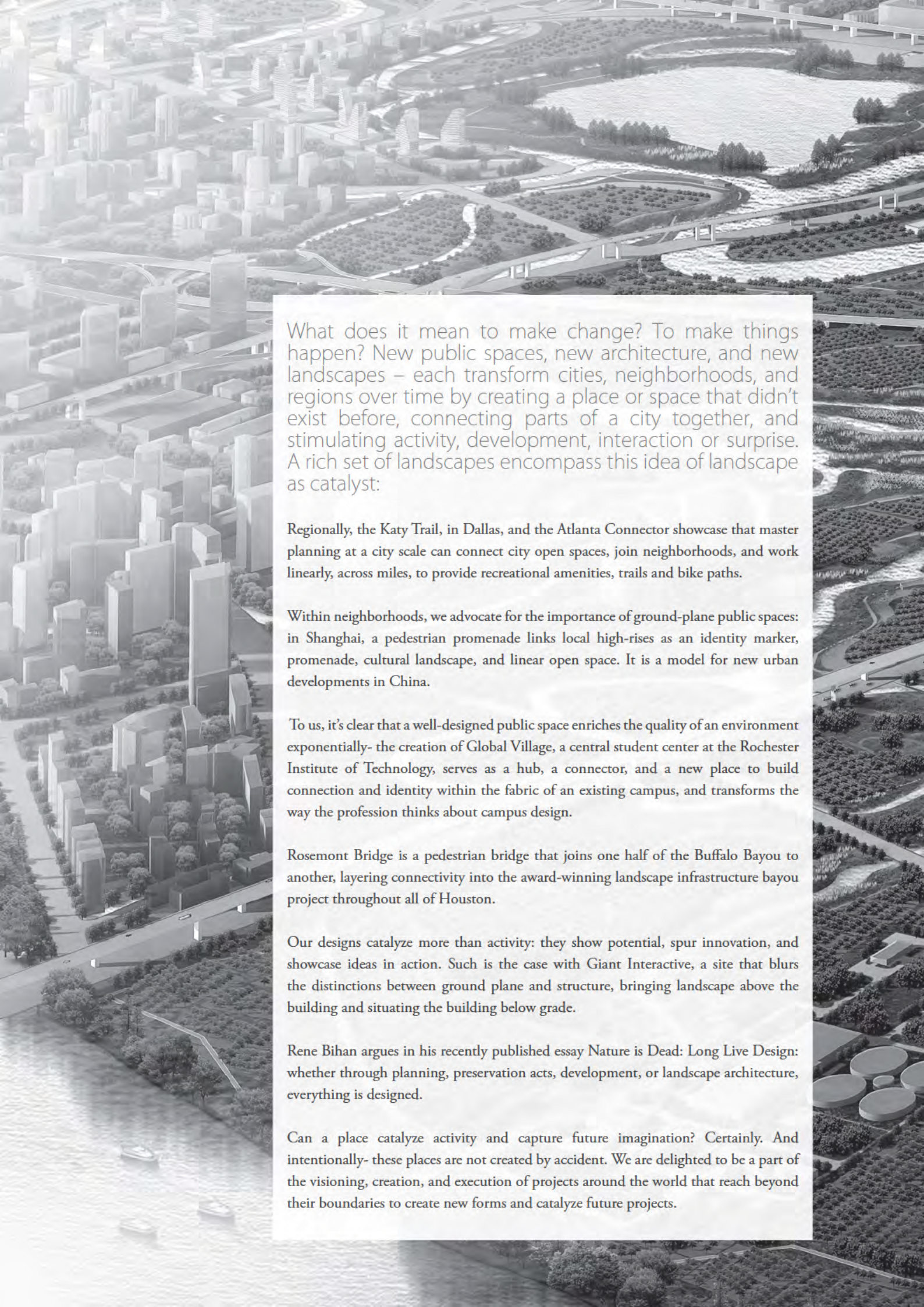


What does it mean to make change? To make things happen? New public spaces, new architecture, and new landscapes – each transform cities, neighborhoods, and regions over time by creating a place or space that didn't exist before, connecting parts of a city together, and stimulating activity, development, interaction or surprise. A rich set of landscapes encompass this idea of landscape as catalyst:

Regionally, the Katy Trail, in Dallas, and the Atlanta Connector showcase that master planning at a city scale can connect city open spaces, join neighborhoods, and work linearly, across miles, to provide recreational amenities, trails and bike paths.

Within neighborhoods, we advocate for the importance of ground-plane public spaces: in Shanghai, a pedestrian promenade links local high-rises as an identity marker, promenade, cultural landscape, and linear open space. It is a model for new urban developments in China.

To us, it's clear that a well-designed public space enriches the quality of an environment exponentially- the creation of Global Village, a central student center at the Rochester Institute of Technology, serves as a hub, a connector, and a new place to build connection and identity within the fabric of an existing campus, and transforms the way the profession thinks about campus design.

Rosemont Bridge is a pedestrian bridge that joins one half of the Buffalo Bayou to another, layering connectivity into the award-winning landscape infrastructure bayou project throughout all of Houston.

Our designs catalyze more than activity: they show potential, spur innovation, and showcase ideas in action. Such is the case with Giant Interactive, a site that blurs the distinctions between ground plane and structure, bringing landscape above the building and situating the building below grade.

Rene Bihan argues in his recently published essay Nature is Dead: Long Live Design: whether through planning, preservation acts, development, or landscape architecture, everything is designed.

Can a place catalyze activity and capture future imagination? Certainly. And intentionally- these places are not created by accident. We are delighted to be a part of the visioning, creation, and execution of projects around the world that reach beyond their boundaries to create new forms and catalyze future projects.

LANDSCAPE AS CATALYST

Projects that promote change

An abandoned rail bed that once divided the core of urban Dallas has been transformed into a 4.5-mile ribbon of restoration, plantings, multi-use trails, and pedestrian plazas altering a derelict and dangerous environment into a vibrant recreational amenity. The trail has increased parkland in the city of Dallas by 30 acres and has connected 125 acres of parks that once stood disconnected. Envisioned as a pedestrian and bicycle connector that will ultimately link White Rock Lake 9-miles east of downtown and west to the banks of the Trinity River, the Katy Trail has evolved into an urban oasis that attracts thousands of users per day and has lead to both a surge in property values and a real estate marketing campaign centered around it serving as a prime community amenity.

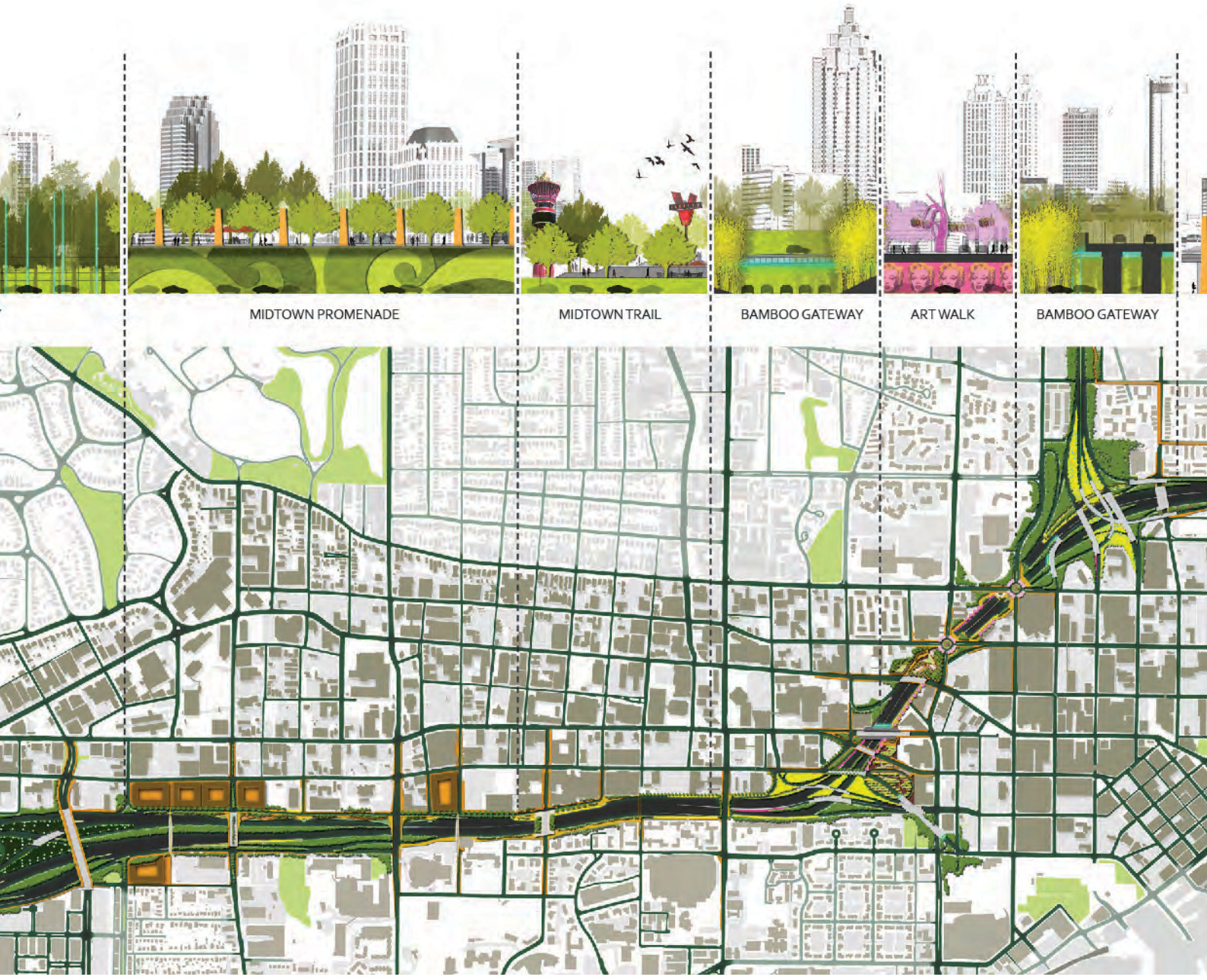
Katy Trail / Dallas Texas
Owner/Client: City of Dallas, Friends of the Katy Trail
SWA Office: Dallas
SWA Project Team: Chuck McDaniel, David Bickel, Shawn Luther, Brent Longwell, Ying Dong, Shuyi Chang,Todd Strawn, Rob Rider, Tom Fox (photography)
Consultants: Brockette Davis and Drake – Structural Engineers
Scope of work: Master planning, Public outreach and participation, Landscape architectural services
Project size: 4.5 miles inter-city bicycle and pedestrian trail, to date $23,000,000.00 of improvements have been made
Design/Construction 1999 - 2010

A CITY CONNECTED

renovated public infrastructure and open space at Katy Trail

LEVERAGING EXISTING CORRIDORS

the Atlanta connector



Lands associated with single use infrastructures have become more valuable and important to the Cities they connect. Systems designed with a single purpose in mind are now envisioned as mixed use lands. Freeways hold urban park systems; medians contain forests that sell carbon credits.

The freeway is an integral part of the open space of the American city, forming a series of infrastructural systems that affect the dynamics and spatial characteristics of the region's natural and cultural landscapes.

Framing the Atlanta Connector in this way allows the Connector to be affected by the City, and the fabric of the City to learn from the Connector. We see the transformation of the Connector as a catalyst that will change the perception of the freeway, and in return the urban character of adjacent properties, neighborhoods, and the City as a whole.

The Client-stated goal of the Atlanta Connector Transformation Project is to generate beautification and urban design strategies that will create a new front door for the City of Atlanta, and energize the margins of this neglected corridor.

Atlanta Connector / Atlanta, GA

Client: Midtown Alliance & Central Atlanta Progress

SWA Office: Houston

SWA Project Team: Kinder Baumgardner, Jessica Bacorn, Natalia Beard, Jessica Carvajal, Jenny Janis, Jiyoung Nam

Additional Consultants: Ian Cion, Art Consultant; Urban Collage, Site Analysis, Public Engagement

Scope of work: Creation of a vision plan and urban design guidelines for a 5 mile urban freeway through downtown Atlanta.

Project size: 5 mile freeway corridor

June – November 2011

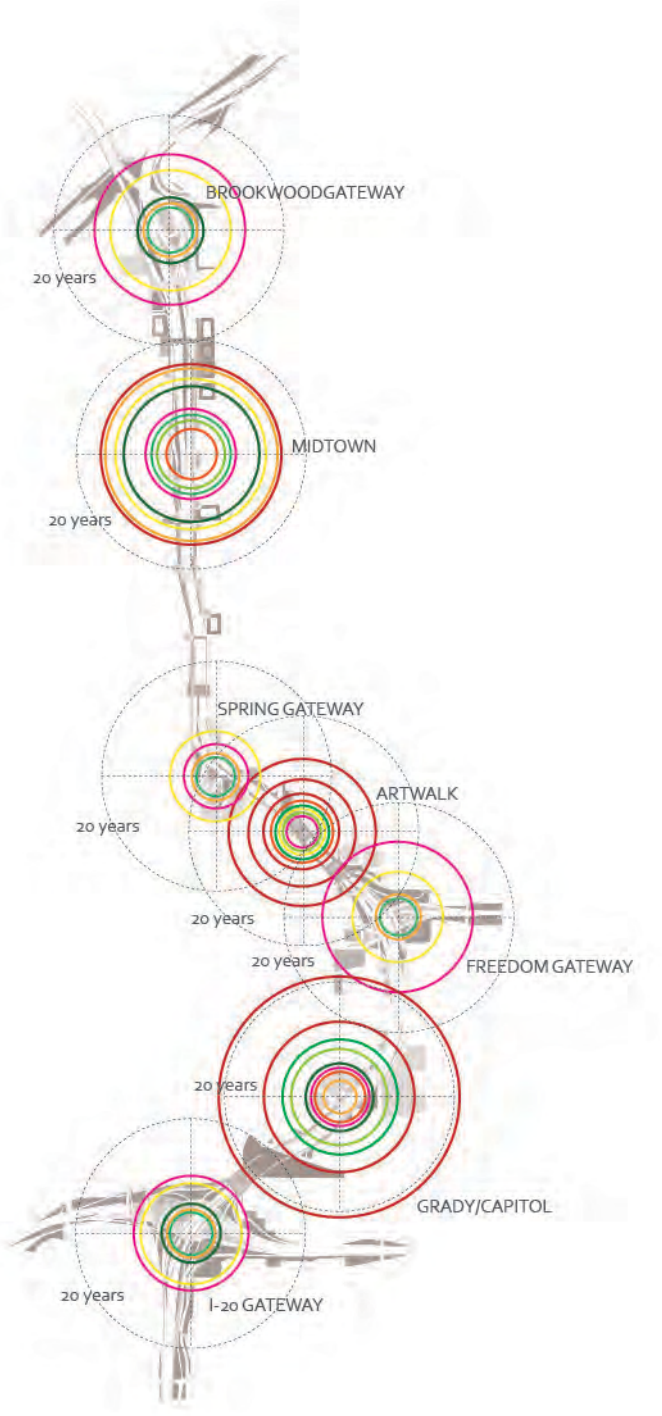
Problem

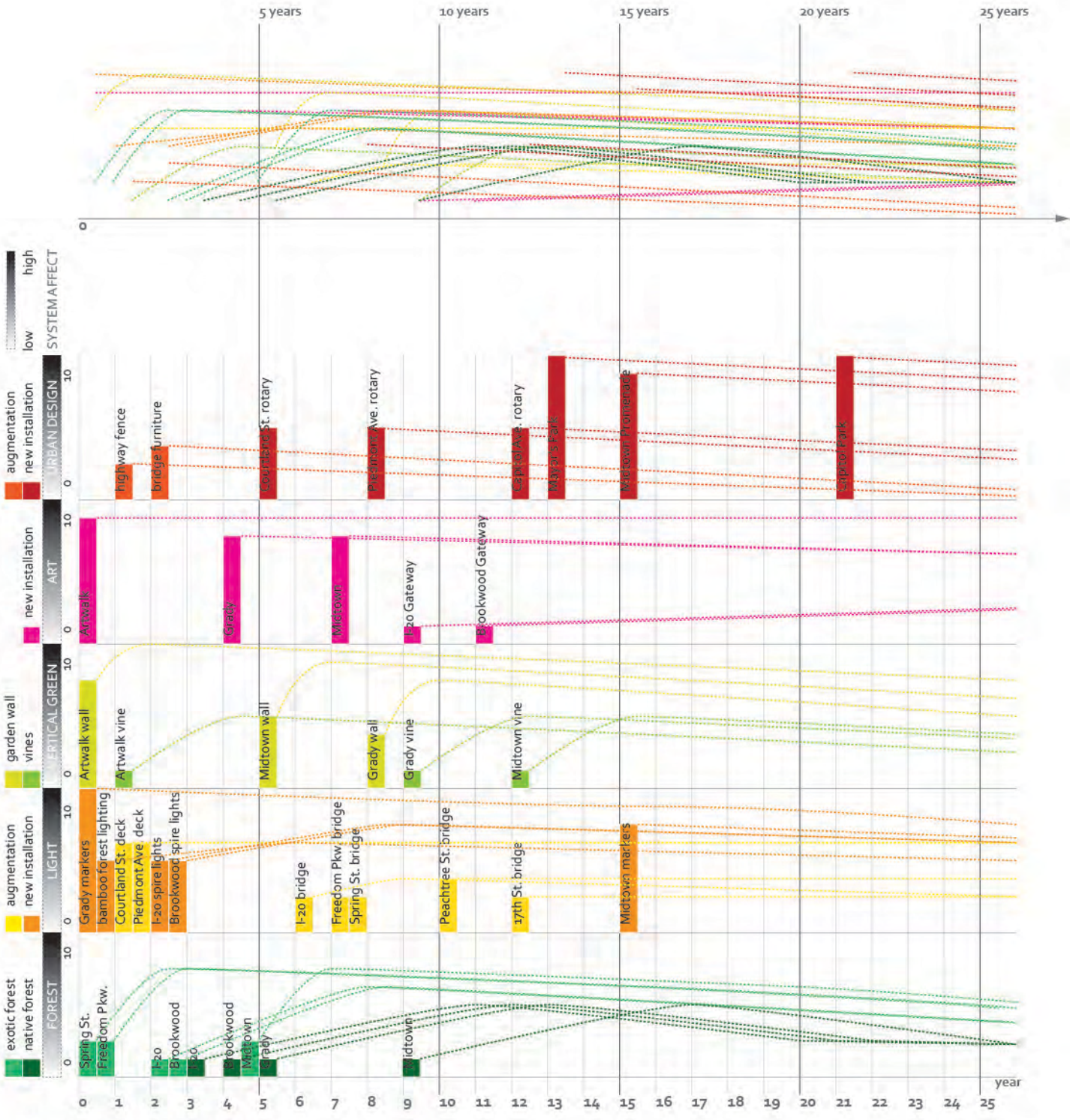
In its current state, the Connector creates a decidedly negative environment for the City of Atlanta, damaging both the visitor's opinion of the City and its urban fabric. This in turn affects connectivity, transit ridership, tourism, and ultimately tax revenues and jobs in the urban core. As the Connector was built and rebuilt over the last 60 years it has slowly taken on a character that is divorced from the aspirations of the City of Atlanta. The well-tended streetscapes, parks, and urban fabric of Downtown and Midtown Atlanta is absent from the visual fabric of the Connector. The academic institutions that line the Connector (Georgia Tech, Georgia State, Emory, and SCAD) have turned their backs on what could be Atlanta's front door. A "DMZ"-like zone of parking garages, vacant lands, and service drives has sprung up between the Connector and the City it was intended to service.

Strategy

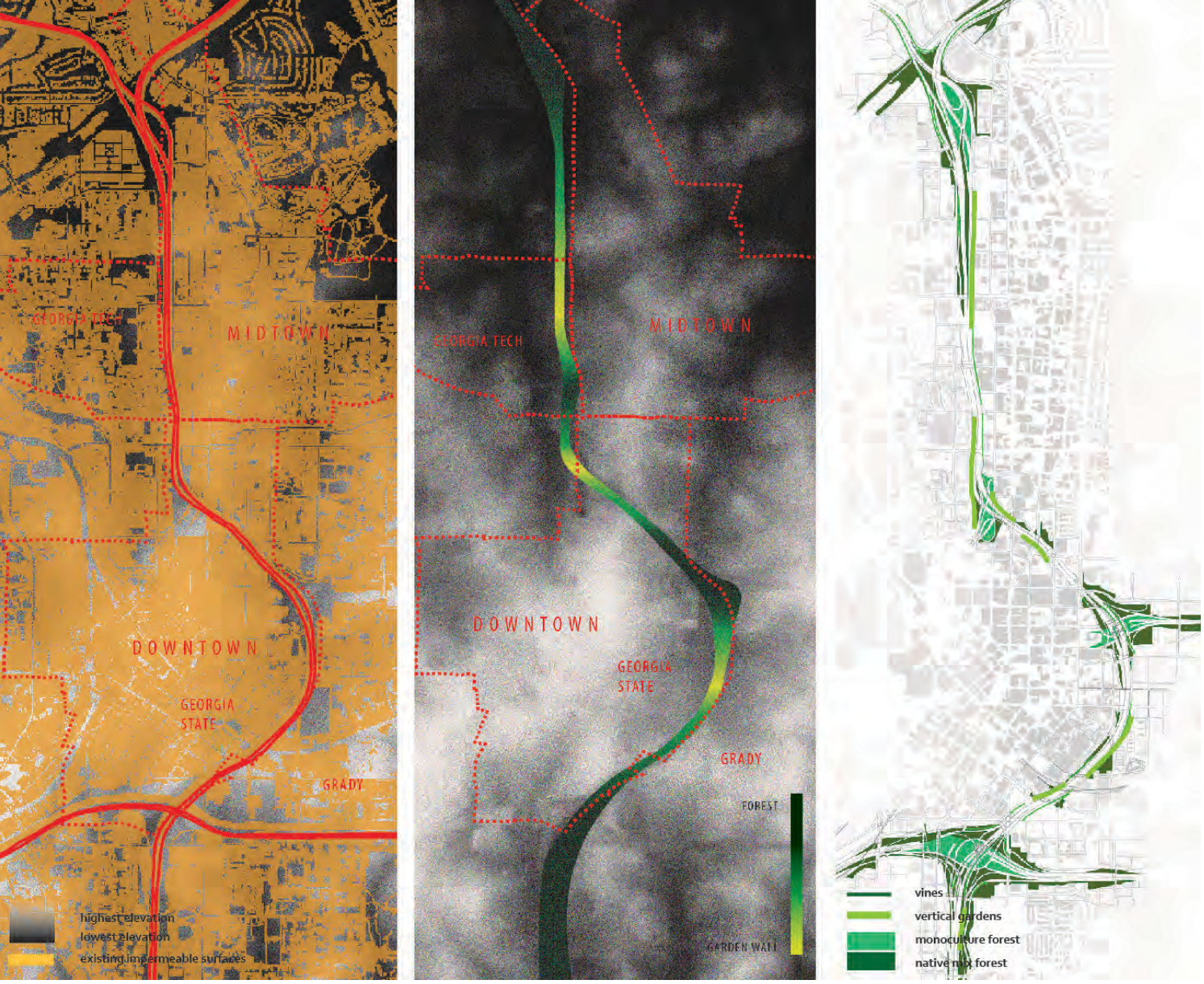
The core strategy employed in the transformation of the Atlanta Connector is re-envisioning the freeway as a bold stroke of landscape infrastructure that creates a simple framework derived from movement, views, and connectivity with the urban community adjacent to and beyond the Connector. The project begins with the simple statement that the Connector will remain the City's most significant and visible infrastructural corridor for the foreseeable future, and as such any transformation must embrace the Connector as an integral part of the City of Atlanta. The project does not seek to make the Connector disappear; instead, it uses the Connector as a transformative piece of the City's open space network.

This transformation strategy uses a melding of art, landscape, engineering and urban design to create layers of interest to the fabric of the Connector, affecting how the city is perceived and ultimately how it functions. The transformation of the Atlanta Connector will recalibrate the national conversation on the role of infrastructure in our cities and towns, putting Atlanta on the forefront of urban design issues centered on redefining infrastructure as public space.





The phasing strategy puts an emphasis on early wins to produce civic interest in the implementation of the project. Each phase will generate maximum incremental impact from each previous intervention.



Greening System Diagrams

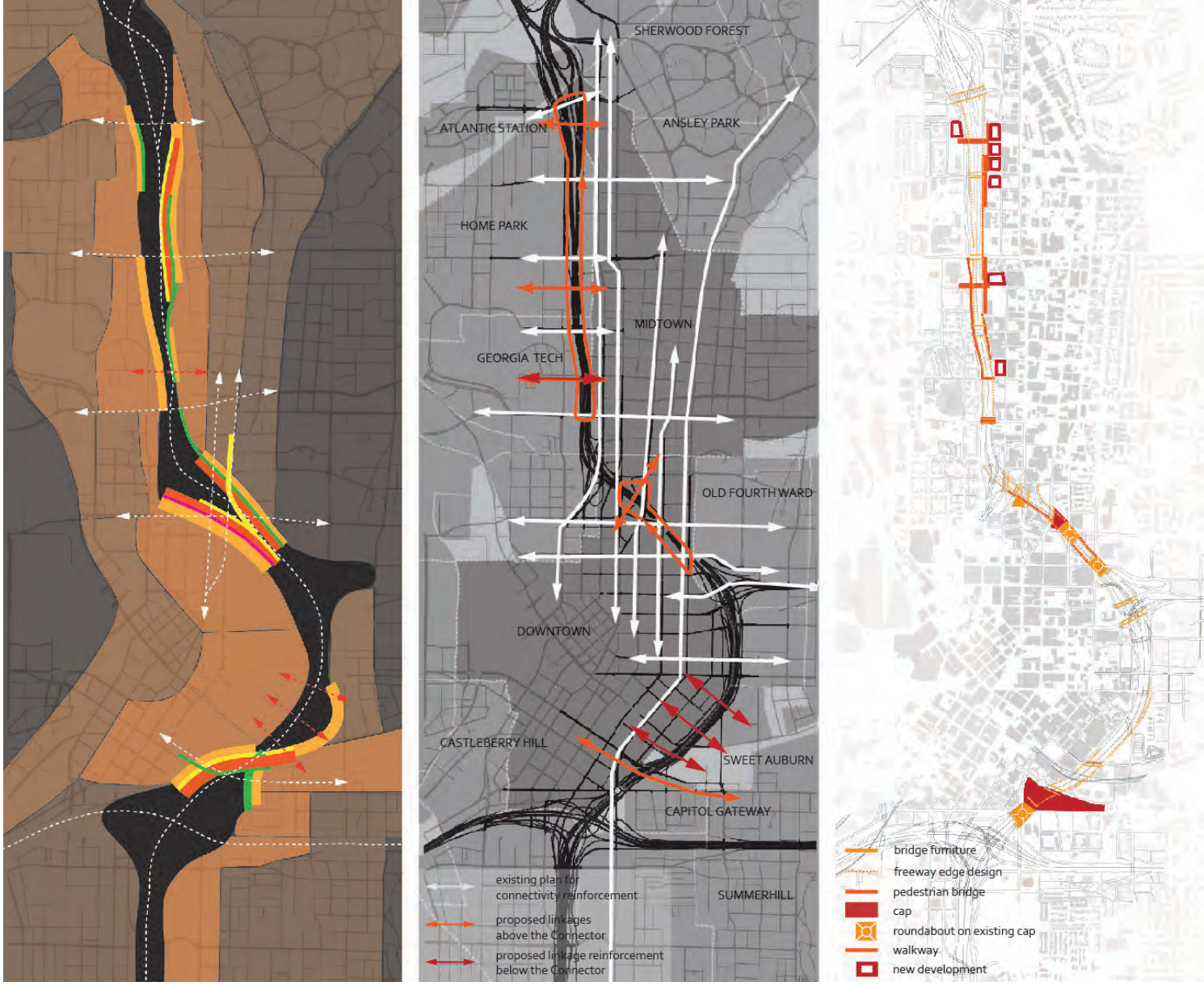
Greening of the Connector is the primary vehicle for integrating the infrastructural corridor and the urban zones it traverses. Urban Forest Gateways celebrate arrival into Downtown Atlanta, they are crafted from native forest, exotic species, and light installations. Vertical greening softens the impact of the concrete trench environment by introducing continuous planting along the Connector walls.

Vision

The vision is that of a freeway moving through a green and lush landscape punctuated by art and urban incursions. The Connector is embraced and cared for as an integral part of Atlanta's open space system and people move freely along and across it. Dramatic gateways crafted from the landscape announce arrival into the City and serve as a marker of a special place along a traveler's journey. Lighting is used to extend the effects of the transformation, creating a shift in attitude from day to night. The complete composition becomes a stately museum space full of wonder and opportunity, serving as a showcase of Atlanta's unique place in the world.

Result

The end result of the transformed Connector will be an Atlanta that is outwardly welcoming to freeway users; the City will see increased walkability, access to transit, and stronger neighborhoods; visitors will learn something new about the City, its aspirations, and its place in the world. The economic incentives behind this project include an increased tax base as properties along the Connector are repurposed or developed as vibrant mixed-use districts, which in turn will promote urban living and an influx of creative class residents from around the greater Atlanta region.



Urban Design System Diagrams

To improve its perception, the Connector must work at a variety of scales and enhance human connectivity. Promenades, urban trails, art walks, pedestrian bridges, parks, and development parcels will cause a ripple effect spanning the length of the Connector, making it an integral part of the city fabric.

Strategies

The core strategies that will be employed along the length of the Connector involve greening, light, art, and ultimately, urban design interventions that will act as a catalyst for infill projects nearby. These strategies are used to modulate and recalibrate the existing infrastructural surfaces of the freeway in a manner that adds depth and meaning to the Connector experience, and by default, the visual (and ultimately physical) experience of the City.

Greening strategies form the foundation of the transformation. The permeable spaces along the Connector's margins and within its immense interchanges will hold a vibrant, robust, and legible urban forest canopy. Urban forests will be crafted to create gateways at the north and south entries into Atlanta's urban core. These forests follow threads of unused open space into the heart of the City, enhancing views, hiding vacant properties, and forming a medium through which the City is viewed. Where as space or safety considerations limit the inclusion of forests, vertical greening strategies will be employed to continue the thematic greening of the Connector and the City. While these greening strategies will have nascent effect on regional sustainability and clean air initiatives, they are not seen as offsetting the intensely negative effects of the 300,000 vehicles per day that use the Connector. At best they will be a window into the regional appreciation of sustainable design practices and a point of departure for

The freeway becomes a pioneering museum environment that showcases Atlanta's unique place in the world. Super graphic art, street art, nature inspired installations, and super slow-motion video projection are all being studied for inclusion along the margins of the Connector.

(mural in the Downtown stretch of the Connector based on a painting by Kehinde Wiley)

reducing and discussing the effect of heat island, storm water, and air quality on the City.

Inserted into the verdant green fabric of the Connector are art and lighting elements purposely crafted to interact with and activate the surfaces of the Connector. The art of the Connector will transcend traditional labels with all elements – greening, lighting and art – working together to create the Atlanta Museum of Freeway Art (MOFA), a first-order art tourism destination whose mission is to transform the Atlanta Connector and the national appreciation of art and freeway. The museum is created by co-opting the complex spatial character of the Connector as a museum space crafted with both the high-speed traveler and the neighborhood viewer in mind. Retaining walls, bridges, tunnels, and the furnishings of the Connector will become a framework of museum walls and spaces. Super graphic murals, lighting effects, slow motion video, and sculpture will be used to highlight the natural and cultural history of Atlanta. Like its sister museums and cultural foundations in Atlanta, MOFA will have a permanent collection, rotating collections, membership, a board of directors, a national level curator, and a museum shop. By refocusing the conversation about the Connector from that of a freeway to that of a museum space, a much richer, intensive and transformative design solution can be achieved.

As the Connector is transformed from negative to positive, the public realm, private properties, and institutions along its margins will realize the positive attributes of the new culture growing within this new found public space. The result will be the creation of new urban spaces above and along the Connector that seek to take advantage of the new infrastructure. Urban parks, promenades, trails, pedestrian bridges, and development projects are envisioned as urban insertions that will ripple through the City fabric as new connections are made and old ones are reinvigorated.

skin-deep: transformative power of a non-performative landscape

redefining beautification for the Atlanta Connector

Natalia Beard & Michael Robinson

The success of integrating the restrictive Atlanta Connector site into the city's public realm relies on surface-based modifications that extend experiential qualities of the Connector into the city. Through cultural and ecological imaging, the strategy of a "thickened surface" catalyzes the connections of the freeway to surrounding neighborhoods, art initiatives, and native forest ecosystems.

The go-to reflex when modifying our dysfunctional urban environments is to green-by-default. Greening softens harsh edges and, more fundamentally, is endowed with the power to offset carbon "footprints" and mitigate the negative side effects of a consumption-based economy. And it would seem the prettier and greener idea of a highway is a reasonably non-controversial start to a conversation about transforming the 5-mile stretch of the prominent Atlanta Connector. Two-thirds of the Connector's daily users merely pass through the city on their way to somewhere else, and a green highway would project an environmentally and culturally sound image of Atlanta to the world. However, interrogating the ambient benefits of greening as the only carrier of the transformation, in this instance, reveals broader opportunities at hand.

While greening can have many different forms of performance, including producing habitat, mitigating heat islands, filtering rain water and sequestering carbon, one can employ quantitative methods for determining if the functional performance of "green" is of any significant value.

According to our calculations, 13,651,000 trees are needed to carbon-offset the 5-mile project stretch of the Atlanta Connector, a figure that represents 1.65 times the area of the entire city of Atlanta.

It would be naïve to think that planting the relatively few trees on the available land within the project area will do anything appreciable to offset the amount of CO2 produced by the stretch of the freeway. This would be much better handled by policy or technology changes. However, some greening is still beneficial, but for other reasons. In her essay "Sustainable Large Parks: Ecological Design

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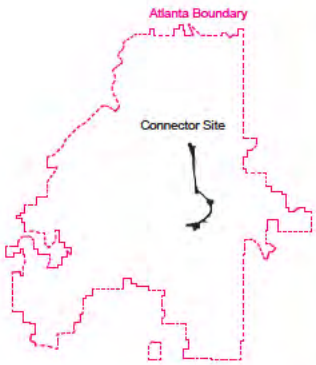

The number of trees needed to carbon-offset the 5-mile Connector 13,651,000

1 medium-sized car produces 1.1 pounds of CO2 per mile
1 tree sequesters 50 pounds of carbon per year[1]
The 5-mile corridor has 340,000 cars a day.
340,000 cars/day X 5 miles/car = 1,700,000 miles/day
1,700,000 miles/day X 365 days/year = 620,500,000 miles/year
620,500,000 miles/year X 1.1 pound CO2/mile =
682,550,000 pounds CO2/year
682,550,000 pounds CO2/year / 50 pounds CO2/year/tree =
13,651,000 trees

In 26 years Trees Atlanta has planted 1.28% of the trees required to offset the 5-mile Connector[2]

Trees Atlanta has planted and distributed more than 75,000 trees since its inception in 1985 and cared for more than 100,000[3]
13,651,000 trees / 175,000 trees = .0128

It would take 1.65 Atlantas planted with trees to offset the 5-mile Connector

We'll use 2.21 metric tons CO2/acre/year for trees (mix of deciduous and coniferous). That means that 1 acre of trees will sequester 2.21 metric tons per year.
682,550,000 pounds CO2/year = 309,599 metric tons CO2/year
309,599 metric tons CO2 / 2.21 metric tons CO2/acre =
140,090 acres of trees to offset the 5-mile corridor.
Atlanta has a total area of 132.4 square miles
132.4 square miles = 84,736 acres
140,090 acres / 84,736 acres = 1.65

or Designer Ecology?", Nina-Marie Lister differentiates between the modalities of functional ecology and greening that ultimately ends up signifying ecological systems.

"Although ecological considerations do play into the design (and its contingent planning and management activities) in smaller parks, I suggest that this is designer ecology—an ecology that is vital, indeed essential, for educational, aesthetic, spiritual, and other reasons. Yet this is largely a symbolic gesture provided by such parks' designers to recall or represent nature in some capacity. Designer ecology, while valid and desirable in urban contexts for many reasons, is not operational ecology; it does not program, facilitate, or ultimately permit the emergence and evolution of self-organizing, resilient ecological systems—a basic requirement for long-term sustainability."4

There is simply not enough area along the stretch of the Connector to produce emergent, functional, and linked ecologies, but the production of pocket parks as well as forest fragments will ultimately serve to introduce aesthetic and programmatic components that will infiltrate urban adjacencies.

The restrictive site of the Connector raises the question of design intent and legibility. The physical site with which a designer has to work exists somewhere along a continuum from completely undifferentiated (the "tabula rasa") to highly complex. When given a tabula rasa condition, the designer has the opportunity to produce a highly formal design that is immediately recognizable as being the work of the designer; i.e., a manifestation of their particular "style". The site-as-blank-slate also offers the opportunity to optimize various systems that will occupy the site. In his essay "Infrastructural Urbanism", Stan Allen claims that "in the desert, the highway runs straight"5. This means that engineered systems do not deviate from a normative condition (nominally straight) without a reason. This also suggests that providing enough right-of-way for a multi-modal street (including light rail and bike lanes,

for example) is much easier on a blank site as opposed to retrofitting these linear systems into existing networks later. The Connector, representing the opposite extreme of the tabula rasa, is highly articulated and developed with little opportunity for major structural or functional changes at the large scale, thus any organizational changes would require great cost and structural gymnastics. Outside of the scope and budget of the project a broader approach to reintegrating the Connector site into the urban fabric of Atlanta would mean re-routing the freeway around the city, removing the hardened surface, or capping it completely and opening up a new expansive linear green space. These projects certainly exist in contemporary landscape discourse, such as the Downsview Park competition on the site of a former airport, or the Hollywood Central Park that would cap the Hollywood Freeway in Los Angeles. With these projects the focus becomes integrating a void into its surrounding context, articulating and controlling the edge conditions, while simultaneously infusing and entangling cultural programs with ecological restoration. However, while speculating about what one can do given a different budget and scope, one must confront the reality of the constraints given within the project, and ultimately frame it in a productive way.

The immediate reaction, then, might be one of beautification, but the project seeks to find a deeper level of organizational response that will ultimately catalyze the adjacent neighborhoods and turn the freeway itself into an amenity: a public space experienced in motion.

The qualities that can inform the character of this new public space are already embedded in the formal expression of the Connector. A perpetually lighted and activated continuous "room" that modulates views of the city by elevating or depressing the road plane is a potential backdrop for a narrative unfolding. The monotonous concrete casing of the walls and overpasses are a receptive surface for projecting instances of that narrative.

In her book "Kissing Architecture," Sylvia Lavin conceptualizes the role of aesthetic experience of the surface in creating the state of multiplicity as the main sensation of contemporary urbanity. The state of multiplicity or interestedness, supported by a functional public realm, is greatly enhanced by entanglements of the exterior architectural surface with confounding mediums, or "kissing", as Lavin calls it.

"Architecture's new confounds are not just making buildings visible but are encouraging them to make perception enter the realm of experience rather than vision, to make images that produce material impressions, to make experience that is vivid."6

The viewer must see the material of the building surface and the images simultaneously, face and facade are superimposed but desynchronized, confounding the viewer's perceptual capacity to distinguish between the material and representational strata of the facade, legibility gives way to the experience of perception itself, just as meaning as primary value converts into the production of new urban affects."7

If the surface operations can be the vehicle for achieving urban affects and the state of multiplicity, the Connector has a potential to engage the disinterested commuter on an unprecedented scale. The raw walls of the trench are the perfect site for engaging, unearthing, and projecting meanings in the application of colorfulness, luminescence, pattern, as well as through material invasiveness. As a departure from the primacy of greening, the transformative power should be granted to the artistic practices and the power of the images. In that context, even greening is treated as a surface medium that legibly expresses its alien origins in the context of the freeway- "the obscene green".

It only makes sense that at the scale of the Connector, the confounding mediums want to expand beyond the individual sites to become a new programmatic entity, The Connector Museum of Art. Comprehensive and strategic integration of art, nature, and urban infrastructure under the patronage of the new museum radically expands the notion of surface application. Regardless of the medium, each generated instance of affect is a snapshot of a larger system that shocks, mends, and excites on the scale of the city.¬¬ Eventually, the momentum generated by the museum's resurfacing of the Connector corridor would carry over into some functional restructuring, densification and physical reorientation of the surrounding urban fabric towards the freeway, the first step of structural thickening in a surface-based strategy.

While image construction is central to the concept of transforming the Connector, it is also a critical tool in addressing expectations and combating limitations of the indeterminate budget and program throughout the design process. Visualization of the project is suspended between the idealized, synchronized master plan, driven by the client's desire for fixity of tangible elements, and the piecemeal indeterminancy of process matrices. Depending upon localized site attributes, collaborators, and budgets, numerous variations of design interventions can result from each matrix. Thus, the product delivered to the client in the form of a process is a pathway that charts the paradoxically uncontaminated rendering of the "vision master plan" as a single permutation of the actual vision. While decisions made through the framework of the design matrix preserve the designer's intent , there's enough flexibility built in to account for the unexpected in the implementation phase of the project. In addition to process matrices, composite layering is employed to communicate the legibility of design intent, which also supports the open-ended nature of the project. In his essay, "Eidetic Operations and New Landscapes," James Corner ascribes a higher level of landscape formation to the hybridized and composite diagram techniques: "Composite techniques focus on the instrumental function of drawing with regard to production: they are efficacious rather than representational. In other words, through utilizing a variety of analytic and analogous imaging techniques, otherwise disparate parts can be brought into productive relationship, less as parts of a visual composition, and more as means or agents." 8

The shift from a closed "design" to a flexible process through which the designer still has control over intentionality provides an appropriate counterpoint to a master plan, something that is connotatively fixed in time. With the Connector proposal, time, change and the unforeseen are built into the "product", such that the form of the Connector evolves as the milieu that surrounds it evolves, and yet each site intervention still retains a semblance of intentionality endowed by the designer. To draw parallels to the contemporary art practice theorized by Umberto Eco in the "Open Work": "Every performance explains the composition but does not exhaust it. Every performance makes the work an actuality, but is itself only complementary to all other possible performances of the work. In short, we can say that every performance offers us a complete and satisfying version of the work, but at the same time makes it incomplete for us, because it cannot simultaneously give all the other artistic solutions which the work may admit."9

In this manner a core attribute of the landscape architecture profession is retained, that of change over time, even though the project presents few opportunities for extensive "greening". Ultimately it will be up to the city and public policy to find "green" ways to offset the negative attributes of the Connector elsewhere, but focusing on the cultural and experiential aspects of the freeway produces an Atlanta-specific version of a generic globalized structure that synthesizes movement, experience, and visuality with the singularity of the city beyond infrastructural delineation. For the city itself, the edge that densifies entanglements of social, cultural and natural ecologies, could potentially resolve the dichotomies of speed and contemplation, tradition and aspirations, substance and projection, operational and non-performative landscapes.

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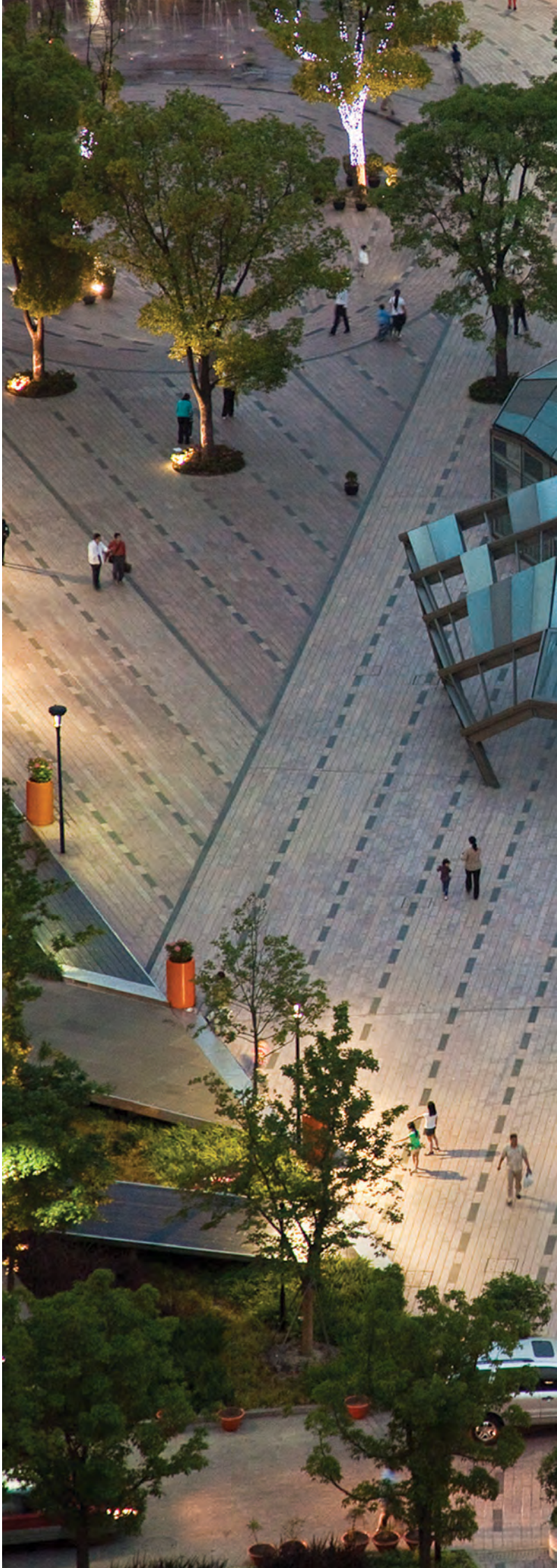
8. James Corner, "Eidetic Operations and New Landscapes" in Recovering Landscape: Essays in Contemporary Landscape Architecture, ed. James Corner (Princeton Architectural Press, New York, NY, 1999), 166.
9. Umberto Eco, The Open Work, trans. Anna Cancogni (Harvard University Press, Cambridge, MA, 1989), 15.

The Shanghai Pedestrian Promenade is a rare example in which a city chose to rezone a vehicular road into a 700-meter long pedestrian-only sanctuary. The sheer scale of the project serves as an inspiration for those who believe in the impossible - balancing the "development frenzy" (characterized by rampant disregard for a sustainable urban fabric) with public open spaces that reduce the urban heat-island effect, allow for flexible around the clock activities, and promote healthy living through outdoor exercise, stress- relieving activities and social interaction.

Providing a contiguous pedestrian open space that is safe, multi-functional, sustainable, fun and exciting for all ages involved the layering and integration of 5 distinct considerations: cultural infrastructure, environmental sustainability, healthy living, interpretive nature, and inventive design.

Shanghai Pedestrian Promenade has the potential to become a catalyst for the greater whole. The success of the project can inspire other developers and public agencies to see the value of such pedestrian infrastructure that benefits the public while elevating the real estate value of the entire district. Contrary to the common trend in Shanghai, in which handfuls of small pocket parks have become quickly appropriated and replaced with programs catered to the needs of private development, this project serves as a successful case study for cities undergoing rapid modernization- setting aside public open space as a counterpoint to continually increasing urban building density, and steering the future of city planning and urban restructuring into a new direction.

Shanghai Pedestrian Promenade / Shanghai, China
Owner/Client: Shanghai Gubei (Group) Co. LTD. No. 56 Shuicheng Road Shanghai, China 201103
SWA Office: Los Angeles
SWA Project Team: Ying-Yu Hung, Gerdo Aquino, Hyun-Min Kim, Leah Broder, Kui-Chi Ma, Dawn Dyer, Yoonju Chang, Shuang Yu, Ryan Hsu, John Loomis, Jack Wu, Al Dewitt, Tom Fox (photography)
Scope of work: Mixed Use, Conceptual Design, Schematic Design, Design Development, Landscape Construction Document Review, Construction Observation
Site: 31.82 hectares/Landscape: 4.6 hectares
Design: July 2005 – 2008
Construction: February 2006 – 2009



STARTING A TREND

Shanghai pedestrian promenade

"It's been a great gathering place, the kind of common square you see in great cities."

Mary-Beth Cooper, Senior Vice President for Student Affairs, RIT
(Rochester Business Journal: June 3, 2011)

Global Plaza creates a vibrant outdoor social heart for RIT's 17,200 students and 3,600 faculty and staff on a suburban campus with few nearby places to socialize. The plaza is the centerpiece of the new Global Village on-campus infill neighborhood with cafés and restaurants, stores, seminar and club rooms, and student housing. The new pedestrian-only neighborhood, an urban design collaboration between architects from ARC/Architectural Resources Cambridge and SWA, creates a multiple portal "crossroads" to foster walking between the academic core and previously isolated student housing and commuter parking on the west side of campus. The new pedestrian-only neighborhood, with housing for 414 students and a master plan to accommodate up to 2000, replaces rambling 1960s townhouse and parking lot clusters and will ultimately triple the number of students living on this site in a neighborhood with urban energy adjacent to RIT's otherwise suburban academic core.

The plaza provides a range of dining, studying and socializing options with outdoor café and restaurant terraces and zones with seating for over 300, a central outdoor lounge with deep seating, fire pit and trellis-framed performance area, and a south-facing sloping lawn "beach" at the base of the curved Center for Student Innovation at the plaza's entrance. An internally-lit, faceted, patterned glass fountain serves as a glowing landmark and meeting point year round.

Global Plaza, Rochester Institute of Technology / Rochester NY
Owner/Client: Rochester Institute of Technology (owner); ARC/Architectural Resources Cambridge (client)
SWA Office: Sausalito
SWA Project Team: Marco Esposito, Zach Davis, Rick Story, Amity Winters, Tom Fox (photography)
Additional Consultants: SWA signed landscape architectural drawings; fountain and landscape irrigation was design-build
Scope of work: Planning for overall neighborhood; Landscape architectural SD through CO for Phase I (built)
Project size: Planning for 30 acres, Phase I 10 acres with 1.5 acre Global Plaza; Phase I building 190,000 sf with 414 beds
Planning started Spring 2008; Phase I design started Fall 2008; Phase I opened Fall 2010
Special accreditations: LEED Gold pending

"The plaza is a huge success. We had kids sitting out deep into the fall which given our weather is exceptional"

Dr. James Watters, Senior Vice President for Finance & Administration, RIT

GLOBAL PLAZA

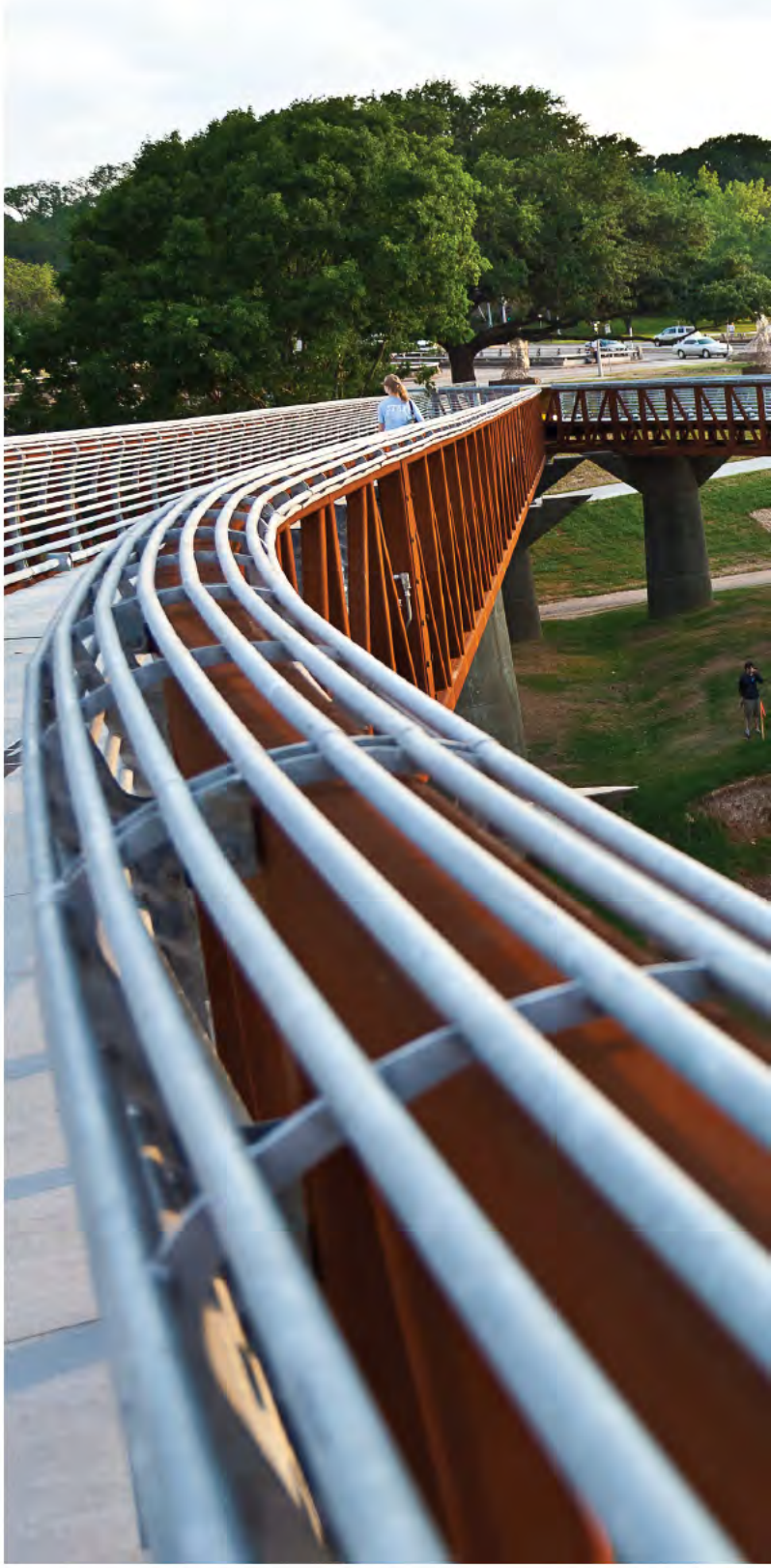
a new social heart for RIT

The prominent component of the project is a pedestrian bridge spanning Buffalo Bayou in Houston, Texas. Buffalo Bayou is one of the few remaining natural bayou corridors in the City and is also one of the city's most beloved public amenities. It is well-used and of ecological and historical importance.

It is difficult for pedestrians to access Buffalo Bayou west of downtown because it is flanked by high speed parkways, Allen Parkway and Memorial Drive. Offering a simple, striking path across this confusing site, the Rosemont Bridge focuses the human experience on movement through the landscape, offering a new perspective of the bayou. Visually linking the skyline, the bayou and the parkways, it reasserts the centrality of the pedestrian experience, making sense of the context and connecting the vibrant neighborhoods to the north and south where 16,000 residents live within a 15 minute walk.

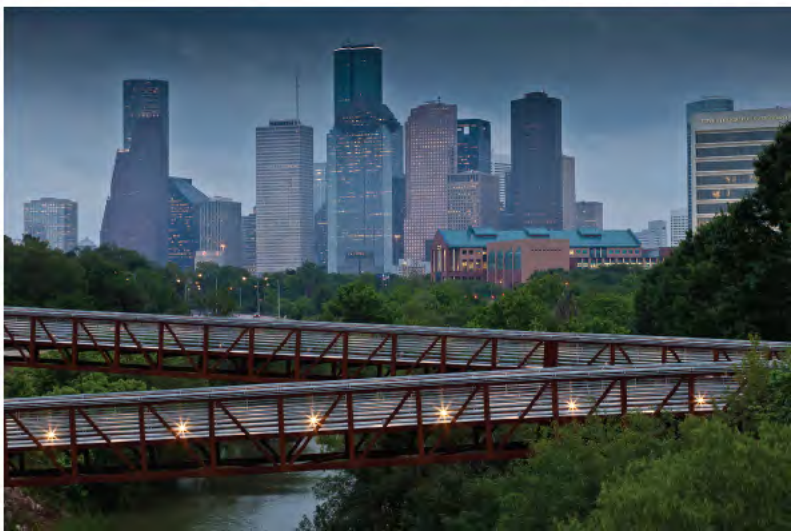
The Rosemont Bridge is a significant step in realizing the larger vision for the Buffalo Bayou corridor as a centerpiece of a more sustainable city, one with healthy green spaces, vibrant, dense central neighborhoods, and a safe and robust pedestrian network. Celebrating these goals with an elegant, striking bridge further emphasizes their civic importance.

Rosemont Bridge / Houston TX
Owner/Client: Memorial/Heights Redevelopment Authority, City of Houston
SWA Office: Houston
SWA Project Team: Kevin Shanley, Tim Peterson, James Vick, Scott McCready, Julia Mandell, Josh Lock, Jonnu Singleton (photography)
Additional Consultants: Brown & Gay Engineers, Inc.; Burton Johnson Engineering, Inc.; Henderson Engineers, Inc.; Ingenium, Inc.; Kirst Kosmoski, Inc.; Project Cost Resource; Tolunay-Wong Engineers, Inc.; United Engineers, Inc.; Vertex Design Group, LLC
Scope of work: pedestrian bridge, trail improvements
760 linear feet long by 11'-8" wide, weathering steel truss bridge, 3625 linear feet, 10' wide trails
Design: 2008-2009; Construction: 2009-2010; Opening: Fall 2010



PEDESTRIAN INTERCHANGE

Rosemont Bridge crossing at Buffalo Bayou



The main campus office building, designed by Morphosis Architects, includes an expansive green roof of folded ridge and valley surfaces, blurring distinctions between ground plane and structure. The roof itself is 15,222 square meters (163,853.95 square feet) and its undulating peaks extend to slopes reaching up to 53 degrees. Unlike typical green roof approaches that use sedum on shallow soil, the Giant Interactive roof distinguishes itself by planting fifteen different native and semi-native plant species. It is meant to mature and adapt into a dynamic prairie landscape, creating habitat for wildlife and seasonal changes in plant diversity. In addition to the ecological vibrancy, the roof provides a thermal mass that limits heat gain and reduces cooling expenditures.

Giant Interactive Group / Shanghai, China

Owner/Client: Giant Group/ (client) Giant Investment Co.

SWA Office: Los Angeles

SWA Project Team: Gerdo Aquino, Ying-Yu Hung, Scott Chuang, Dawn Dyer, Mickey Fielding, Leah Broder, Kui-Chi Ma, Tom Fox (photography)

Additional Consultants: 1. Gold Partner Biotech Company, Ltd. Shanghai, China (Yongjun Fei, Vice General Manager); 2. Morphosis Architects, Santa Monica, CA; 3. MCFCA – Michael C.F. Chan and Associates, Inc., Architects, Los Angeles; 4. PLPL – Philip Liao and Partners Ltd, Architects, Hong Kong, China; 5. TOPO Design, Architects; 6. SURV/ MAA; 7. Shanghai Modern Huagai; 8. Levett and Bailey Quantity Surveying; 9. Vantone New – Conception Integrated Homes Co., Ltd.

Scope of work: Office/Campus, Conceptual Design, Schematic Design, Design Development, Project Management, Field Observation

Project size: 45 acres

Design: July 2004 – December 2006

Construction: January 2008 – 2011

BLURRING DISCIPLINES

new strategies at Giant Interactive Group Headquarters

"Primordial nature is dead, at least for most of the inhabited world."

nature is dead: long live design

by René Bihan

In recent months, landscape architecture has gained a good bit of attention from an ongoing debate over the notion of landscape urbanism between a vocal critic, Andrés Duany, and its promoters at Harvard University. So the design world is publicly acknowledging the increasing value of landscape architects. But step for a moment outside our design bubble and take stock in the low awareness of landscape architecture among consumers.

Perhaps this is partially because of the West's philosophical view of nature as primordial. But primordial nature is dead, at least for most of the inhabited world. Nature—as consumers imagine it to be—is a controlled environment influenced by generations of politicians, landscape architects, and planners. The average visitor to Yellowstone doesn't recognize the role that landscape architects have played in their experience—they assume it was providential. If we seek recognition and political capital, then there is a responsibility for greater legibility in landscape design work. To secure political capital, landscape architects need to articulate clear, contemporary, and relevant design ideas.

Reprinted from Landscape Architecture Magazine (LAM) January 2011.

Our situation is not helped by the mass retailers that supply the majority of landscape materials to consumers. Regardless of where you are in this country, I guarantee your "neighborhood" Home Depot has a full stock of boxwood, roses, and sod—even in Santa Fe, New Mexico. As a result, consumers place little value on locally native plant species and are confused about what constitutes nature. Indeed, the local Earth Day festival near my home in Reno, Nevada, is held in a rose garden. How can we expect laypersons spending the afternoon at Crissy Field in San Francisco to recognize the talent that went into imagining that space and not to assume it has been this way for eternity, especially when the only expression they relate with designed outdoor spaces originates from European designs of boxwood, roses, and sod?

It's not just the consumer model that is broken. The cultural preference for lush lawns influences public and commercial landscapes as well. We can no longer make excuses for contributing to the expansive panoramas of water-hogging landscapes. It is our responsibility to educate clients and provide artful solutions that meet their needs in ways that do no further harm to our environment. My firm, SWA Group, recently redesigned the campus for a university in a major Mexican city. After persuading the client of the appropriateness of a native planting palette and a design that incorporated the natural systems of the site, we found there were no local wholesale plant suppliers who could provide native species.

"When our work is so relevant to contemporary culture, what excuse do we have for being invisible?"

"To be recognized among elite designers, we owe it to our profession to step above the clichés."

Last year, several ASLA award-winning projects were expertly rooted in context. Most notably, the Shanghai Houtan Park and the High Line plainly reveal themselves as products of the design elite. However, in the same Landscape Architecture issue that featured the best work among us—with all of these projects' staggering imagery—the magazine cover depicted an ambiguous reflected hillside in a pond of water with the silly metaphor for the 2010 award winners as a "Watershed of Innovation." To be recognized among elite designers, we owe it to our profession to step above the clichés. The residential project profiled in the same issue in "Under the Texan Sun" is skillfully crafted, but Tuscan gardens in Texas do not represent our profession's culture of ideas. Are these the impressions we want to project to the public? Will we recruit the best and brightest design talent when our leading publication is giving off such mixed messages?

Landscape urbanism proponents are making clear the opportunity for our greater role in designing urban environments. But let's not lose sight of the opportunity we have neglected, namely, building a recognizable brand for our profession. There is a new wave of public interest in environmental responsibility, in outdoor living spaces, in community, in recreation and alternative transportation, in gardening and growing in general. We need to advocate for a greater appreciation of our natural and designed landscapes and the differences between them. We need to educate our clients and the public about the functions of natural systems and the importance of indigenous materials. We need to lobby young people to consider landscape architecture as a career path. We are all responsible for our profession's status. When our work is so relevant to contemporary culture, what excuse do we have for being invisible?

When you put your pencil down and stare out the window, imagining your next project or design, where does your imagination take you? In a brief pause between the frenzy, our designers stopped for a few moments to reflect on the state of our profession and the way we do our work to critically analyze the production and construction methodologies that are part of our current praxis.

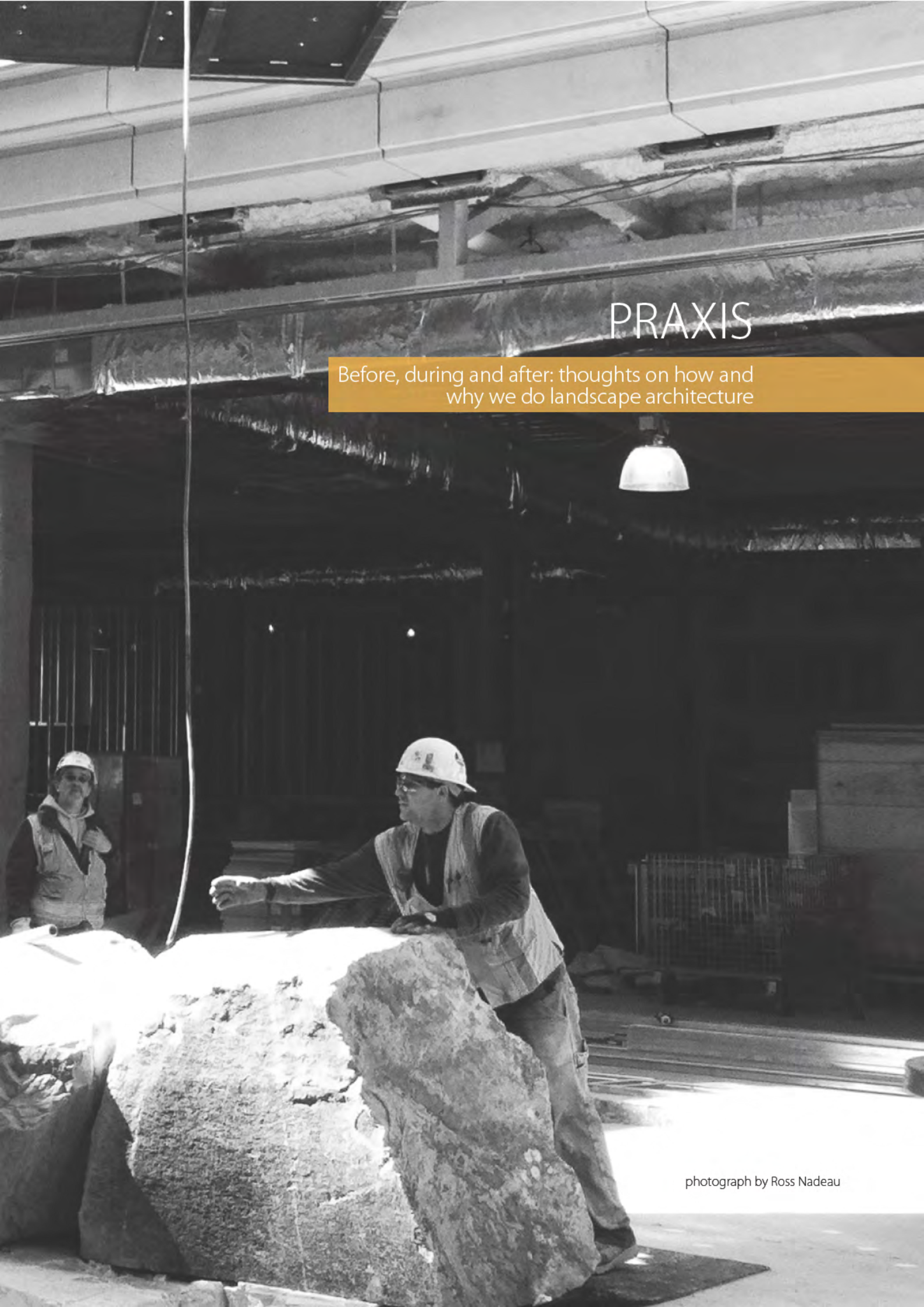
It's been said that the best way to know how to proceed is to reflect on the current and past states and take stock in the history of your work. So we asked our designers and thinkers to respond to a few beguilingly simple questions: what's working? How do we currently do what we do? Why do we do what we do? In our work, we design, use, understand, and shift land. We sift through the multiple objectives of "people, planet and profit," and create design solutions in physical places that strive to achieve economic, environmental, and social objectives. From small, dense spaces that promote social interaction and the exchange of ideas and commerce, to large, sweeping panoramic understandings of ecological and hydrological sustainable landscapes, we must have a sensibility or philosophy that guides our workflow and design strategies.

In this set of reflective essays, our current president Gerdo Aquino takes a look at the current understandings of the word "urbanism" and the recent decade-long transition in the field of landscape architecture to engage in bigger and messier urban and industrial landscape architecture. He emphasizes the importance of taking our philosophical ideals through to physical built work, and testing and iterating them through actual construction. Todd Meyer investigates the process of community collaboration and design influences in the planning process in his essay "people, planet and profit." Sarah Peck looks at the expanding scope of landscape architecture in her essay, "uncharted territories: landscape and urbanism."

As our body of work continues to grow in Asia, Scott Melbourne takes 4 weeks away from his desk to investigate the construction methodologies in mainland China and the process for observing construction and ensuring design detail quality in a new frontier. As a designer, how do you make sure that the work you envision is what ultimately gets built? In the rapid urbanization of Asia — particularly China — we deal directly with both the issue of communicating to local LDIs and translating — both into Chinese and into reality.

After a design is taken from idea to paper, from paper to brick and from brick to occupation, what post-hoc studies are we engaging in to test whether or not our ideas actually worked? In his essay "Measure for Measure," Chris Hardy asks whether or not it is possible to prove that a design works. Beyond maintenance, is there a good way to get feedback from our projects?

In each, we step back and ask how and why. What is it that we are doing, what are we striving to achieve, and is what we are doing actually accomplishing what we have set out to do?



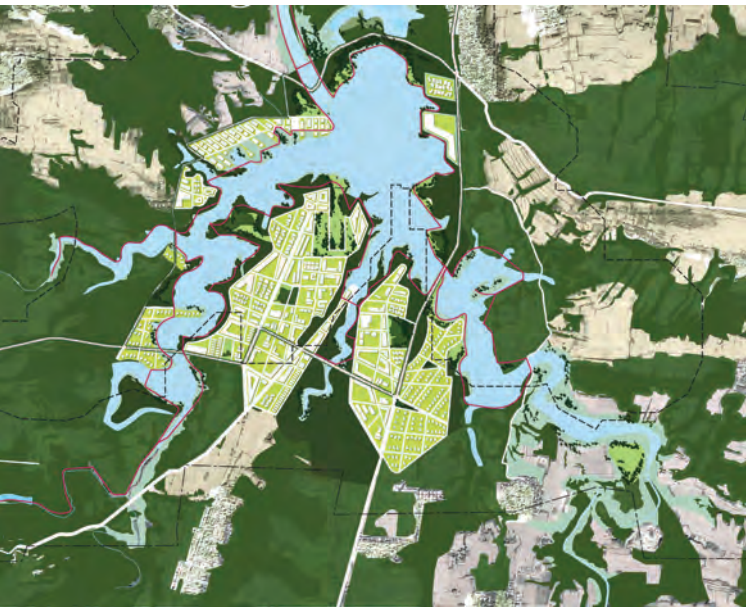
PRAXIS

Before, during and after: thoughts on how and why we do landscape architecture

photograph by Ross Nadeau

the re-representation of urbanism

by Gerdo Aquino



Land use & landscape open space,
XinYang Suo River Comprehensive Plan

Cities have extraordinary urban densities that require both strategic and sensitive systems for resource use, transit, food production, water quality, and waste management. With over half the world's population living in urbanized areas, cities like London, Shanghai, New York City, and Los Angeles burst at the seams with an average of 10,000 to 30,000 people per square mile[1]. In comparison to population densities across the United States, this number diminishes to eighty-seven people[2]. The difference between eighty-seven and 30,000 people per square mile has major ramifications for the quality of life and the quality of the environment.

Early in his career, world-renowned scientist and ecologist H.T. Odum developed theories on the carrying capacity of land—the ability of land to sustain human populations over time—and laid out quantifiable standards, still in use today, for how city planners and landscape architects design for urban growth. Los Angeles' true carrying capacity, for instance, not including aqueducts and other imported resources, equates to 200,000 people for the entire city—roughly 1% of its current population[3]. With this stark discrepancy in mind, how we design and plan urban areas—now holding the majority of the world's population—needs to be re-evaluated.

"The study of cities needs to include many points of view in order to move beyond outmoded planning diagrams that no longer describe how to improve our cities."

1 http://www.city-data.com/city/New-York-New-York.html, http://www.city-data.com/city/Los-Angeles-California.html, http://www.demographia.com/db-dense-nhd.htm

2 http://quickfacts.census.gov/qfd/states/00000.html

3 Remi Nadeau,The Water Seekers. Santa Barbara. Crest Publishers. 1997. 11-15

"Because many of our projects are often without precedent we rely on visual representation to communicate our ideas of a better urbanism."

Words

A key consideration lies in how these ideas and strategies for urbanism are communicated—verbally and graphically. Defining what urbanism means is a good start. Urbanism and its many derivatives—new urbanism (Duany), ecological urbanism (Mohstaven) everyday urbanism (Chase), and Mayne's recent entry, combinatory urbanism—while all slightly different in focus, each share a common goal of addressing the challenges of urban densities. (Please see, for instance, 60 modifiers to urbanism.) Among these terms, of course, is landscape urbanism: an idea that landscape and urban processes are inseparable; that we must look at the landscapes in our cities and the landscapes of our cities.

Purely semantics? Maybe. Conjecture? Possibly. Worth talking about? Absolutely. The study of cities needs to include many points of view in order to move beyond outmoded planning diagrams that no longer describe how to improve our cities. Despite so many variables, each of these terms argues for an ideas-rich platform for public debate, competition, and academic research in which the specificity of a particular factor can be magnified, examined, and explored in context.

Images

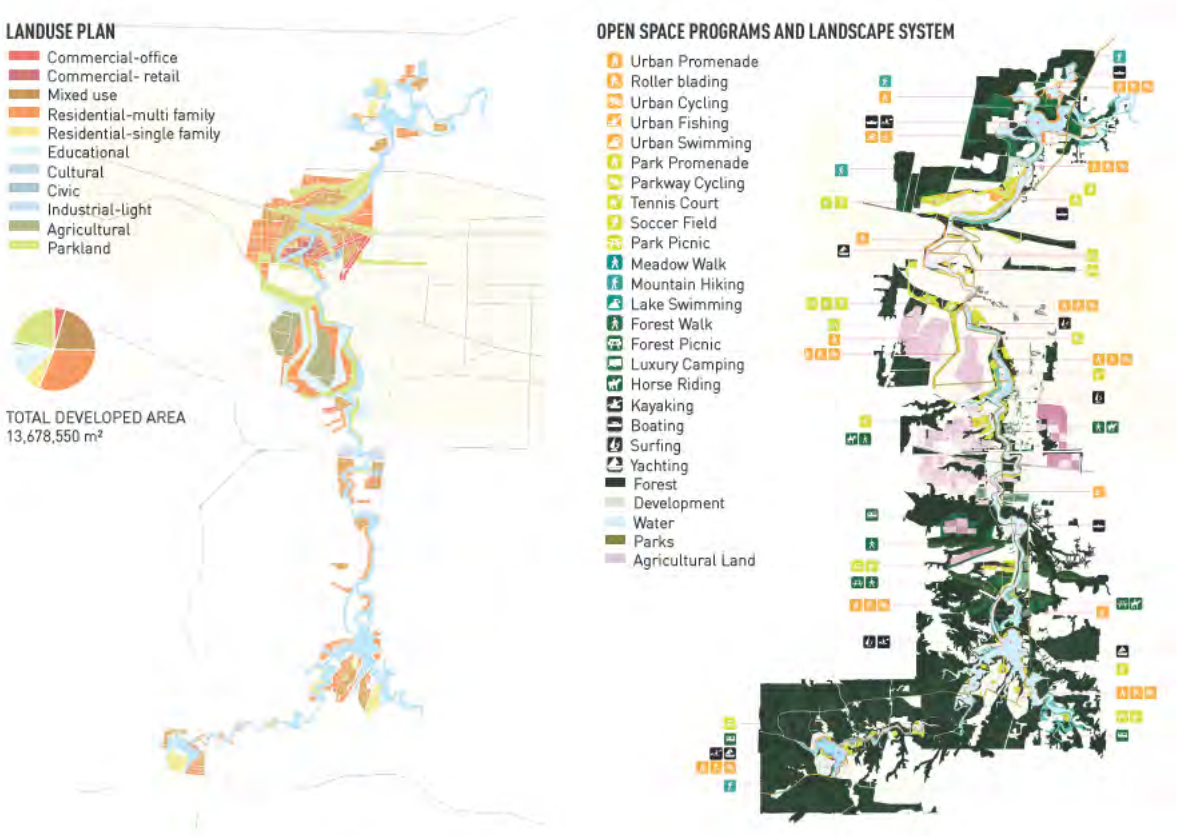
Understanding urbanism goes beyond theory and words, however. The collective visualization of our world—through imagery and visual representation of built and unbuilt projects in our everyday environments—is even more important in influencing how we understand and think about urbanism and landscape.

Due to the recent urban population explosions, we must begin to re-see our cities and systems and contextualize them within the larger landscape and its dynamics. At the same time, we are challenged to communicate our ideas in such a way that accurately represents proposals that offer adaptation and refinement to these volatile social and ecological conditions.

Because many of our projects are often without precedent—building entirely new stormwater retention systems; utilizing processes of bioremediation; re-programming existing infrastructure—we rely on visual representation to communicate our ideas of a better urbanism. The ability of landscape architects to communicate a set of design intentions is critical to gaining public acceptance, client approval, and, ultimately, building new places and inserting new ideas into our existing urban fabrics.

Furthermore, the issues addressed by urban designers and planners are so complex that the process of communicating ideas to the general public, city agencies, and stakeholders requires much more than a drawing. To this end, many landscape architects and planners are pulled to the re-representation model of visual reasoning.

SYSTEM DIAGRAMS



Diagrams: Land use and landscape open space, XinYang Suo River Comprehensive Plan

"Our drawings and words are tools to communicate these ideas."

As described by Rikva Oxman, understanding design proposals requires both cognitive knowledge and visual literacy. Oxman's research explores how emergence, or the way complex systems arise out of relatively simple connections, informs creativity and, particularly, the process of design. Design then can be understood as a culmination of thousands of decisions—and each representation offers a layer of meaning behind these complex ideas. Our drawings and words are tools to communicate these ideas. The model of re-representation takes familiar planning diagrams and overlays them with adaptations or manipulations to reveal new relationships and possibilities for design proposals.

Places

I want to argue, however, that there exists something more important than just words and visuals —that is, actual places. The collective images of the city and its components are created by the experience of real places in the real world. When communicating with the general public, we reference built projects and places as case studies to explain and bolster our visions.

For example, when a planner presents an image of "Main Street, USA" to a community group, everyone immediately draws upon their collective memory of what that is—small scale retail shops, promenading, benches, shade trees, festive banners, intimate street lights, dogs, and vibrant sidewalk activity. An image of Main Street is the basis of many new towns built around the world in the past twenty years.

Landscape architecture, however, suffers from a poor collective visual vocabulary. The absence of prevalent and progressive design precedents hinders our ability to communicate our ideals for a better urbanism to a broader audience. While it was once suitable to show an image of Central Park in New York City to communicate the program of a park, we are now in search of examples that can represent and meet the new challenges our cities are facing. Certainly, a few of these kinds of landscapes exist, but they are not as widespread as picturesque parks and gardens and, therefore, not as common to the general public for reference.

"Landscape architects, planners, and urbanists need built precedents to demonstrate that a more integrated approach to landscape and urbanism is possible."

A more challenging example than "Main Street" is one that attempts to address ecological systems within the city. How does one visualize nature in the city? How does one convince the public that ecological cycles are needed in the urban context? What is the sales pitch? Are there examples for dynamic (and hidden or invisible) landscapes and ecological processes within urban life?

Using associative thinking is natural to how we represent and interpret a new situation, allowing for new ideas to step forward and grow[4]. Yet, if new possibilities for landscape in the urban context remain unfamiliar or cognitively impenetrable, how are communities expected to endorse plans proposing integrated ecologies within busy streets and dense housing? How do we convince the public to do what has not yet been done before?

The answer: build them. Educate through practice. Landscape architects, planners, and urbanists need built precedents to demonstrate that a more integrated approach to landscape and urbanism is possible. Policy and planning does not spark a collective re-imagination of our future in the way that tangible, built work does.

4 Giovanni Gavetti, The New Psychology of Strategic Leadership. Harvard Business Review. Volume 89, July-August 2011, 118-127.

Buffalo Bayou
Photograph by Bill Tatham

"Designers have steadily been working towards a better urbanism."

Even in the midst of a global economic downturn, designers have steadily been working towards a better urbanism, pushing forward a collection of new projects that are starting to gain public recognition. Cities like Detroit spark intense debate in the possibilities that landscape urbanism offers; the High Line and Academy of Sciences are two glamour projects that add to our collective vocabulary. Perhaps the recently built Buffalo Bayou, the Anning River master plan, or the future London post-Olympic legacy landscape afford fresh views for how people, ecology, transit, and open space can co-exist. Over the next decade, as the work communicated in words and pictures transforms into real places in the world, the public understanding of both urbanism and landscape architecture will expand, while new challenges and opportunities emerge for designers to tackle.

Reprinted from Landscape Urbanism [dot] com, September 8, 2011

cultural urbanism

studying local traditions to create socially relevant design

essay and photography by Todd Meyer

Do you remember the criteria that you used when selecting the neighborhood you live in? Was it the proximity to your family or workplace? Perhaps it was access to good schools, shopping or transportation? Was part of the decision attributed to the physical appearance of the buildings, streets and open spaces? Or was it simply the best place you could afford?

All of these are common and logical reasons for choosing a place to call home, and chances are it was a combination of these that led to the final selection. However, there are some other less obvious – perhaps even subconscious – factors that may also play a role in making decisions like this. Understanding some of these criteria can not only help us understand our own values better, but also contribute to our success as designers.

As landscape architects and planners based in the U.S., many of us have spent decades working locally, while also travelling to different parts of the country and the world working with clients who have chosen to hire 'out of town' designers to help them conceptualize new communities, neighborhoods, mixed-use districts, resorts, campuses and many other environments. Whether the work is across town from our office or on the other side of the planet, we are often asked to help determine the highest and best use for the land as well as create meaningful and memorable destinations through distinctive and thoughtful design. Our clients hire use because they want the best and most innovative ideas to be incorporated into their projects. As most of us are aware - clear, understated and austere design

is celebrated amongst our peers. However, when we are delivering these design services, how much of our work is in response to the cultural context? Are we in touch with the subtleties of the local community? Do we really understand the needs and desires of the ultimate users of the space?

There are many common intersections in the work of contemporary practitioners. For example, now that sustainability is a mainstream topic, almost every organization is addressing it in one way or another - or at least trying to figure out how to change their business practices to be more efficient and remain competitive in the market. Many of our colleagues in the design professions have been referencing the 'triple bottom line' – creating solutions that establish great places for people to use, improving the way we interface with and respect natural systems as well as maintaining healthy economic conditions – i.e. 'people, planet + profit'.

While it is relatively easy to focus on one of these three aspects in our work, it is far more difficult to simultaneously achieve a balance of all three. There is no question that we must continue to focus on what is attractive, as well as what is best for the planet and making a profit in our work. However, we should also not forget what elements are best for the people that will ultimately use the spaces we design. That is one way that we can help to sustain vibrant communities – it is the social interaction that promotes strong community participation and in turn a common goal to preserve the local assets and improve the deficits.

Many times the social, cultural or 'people' part of the equation is where the planning and landscape architecture

"How do we work to create environments that encourage social interaction?"

profession falls short. For example, think of all the new residential development in the suburban U.S., or in Asia where displaced villagers have been relocated into antiseptic neighborhoods with high-rise towers and no real or authentic street life. In contrast, while the design of Bryant Park in Manhattan is traditional and fairly simple – i.e. a turf panel surrounded by mature London Plane trees (planted in 1934), the abundance of people casually sitting together and the numerous programmed events have transformed it from an undesirable place that drug dealers used to loiter in, and made it one of the hottest outdoor urban spaces in the city in terms of recreation, entertainment and social interaction.

With the pace of globalization and construction at a frenetic pace in developing countries, we can expect that our clients here at home and abroad will want to maximize the density of the land and ultimately their profits, particularly in the case of private developers. This makes it even more important for us to all continue to work hard to create high-quality open spaces. Providing modern and contemporary solutions for these spaces is usually as much about art and image as it is about functionality. While historic and cultural references are sometimes used as the basis and rationale of our proposed design concepts, at times we often miss an important component – creating places that genuinely respond to the people who will actually use the spaces in the manner in which they are accustomed to interacting with each other. We can create beautiful and memorable spaces that are within budget and accommodate the needs of the people that use them.

Historically, landscape architects have often been asked to propose ideas to make places accessible, enjoyable, educational and aesthetically pleasing. In recent years, an important focus of many of our projects has also been to authenticate the 'science' of our practice – not only designing pleasant spaces that look attractive, but also

enhancing and measuring their ecological performance. This move toward landscape infrastructure has been important in terms of providing more environmentally sustainable landscapes, minimizing hazards, and educating the public in some ways in which we can all be better stewards of the planet. We also often work in collaboration with progressive engineers and scientists to help us make sure that our proposed design solutions will function as best as they can in the context of the local ecology.

After many decades of ignoring ecological functions by filling in wetlands, channelizing streams and rivers, paving open spaces and degrading topography, it is imperative that we continue to include a more sensitive approach in the design process. The ultimate goal is to have the site function ecologically as well (or better) in its post-development state as it did in the natural or pre-development condition, although it will appear differently of course. Highlighting landscape performance as an integral part of our work will produce better design and implementation, and there is much work to be done to retrofit our urban environments to increase their ecological functions, reduce maintenance costs and make more enjoyable places for people.

In addition to designing what is appropriate to help create a profit and what is best for the planet, how are we incorporating the elements that are best for people? How do we work to create environments that encourage social interaction? Are we creating places that respect the cultural traditions and are unique because of the history of the place? Once we have created and implemented these spaces, what metrics do we have to evaluate if they are successful from a social and cultural point of view? We can elevate our design work by engaging with experts such as historians, anthropologists, researchers and local residents who can help us to understand the full picture of the place we are designing. This can also help us to more fully consider the opportunities and constraints of the site. This part of our practice is subjective and difficult to quantify, but most people intuitively pick up on these subtle differences.

If you asked a random selection of people if they value art and design, most would say that they do. The same would be true for our natural and constructed landscapes. There is inherent value in these components of the physical world. However, we should also remember that beyond function and recreation, it is social interaction that tends to

highly motivate most people's daily choices. It's the desire to connect with people we like and enjoy spending time with. It's being with people who understand your point of view and those you might debate ideas with. It's the people you trust and the ones you have fun with.

As different as customs and traditions are from region to region and from country to country, similarities do exist among different cultures. Most people enjoy spending time with other people – whether with family, old friends or new, young or old. This gravitation of friends and family of all ages choosing to gather together in outdoor spaces suggests a reprieve from the daily home and work routine. In my travels, I have witnessed that a significant amount of social interaction in urban areas happens between the street and the building. These are the sidewalks, plazas and other areas that belong to everyone - and where people gather for all sorts of reasons. But beyond the facilities and activities that surround these spaces, how does the design of these places affect their success?

Many of us are familiar with the work of the nonprofit organization 'Project for Public Spaces'. Best known for their "Placemaking" approach, their work builds on the study of William Whyte, author of The Social Life of Small Urban Spaces [1], published in 1980. Whyte studied a series of urban spaces in New York city and discussed why some of them are successful and why others are not. The research that PPS does today includes recommendations and action items for components of successful public spaces that ultimately seek to improve communities by fostering more social interaction.

In April, 2007, the Joseph Rowntree Foundation, based in the city of York in the UK, published research on social interaction[2] in public spaces. The research involved 200

1 Whyte, William. The Social Life of Small Urban Spaces, (Project for Public Spaces), 1980.

2 Caroline Holland, Andrew Clark, Jeanne Katz and Sheila M. Peace. Social interactions in urban public places, (Foundation by The Policy Press), 23 April 2007.

hours of observation conducted over a year (October 2004 – September 2005), included 28 interviews with local stakeholders, and 179 street surveys / interviews with people using the spaces. The conclusions of the study included the following:

1. Many people were deterred by the stark newness of 'cleaned up' spaces devoid of features and activity, and these spaces drew in 'alternative' uses to those intended;

2. Sterile and over-regulated environments may help people of all ages to feel secure, but are not the most conducive to urban vibrancy and integration;

3. Everyday good management, for example attention to seating, lighting, and accessibility, made a large difference to the usability of space;

4. Providing entertainment and attractions, such as street musicians, market stalls, or something 'different' to look at, brought them to life;

5. The vitality of the urban scene requires some degree of human unpredictability. Indeed it is often the offer of chaos, chance, or coincidence that makes many want to celebrate the potential of public space.

So, how do we plan and design places that promote cultural identity as well as foster more frequent and higher quality social interaction? First, we need to celebrate our regional differences and emphasize the characteristics of the local environments in which we work. In the same way we would not propose a similar design solution in Santa Fe as we would in downtown LA, we should not assume that people are the same everywhere, or like to use the public realm in the same way. Some of these choices are driven by climate, but we also need to pay attention to the habits of how people walk, sit, rest and interact in the various places we practice. Examples include the heavy use of transit in San Francisco, the grand lake-front park in Chicago, the urban plazas in New York, the bicycle culture in Amsterdam, the sidewalk cafes in Paris, the public markets in Istanbul and the street vendors in Shanghai.

"In the same way that product designers look in-depth at the target market they are designing for, we too should research these aspects of our 'user group' in detail."

Second, we should learn as much as possible in the communities in which we work. We can do this by taking more time to become as familiar as possible with the history and the physical characteristics of the sites we are designing. Doing as much research as we are able to will provide a good foundation. In the same way that product designers look in-depth at the target market they are designing for, we too should research these aspects of our 'user group' in detail. This is similar to the work that Apple has done to really consider what people want and need as the basis of the design of their devices. At IDEO, there are people that only study the 'Human Factor' in order to discover needs, behaviors, and desires of potential users, and use that insight to help designers conceive products, services, spaces, and interactive experiences.

Along with research, we should also spend as much time as we can in the community that surrounds the site to get to know it in as personal a way as we can. Careful observation is one way to learn, but also by speaking to the people that live there and understanding what their daily routines are as well as their aspirations for the future. What do they enjoy about their neighborhood? How do they like to use the existing public spaces? What's missing or could be improved? In the U.S., we generally have some sort of public engagement process. However, while this can bring to light certain issues, the participants may not be able to fully articulate the essence of how a new place will be used. Whether it is in the U.S. or abroad, directly engaging stakeholders and residents to carefully listen is one of the best ways to learn what the important considerations are.

Finally, we should work with other professionals and local partners. We should think of ourselves as only half of the equation – we bring global experience, a strong point of view about the proposed design, and fresh ideas to the process. Our clients are one source of information and usually have clear opinions about how they would like to see a project evolve. However, we may want to engage some additional partners who can bring certain historical and cultural aspects of a site to light that we may not have the time to find, or may not know to look for. For example, I recently spent some time with a friend from Germany named Uta

Berkmayer. Based in San Luis Obispo, California, she has a very interesting consulting practice that includes work in Asia, Europe and North America. The focus of her company, 'Xsense', is to connect designers and owners to the authentic roots of a place. By doing this, she dives deeper than we normally do (or have time for), and helps to provide a more informed design concepts that translate to more provocative and transformative experiences in the built environment. For more information, visit the Xsense web site here: http://xsenseauthenticplaces.com/

Local partners are the other part of the equation. We will never know as much about the place as they do, unless we have lived there as long as they have. These resources could include people that live on or near the project site, or whose family lived on the land previously. It could be the facilities director at a corporation or university who understands how people use the campus. It might also be a librarian or history teacher in the local school. It can also be local architects and engineers who are more familiar with the place than we are. These local partners can help us understand more than just zoning and building codes, materials or methods of implementation. They can educate us as to the culture, traditions and unique peculiarities that make our regional differences interesting. We should be humble enough to listen to what they have to say and consider these characteristics in our work.

Next time you are in the market for a new apartment or home, sitting down at the drawing board, or even when you choose a place to eat lunch, consider what is important to you in terms of the people you interact with as you make your choice. We all think about money daily in the form of our personal finances, project budgets and the economy. Most of us consider the environmental impact of our daily choice of transportation, energy, food, water, etc. We should also take the time to think about how we are creating spaces that draw people together and encourage them to stay in places longer in order to interact with other people, either familiar or new acquaintances.

We might be surprised to find that small, compact spaces - like the miles and miles of sidewalk between the street and the building in every city - are sometimes the most interesting and engaging. Think of the bike messengers that hang out at Sutter and Market Streets in San Francisco. The people strolling on Third Street in Santa Monica. Having a beer on 17th Street in Denver. Shopping on north Michigan Avenue in Chicago. Riding a bike down S. Broad street in Philadelphia. Having dinner in a sidewalk café in Boston. These North American examples are different from each other, as well as from the way that people might enjoy a waterfront park in Istanbul, dine in a café in Paris or play Mahjong in Shenzhen. In the same way, perhaps we can all work smarter in order to create high-quality urban open space environments that are unique and seek to maximize opportunities for social interaction of people of all ages and races - toward a more cultural urbanism… ■

uncharted territories: design, cities and landscape

ideas and theories of landscape urbanism

by Sarah Peck and Eliza Shaw Valk

What is landscape architecture? What is landscape urbanism? What do we envision—we, who design in cities, who create landscapes, and who imagine the possibilities and potential of future urban environments? What do you want to see and do—you, who create work and live in cities and the surrounding regions? What are our goals and objectives, and do they cohere, conflict, or cohabitate?

Landscape architects—designers, urbanists—are never involved in simple projects that fall neatly between property lines; that deal with one type of paving or planting or material. When people ask—confused—if I do the shrubbery in little tiny spaces around buildings, I take them on a walk and point out the nuances of the world we live in; the guides and codes that make steps a particular height and curbs a particular width; and I explain, pointing back and forth across the street, that we do everything between the buildings… and I watch their eyes take it all in for a moment, look up and down the city streets.

photography by Sarah Peck

I go on: it's not just the space between the buildings. We are involved in deciding where the buildings go, in the density and configuration of space, of the arrangement of physical components in our landscape environment. I can see their minds map backwards to a time when they played with trains and blocks, arranging houses and cities and buildings as young children; they look around, again, and see the world as a series of buildings that aren't permanent, but that can change over time.

If landscape architecture is the construction of built, outdoor spaces and places, landscape urbanism is the construction of cities and all of the urban and landscape arenas within it. It's the intersection and overlapping of design with policy and planning in a collaborative effort to make better urban environments, particularly after too many decades of separation and distinction between disciplines. The mapping of more than 60 adjectives onto the word "urbanism" (think: ecological urbanism, landscape urbanism, new urbanism, etc)—tells us that the simple 'urbanism,' doesn't quite suffice. We need alternatives.

Yet the definitions and ideas of landscape urbanism have created confusion as quickly as they are gaining ground. Are landscape urbanists intentionally avoiding concrete answers, side-stepping specifications and detailing because we cannot articulate or formulate our visions from broad regional plans to the grained materiality of a specific site? Are we charismatic chimeras who spin tales and pretty pictures that evaporate as we slip away at the first sign of hammers and nails, contracts and bluebooks?

We believe that we are trying to do something different. We are in uncharted territory because we are spinning new narratives. We are taking on new responsibilities, and we are approaching challenges with faceted lenses, recognizing and incorporating—with sense and sensibilities—the vast variety of interests, concerns, investments, and collisions that are the landscape of cities.

Beyond the beautiful and place-making goals of landscape design, we look at the ecological, environmental, and economic considerations. Cities are built on land. Land that lives, breathes, flows, changes, shakes, drips—it's full of process. And we've seen that some of our current systems of designing cities are overtaxed: massive flooding along the Mississippi River; infrastructure failures across America; excessive commuting; vacancies and economic declines in cities like Detroit—these are just a few of the examples of ways in which cities need new visioning, understanding and design.

We live in a complex society and world with complex situations—and unfortunately, there are not pre-determined answers for how to live, or how to answer problems and challenges within the larger environment or our cities. We're still figuring it out.

There are many answers and outcomes for what are intricate urban issues. Landscape architecture and landscape urbanism are not prescriptive tools. We don't answer design problems by suggesting "if this, then that." The scenarios that can happen in any one place at any one time are numerous. The approach of landscape urbanism accepts this unknown, this ambiguity, while still making decisions—while still being able to act.

As Martha Schwartz mentioned at the ASLA National Convention in the keynote presentation this year, cities are never finished: "Cities aren't done. We are always building, expanding, and re-creating them. We take stuff down and we put better things in their place." As long as we have cities, we'll be working to create them. Laurie

bottom photograph by Tom Fox

Olin described landscape architects as change agents who deal with the form and physicality of a problem. Behind each complex cultural movement, political issue, and philanthropic inspiration, there needs to be a resolution of an idea in a space and place that lends itself to executing these ideas.

The toolkit of a landscape designer—that of representation, of communication, of engineering, and of facility with interlaced infrastructural and ecological systems—gives us a way to work on projects that seem far beyond the work of a traditional landscape architect. We build websites, publish journals, write stories, host meetings, and present our ideas in broad forums. We build new infrastructures, engineer constructed wetlands, design ecosystems, and augment city metabolisms. Each project expands our scope of work into new, uncharted territories; into innovative thinking, towards continuously improving our ideas.

But the ultimate goal—beyond facilitating understanding, cultivating conversation, expanding our horizons? Really, we're trying to create great places. Great cities. Each person in this field is doing something to create places that last beyond our human lifetimes. And it is with this drive, this curiosity, this need to create, and re-create that we ask, what's next? How can we carve out new territories?

What can we do next?

mainland quality

meaning and endurance in China's contemporary landscape

a fellowship overview by Scott Melbourne

It's a love/hate thing.

With blistering growth and an insatiable appetite for outside expertise, designers continue to be rewarded with projects of remarkable breadth and scale in Mainland China. These same conditions that open up such opportunities also set the stage for disappointment, with low-quality implementation too often not meeting the designers' original vision or standards.

Research explorations regarding the potential and pitfalls of engagement with this rapidly developing region are being compiled as a short documentary set for release Winter 2011.

measure for measure

a look at post-occupancy research as a learning tool

by Chris Hardy

"`Was I any better?' I tried to prove to him that he was `tall,' as well as long and broad, although he did not know it. But what was his reply? `You say I am "tall"; measure my "tallness" and I will believe you.' What could I do? How could I meet his challenge? I was crushed; and he left the room triumphant."

(From Flatland: A Romance of Many Dimensions, Edwin A. Abbott)

What if we could prove a design works – not just from a constructible or case study basis – but from a long term performance perspective? We learn continuously from projects, which detail is beautiful, which plants thrive in particular habitats, even strategies for managing clients and subconsultants. But typically, the design profession as a whole does not systematically measure post-occupancy success. With this knowledge, designers could generate knowledge that builds on successful elements and strategies. Designers could also add a new depth to marketing that shows potential clients the quantifiable results of particular precedent projects. This could remove uncertainty from clients' decisions to award projects. More importantly, the elements of design could be continuously improved, creating ever greater places and communities.

How do we measure success in design? In Flatland, Edwin Abbott writes from the perspective of a square, who exists in a 2 dimensional universe. One day he is lifted above into the realm of cubes and spheres, and looks down on his geometric brethren below. When he returns, he tries to enlighten his people about depth, and yet cannot measure this extra dimension. There are a host of challenges to measure the social functionality, habitat benefit, or public perception of aesthetics of a design. There is also the necessary fourth dimension to these metrics charting the success of places over time. Other challenges include prioritization of variables, data collection methods, and most importantly, cost.

The benefit of metrics has huge potential for design firms, just as they have for other professions. There is a great cost in time and money for private enterprise to collect performance metrics – and yet many businesses do so. Manufacturing and industry have kept score of production since the inception of the modern factory; medicine has used empirical observation to influence treatment since classical Greece; businesses and economists have relied predominately on metrics since the concept of profit was grunted in a cave. There is a strong undercurrent in history that supports taking on the extra burden of quantification to increase competitiveness, discovery, innovation, and the simple ability to build on success.

Today, the design professions are in the full grip of metric-mania. There are passionate proponents and opponents for data collection and analysis. The roots of today's metrics in landscape architecture are in William Whyte's assessments of usage in 1969, and Karl-Henrik Robèrt's first attempt to define and measure sustainability in 1989. Whyte's work among others led cities to develop form-based codes and public space requirements that had been previously left to the discretion of designers and developers. The impacts of these rules on design are far reaching, both in terms of benefits and difficulties, and are continually evolving as their effectiveness or popularity is evaluated. Robèrt's work led in direct succession to William McDonough's Hanover Principles, and eventually to the United States Green Building Council (USGBC) and Leadership in Energy and Environmental Design (LEED). What is surprising about this history is how relatively new this movement is. Architecture and landscape architecture have been around for centuries – and yet assessment (other than aesthetic critique, structural or material) is only 40 years old as a concept – and little over a decade old as formal program. This is still the time when the profession should be critical of metrics and where assessment is headed – there are problems still unresolved, benefits still not actualized. This is an exciting time to reflect on how we work as landscape architects, and ask what more can we do.

"What is surprising about this history is how relatively new this movement is."

"This is still the time when the profession should be critical of metrics and where assessment is headed – there are problems still unresolved, benefits still not actualized."

Scientific inquiry is not new to landscape architecture. Designs of landscape architects have built on the cutting edge of scientific knowledge since the inception of the profession. Fredrick Law Olmsted used the latest technology to control the hydrology of ponds in Central Park; William Hall used the recently articulated theory of plant succession to stabilize the dunes of Golden Gate Park. These places were the greatest land-use experiments of their time, and were left to the caretakers for ongoing maintenance and operations. Any data collected from this period (from both firms and conservancies) was often heavy in the front end, quantifying the material and costs of the projects, and light on the post construction – often focusing on numbers of visitors and maintenance and operations. Meanwhile, the designers had to move quickly from project to project, engaged in the constant act of creation which was the definition of this new profession, without the time or money for a period of analysis and reflection. Design was, and is, about continuous innovation. The problem with this model of a youthful profession was the lack of institutional

knowledge. The only failures they were able to learn from were fast and catastrophic, the only strengths they knew to build on were based on personal informal observation. The success of each of these projects was largely unstudied until later by observers looking back at history.

Today the profession has matured, diversified, and developed its own theory and research. The Sustainable Sites Initiative is the first formal program to attempt to comprehensively assess landscape design in a unified manner. While still in the evaluation period, Sites has compiled a huge amount of information across the many disciplines to determine what it means to design a landscape for sustainability. LEED for Neighborhood Development (LEED ND), just approved in 2009, is the first LEED product to address efficiency in Urban Design. Not only do these certifications involve standards, but also provide some incentive for monitoring performance.

"Should there be a mandate to seek out opportunities to collect data and learn from built work, and can this be done without adding prohibitive cost?"

But certifications are not enough. Certifications are not post-occupancy evaluation. They are guidelines that have been developed based on a combination of post-occupancy evaluation and research borrowed from relevant disciplines. These certifications have collected a body of knowledge based on metrics, and test how well a particular design meets their criteria.

So what are we as designers to do? Simple empirical data and analysis can forward the profession, but at a cost, and rules can also constrain creativity. The fashion of marketing design services through metrics has turned into a movement, while the most progressive and competitive strategy for private practice has yet to be identified. Each designer wants to create sustainable, regenerative, and important places, and to have honest confidence in our work we need to evaluate it afterwards. This is not a call for an in house version of LEED or Sites, rather an extension of a discussion on formulating a coherent private practice stance on metrics in the landscape. Currently this issue is resolved project by project – taking opportunities where they arise; but should there be a company-wide mandate to seek out opportunities to collect data and learn from built work, and can this be done without adding prohibitive cost?

There is no clear solution, but many possibilities could be explored. For example, a methodology for project kickoff could include contacting local extension services or governing bodies to see if they have an interest in collecting post-occupancy data, perhaps at little to no actual cost. Perhaps there could be a way to sell clients on the potential benefits for them if they added post-occupancy evaluation and analysis into a post construction administration phase in a project's contract. Maybe there is a university partnership that can mentor volunteer student teams in a project assessment and evaluation program. Or simply, perhaps a standard project hand-off strategy could be developed and documented to create a basis for future communication with the operators of the new landscape.

This discussion is ongoing, both for our firm and the profession at large. SWA already has massive information resources that most firms do not have the benefit of; post-occupancy assessment could potentially be another layer to our current system. Let's keep talking, and perhaps we can find a comprehensive strategy that will once more set once more set SWA apart.

No Place

Place: an indication of the found, **a location**

No: an expression of dissent or denial, **a void**

No Place: **Void Location**

design utopia

by Liz Lagedrost

The Landscape of No Place

I think it was my second year in graduate school, while roaming the aisles of the library looking for inspiration, that I happened upon the book Exit Utopia [1]. The metallic silver cover and bright orange letters would have been enough for me to pull it out, however it was the words which were of particular interest. Exit, Utopia, implying the departure of an idyllic fantasy, in favor of, or leaving behind what? My mind leapt (almost immediately) to a current obsession with forgotten abandoned spaces and derelict landscapes– perhaps the places remaining when utopia takes stage left.

I checked the book out, with no intent on actually reading its contents, but rather with new found enthusiasm for defining the landscapes of my own fantasy. At the time I was working through my thesis research and struggling to conceptualize what I was defining as the "anti-heroic landscape". Today, some two years later, I am still working on my contribution to the discourse, and I find myself returning to the ideas of utopia. It's worth noting that the word actually translates to mean "no place" or "no where" [2], hardly the same associations made with the generally accepted meaning, "good place". In an apparent contradiction, the applied idealism of utopia is more accurately defined as, a place of nothing.

"Sol LeWitt, American conceptual artist, believes in superiority of idea over object. In 1987, he sold an intangible concept [an idea for an artwork that doesn't actually exist] at auction – for the concrete sum of $26,400. Legal ownership was indicated by a typed certificate, which specified that the artwork [10,000 lines about 10 inches long, covering the wall evenly] should be executed in black pencil. The owner has the right to reproduce this piece as many times as he likes. If you reproduce it you'd only have a fake – despite the fact that LeWitt would not have picked up his brush in either case." [3]

The superiority of idea over object. Is this design utopia? If the idea supersedes the place, then a landscape of no place is dependant only on the idea; and without, the place is lost and becomes void.

If we momentarily return to the meaning of utopia as "good place", there is an innate desire for designers to aspire to this notion. There is of course an irony found in the miss-representation of the word. And in this attempt towards the ideal of perceived utopia, the designer often seems to merely overlay the original site (conceptually in need of change, a "no place") with a designed "no place" There occurs a transformation of site, but simultaneously a loss of authenticity. The void is covered up with a more aesthetic one. The idea is lost (or never existed) and we are left with only the object.

1 Exit Utopia Architectural Provocations, 1956-76 Schaik, Martin Van and Macel, Otakar (editor). Prestel Publishing, 2005

2 Information obtained from a 2009 lecture at the Knowlton School of Architecture entitled "Claim Jumping" presented by John McMorrough

3 The Art of Looking Sideways, Fletcher, Alan. Phaidon Press, 2001

image courtesy of flickr.com

A few years ago, this observation was not as evident. The experience of site was more reliant on physical visitation and thus a personal sense of authenticity was established through the experiential. Today, as we shift continually into a more digital and virtual world, our experience of place is reliant on the re-presentation of the landscape through the devices of satellites, live camera feeds, and iphones. I can "fly over" the Grand Canyon or take a tour of the Louvre from google earth. Thus the framing of place through representation must not only convey the idea but the authenticity of place, which without, leaves the design with nothing: no place.

Let's take the High Line for example; the widely popular design transformed an abandoned railway in New York into a recreational amenity and tourist destination. There is no doubt that the project has helped to revitalize and re-envision that portion of the city, while also providing a model for the reuse of infrastructure. And yet the problem lies in a loss of authenticity which is heightened through representation. The first image shows the High Line prior to its re-conceptualization. The image is almost haunting, evoking what might be termed an apocalyptic fantasy or a modern day sublime. The second image shows the High Line today, and while the image seems nice enough, the feeling is lost...there is no longer a sense of authenticity, for this park could belong anywhere.

image courtesy of flickr.com

This is not to suggest that we shouldn't redesign places or presume that feeling is enough to justify a landscape. But perhaps the solution to the loss of authenticity lies in the anti-heroic landscape. Literature's anti-hero is morally complex but who's identity is clear. He/She is not the hero but we find ourselves drawn to their character and rooting for their survival. Such is the landscape of the anti-hero; the character may not be "beautiful" or "pure" but there lies an embedded authenticity and a desire for its preservation. I began defining the anti-heroic landscape as those places abandoned and forgotten, but it is perhaps more encompassing– those landscapes in conflict, in which the idea embodies an authenticity of place that is able to transcend the void. Design Utopia.

And now the research really begins.

How do we design for a shifting landscape? The intersection of water and land is constantly changing: rivers carve new courses, flood and expand, shrink and wither; oceans rise and fall; temperatures change.

Massive bodies of water surrounding and running through our cities are the lifeblood of much of our civilizations' organization: these water resources feed our agricultural systems, serve as channels for navigation and shipping, are the center for imports and exports in a world of global commerce, and serve as our drinking water; the fuel from which our life feeds. Finally, and of great modern significance, our vanishing natural water systems – both visible and invisible – set the stage for the recreational amenities and opportunities for the citizens who occupy our great cities.

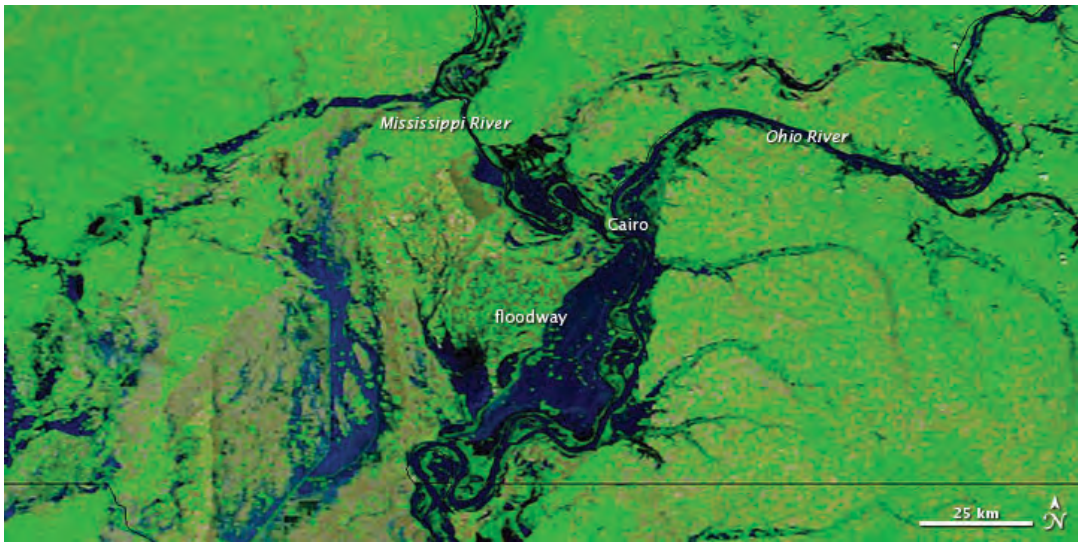
Drawing the Line offers a built solution of re-creating natural and social systems to restore a quickly shrinking historic bay. The Shenzhen Bay Waterfront project reclaims a cultural landscape where mountains were cut down and used to fill the bay to create vast areas of sprawling urban development. Recognizing the irreplaceable resources being lost, a final landfill edge was established and a great waterfront park built along the resulting fringe. Noteworthy for its rich landscape based on natural edges, connections, and cycles, the project has reconnected Shenzhen to its greatest resource.

Correspondingly, the Pearl River Delta in southern China is one of the fastest growing regions in the world. Keeping pace with this rapid development and ever-shifting landscape morphologies, the design of the 72-square kilometer city area of Shunde builds a wetland armature and ecological infrastructure that serves as the backbone for a multi-modal city. Rather than displacing the land and water systems as had been done before, the designers integrated ecological solutions from the start, reconnecting the delta back into the city fabric and restoring 72-square kilometers of constructed wetlands to diffuse major flooding. It is our hope that this becomes a new model for understanding development and integrating environmental and economic needs.

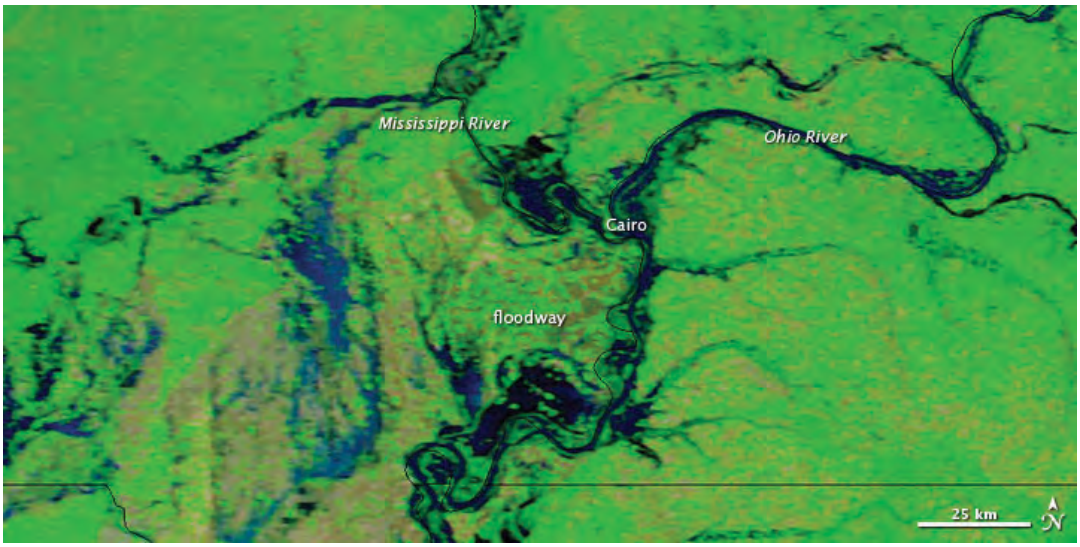
In the United States, witnessing the results of ignoring our hydrological landscapes is often the norm. Repeated and disastrous flooding of the Mississippi River across the sweeping Midwestern landscape is an outcome of complete disregard for the tenets of river hydrology. Kevin Shanley, our current CEO, remarks on our long, misguided approach of 'straight-jacketing a river,' and encourages designers to take a longer view towards understanding natural floodplains, shifting sedimentation along the river's edge, and increasing populations. Another example of a shifting landscape is the landmark analysis and planning project for Houston's Galveston Bay. Our designers expose the patterns of repeated hurricane destruction along the coastal fringe, map fragmented buffer landscapes that help mitigate these cyclical weather events, offer alternatives to both plan and prepare for future events, and introduce appropriate methods for educating the public of the inherent dangers.

COASTAL RESILIENCY

designing and understanding shifting shorelines



The Mississippi floodplain after the floods, May 4, 2011.



The floodplain on April 29, 2011.

The floodplain last year, on April 29, 2010.

NASA images courtesy MODIS Rapid Response Team, Goddard Space Flight Center.

"To the river, this spring's flood was not a remarkable event; it is simply part of the river's natural lifecycle."

the high costs of straight-jacketing a river

by Kevin Shanley

While the Mississippi River was flooding this spring and as the news coverage heated up, I tried to match the satellite before-and-after images to all the hyperbole I saw on TV. It quickly became clear to me that there is a mismatch in what people are experiencing as individuals and what the river is experiencing.

Take a look at the satellite images. Observe the channels the river has carved back and forth on its natural floodplain. And remember that the flooding today is well within the limits of the river's historical bounds. To the river, this spring's flood was not a remarkable event; it is simply part of the river's natural lifecycle. Yes, this season's high levels of runoff have been impacted by all our tinkering with the river's basin through the years, but it has become clear, to everyone who cares to look, that in our diligence to change the contours of the river, we have cut it off from the floodplain that it needs to spread its copious waters.

Our historic approach for developing the river's floodplain has been defined by short term goals. We've built levees so we can farm its rich fertile soils; but these levees now prevent the river from replenishing that very fertility. We moan about the farmers' losses without considering the decades of gain the farmers have received from the fertile soil. We've built small communities and large cities in this same floodplain because the river provided an important transportation corridor, yet we aren't willing to spend the money to relocate or harden critical infrastructure.

Even those unaware of the science of fluvial geomorphology know, intuitively, that rivers flood over their banks on a regular basis. So why does this well-documented, regularly-experienced event catch us by surprise every time? Each spring the river will rise and wants to claim the floodplain that has been its own for millennia. This floodplain was, in fact, created and shaped by the river itself.

This spring, once again, we witnessed a failure of public policy which has lead to crowding and constraining the river at enormous cost and through great effort. With memories of the recent floods, and for public policy to be effective, it's time to look beyond the short-term needs of a community and to evaluate options that are going to be sustainable over the long haul.

Generally, our land-use policies do not acknowledge the room the river needs to store its water in its floodplain. We seem blind to the vast sums that will be needed to keep the river from claiming what –over the long run–it will take back. Rather than recognizing the extreme costs that straight-jacketing the river imposes on our environment as well as on our economy, our public policy demands the ongoing expenditure of billions of dollars to maintain the status quo of farms, communities and cities deep in the river's floodplain, behind walls that are clearly inadequate to protect us against rising waters.

"We moan about the farmers' losses without considering the decades of gain the farmers have received from the fertile soil."

The economic value of large cities in low lying floodplains may justify the large costs of flood walls and pump systems. Certainly the dynamiting of a levee to save Cairo, Illinois, and the opening of the Morganza Spillway to save Baton Rouge and New Orleans should be seen as just the beginning of what needs to be a regular system that allows the river to reconnect with its floodplains.

Every agricultural levee should have gates to allow regular flows out onto the floodplains. Why, we must ask ourselves, do we maintain a policy of sluicing all that valuable silt and topsoil out to the Gulf of Mexico and over the edge of the continental shelf? Why are we not permanently removing a substantial percentage of the river levees and finding ways to creatively work with the river's hydrologic cycles instead of fighting them?

Yes, there will be years when there is high water and crops will be impacted by it. But let's also understand that these periodic floods are the river's way of replenishing the floodplains – and the fertility of the farmland. When working with our rivers, let's remember that what is a long haul for us is just a blink of the eye for the river.

Reprinted from MetropolisMag.com, Point of View September 8, 2011

COASTAL ROULETTE

planning resilient shoreline communities in Galveston Bay

Coastal communities worldwide are playing a dangerous game. Experiencing severe coastal storms has always been part of living near the sea; however, current planning models are putting residents in positions equivalent to placing their heads in the sand.

A recent proposal by a multidisciplinary research partnership proposes new land uses, innovative protection systems and creative ways of thinking about the coast that can reconnect us to the natural flows of these iconic landscapes and provide new opportunities for coastal development and habitation.

Coastal Resilience Planning / Galveston Bay, TX

Owner/Client: SSPEED Center, Rice University (Severe Storm Prediction, Education and Evacuation from Natural Disasters)

SWA Office: Houston

SWA Project Team: Kevin Shanley, Matt Baumgarten, Alex Lahti

Additional Consultants: Louisiana State University, Rice University, Texas A&M Galveston, Texas A&M Sea Grant, Texas Southern University, University of Houston, University of Texas-Austin

Scope of work: Regional Planning

Site: Galveston Bay, TX and surrounding coastal areas

Design (phase 1): July 1, 2009

Design (phase 2): July 1, 2011

Prelude

On September 13, 2008 Hurricane Ike struck the upper Texas coast, wreaking havoc on infrastructure and washing away entire communities. Yet the storm still narrowly missed the modeled "worst case scenario," where storm waters would track up the densely populated west shore of Galveston Bay and into the heavily industrialized Houston Ship Channel. Labeled only as a category two storm by wind speed, Ike surpassed all inundation damage predictions for its designation and changed the lives of millions of people. This one event, in a region populated by 6.5 million residents and frequented by hurricanes, sparked a sorely needed reassessment of historic storm preparedness and called for new approaches to effectively and sustainably protect and develop our modern coastlines.

As part of a multi-disciplinary team, funded by the Houston Endowment, SWA Group aims to reduce storm damage along Galveston Bay by establishing a system of land-based structural and non-structural solutions.

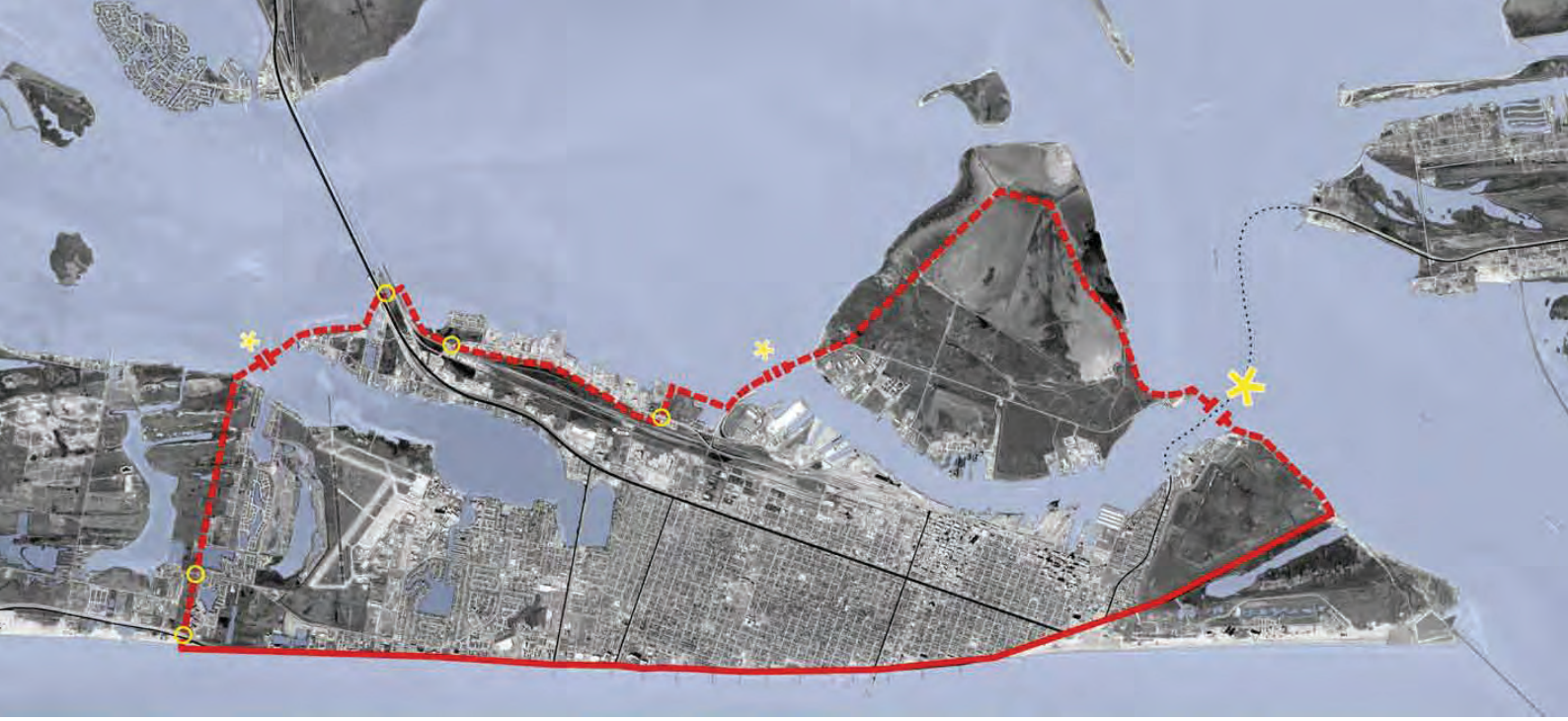
Left at risk

Worldwide, 634 million people live at an elevation of 30 feet or less above sea level. This elevation is known for being highly susceptible to damaging flooding caused by severe storms and two thirds of the world's largest cities fall within this danger zone. The risk is only amplified as urbanization increases across the globe and populations seek the waterfront ideal, neglecting the underlying dangers. When seas inevitably revolt, death tolls rise and generations of culture vanish. Toxic industries seep into valuable estuaries, economies collapse, and social services quickly become obsolete. Post storm, we are left piecing together a puzzle that no longer fits.

Historically, the threat of severe storms and inundation has been mitigated through intensive structural solutions – single-purpose engineered barriers designed to protect against inadequately modeled storms. With each engineering feat taking physical form, the public develops an attitude of complacency and invincibility against nature. A condition the team referrers to as the "moral hazard". This was certainly the case on Galveston Island.

Without warning the Galveston storm of 1900 washed the city away in the dark of night.

Few structures were built to withstand hurricane surge. Regulations have not changed.



Proposed structural solutions around Galveston Island protect existing cultural and economic assets and position the city as a gateway to an extensive coastal preserve.

After the devastating storm of 1900, residents constructed a 10 mile long seawall and elevated large swaths of the island by as much 10 feet. However, this show of human force proved ineffective when Hurricane Ike's floodwaters simply rose behind the island and rushed into the unprotected city. As might be expected shortly after the storm, a proposal for a much longer, 100 mile long dike surfaced. Spanning across the entire length of Galveston Island and the Bolivar Peninsula, it garnered intense media attention and some political traction. Its infrastructural simplicity ignored financial and environmental costs providing only a tenuous defense against unpredictable regional hurricanes. Debate for alternatives became valid and essential.

Houston/Galveston Model:

A land-based approach

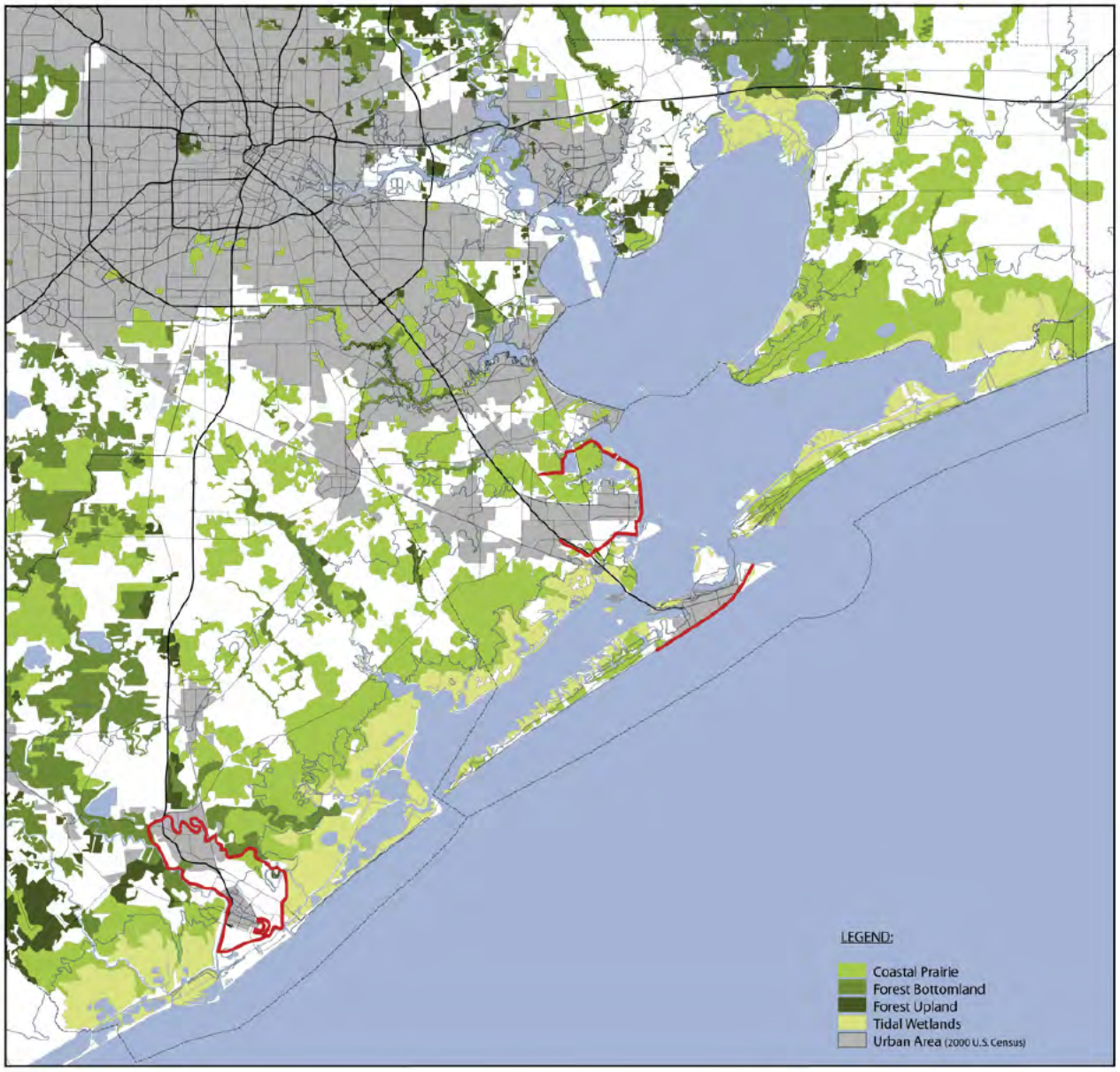
In consideration of storm surge protection, land-based protection strategies equally consider structural and nonstructural components as part of a layered network of coastal protection systems. Structural components utilize constructed levees, walls, barriers and gates to block floodwaters. Non-structural components rely on existing and restored ecosystems to absorb flooding, regulation to discourage development in high risk areas and economic tools for long-term sustainability. This layered approach protects people and preserves ecosystems.

"With each engineering feat taking physical form, the public develops an attitude of complacency and invincibility against nature, a 'moral hazard'."

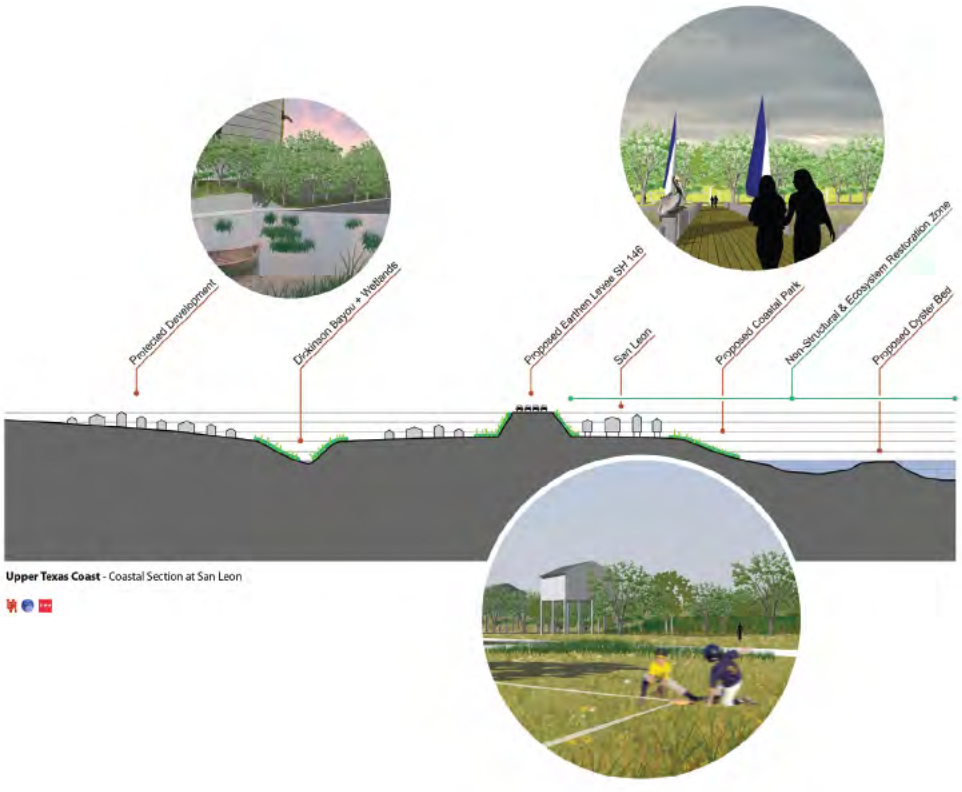
Sustainable economies

Low elevation areas at greatest risk from storm surge should not be developed for housing; instead, using the land for value-added farming and ranching or carbon sequestration would be the best way to take advantage of regions the USDA designates as prime farmlands. Rehabilitated wetlands act as sponges for severe inundation events while they provide new opportunities for economic development in the form of ecotourism and recreation.

Galveston Bay is one of the most diverse ecological systems along the US coast. A precedent analysis of successful coastal parks and preserves along the U.S. coast quantifies the recreational and economic opportunities of preserves that can be adapted to Galveston Bay. Currently, outdoor recreation alone accounts for 289 billion dollars in the US economy. Maps that identify lands available for protection have sparked an effort to establish a National Recreation Area (NRA). The collaborative management structure of NRAs ensures that existing communities will be involved in its development and can profit from its formation.

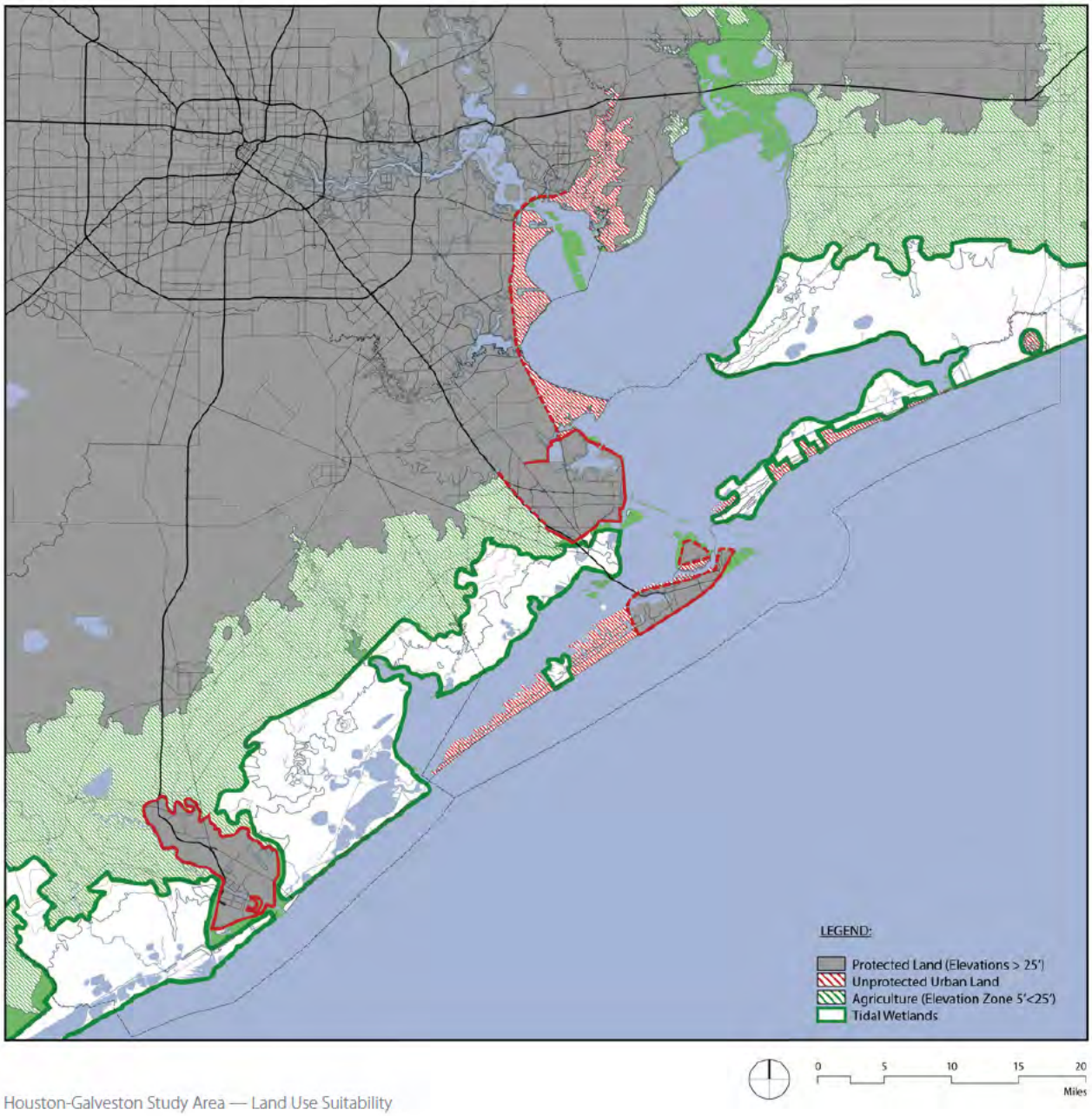


Prime coastal ecosystems have already been lost to development in risk prone coastal areas.



Layered protections preserve connections to the bay and redevelop natural ecosystems. These new land uses bring new opportunities. Areas behind levees are limited but provide shelters of last resort for coastal residents.

Upper Texas Coast - Coastal Section at San Leon



Houston-Galveston Study Area — Land Use Suitability

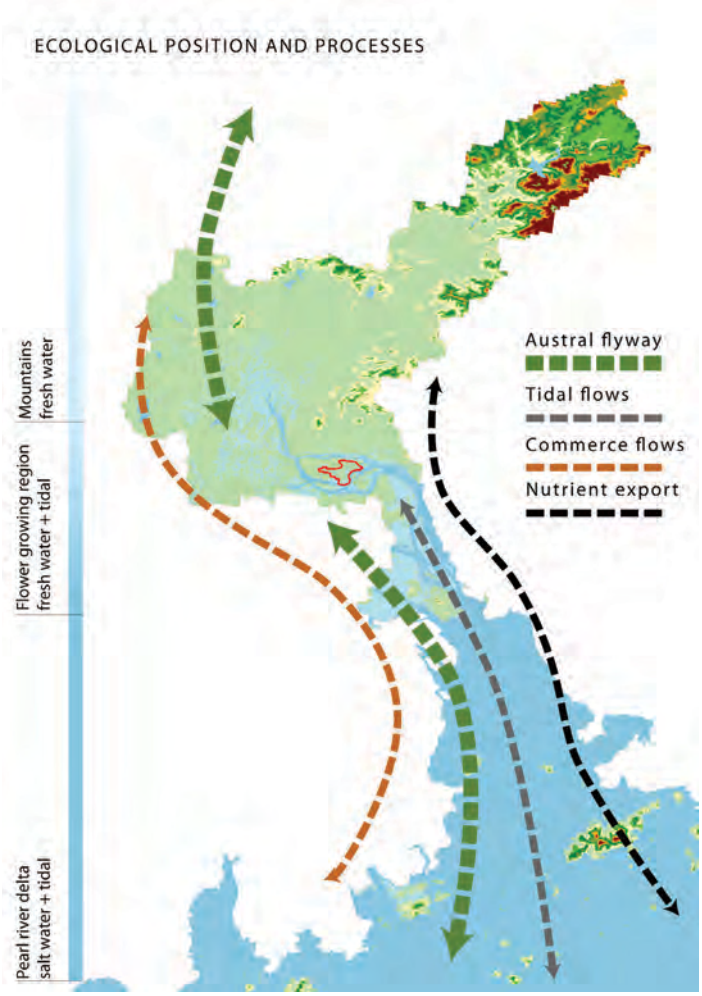
Next steps

Going forward, the team is working on efforts to educate both policy makers and the general public about the huge and terrible risks brought by hurricanes. The SWA Group and our planning partners at Rice University, the University of Texas, the University of Houston College of Architecture, Texas Southern University and Texas A&M University, are creating storm surge hazard maps that identify inundation zones and have proposed a website that will help businesses and homeowners visualize their risk levels. A dialogue with the Galveston District of the Army Corps of Engineers has been established and is intended to change traditional thinking about the design of hurricane storm surge protection at high levels of government.

The National Recreation Area merits further investigation and provides a multitude of opportunities for value-based planning. A blue ribbon committee for the establishment of an NRA in the upper Texas coast has been formed and additional discussions with many bay communities, NGO's and other agencies has lead to progress towards establishing a new, more sustainable economic basis for life along the littoral fringe. Ultimately, this effort demonstrates that collaborative, research-based planning can bear fruit and is a valuable tool for future planning. ■

NATURE & CULTURE RE-BORN

re-establishing the delta in a new city



An unfortunate outgrowth of China's rapid urbanization has been the large scale loss of its natural systems and cultural heritage. These systems served as a buffer against disaster; the flooding of entire regions and the destruction of property, lives, and a way of life. A new model of city making is necessary, weaving man-made and natural systems into one.

Living on the Water

The channeling and consolidation of river systems throughout Southern China has destroyed both nature and local culture. Throughout its history, the Shunde region has been widely known as a water-based society, one where daily life revolved around the water's edge. Transportation, food, and daily gossip originated along the canals. Families congregated and socialized under the cool shade and broad welcoming branches of the village ficus trees. The loss of these canals led to the loss of much more. Thus, the restoration of both natural and cultural systems has become the central objective of Shunde's new city design.

What was once a healthy delta with countless braided river ecologies has been constrained into a 3 channelized river system. The Shunde City government issued a staged competition to design a 72 square-kilometer new city; expanding upon the old one, growing the local economy, and helping to alleviate recurrent flooding through the creation of a new reservoir.

SWA took this challenge one step further creating a proposal unlike any other in the competition. Our idea is to **put the delta back** – restoring 72-square kilometers of constructed wetlands as the armature for a multimodal city and restore bird and wildlife habitat for the larger Pearl River Delta, while simultaneously expanding flood storage

Shunde New City / Shunde, China

Owner/Client: Shunde Planning Bureau

SWA Office: Laguna Beach

SWA Project Team: Sean O'Malley, Xiao Zheng, Scott Melbourne

Additional Consultants: Gamble Associates; Guangzhou Scenery Urban Design Ltd.

Scope of work: conceptual master plan, waterfront park landscape concept plan

Project size: 72 sq.km

May 2009 – December 2010

capacity and a lost water-based culture. The plan develops individual islands as pedestrian scaled mixed-use villages that are linked by a proposed environmental infrastructure of greenbelts, water corridors, rail, trials and a multilayered transportation system.

The Architecture of Nature

From ecological processes we learn that maximizing edge surface area increases the opportunity for the exchange of nutrients; for example in healthy wetlands, edges increase the transfer of oxygen. However, in China, the channelization of the delta has reduced edge surface conditions; in turn reducing the health and habitat potential of its rivers.

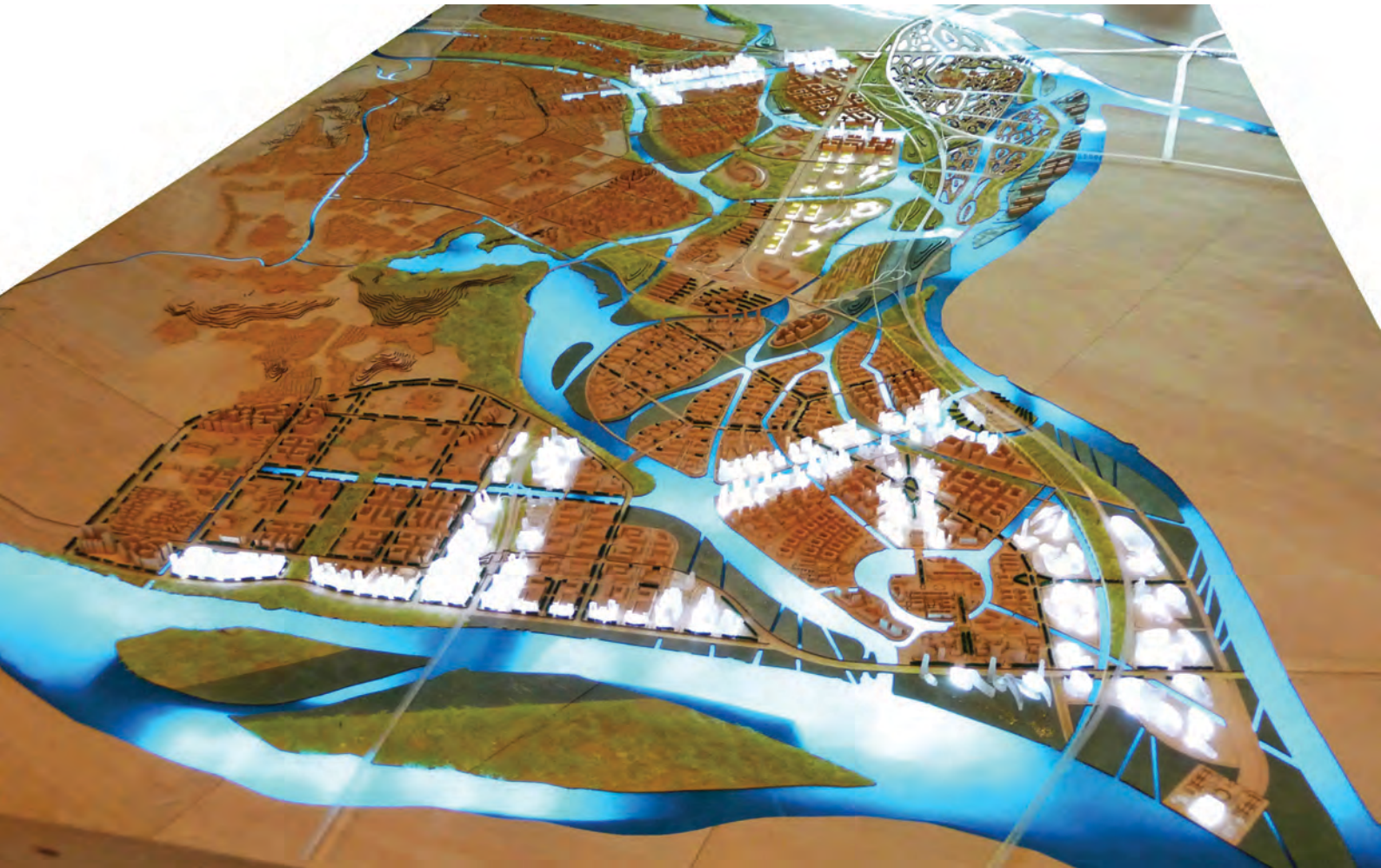
The opportunity exists to exploit these correlations between edge intensity and water-not only ecologically, but economically as well. Thus, a braided system of fine-grained waterways is proposed to increase filtering capacity and reconnect the new planned City of Shunde to the river network. Through the increased water edge condition, more opportunities are developed for the citizens of Shunde to walk, work, and recreate along the river edges. Real estate values increase by weaving residential and office development into the same braided system that benefits the river ecologically. Improved land values in turn attract creative industry and an educated workforce.

In addition, increased edge conditions and accompanying wetland areas increase opportunity for habitat. The Pearl River Delta is home to the second largest bird migratory route in China, though much of their habitat has been lost. The plan proposes large areas of wetland revegetation and protected river islands as a resting place for migratory birds.

Water-based Approach

Shunde utilizes a water-based approach, maximizing the social and economic value of the site by emphasizing and expanding its inherent qualities of place. A variety of waterways are proposed; wide waterways with opportunities for use as major recreation corridors with trails and parks, and narrow canals provide human-scaled urban corridors. The waterways provide high volume flood storage capacity, increasing protection and safety for inhabitants.

Rapid urbanization has had an adverse affect upon the once thriving ecosystem of the Pearl River Delta, polluting waterways and destroying habitat. Green belts run parallel to the waterways and incorporate wetlands and a comprehensive bioswale system along its edges. The bioswales serve to filter urban water runoff. The Greenbelt edges are planted with a dense new urban forest, providing both a place of refuge and carbon sequestration. A wide variety of recreational amenities are planned for the open space system, including urban promenades and plazas, wetland parks, educational interpretive centers, sports parks and urban forests.



The City Engine

Shunde's current economy is based upon labor intensive, high-polluting manufacturers. As industry departs Southern China, the opportunity exists for Shunde to grow a new local economy; one based on education and environment. Utilizing a similar approach, Irvine, California built its foundation upon high-quality landscapes, open space systems, and a university that ultimately attracted high-tech employers. Likewise, an existing college in Shunde is expanded as a basis for new research and development initiatives, while the reconstruction of the delta and resultant open space will attract industry based on a highly-educated workforce.

The City Engine is anchored by two transit-oriented multi-modal centers. A vertically layered public transportation system with two multimodal stations (North and South Stations) bring together regional high-speed rail, local monorail, water taxis, buses, and cars. The high-speed regional rail connects New Shunde to the major Pearl River industrial and financial centers: Hong Kong, Guangzhou, Shenzhen, and Macao. A local water taxi and a monorail network enhance the connectivity between the neighborhood centers. A north/south axial canal links the two intermodal stations at opposite ends, while an existing village is integrated as part of a central mixed-use district.

The Shunde expansion is comprised of multiple urban centers, each a self-contained unit of residential, retail, office, educational, or civic uses. A civic and cultural center, financial center, office campus, academic campus, and resort provide distinct districts with specific use concentrations. Yet these centers are ultimately designed around people. Unlike existing 400 meter square blocks currently planned and built in China, a fine-grained 100 meter square system of small blocks is proposed. Neighborhoods with small blocks and small streets contribute to a human-scaled, walkable environment. Buildings are built to the street edge, reducing or eliminating setbacks to create intimate and comfortable space shaded by trees and framed by canals.

Water Village Culture

The Shunde region is known for its water village culture, where everyday life revolved around ponds and canals. Preservation of the local culture is a key aspect of maintaining the unique character of place. Envisioned as a mixed-use residential, retail and shopping center, an existing village is redeveloped and incorporated into North Shunde. The historic preservation of the existing village adds a valuable link to Shunde's past.

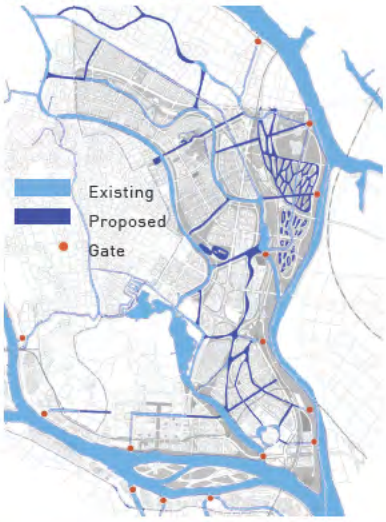
New gathering spaces are planned along canal edges, becoming focal points of neighborhood activity. Tea rooms, plazas, and quiet strolling gardens frame riverside

promenades and terraced viewing platforms. Existing fish pond typology inspired the new resort water pattern, incorporating clustered residential villas and a village retail center.

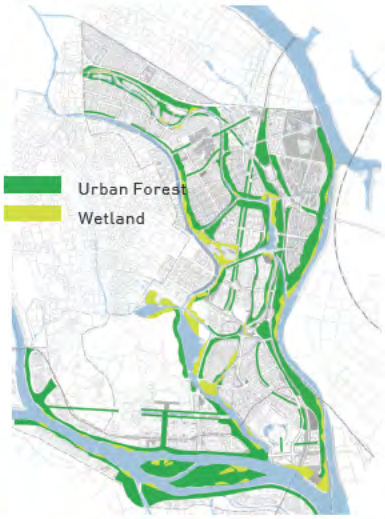
Integrated Systems

The framework of Shunde is comprised of integrated water, transportation, and wetland park systems; all three expressed as one entity. Waterways define the various areas of Shunde New City, but also become a way of traveling between islands and offer another means of recreation through a water taxi system. Water taxi stops are located at roughly 500 meter intervals, serving a walkable series of island villages. The greenbelt system is comprised of urban forest and wetlands. Wetlands and bioswales are incorporated into river edges for adjacent urban water filtration and also help define the water edge. The urban forest creates contiguous linear habitat for wildlife and migratory birds. Circulation is based upon the extension of the existing boulevard system into the site. A monorail loop links village centers and bicycle trails and follows the rivers, canals, and boulevard corridors while the high speed rail and subway offer regional connections.

WATER SYSTEM

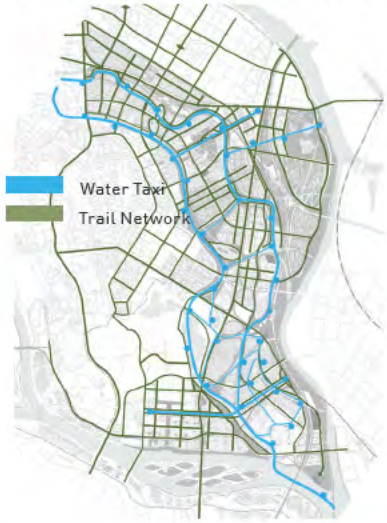


GREEN SYSTEM



Located at the mid section of the Guipan River, the Wildlife Park provides a necessary refuge for Shunde's endangered migratory bird population. As home to the second largest bird migration route in China, the new waterfront design sets aside protective wildlife island preserves as a safe haven and limited access study area. The Shunde region is also known for its water village culture, where everyday life revolved around ponds and canals. The new park design is inspired by the existing fish pond typology. An Interpretive Center is planned to help educate the public of the important regional resource and culture heritage.

WATER AND TRAIL NETWORK



TRANSPORTATION

A detailed design was developed for the urban waterfront parks at mixed-use commercial cores. Envisioned as "Green Machines" a series of landscape terraces filter runoff from adjacent development before it reaches the river system. Forest, path, terraced meadow, and wetland form an integrated pattern inspired by the this movement of urban water. Light walls and pavilions are designed to express local cultural elements.

The First Steps

SWA won the international competition to design The New City of Shunde. After the initial Concept Master Plan stage, a detailed master plan for the Shunde government was prepared, involving various public agencies and local experts, defining building, open space, and circulatory requirements for each individual parcel. After 2 years work, SWA's Detailed Master Plan became the legal framework for Shunde's future 20 years of development. As Shunde New City is advancing towards construction, major engineering plans for the new waterways and circulation have been completed. Currently, we are working on Phase One, an urban waterfront park acting as development catalyst, and is under preliminary design. High speed rail platforms and accompanying rail service to Guangzhou and Hong Kong, step one for connecting new city center growth, is already completed and in service. Together, these first steps will bring us one step closer to a future where nature, city, and a lost culture can find a new life - Shunde New City. ■

drawing the line

reclaiming the Shenzhen Bay Waterfront

by Peiwen Yu & Matt Baumgarten

Natural Resource:

"Something . . . found in nature that is necessary or useful to humans."

By any definition, Shenzhen Bay is a significant natural resource on multiple levels. Once on the path to extinction; its new waterfront park defines the bay as a necessary celebration of Southern China culture and ecology.

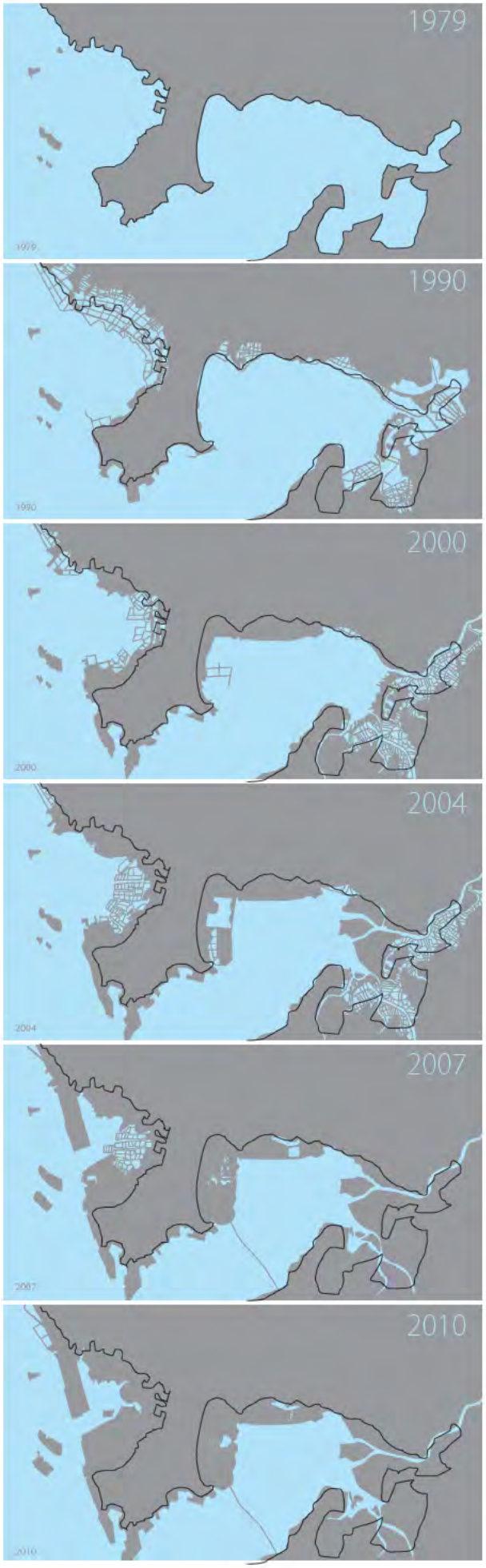
Shenzhen Bay Coastline Park / Shenzhen, China
Owner/Client: Shenzhen Municipal Planning Bureau
SWA Office: Houston
SWA Project Team: Kevin Shanley, Peiwen Yu, Ying Hu, Matt Baumgarten, Yan Wang, Shaobo Du, Bing Gu
Additional Consultants: China Academy of Urban Planning & Design, Shenzhen
Scope of work: Master Plan through DD
Project size: 96 ha
September 2006 – 2009

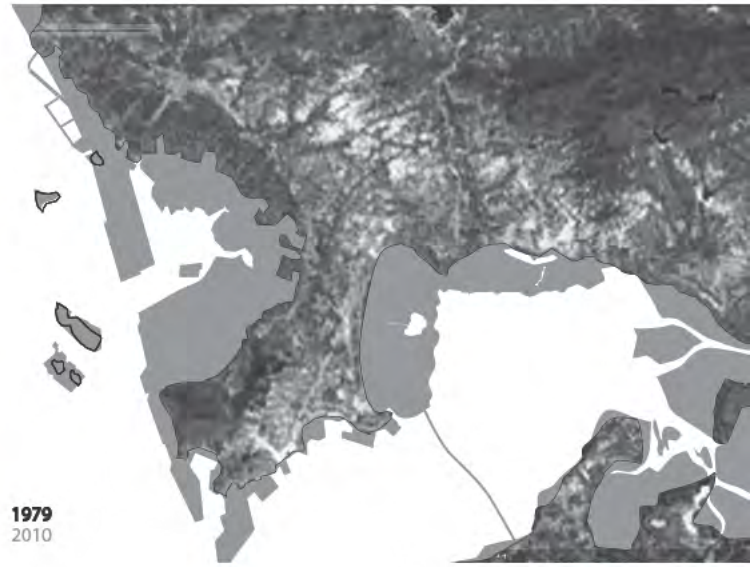
Regional change

The City of Shenzhen is located in the Pearl River Delta in a region known for its complex network of rivers meeting at the bay. The name, "Shenzhen", is based on this landscape typology and is translated to mean "deep drains." Started as a small fishing settlement along the Shenzhen River, the former village has quickly grown into one of China's major economic centers and the largest manufacturing base in the world. Such successes are not without consequence, and the landscape of deep drains has become shallow, if not extinct.

In 1980, spurred by its establishment as a Special Chinese Economic Zone, Shenzhen entered into a thirty year period defined by an uncompromising pursuit of "modernization". A seemingly irreversible process ensued where developing urban environments unsympathetically clashed with the region's historic mountain and oceanside identity.

New financial initiatives took hold and the need to find more developable land became paramount. Shenzhen's Bay was a quick and easy target. Huge monetary wealth was brought to the city by mining entire mountains and using them as landfill to transform the bay's waters into the new urban frontier. As mountain horizons disappeared, a new glass skyline reached upward with a reverberating sense of pride. Meanwhile, ecologic jewels were quickly exchanged for the riches of a modern economy. Consequently, generations of citizens who had defined their sense of place by a connection to the bay were left wondering how the water and mountains had so quickly vanished.





Shenzhen Bay's shoreline has evolved in the 30 years since the Special Economic Zone was established in 1980.

photograph from www.sznews.com

coastal park, viewing from north to south
photograph from BLY Landscape Inc.

Environmental consequence

During the three decades of filling the bay, Shenzhen Bay offered its millenniums of environmental and cultural assets only to be compensated with holistic and dramatic ecological imbalance. Pearl River estuaries were now an exotic species and the 83 km long coastline had become a sterilized moving target. Planning studies indicated that from 1980 to 2010, landfilling of the bay was equal to 65 square kilometers or roughly 4% of the mainland.

Historically, the coastline was a complex, intertwined system of Mangroves dotting the base of mountain top vistas. By the third decade, only one small Mangrove estuary of significance remained and the others were replaced by turbid waters wrought with severe pollution and siltation. Watershed hydrologic connections to the bay were reinterpreted as impervious coffins and their waters meet the bay in a frightening confluence of concrete. The final straw was the observation of the bay's seemingly infinite terrestrial and aquatic flora and fauna vanishing one dump truck at a time.

Drawing the line

Shenzhen has become an internationally recognized city through bold ambitions, much persistence, and a singular focus on the hard edges of modernity. However, the price of this all in approach reached a crescendo louder than the cranes, dump trucks, and construction crews enveloping the city. City and planning visionaries recognized the increasing disconnect from their heritage and waterfront and called for a stop to the bay construction destruction. Collective voices ceased landfilling practices and sought a permanent edge that would provide pedestrian access to the bay, restore its rich ecology, and provide regional education opportunities and recreation; a world class park defining the final landfill edge.

photograph from www.sznews.com

Edges, connections, cycles

The new Shenzhen Bay Waterfront Park is 15 kilometers long and 60 hectares, seamlesly reconnecting the city back to its bay while also serving as an important gateway from Hong Kong. Given the park's scale, location between converging interests, and long term aspirations, the design team synthesized its fundamental needs into a park concept of "Edges, Connections, and Cycles".

Edges

The "Edge" is an essential principle to guide waterfront development. Edges manifest themselves in many ways and at many scales. The edge is what provides the complex richness that attracts so many species to the water's edge, including the human species. It is manifested in the physical, biological and social realms. In the Shenzhen Bay project, edge development promotes the interaction and extension of multiple ecosystems, cultural system and social spaces: mangrove, seashore, wetland, forest, continuous slow-movement systems, residential development, Port functions, energetic urban core and innumerable other waterfront elements.

Connections

Connections describe the relationships between all the different elements of the edge condition. These links happen at all different scales and between all different systems. The connections that guide the design of the Shenzhen waterfront focus on the following aspects:

- Hydrologic connection from city to nature;
- Biological connections from city to nature;
- Human activity connections from city to nature;
- Cultural and traditional connections;
- Visual corridor connections; and
- Connections between people and temporal cycles

left: tidal garden and wetland

the portal building to Wedding garden

wetland planting terrace along the shoreline

Cycles

The edge is rich because of the complexity of connections between the parts, but the connections are only meaningful if understood through the fabric of time. Time is a way of understanding change and most changes in nature occur in cycles. Geologic, biological, and social processes are only understood relevant to their place in a cycle of time

Cycles are also manifested in the physical, biological, and social realms such as tides, seasonal changes, daylight, wind direction, vegetation changes, bird migration, and human society's unique activities including entertainment, holiday, festival events, etc.

Park design summary

The interface between edges, connections, and cycles results in a meandering green ribbon of mangrove edges, wetland fringes, and reforested landforms that once thrived along the Shenzhen coastline. An 11 kilometer long promontory and extensive pedestrian paths form an ecotone of man and nature, rising and falling, twisting and turning, passing through and along the various restored landscape ecologies. Fifteen programmed park spaces are seamlessly imbedded into the landscape affording a diversity of activities. Included are recreational sports, tidal wetland education, a wedding chapel, two large amphitheater sites, fishing docks, perennial gardens, cultural display areas, and multi-generational pocket parks. Where appropriate urban energies have been captured in dynamic urban plazas, but also thoughtfully dissipated through serene spaces of contemplation and relaxation. Climate is considered by providing deep shade throughout the park and affording vibrant night life opportunities along the promontory.

By adhering to the principles of a strong design concept, the new park draws a finite line honoring Shenzhen's historic waterfront connection while also celebrating an intertwined future for the bay and its people.

multiple use pathway all the way along the costal line
photographs by BLY Landscape Inc.

Designing the water landscape in conjunction with urban development requires understanding the consequences of complex hydrological and ecological systems, managing water systems through hard and soft engineering, transforming greenfields into high density urban development, mitigating stormwater runoff, and designing for shifting shorelines.

Each of these problems has enormous challenges and requires the intricate combination of the landscape architect's toolkit of engineering and design solutions with an urban designer's expertise in large scale systems planning and urban development patterns. No problem or unique design solution is fully replicable. Each city poses a different interconnected set of constraints and needs, and as designers we take on these challenges and constraints in order to fuel innovation in creating new patterns for ecological city designs.

Three recent projects provide examples of our solutions to these complex problems. Wusong Treatment Wetland Park combines an extensive analysis and detailed treatment strategy as a framework for urban development at the site level, showing how a diverse system of water management strategies enables a variety of development typologies by shaping each strategy to accommodate the programmatic needs of the typology. Ningbo Eco-Corridor Park is a green infrastructure for Ningbo Eastern New City, creating an urban lung for the new city that supports a multiplicity of ecological systems by turning urban run-off into an amenity for both human recreation and wildlife habitat. Wanmu Orchard Wetland Park organizes a series of developing villages around a fragile delta, hybridizing the relationship between wetland, orchard, recreational park and urban development by structuring each system according to the ecological pattern of the site's meandering river system. In her essay 'The need for place,' Shannon Bronson explores the connection between designing what could be considered aesthetically messy natural systems with an emphasis on establishing clean and ordered frameworks for people to experience these places and thereby encourage the continued care of these environments.

These projects illustrate design solutions at various scales that attempt to exploit opportunities and create synergies between the seemingly contradictory needs for both high density urban development and ecological improvement.

WATER + WETLAND INFRASTRUCTURE

functioning hydrological systems

ECOLOGY AS INFRASTRUCTURE

establishing a functioning Wusong River system

"The pilot project significantly increased the value of the future development parcels in the area, where true accessible waterfront properties are hard to find."

Zeng Yuxiang – Director of Planning Bureau

This project seeks to achieve synergy between development and environmental conservation, balancing these two often conflicting values in a rapidly changing region. Through strategic phasing, the design team proposed an integrated approach of hydrological design and land planning with a pilot water treatment system upstream of where the future development will be located. The vision is to set up an exemplary model for responsible development, provide habitat for flora and fauna, and reconnect and nurture the relationship between people and water.

Building upon a water system

Kunshan City is known historically as the birthplace of traditional opera and for its unique canal townships along the Wusong River. In the past few decades, due to its proximity to Shanghai, the city has experienced unprecedented population and business growth, which has resulted in environmental degradation and the need for the city to remake its identity.

Wusong Riverfront / Kunshan, China

Owner/Client: Huaqiao Economical Development Zone Programme Building Bureau

SWA Office: Sausalito

SWA Project Team: Hui-Li Lee, Roy Imamura, Bob Jacob, Minhui Li, Chih-Wei Chang, Zachary Davis, Yoonju Chang, Mandana Parvinian

Additional Consultants: Architects: Ojanen_Chiou Architects; Environmental Consultants: Herrera Environmental Consultants; Local Design Institute: Suzhou Hezhan

Scope of work: Master Plan / Landscape Design SD-DD

95 hector Site area

Design: November 2008 – 2010

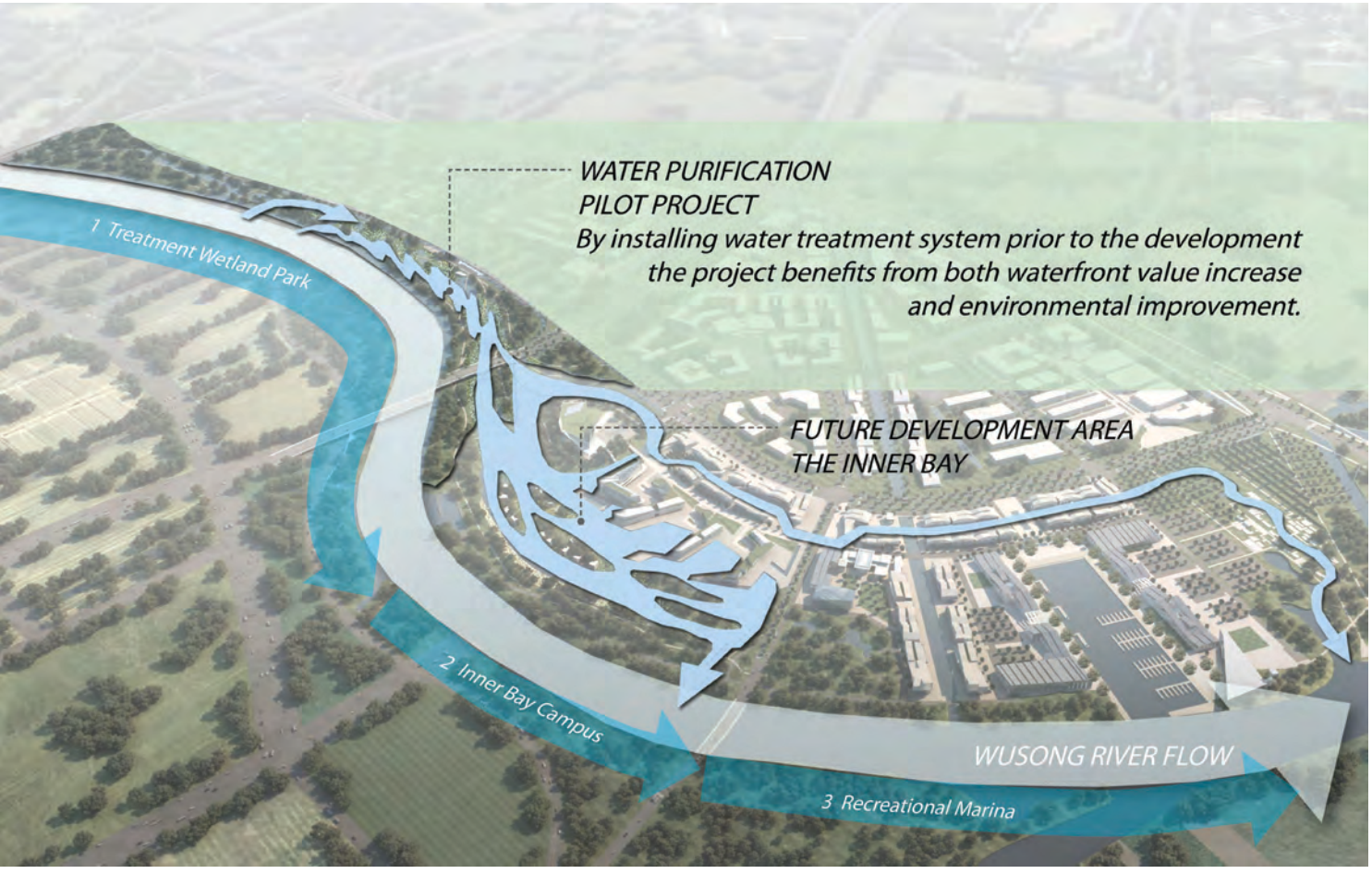
Construction Phase I: 2010 – early 2012

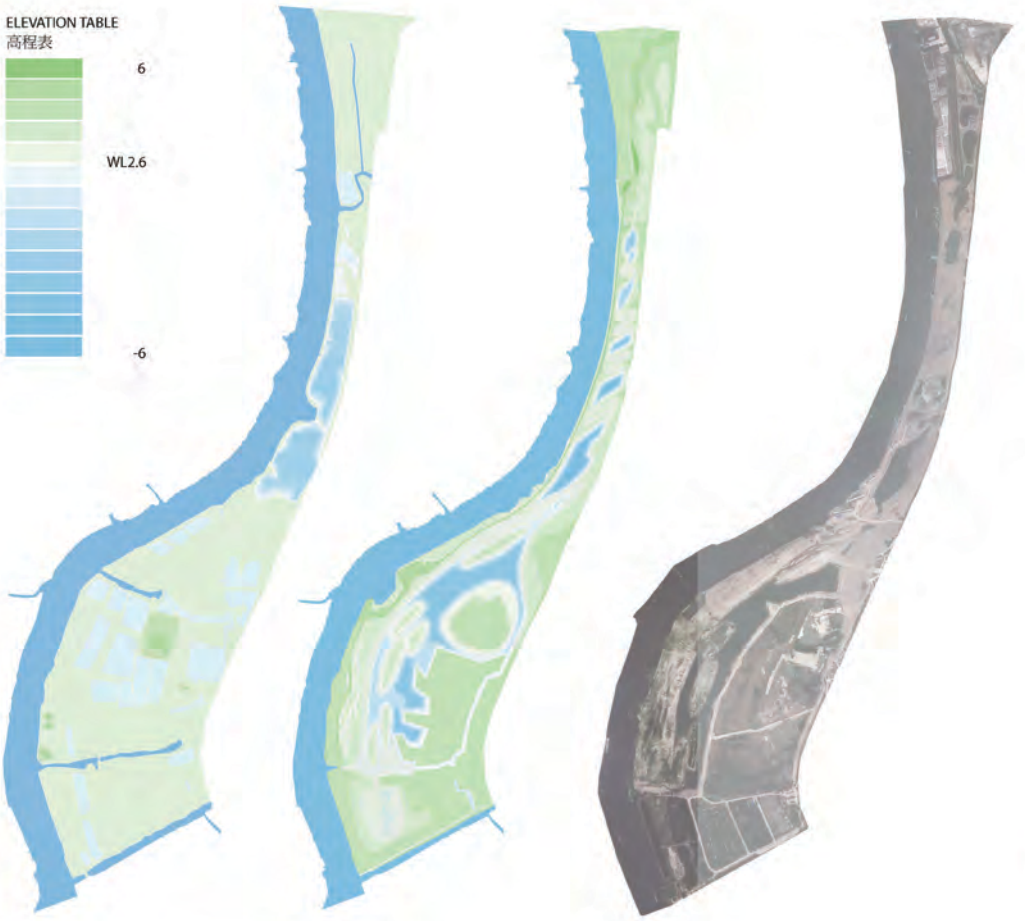
WUSONG RIVERFRONT

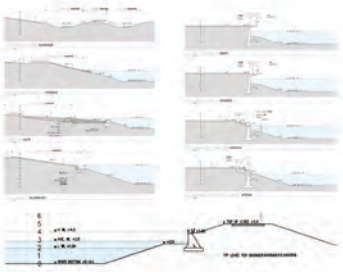
Abandoned Fish/Farm Land

Remained Excavation Pits

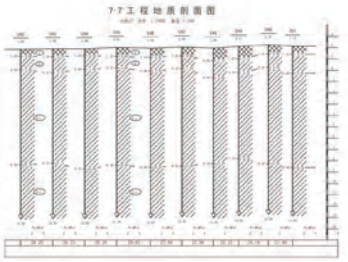
Manufacturing Landscapes







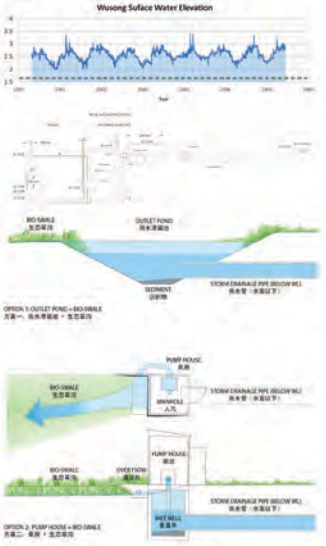
WATER LEVEL AND WATEREDGE ELEVATION



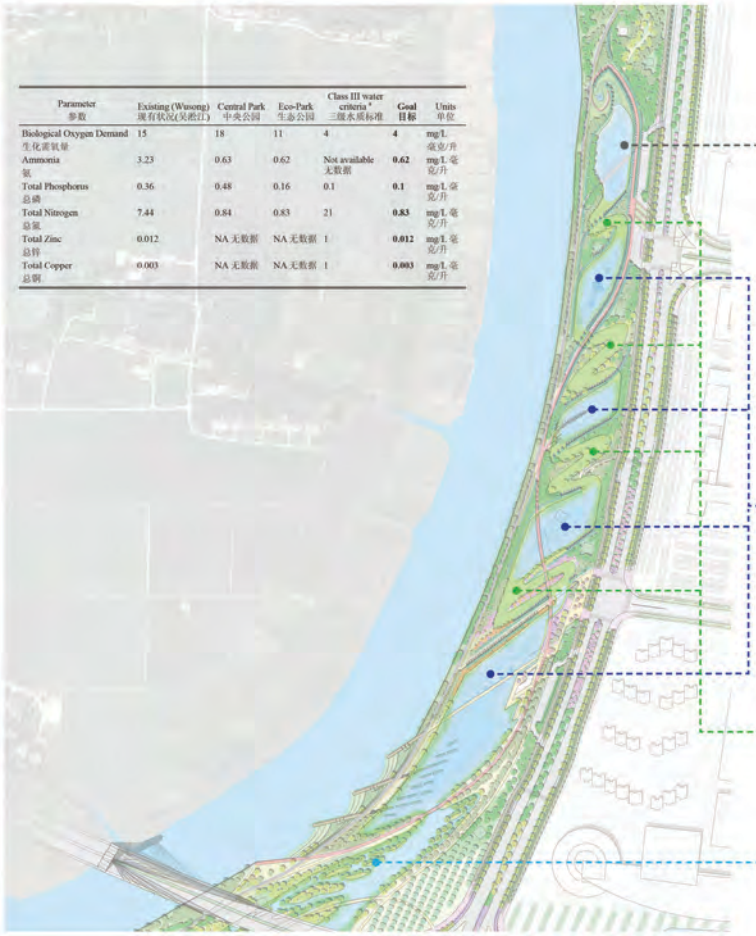
GRADING AND HYDROLOGY DIAGRAM

Wusong River, Inner Bay and Water Canal are the three major hydrology systems of the site. Hydrology and grading design is based on the following design principles:

1) Maximize the value of the water, create both aesthetic and functional waterfront spaces
2) Fully understand the natural purification system and use hydrology/grading design to maximize the effectiveness of this process
3) Take full advantage of the existing land and soil resources and balance cut and fill on site. With the existing ground elevation (+2.9), excavate the inner bay and fill along the levee, to build the base for the Wetland Park and it's resultant water quality treatment.



Parameter 参数	Existing (Wusong) 现有状况(吴淞江)	Central Park 中央公园	Eco-Park 生态公园	Class III water criteria * 三级水质标准	Goal 目标	Units 单位
Biological Oxygen Demand 生化需氧量	15	18	11	4	4	mg/L 毫克/升
Ammonia 氨	3.23	0.63	0.62	Not available 无数据	**0.62**	mg/L 毫克/升
Total Phosphorus 总磷	0.36	0.48	0.16	0.1	**0.1**	mg/L 毫克/升
Total Nitrogen 总氮	7.44	0.84	0.83	21	**0.83**	mg/L 毫克/升
Total Zinc 总锌	0.012	NA 无数据	NA 无数据	1	**0.012**	mg/L 毫克/升
Total Copper 总铜	0.003	NA 无数据	NA 无数据	1	**0.003**	mg/L 毫克/升



PURIFICATION SEQUENCES

RIVER WATER, CLASS V

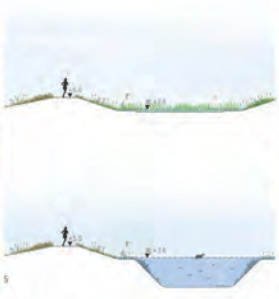
SEDIMENT POND

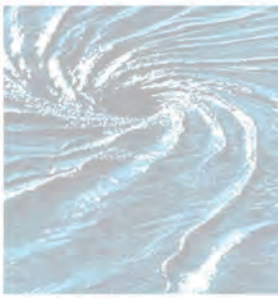
DEEP WATER AERATION POOLS

SHALLOW WATER TREATMENT CHANNEL

RIPARIAN EDGE

CLEAN WATER TO THE BAY





REFLECTION POOL (SED POND AND POND 1)

RIPPLE POOL (POND 2)

WATERMILL GARDEN (POND 3)

BUBBLING POOL (POND 4)

WINDMILL AERATION POOL (POND 5)

INTAKE PUMP WATER FEATURE

(TREATMENT CHANNEL 1)

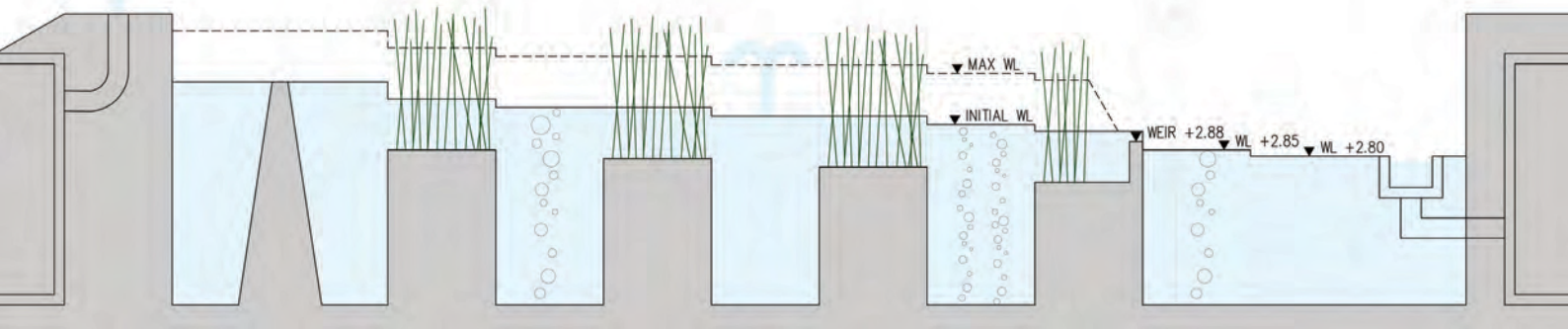
STONE GARDEN (TREATMENT CHANNEL 2)

BIRD HIDE LOUNGE (TREATMENT CHANNEL 3)

WILD FLOWER FIELD (TREATMENT CHANNEL 4)

INNER BAY

INLET PUMP WATER FEATURE



The municipality hosted a competition and called for ideas for a new 95-hectare riverfront business district at the key oxbow portion of the river, which will support the area's bustling economy while creating public amenities and open space. This proposal therefore aimed for a combined solution- creating both people-oriented amenities and water-quality improvements. By establishing the development as a water-cleansing sequence, the project not only met growth objectives, but also surpassed innovative sustainability goals.

A year-long thorough analysis was conducted by SWA and affiliated consultants, including water-quality scientists, wetland experts, hydrology engineers, and architects. Central to this study was an understanding of the site's landscape structure, defined largely by the Wusong River, its watershed, and the changing infrastructure of nearby future developments.

The site's polluted river water is unsuitable for most waterfront programs and is further complicated by excavation pits left along the river banks by a former brick factory and untreated surface runoff from adjacent parcels. Accordingly, this design proposes a bottom-up approach in which the new water treatment system is designed to fit into the existing context without compromising marketable parcels.

Treatment wetland park - the pilot project

The goal is to improve the existing water quality from Class 5—the lowest rating, which signifies that the water is completely unsafe—to Class 3, which is non-potable but safe for water recreation. A pilot treatment system will be situated upstream from the future development, where the polluted water is introduced to the site for experimental treatment. Several pools and channels in a sequence are designed to remove targeted pollutants by settling, filtrating, aerating, and bio-processing in alternating oxic and anoxic environments. The system mimics a wide variety of natural process and acts as the "kidney" for the river, cleaning the sludge and industrial effluents being produced and discharged into the river upstream, thus extending the benefits downstream throughout a larger region.

Hydraulic aspect of shaping: To optimize the treatment effect, fine tune the treatment channels and pools according to target desirable flow rate.

"Through monitoring and test feedbacks, the design and construction team can adjust and fine tune the strategy and treatment."

The goal-oriented hydraulic design/engineering further explores the concepts and techniques in achieving target treatment results, which include estimating residence time and flow rates, manipulating velocity and volume through grading, and avoiding short-circuiting and stagnation. The differences of flow layouts and treatment sequences ultimately contribute to different land management and maintenance requirements. Earthwork and grading are designed to conserve onsite soil and carefully shape the interior of the treatment system to optimize its efficiency and capacity. For example, the sediment pond was sized for desired flow rate and velocity, excavation pits were mostly preserved and utilized for the aeration process, and treatment channels were graded to let water filter through wetland plants evenly over the longest paths. While the purification process was precisely calculated, the system was designed to be flexible to accommodate flood and drought conditions.

The importance of the pilot projects is that they evolve and adapt with site conditions that were not foreseen in the design phase. Through monitoring and test feedbacks, the design and construction team can adjust and fine tune the strategy and treatment. It is especially critical for determining real water budgets, necessary pump controls, plant establishment and seasonal changes.


SEDIMENT BANK
50 YEAR
FLOOD
10 YEAR
FLOOD


FUTURE SUBMERGE LINE FOR METASEQUOIA GROVE


TREATMENT
CHANNEL


AERATION
POOL

FOR FUTURE DEVELOPMENT

Synergy between environment and development

The design of the new water-treatment system also considers the aesthetic experience of the user and emphasizes public education. In the Treatment Wetland Park, ponds and channels are transformed into a series of gardens and open spaces according to the function of each. For example, a sediment pond becomes a reflection pool, a treatment channel becomes a stone garden and bird-watching lounge, and the aeration process is artistically expressed as a ripple pool and a bubbling pool. A special path runs the length of the Wetland Treatment Park, connecting the variety of programmed spaces and distinct landscapes and weaving the story of the water-purification journey.

"SWA's visionary scheme showcased the solution for the regional issue, and triggered the awareness and action of wetland sites along Wusong River. We're proud to be part of the movement."

Xu Ting – Chief Engineer

After the water is purified in the Treatment Wetland Park, it flows into the future inner bay campus and the waterfront business and retail development. The inner bay provides a diverse habitat, maximizing the enjoyment of the water edge and integrating numerous layers of waterfront activities. By using less than one-third of the site land for water infrastructure, the project allows 100 percent of its buildings direct access to the cleaned water, greatly increasing the value of the overall development for both aesthetics and ancillary benefits. The Wusong Riverfront Business District will begin its next-phase construction in 2012, with a ten year overall build-out.

LIVING FILTERS

constructing wetlands for improved water quality

The master plan for the 3.3 km long, 250-acre metropolitan Ningbo Eco-Corridor Park transforms a former agricultural plain that had been taken over by industrial use into urban green infrastructure. Acting as a living filter, the design utilizes ecological strategies of hydrology, vegetation and topography. It is envisioned as a "Green Lung," which provides recreational, educational and cultural facilities for the new Ningbo Eastern New City and creates a network of open spaces where human, wildlife and plants can co-exist, migrate, inhabit and thrive.

Located in the heart of the Yangtze River Delta on China's coastline, Ningbo is one of China's oldest cities. With an area of 3,616 square miles and a population of 5.43 million, Ningbo, which translates to "tranquil waters," has been a well-known key port for foreign trade since ancient times. Bordered by Shanghai to the north and Hangzhou to the east, Ningbo is an important industrial city, foreign trade port, and economic center for Eastern China.

In 2002, in order to support the growth of the Old City and upgrade infrastructure, the government called for a master plan for an "Eastern New City" to add 6 square miles to the urban area. The development of this area inspired a strategy to establish Ningbo as a larger metropolitan area of economic and environmental importance and set the stage for an ecological approach to development.

Ningbo Eco-Corridor Landscape Design / Ningbo Eastern New town, Zhejian Province, China

Owner/Client: Ningbo Planning Bureau - East New Town Development Committee

SWA Office: Sausalito

SWA Project Team: Huili Lee, Roy Imamura, Scott Chuang, Jack Wu, Chih-Wei Lin, Kathy Sun, Chih-Wei Chang, Huiqing Kuang, Nancy Coutler, Amity Winters, Luis Kao, Xun Li

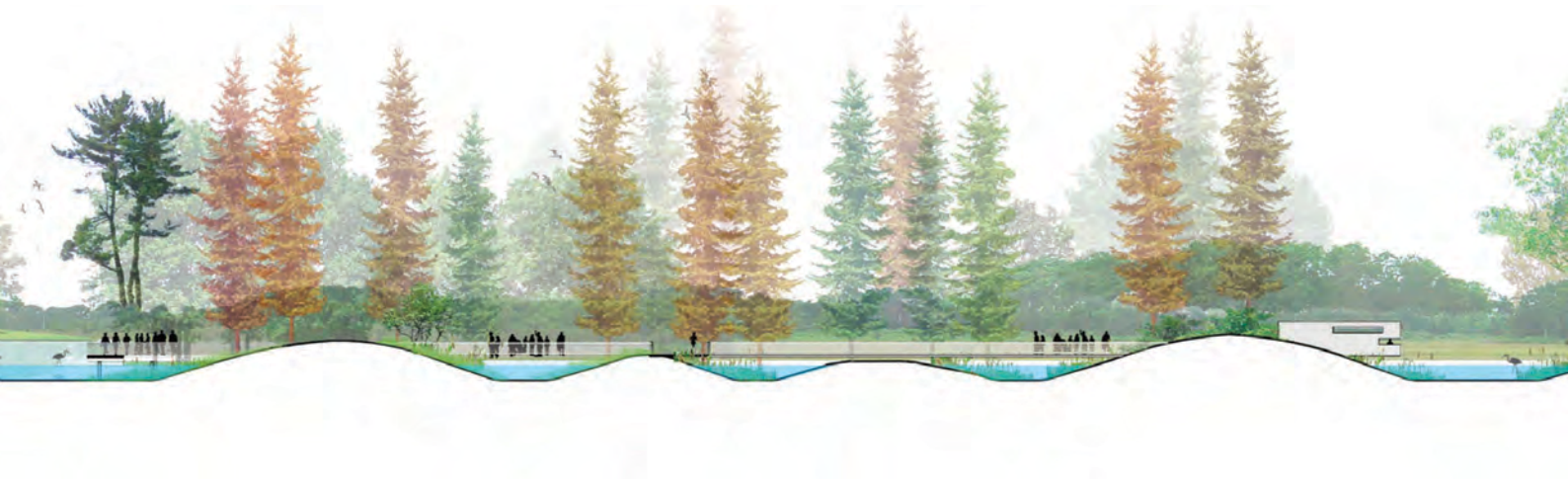
Additional Consultants: OJANEN_CHIOU architects LLP Herrera Environmental Consultants. Organic Water

Scope of work: Master Plan, SD, DD, CR, CO

Project size: site: 250 acres; buildings: 10 acres; landscape: 240 acres

2006-2012 (est)

1 Water Jet
2 Expanded Water Body
3 Wind Mills on Mound
4 Outdoor Teaching Space
5 Nature Study
6 Underground Garbage Facility
7 School
8 BBQ Area
9 Land Art Pedestrian Bridge
10 Bio-Retention Basin
11 Bio-Ponds
12 Wellness Gardens
13 Sand Volleyball Court
14 Children's Playground
15 Bio-Dry Creek
16 Main Pedestrian Loop with Bike Lane
17 High Rise Residential
18 Pedestrian Bridge over Main Creek
19 Pump House Facility
20 Outdoor Swimming Pool
21 Sculpture Garden
22 Campus
23 Water Cleansing System
24 Pedestrian Bridge and Overlook
25 Boat Dock
26 Observation Tower
27 Children's Learning Center
28 Basketball Court
29 Skateboard Park
30 Volleyball Court
31 Parking Lot
32 Community Village
33 Water Front Platform
34 Rock Climbing Area
35 Neighborhood Center
36 Nature Study
37 Off Stream Wetland
38 Community Garden
39 Boardwalk
40 Water Edge Promenade
41 Primary Wetland



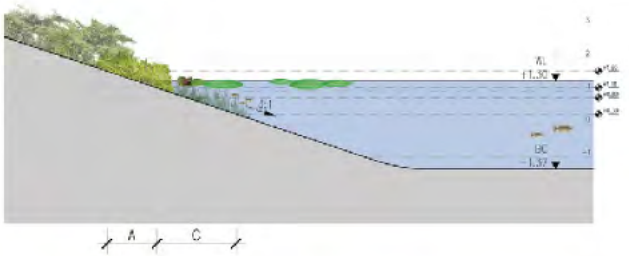
Particular attention was paid to the hydrological design of the corridor, since this city is more than a place of human habitation, but also a living filter that actively improves the condition of the city's water resources. Existing canal water quality at site is classified as level IV-V by Chinese water quality classification, restricted to industrial and agricultural uses and not fit for human habitation. The project improves the condition of the water to Class III or better by use of innovative technologies that mimic ecological processes that filter and treat canal and storm water, resulting in much improved water quality able to support aquatic functions and recreation. Wetlands, riparian plantings, bioswales and water bodies provide water filtration, aeration and retention for aquifer recharge. The project offers recreational and educational opportunities for the urban development, fosters an increased community relationship to water, and supports natural habitat and ecological systems for wildlife and fauna.

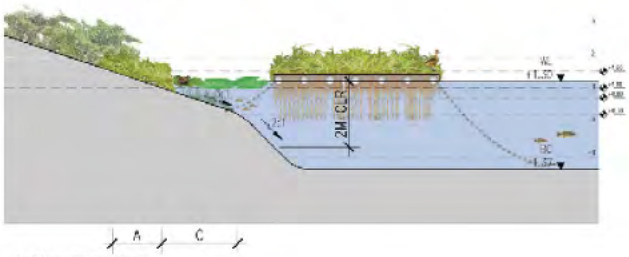
In contrast to the typical flat topography in this region, the design creates undulating contours that buffer the urban environment and provide vista points and biodiversity. The soil will come from nearby excessive construction excavation; which is a common problem of rapidly developing cities. This proposal utilizes excess fill generated from adjacent development excavation to create topography reminiscent of the peripheral mountain range, extending the spatial quality of the larger environment into Ningbo itself. The result is a more dramatic spatial experience, a more challenging open-space exercise network and ecologically varied terrain. In addition, a variety of vegetation is planned to encourage biological diversity and habitat establishment. The emphasis on native vegetation will encourage native wildlife to inhabit the space and help to develop plant communities along the length of the corridor. All plants seeds were picked locally, matching the existing ecological system from nearby the national park..

"The result is a more dramatic spatial experience, a more challenging open-space exercise network and ecologically varied terrain."

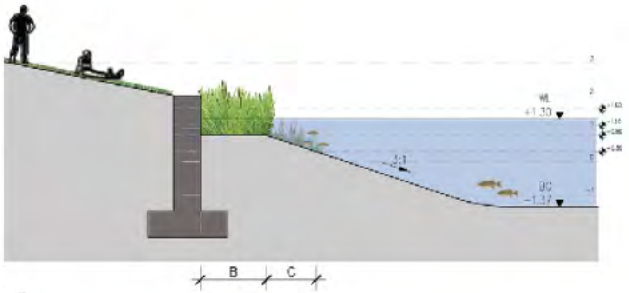
Integration with the urban fabric. Ningbo's Eco-Corridor serves as the spine of the city's open space system, connecting and creating a variety of land uses for the city. Extending 3.3 km long, the Eco-Corridor connects seamlessly with the adjacent urban fabric, creating a mutually beneficial and symbiotic relationship between the corridor and the surrounding land uses.

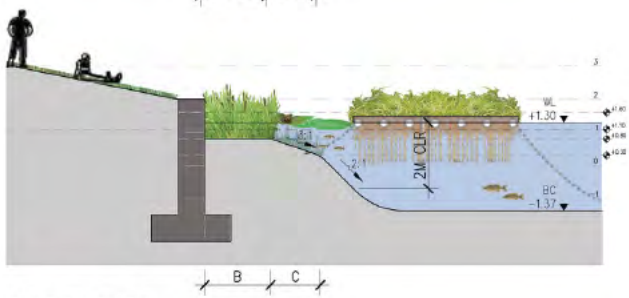
The cultural history of Ningbo is also closely affiliated with water, as it weaves through the city in irrigation canals and rivers. The hydrological flow pattern for the Eco-Corridor is designed to be meandering and slow, as what would historically have been seen in a lowland floodplain. This slow moving water catalyzes the eco-corridor to act as a filter.



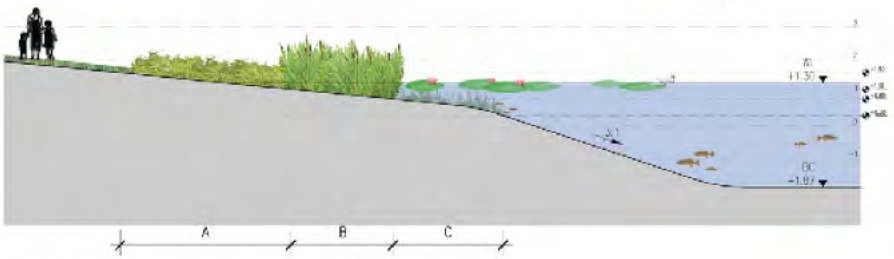


SECTION TYPE I



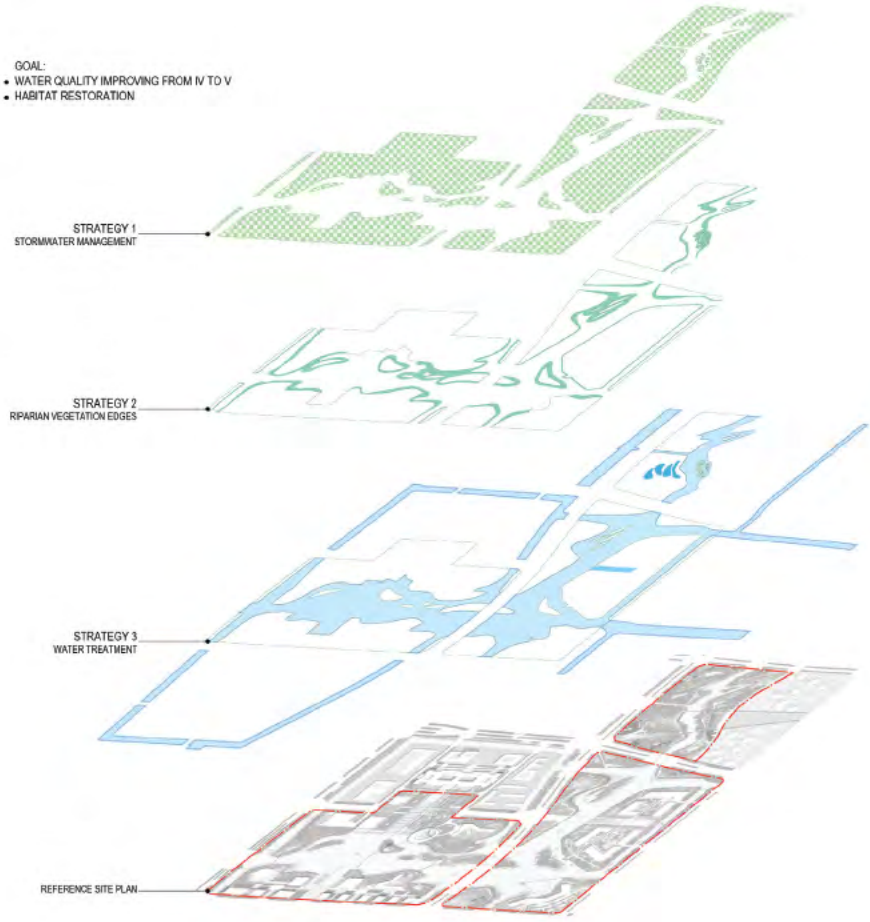


SECTION TYPE II



SECTION TYPE III

GOAL:
- WATER QUALITY IMPROVING FROM IV TO V
- HABITAT RESTORATION



In order to expedite the water filtration process beyond what can be achieved by simply planting passive water plants, the consultant team studied how natural filtration systems work and developed a highly orchestrated ecological water filtration system. A series of floating wetlands and active filtering riparian edges were established and water was circulated through this system with renewable-energy-powered pumps. At the same time, the landscape architect was able to create a meandering water edge that maintains the natural aesthetic value of the water.

By helping repair the ecological network in this region, the Ningbo Eco-Corridor enhances public health, quality of life and the property value of local and neighboring communities and encourages other cities in this region to include an ecological component to their development. ■

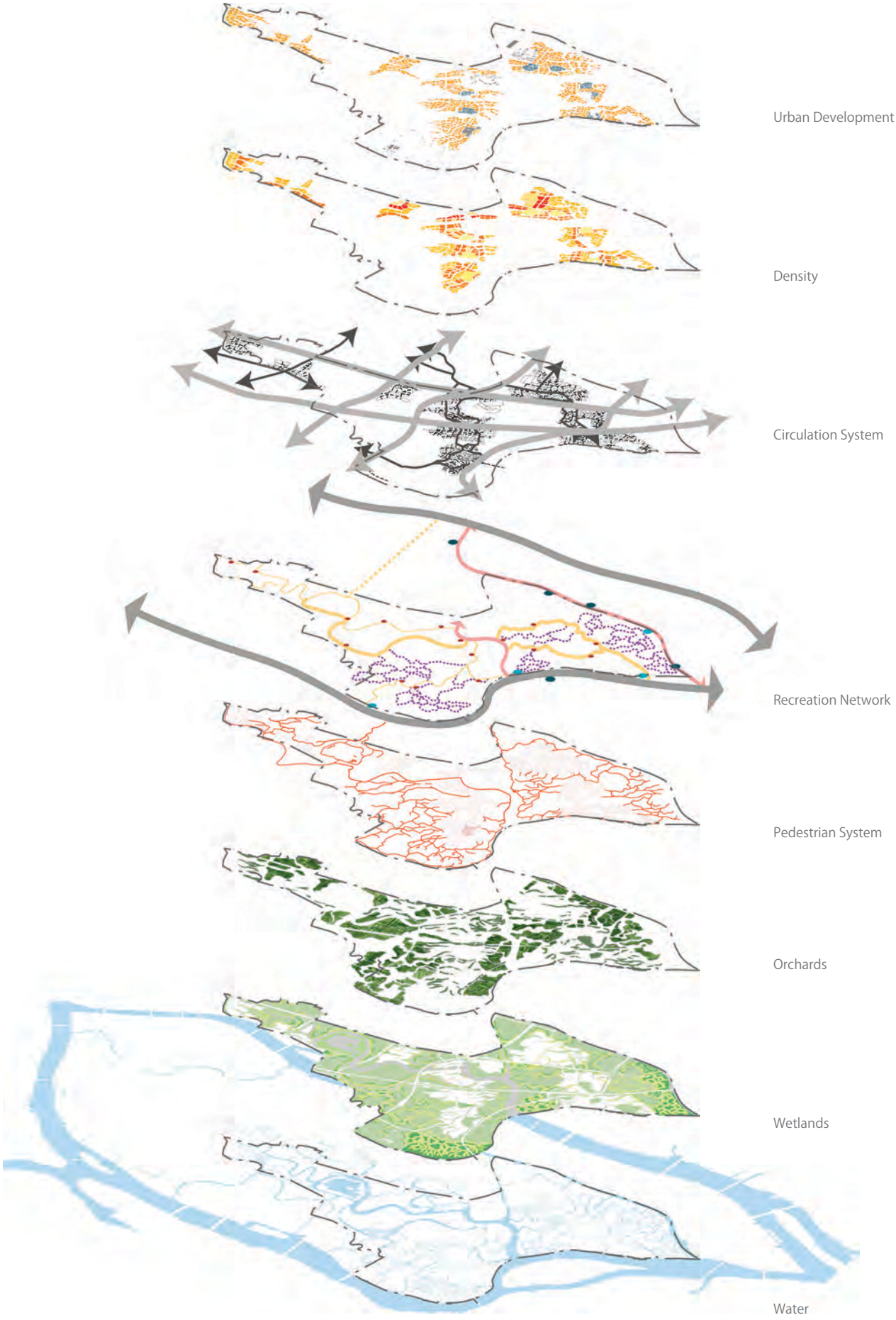
MEANDERING ECOLOGIES

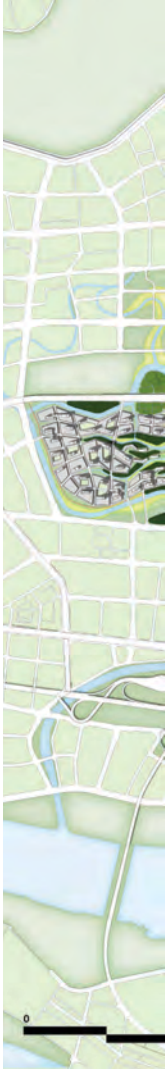
the art and science of a delta

The master plan vision for Wanmu Orchard Wetland Park creates a flexible development framework referencing the formal processes of the hydrological conditions of the site—one of meandering ecologies. This flexible pattern lays the foundation for a symbiotic relationship between buildings and the landscape.

Urban development in Wanmu Orchard Wetland Park creates a hybrid condition with its surrounding landscape, pulling the ecological park into the heart of the new villages while sensitively providing development opportunities that reach into the nature park. By hybridizing urban development with the meandering river system that creates the predominant geomorphological pattern on the site, more edge conditions are created, increasing the opportunities for inhabitants to enjoy the natural beauty of Wanmu Orchard Wetland Park.

Guangzhou Wanmu Orchard Wetland Park / Guangzhou, China
Owner/Client: The People's Government of HaiZhu District, GuangZhou Municipality
SWA Office: Laguna Beach
SWA Project Team: Sean O'Malley, Xiao Zheng, Andrew Watkins, Meng-Lin Tsay, Ekta Gupta, Clementina Vinals, Matt Kizu
Additional Consultants: Herrera Environmental Consultants, Inc. Guangzhou Scenery Urban Design Ltd.
Scope of work: Landscape Master Plan & Urban Design
Project size: 26 sq. km
Date begun/ended: May 2011

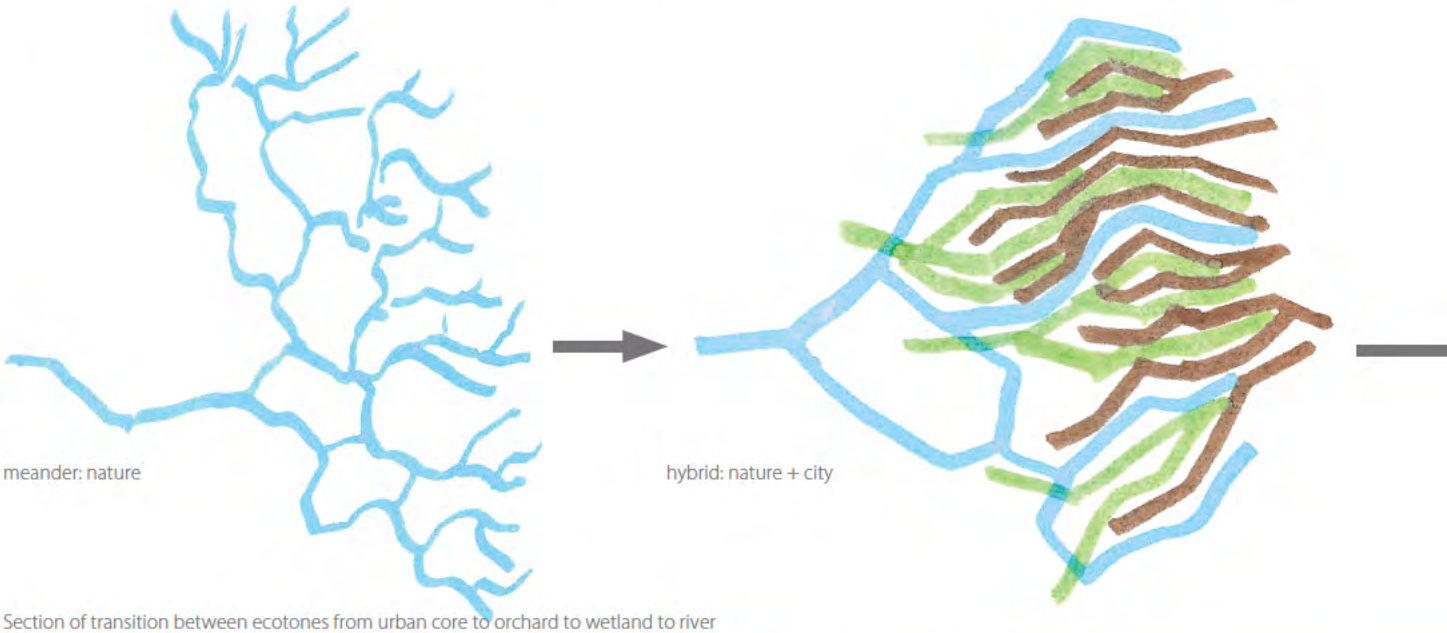

Urban Development
Density
Circulation System
Recreation Network
Pedestrian System
Orchards
Wetlands
Water



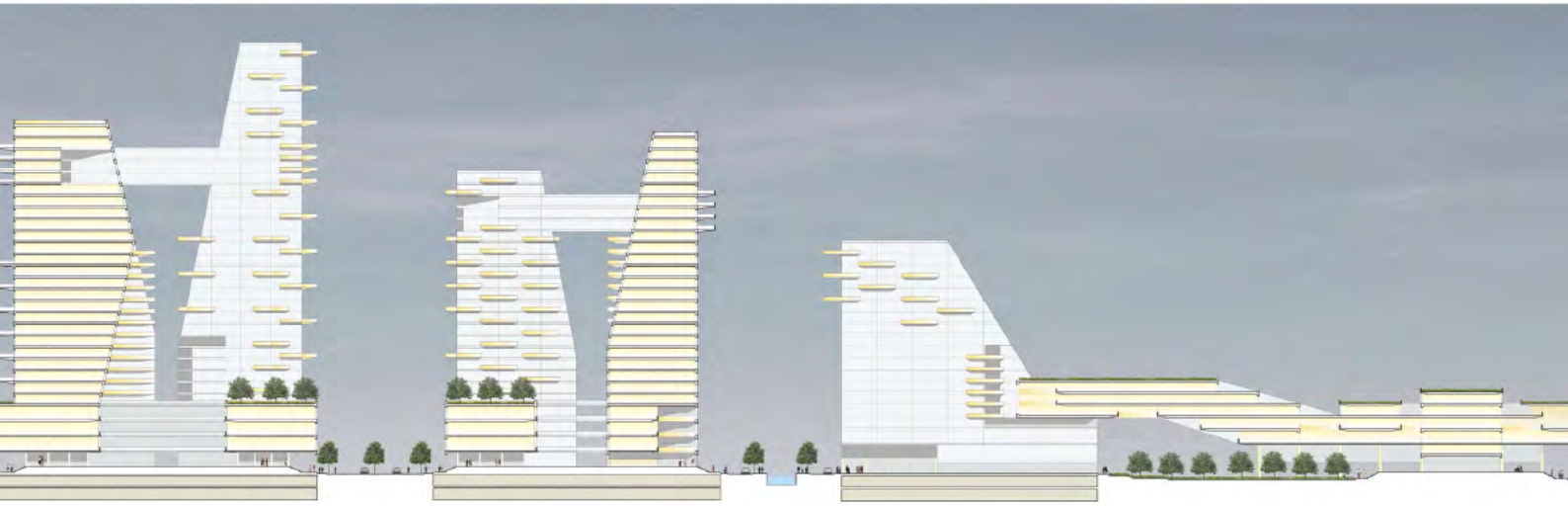
Rivers are transporting machines; they erode sediment from one location and deposit it to another—a process of releasing energy and slowing down that results in the river creating sweeping arcs through the landscape. These arcs, or meanders, create increased edge conditions, providing a greater potential for rich ecological habitat. As rivers meander, slow down and diverge into smaller streams a fractal pattern is created that forms a natural wetland, cleaning and rejuvenating the site. This pattern informs the basic structure of Wanmu Orchard Wetland Park, organizing village development, orchard, and wetland park into a cohesive ecological system. Ecotones are the physical transitions between landscape typologies. In the Wanmu Orchard Wetland Park, the transition from the city center to village to orchard to wetland park creates a series of ecotones that transition from a dense urban condition to an ecologically sensitive open space. For the Wanmu Orchard Wetland Park, water is the key element that connects these ecotones together. Each layer of the ecotone should respond to their ecological position through the development of appropriately configured open space typologies. Urban wetlands in the urban core move water efficiently from dense development to the outer edges of the city, providing the first stage of water filtration through small scale natural conditions. Working wetlands do the heavy lifting of filtering the majority of contaminants from the urban run-off, providing clean water to the wildlife wetlands located in the most environmentally sensitive areas of the site.

Habitat fragmentation threatens to decrease the ecological viability of the Wanmu Orchard Wetland Park. Transportation and development areas are carefully chosen to maximize the availability of connections between sensitive ecological areas, allowing for the movement of both local and migratory species throughout the park. An urban growth boundary will decrease development impacts on the most sensitive ecological areas by protecting them in perpetuity. This protection will allow the landscape to regenerate and mature to a vibrant riverine wetland system. Coupled with new and updated infrastructure to collect and treat wastewater within the villages, a natural healing process is enabled to occur within the wetland. Increased ecological habitats create a wider spectrum of ecological variety that makes these systems more resilient. A healthy riparian/wetland ecosystem will act as a magnet to a multitude of wildlife species creating a user experience unlike any city in China. The health of the wetland will

Orchard Perspective



Section of transition between ecotones from urban core to orchard to wetland to river



Village Perspective

enlarged plan

transcend to the residents and visitors of this area creating a sense of rejuvenation.

New development patterns reflect the meandering qualities of the surrounding delta system. Urban areas are pared back to their traditional urban cores, preserving the most significant and historical hearts of each village. New development typologies reach out from the core, meandering into the surrounding orchards and wetlands. The increased edge conditions of these diverging development typologies allow for more interaction with the park through linear urban forests which reach into each village. As development extends from the village core, their typologies modulate in relationship to the landscape. Low horizontal buildings on pilotis stretch into the edges of wetlands, small urban blocks with towers border the urban forests, larger courtyard blocks with towers ring the village cores and low dense courtyard housing defines the community spaces of the village core itself.

Meandering ecologies structure a hybridized framework of natural systems and development configurations that work to define a unique character for Wanmu Orchard Wetland Park. Through careful integration of building and open space typologies, the master plan creates increased opportunities for interaction, blurring the distinction between village and park. ■

the need for place

framing ecological systems on a human scale

by Shannon Bronson

"We abuse the land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect. There is no other way for land to survive the impact of mechanized man, nor for us to reap from it the esthetic harvest it is capable, under science, of contributing to culture."

-Aldo Leopold. A Sand County Almanac with Essays on Conservation. Oxford University, New York. 2001.

Landscape Urbanism and Ecological Design both utilize natural processes as the fundamental regulating systems to organize city building. They provide frameworks for designing resilient futures by weaving human purpose with natures systems and patterns. Contemporary landscape architecture integrates these ideas into practice through a systems-based, multi-scalar, and multi-disciplinary effort with ambitions to create environments that encourage and manage human and biological health. Designers such as Patrick Geddes, Benton McKaye, Andrew Downing, Lewis Mumford, Frederick Law Olmsted, and Ian McHarg have elevated the profession from an aesthetic practice to one that creates solutions by synthesizing environmental sciences and open systems thinking. These practitioners expanded the discipline's scope to be realized at regional scales to effectively capture the necessary level of intervention for major ecological challenges. They also advocated that urbanization be integrated with natural conditions to the create cities with strong regional identities while improving ecological health. Each considered urban and natural conditions more productive when woven together, and the "landscape as a cultural product that underlies urban order" (Levy, 2007). So to, do Charles Waldheim and James Corner argue that in the context complex environments, post industrial sites and public infrastructure, cities should be organized through the horizontal surfaces of the landscape rather than architecture so that the built environment is more flexible to social, political, environmental and economic futures (Waldheim, 2003, pp.16).

"Civilization usually discards its waste into natural systems that occur within city because unkempt appearance does not demonstrate care or reflect its value to society."

The advancement of these theories are a step in the right direction, yet their systems based approach provides insufficient tactics to create "places" that amplify natural infrastructures on a human scale to become vivid contributors to culture. Wetland systems, riparian corridors, and multi-layered ecosystems are necessarily "messy" when compared to the highly managed landscapes such as plaza, garden, and turfs that we usually consider to be cultural symbols. Civilization usually discards its waste into natural systems that occur within city because unkempt appearance does not demonstrate care or reflect its value to society. Yet city governments recognize more and more the value of the ecosystems services natural systems provide. They need to find ways integrate their aesthetically chaotic structure into vivid human-scale experiences. If civilization can experience nodes of human-scaled places that are integrated with complex environmental structures, society can begin to care for the place as a part of the whole, thereby increasing the systems resilience. A lack of attention to the components of ecological placemaking risks skillfully stitching together complex sociobiophysical interactions to find in the end a design which has no soul, and becomes vulnerable to the detritus of urbanization.

Designers have the responsibility to examine which formal and programmatic constraints can be implemented within ecological infrastructure, because the bound geometries of places can be the vivid counterpoints to frame the messy make up of natural systems. The aim is to ultimately frame the ecosystem within a culturally desired aesthetic of neatness to create conditions of care. This care is a necessary link to a designs' sustainability because if it is not given, a sites' ecology becomes vulnerable to disturbances that damage landscape functions beyond a point of recognition. This essay examines three case studies to show how landscape architects have begun to frame ecological systems within a cultural context, and in so doing ensure the continued resilience of the designed natural systems because they are meaningful places that contribute to culture.

"The aim is to ultimately frame the ecosystem within a culturally desired aesthetic of neatness to create conditions of care."

Case study: the floating gardens at Yongning River Park, Taizhou City, China

In 2002 the city of Taizhou asked Turenscape Landscape Architects to design a 21 ha flood and stormwater control system as an alternative to the concrete embankments and dams that existed along the banks of the Yongning River. The city wanted the park to become a model of an ecological flood and storm water management system that also created wildlife habitat, delighted local residents, and attracted tourism. Their approach is critical to the health of China's river systems and cultural preservation. The speed of channelization due to development is highly accelerated in China and rapidly destroys the fragile ecology at the river's edge. Concretization is also culturally and historically insensitive to the deep symbolism rivers have in local lore, so the park aims to be a place that celebrates the river, culture, and local stories. The park is composed of two layers: the environmental matrix overlapped with the human matrix. The environmental matrix is composed of wetland and native vegetation designed to flood and create native habitats. Above this float the gardens of humanity composed of a designed tree matrix, a path network, and a matrix of story boxes (ASLA website, 2010).

The designers studied the regulating hydrology, including storm water process analysis at the 5, 20 and 50 flood year levels. With this data, they were able to construct a wetland flood control system to capture heavy rains, and also created space for the park to accommodate many natural and human systems. The natural systems layer is a matrix of a restored riparian zone along the flood plain and an outer wetland lake planted extensively with native communities. Turenscape uses large swaths of monoculture natives to create vivid zones of experience, while not compromising the integrity of the site ecology.

During rain events in the wet season, both the riparian zone and lake are flooded. In the dry season, only the lake retains water. The park is ¬designed to give users year round access to water, yet seasonal changes in water access within the park provides a specialness to the place.

The upper layer for humanity is raised above the flooded natural matrix. Its multi-path system connects the river to the urban core. Groves of native trees combined with sculptural art and "story boxes" anchor moments of pause along the river edge. The story boxes speak to local culture: "among them are a box of rice, a box of fish, a box of hardwood crafts, a box of Taoism, a box of stone, a box of mountain and water, a box of martial arts"(ASLA, 2010). The boxes bring a human scale to the site, giving the river a geometrical frame whose counterpoint to the river makes the experience of both all the more evocative.

Case study: Shanghai Chemical Industry Park, Shanghai, China

AECOM's Shanghai Chemical Industry Park is a 30 ha park that sits within a 3,000 ha wastewater treatment system, constructed to capture and treat effluent from a major petrochemical region. The systems in the park purify and recycle water before it is released into Hangzhou Bay. Most of the site was "formerly abandoned aquaculture, which was hydraulically isolated from the drainage and irrigation canals throughout the site" (Asselin, 2010, pp. 60). A trickling filter mechanism was chosen to best meet water quality performance measures, space and capital investment constraints, operational and maintenance costs, visual impacts, and its capacity for wetland treatment.

The treatment system processes over 22,000 cubic meters of partially treated industrial wastewater each day, and remediates a wasteland patch into a biodiverse sanctuary as part of larger ecological corridor. In this way, it is sensitive to the environmental systems that flow through the site, while increasing biodiversity. But the critical success of this project is how it allows humans to occupy the site. The design "incorporates aesthetic features and wildlife habitat to create a recreational hub for the park's employees and visitors. The visitor center includes a water observation room which is sunken into the ground where the soil, water, wetland plants, and water column can be observed" (Asselin, 2010, pp. 61). The park also offers a wetland research center for university groups to visit, a bird observation tower, and opportunities for the public to better understand the effluent treatment process.

These nodes around the park magnify the authentic character of this environment—it is a degraded site with the human intention to improve conditions. Images show two visitors walking above a wetland on an elevated platform. It reveals a planting aesthetic that does not conform to conventions of neatness—the ecological structure of a wetland is "messy" and not framed by clear boundaries and geometry. Normally this vast stretch of land would be inaccessible to humans yet the designers have framed the ecosystem with an elevated platform. Because of this path, the wetland has a bound, geometric system that accentuates the sites' character and allows access to its details (which could be a closer look at the variety of grasses, a longer glimpse at a migratory bird species, etc.) Both program and path reveal the Shanghai Chemical Industry Park as human-made and natural environment. Interventions of program and form elevate the place into one that we can imagine will be loved and embraced by the community. As the community continues to care for the 30 ha of park, awareness and ownership of the 3,000 ha wastewater system increases, and thus becomes more resilient.

Case study: Crissy Field, San Francisco, California

Crissy Field was originally a salt marsh with a rich history as a gathering ground for the Ohlone Indians and later a landing site for various international traders entering the port of San Francisco. In 1915 the majority of the site was paved to become an airfield for the U.S. Army post office that serviced the adjacent Presidio base as well as a dump and landfill site. The airfield closed in 1974, then lay dormant for 20 years until identified for redesign and development. From 1994 to 2001 the park was designed and rebuilt under the direction of Hargreaves Associates. "To create the new park, 87,000 tons of hazardous materials were removed and seventy acres of asphalt and concrete were pulled up, crushed and recycled for use beneath the pathways and as base support for new parking lots."(Reed, 2005, 132). The site balances cut and fill to recreate a tidal marsh system from what was the army dump, hearkening back to pre-Western influence along the site, while creating mounds with distinct geometries to create boundary, enhance awareness of the windy site, and accentuate the movement oriented spirit of the place. Native plants were chosen because of their silvery green and gray colors and distinct textures. They flank the waterways and offer an attractive contrast in color and texture and ecological function to the lawn that occupies much of the site.

Hargreaves Associates transformation of the early 20th century U.S. Army airstrip into a one-hundred acre urban park is an example of a elegant transformation of a neglected post-industrial piece of waterfront into a beloved place within a city. The site is scaled to appropriately borrow 360 degree views of the Golden Gate Bridge, the bay's islands, the well preserved buildings of the Presidio, and the hills beyond. The firms' restrained use of form and program uses path and simple nodes of gathering to connect walkers, bikers, joggers, and water sportspeople in a system whose main attraction is the rejoining of the wetland system to the San Francisco Bay. The firm chose to use linear geometries of gentle curves and strong axis to echo the long and narrow site, while not competing with the spectacular views. The geometry becomes the promenade that accommodates movement while framing the city and the ocean. It also allows moments of direct contact with the water as it flows into the bay, making the water system itself become the dynamic play element. City children, families, and dogs can enjoy the rare experience of ambling into the creek, ready to make sand castles and splash in the cold water while the city whirs in the background.

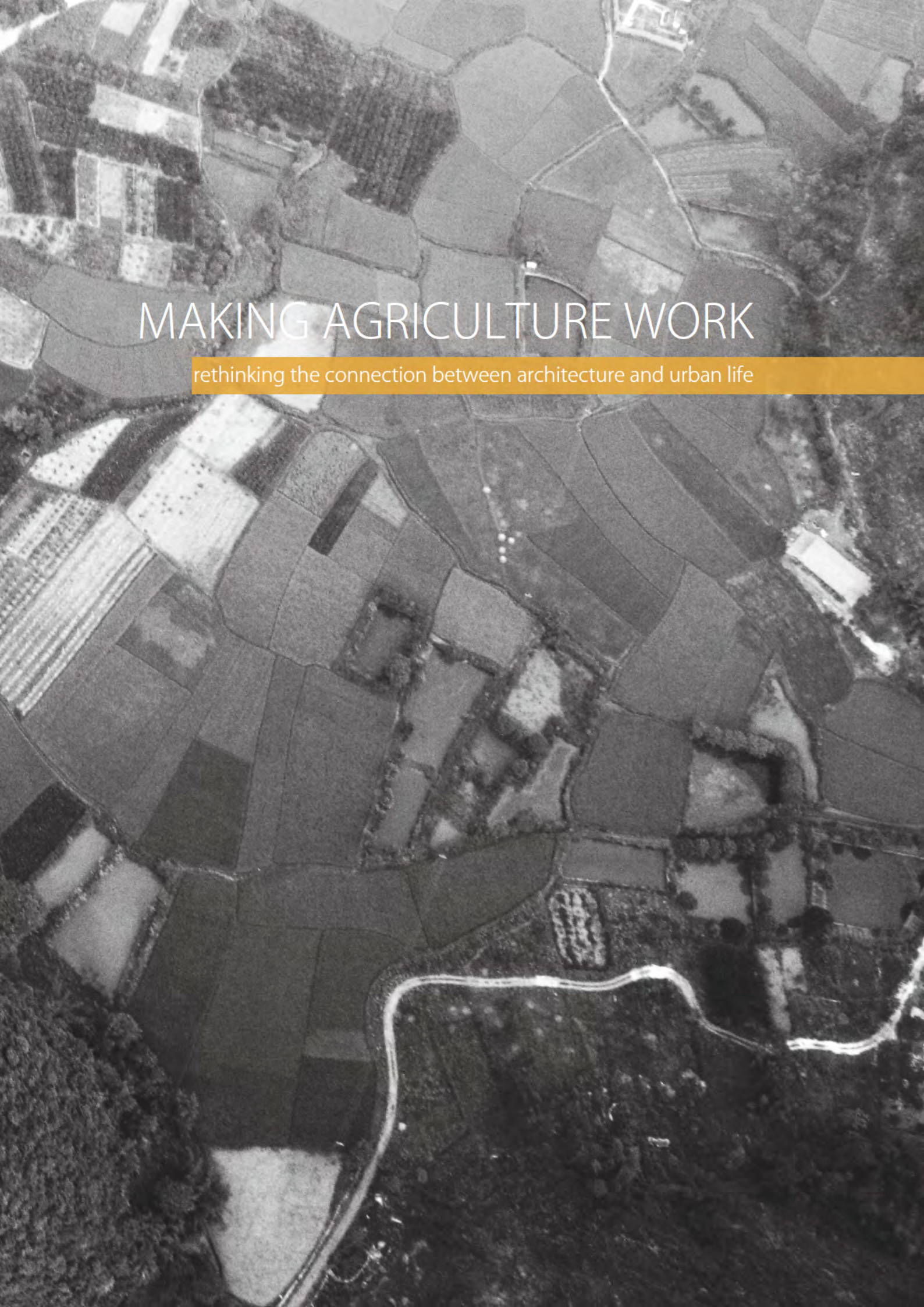
Conclusion

If designers can frame ecological infrastructure with program and formal placemaking strategies, the larger environmental agenda of increased biodiversity and socio-ecological resilience is strengthened. These places can alter cultural perceptions of messy ecological structures by encouraging people to engage with them directly or framing open systems with bound geometries to create unique experiences. These places contribute to users a relationship to the region and are authentic cultural experience of the environment. Once the ecological infrastructure is seen as intrinsic to cultural meaning, its resilience is greatly increased because society has self-interest in preserving its "placeness" while also maintaining a high level of systems function. As stewards of the environment landscape architects have responsibility to design to frame the landscape to reveal biodiverse and resilient ecosystems as the foundation of the place, culture and meaning. ■

Agriculture is everywhere. The products of agriculture are all around us—from the food we eat, to the clothes we wear, to the goods in our homes that make our lives more comfortable. At the core, productive agricultural landscapes are necessary for our survival, creating the backbone of food and trade that sustain us. But what does agriculture look like? Where is it located? How is it integrated into our daily life? Should the connection between urban environments and agriculture be made clearer?

As populations grow, understanding how to better use our resources to provide space for both agriculture and dwelling will become a greater challenge. With rising transportation costs and more pressure from limited resources, developing local networks and resource changes is both more cost-effective and sustainable. The actual form of these urban-agricultural developments varies widely from project to project: some take the shape of niche agriculture markets, mixed-use development, small local farms, mid-sized farms integrated into clustered residential development, or even high-density vertical farms and agriculture within the bounds of growing cities.

'Makeshift economy' and 'The Great Experiment' examine the intersection between agriculture and tourism, with a particular focus on China's rapid urbanization and growth rate and accompanying planned-community design initiatives. 'Agri-urbanism' and 'Mountain Spring' examine the evolving trends of creating contemporary agrarian communities while 'Scent of Orange' is a unique development driven by a produce distributor turned developer. Ellen Burke is at the forefront of SWA's Urban Agriculture Advocacy efforts and provides an update on her 2007 fellowship initiatives in 'Farm Plus'. Lastly, 'Bishops Bay' highlights the urban agriculture movement as intrinsically linked to the creation of community as well as an innovative business model. As a growing collaborative discipline blending science, engineering, and planning, landscape architects are at the forefront leading teams and developers towards more integrated community living patterns.



MAKING AGRICULTURE WORK

rethinking the connection between architecture and urban life

makeshift economy

the accidental interaction between agriculture and tourism in China

words and photography by Charly Nelson

Agriculture and tourism work hand in hand in the Li Valley of China. This is due in part to the other-worldly limestone karst landscape. But as China opens up to tourism, this area provides an intriguing case study highlighting a confluence of family agriculture, international and domestic tourism, and a changing way of life.

Water irrigation

Small aqueducts are an important means of supplying water to a maze of family fields. Family farmers will dam and un-dam irrigation to increase water flow to their fields while limiting access to water by others during critical harvest, drought, and other times.

Family farm disbursement

Under communist policies, and carrying through today, family farms are comprised of disparate pieces forming a whole and are often located a mile or more apart from each other. This discontinuity decreases the productivity and yield of each family farm and is ultimately less efficient than having all plots connected. Plots are on 50-year leases from the government.

Financial opportunity

The scenery in this region lends itself to tourism. Many farm families work the land and take part in tourism as tour guides, performers, and souvenir sellers. The tourist route is well known, and signing up for an activity such as a river rafting trip inevitably leads to a makeshift marketplace.

Rivers

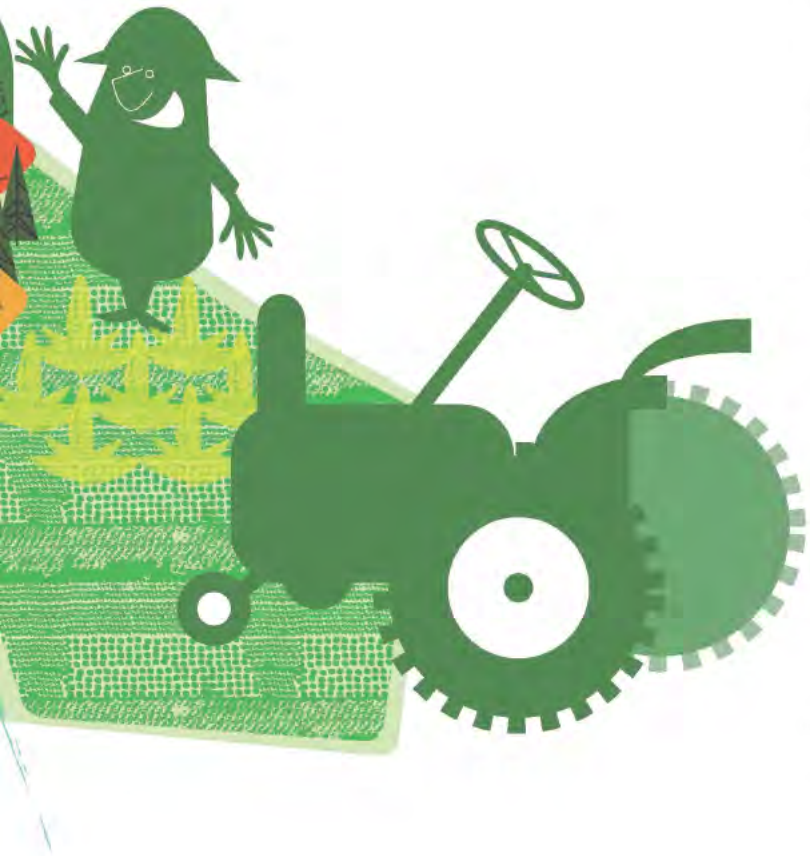
In this region, the river lends itself to crop irrigation, opportunistic tourist initiatives, and the everyday livelihood of residents. Low concrete dams serve as a means to cross the river branches, are places for makeshift market opportunities, and in the early light of day are a place where residents can do their laundry.

Tourism opportunity

There are many ways for tourists to explore this region: hot air balloon rides, cooking classes, bike tours through the farm networks that end in a farm feast, and cultural shows highlighting the traditional way of life through artistic means. Tourism is a growing economy in China as it opens up to the West and domestic residents earn more expendable income.

THE GREAT EXPERIMENT

a farm village comes to the big city



China's rapid urbanization is radically diminishing its agricultural landscapes and labor force. This project brings a contemporary approach to integrating agriculture and residences in a village setting, enhancing existing rural character, and improving a regional canal network to create a new precedent of modern agricultural living. A project of this scale has never before been built and will serve as an example for future development throughout China of sustainable development within an agricultural setting.

Nanhu / Jiaxing, China

Owner/Client: Alliance International Development Co

SWA Office: San Francisco

SWA Project Team: Jim Lee, Ashley Langworthy, Wan Chih-Yin, Alec Hawley, Shannon Bronson

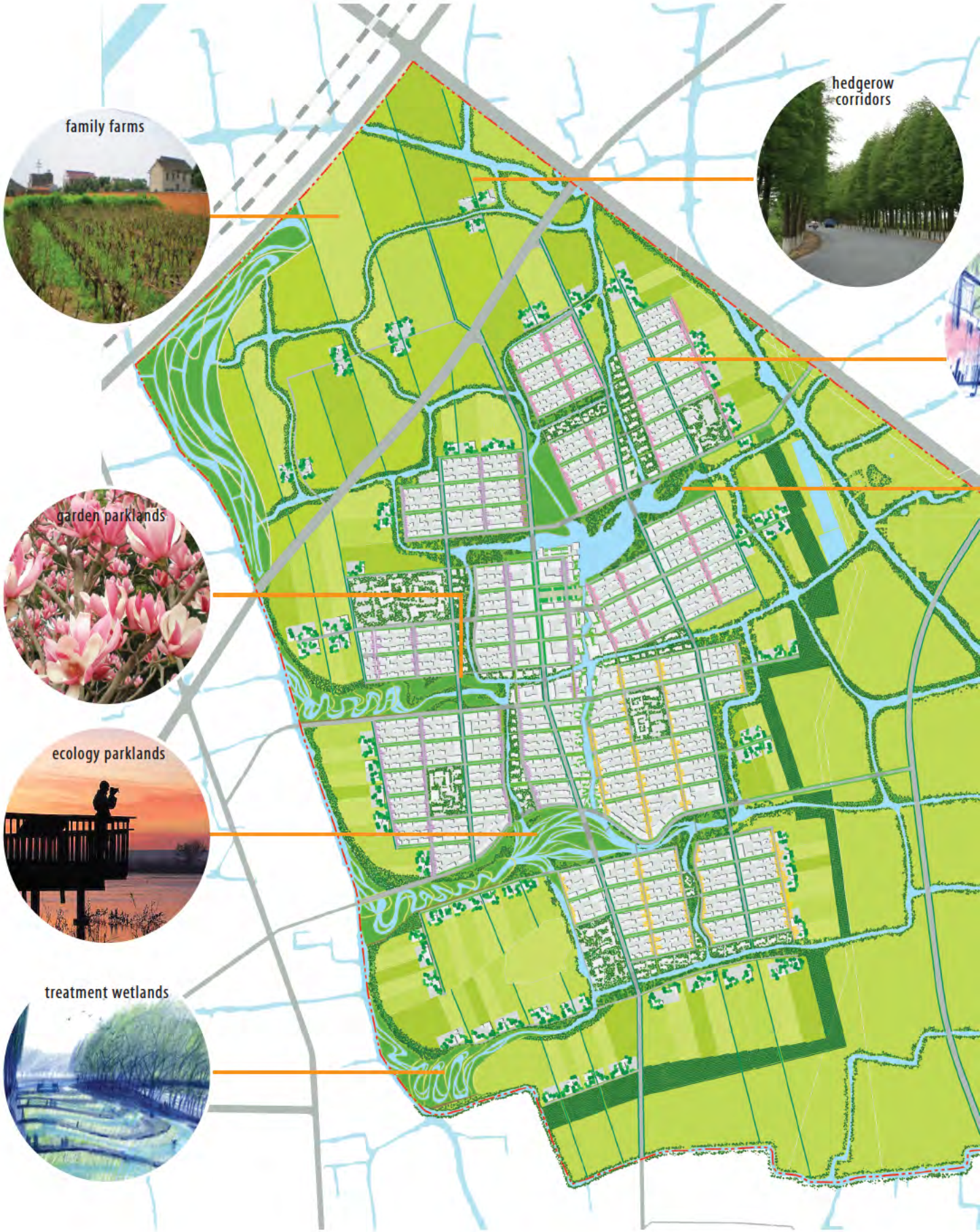
Additional Consultants: SOM San Francisco, Sherwood Design Engineers, AECOM Economics

Scope of work: Landscape Master Planning

Project size: 1100 ha

Design: begun March 2010

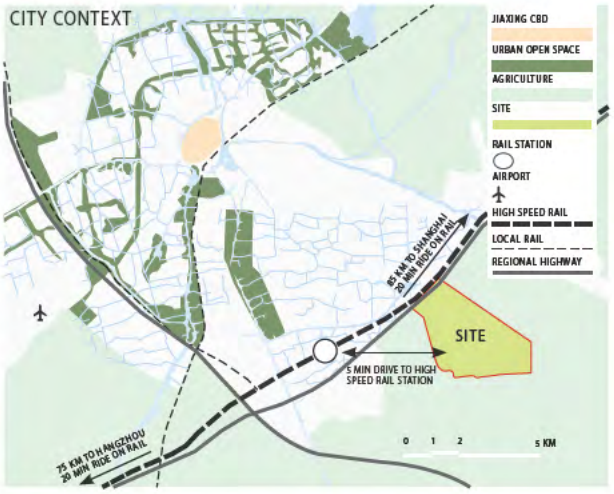
Special accreditations: submitting LEED ND


family farms
hedgerow corridors
garden parklands
ecology parklands
treatment wetlands

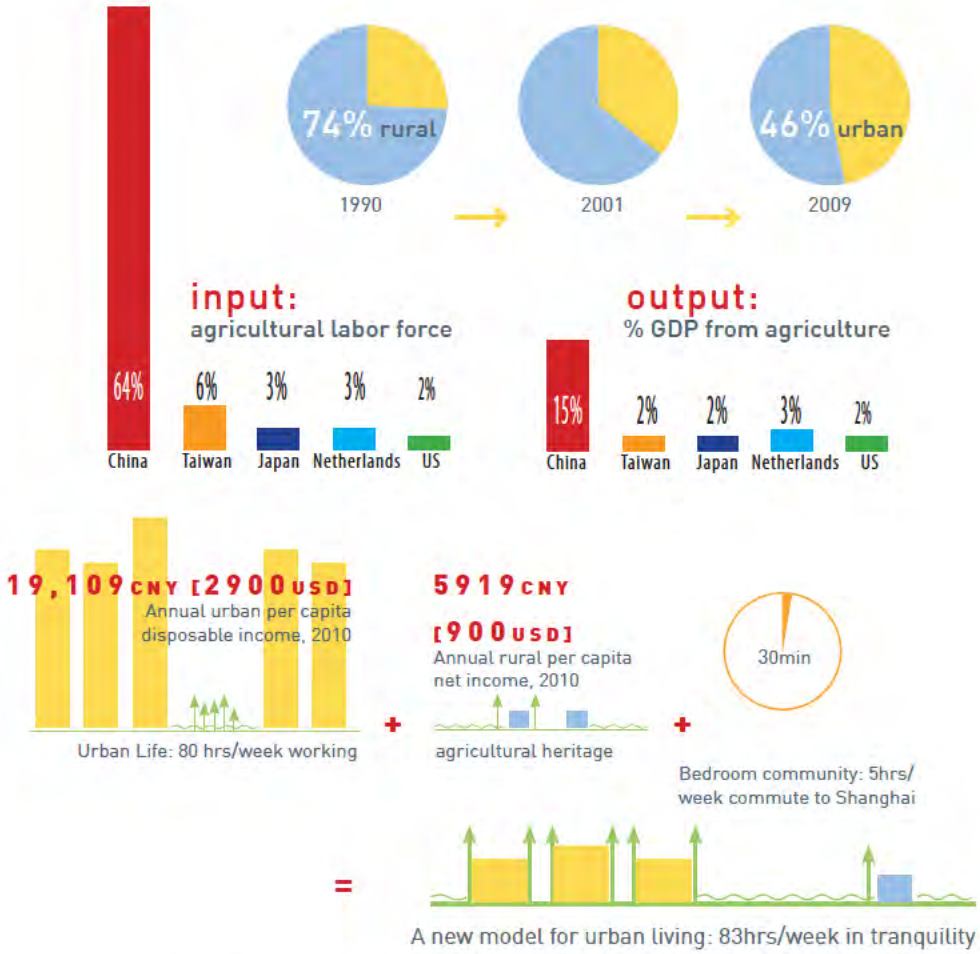
The Nanhu site is currently a tapestry of small farms and canals on the edge of Jiaxing, a city of three million in the Yangtze Delta. Jiaxing is uniquely positioned between Shanghai, Hangzhou, and Suzhou, with a regional population near 80,000,000. As of October 2010, Jiaxing is connected to Shanghai and Hangzhou by a quick twenty minute ride on the newly constructed high speed rail. Jiaxing is now positioned to be both a bedroom community and destination for Shanghai and Hangzhou residents looking for a break from intense urbanity. With its extensive canal network, abundance of water, flat land and fertile soil, it is also positioned to be a model agricultural center of food production for the surrounding mega cities.

SWA was asked to design a dense urban village while retaining and enhancing existing farmland. In many recent cases, agricultural land in China has been wiped clean of all previous historic or cultural significance to make way for urbanization. Nanhu presents a cultural shift in the perception of urban and agricultural life in China.

The designers challenged the notion of typical rural-to-urban land transformation and created a model for integrated new city development. The design effectively increases farmland productivity by introducing economies of scale and promoting a variety of development densities. China's farming practice is presently very inefficient in comparison to other countries with modern agricultural techniques and technology, as it receives low agricultural outputs from high labor inputs. This inefficiency contributes to low pay for farmers and a way of life that cannot compete with the allure of urban areas. The design also addresses existing degraded environmental conditions by introducing treatment wetlands and reorganizing a historic canal network, which aids in the creation of usable water for agriculture and the transport of goods across the site.



EXISTING CONDITIONS



Nanhu is a hybrid development combining China's agricultural heritage with its present urban lifestyle. Intended to house 37,000 occupants, Nanhu can serve as a bedroom community for commuters to Shanghai, a modern agricultural weekend retreat from city life, and an all-encompassing development with urban amenities within an agricultural framework. The organic farm will be a new productive agricultural base and a source of healthy and sustainable foods. Visitors will be able to observe and appreciate food cultivation and the agricultural process. New farming products may include specialty items such as herbal medicines, fragrances, and flowers, which are products with a higher return that will raise the economic profile of the modern farmer.

The success of the project depends heavily on the environmental quality of the site. The constructed treatment wetlands will drastically improve water quality on site. A cleaner canal system will allow residents and visitors to directly engage with the canal system. Before entering the treatment wetlands, water is collected from an upper stratum of the existing canal along the western edge of the site to avoid sediment accumulated at the bottom of the canal. The entire wetland cleaning process takes place over an 8 day period. After exiting the treatment wetlands, the canal water is clean enough for irrigation and boating. By cleaning the water, the entire site is poised to meet international organic certification standards and in turn increase the financial and ecological value of the land.

As it exists now, the on-site canal network includes many dead-end segments and disconnected waterways, causing water to stagnate and depreciate in quality. Dead-end canals will be removed, and the system will be reconnected to allow for better flow and circulation. Once reconnected, the canals will be used for water transport by boat and the edges and banks of the canals will have pedestrian pathways that will serve as a circulation network. The canals will be integral to the village's ecological storm drainage and water treatment. Storm water run-off will be intercepted and treated by biofiltration landscape infrastructure before entering the canals. Rainwater from rooftops will be collected for irrigation of agricultural land. Grey water from sinks, showers, and washing machines will be reused as a supply for toilets and non-agricultural irrigation. Vast parklands will help restore wildlife and habitat on the site. Organic farming will provide a plentiful source of healthy and local produce without treading heavily on the land.

organic farm

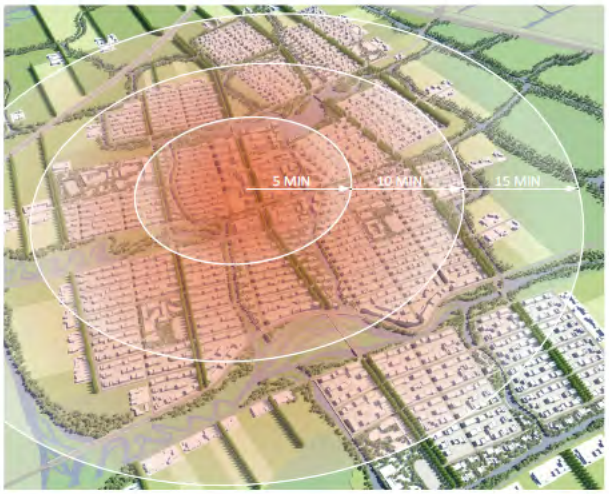
eco-tourist farms

family farms

garden parkland

FARM TYPOLOGIES

GARDEN PARKLAND



PROXIMITY TO FARMS

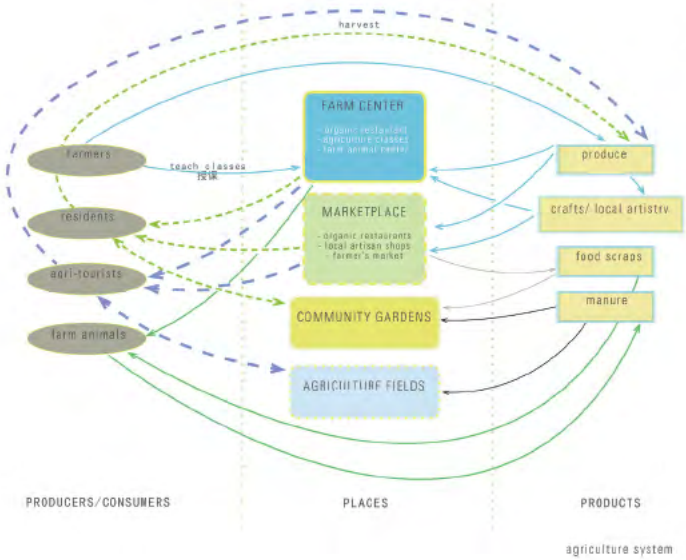
PROXIMITY TO OPEN SPACE

As agricultural land is quickly eaten up for industrialization and urban growth, China needs a model to inform the process of land conversion with a sustainable and meaningful approach. Nanhu answers this pressing question by illustrating principles of how to integrate a productive and livable compact urban village with existing agricultural land while at the same time increasing the productivity of the land and improving environmental quality. Nanhu presents a cultural shift and a movement towards modern agricultural living.

MOUNTAIN SPRING
contemporary agrarian community

The traditional Chinese phrase of 'Tian Ren He Yi' describes the aspiration for this new 350 hectare development – connecting humans to nature through a contemporary agrarian community. The four characters, 天人合一, represent nature, human beings, mutual understanding and friendship, and oneness. The application of this philosophy to the site allows the master plan design to capitalize on the profound landscape systems through a contemporary integration of wellness, ecological, agricultural, recreational, civic, tourist, hospitality, commercial, and residential programs. Water is cleaned and re-introduced for people to enjoy, agriculture is reconfigured to maintain its dominant presence as the landscape identity and ecological systems connect the mountains to the river downstream. The Mountain Spring Agricultural Community rests on the six principles of development: brand, culture, value, innovation, low-impact, and diversity.

'Agricultural Urbanism' drives the design approach, which integrates growth and development on a site while preserving agricultural resources and enhancing elements of the food system. Central to this development strategy is creating the 'Town Center' and 'Farm Center' that will activate and sustain urban agriculture with important elements such as educational programs, small-scale processing opportunities, a farmers' market, and other local artisan retail and culinary opportunities. 'Main Street' will be a thriving and vibrant mix of people – some living on site, some visiting, but all coming together with the common goal of enjoying the wholesome goods, services, and activities that only this village center has to offer. This strategy of development offers an alternative to the practice of separating places where people live and where agricultural activities occur.



agriculture system

Xi 'An Mountain Spring Agricultural Community / Xi'an, P.R. China

Owner/Client: Xi'An ROHO Cultural Tourism Investment

SWA Office: Shanghai

SWA Project Team: Scott Slaney, Shaobo Du, Scott Melbourne, Pamela Barger, Tess Pan, Wen Shang, Yao Yao

Scope of work: Conceptual Master Planning

Project size: 3.5 square kilometers

May – August 2011

Special accreditations: Re-connected natural biofiltration waterways, infiltration basins, sustainable agriculture systems, building solar orientation, walkability, habitat restoration zones

Agri-urbanism

a new approach for designing sustainable cities

by Pamela Berger

As golf course community projects are becoming increasingly abandoned, especially with China's recent "2011 Notice"[1] prohibiting them, development projects are seeking new directions. This comes at a time juxtaposed to agriculture emerging within landscape architecture – evident at the last principals' meeting when several of the SWA offices could contribute to discussion of agriculture in their work.

Why agriculture is becoming commonplace in our projects is not a mystery - the human population continues to grow exponentially as do food costs. The fact that food travels an average of 1500km from its source to the supermarket in North America is no longer shocking (Pollan, 2006). Moreover, as the consolidated agri-business sector (large scale suppliers) grows, the small-business farmers are aging, and concern for food security and safety is on the rise. All of these factors are creating a new consciousness about where our food comes from and how that effects the global environment – hence, the need for change.

This call for action opens a significant opportunity for Agri-Urbanism – a strategy that merges green urban development with agriculture – to become the new growth lynchpin within the landscape architecture profession. This has increasing potential as a solution in rapidly developing countries where sprawl continues to gobble-up aerable, productive land.

1 On April 11, 2011, the Chinese government issued the "Notice on Starting the Comprehensive Nationwide Compliance and Corrective Measures for Golf Courses" (the "2011 Notice") ,which reinforces the 2004 ban on golf courses.

Definitions

Before one can recognize the intention behind the Agri-Urbanism development strategy, it is first helpful to understand the evolution of its predecessors:

New urbanism

New Urbanism is an urban design movement, which arose in the US in the early 1980s, promoting walkable, mixed-use neighborhoods and transit-oriented development, seeking to end suburban sprawl and promote community. Characteristics include narrow streets, wide sidewalks, and higher densities. (Lehmann, 2010)

Green urbanism

Green Urbanism is a conceptual model for zero-emission and zero-waste urban design, which arose in the 1990s, promoting compact energy-efficient urban development, seeking to transform and re-engineer existing city districts and regenerate the post-industrial city centre. It promotes the development of socially and environmentally sustainable city districts. (Lehmann, 2010)

Urban agriculture

Urban Agriculture is the increasingly present practice of growing of plants and raising animals for food and other uses within and around cities and towns, and related activities such as the production and delivery of inputs and the processing and marketing of products. (Veenhuizen, 2006)

Agricultural urbanism

Agricultural Urbanism (Agri-Urbanism) is a design approach for integrating growth and development while preserving agricultural resources and enhancing elements of the food system within a site. (Mullinix, 2008)

The Agricultural Urbanism Founders Group coined this term in 2008 and describe the movement as the full integration of the agri-food system within the planning, design, development and function of cities. It is a mechanism to connect urban dwellers to their environment and to the food system, reduce their dependence on an ecologically unsound and increasingly vulnerable global-scale agri-food system, and create a significant regional economic sector.

What's the difference?

The primary difference between Urban Agriculture and Agricultural Urbanism is that the latter is a fully integrated planning, design, and development strategy whereas Urban Agriculture tends to concentrate on the infiltration of agriculture into an existing community. Agri-Urbanism is effectively an extension of Green Urbanism, but offers an alternative to the practice of separating places where people live and where agricultural activities occur. It shares the goals of zero-carbon and zero-emissions through compact energy-efficient urban development and provides the framework for socially and environmentally sustainable towns and cities. Agri-Urbanism includes walkability factors and social components of New Urbanism that frown upon urban sprawl, however prioritizes the Green Urbanism infrastructure framework as the spine of the developed area.

Principles

Four key principles frame Agri-Urbanism (Duany, 2009):

1. Transitions not buffers: It is important to overlap different land uses such as commercial with agricultural, residential to cultural etc. to create an integrated community.

2. Reconnect the people to the land: Provide opportunities for residents and visitors to connect with the land and agriculture that can happen through education programs, classes, and hands-on harvesting events.

3. Sustainable agriculture practices: Critical to the long-term success of the site, the ecosystem it surrounds, and the health of those living there, are low-input, sustainable agriculture practices that inevitably contribute to the economics required for the system to function.

4. Smart growth: Density must match the inputs required for creating a new community. These inputs need to balance the outputs/benefits for the site to be economically viable.

Design strategies

Agri-Urbanism design strategies apply at all levels of the community from productive landscapes to industrial site design considerations. The following are a few examples of potential design elements and strategies:

Street: green streets, productive edible landscapes, "back of house is front of house" to show food being made and processed, habitat creation for pollinators and beneficial insects, stormwater management for agricultural irrigation

Edible Productive Landscapes: soft-fruit trees in the public realm available for harvesting, educational signage, arbors and pergolas with fruiting vines, vertical green walls with edible fruit

Parks and Plazas: community gardens, programming such as farmers' markets and food events, integration with school grounds, composting, outdoor classrooms and cooking opportunities

Residential:

» Single family: yard sharing programs, back-yard, front yard gardening, production and surplus collection system - connection to food banks, harmonious interface with farms

» Multi-family: built-in composting facility, CSA investment, container and rooftop gardening, food events, architectural character that reflects food and farming, community kitchens, green infrastructure - water re-use, mixed-use including food, retail and commercial

Commercial: food retail/market with local priority restaurant, kitchen gardens, community industrial kitchen and retail outlet, rooftop green houses, recycling composting center, organic waste management infrastructure

Industrial: food cluster: industrial clusters that focus on the food industry, shared infrastructure facilities such as kitchens, storage etc., wholesale direct/retail, workers cafes, organic waste conversion to bio-fuels

Food Precinct/Town Center: facilities and activities of creation and production, retail, institutional, educational and office presence, and community event facilities

Infrastructure: prioritizing and preserving existing natural conditions, using the grid network of streets for permeability and ease of circulation, providing a variety of building densities surrounded by an urban core, mixing residential with commercial, retail and open space, providing all urban center amenities preventing the need to drive to other areas for goods and services

Hospitality and Tourism: preserved agriculture and the culture of agriculture become the tourism attraction, experiential and educational activities are agriculture based, pick your own food, work the farm, food and beverage outlets use only locally grown products, you live on the farm. The Moku Moku approach is gaining popularity in Japan and other Asian countries.

Potential benefits

Agri-Urbanism has the potential to affect lives in a multitude of environmental, social, and economic ways.

By minimizing processing packaging, transportation, waste, and energy use on a site, we can significantly reduce the ecological footprint of new developments. Another ecological benefit is that enhanced biodiversity is possible on a site through the preservation of open space and natural areas, along with creating specific pollinator gardens beneficial to the urban harvest. When planning ahead for waste treatment, nutrient and resource cycles can be closed by composting and re-using waste instead of putting pressure on landfills.

On an Agri-Urbanism site, people will be re-connected to food and its sources. Because organic products are more viable at a local scale, health benefits for people are also possible in a more connected source to plate system. By connecting people to the land through agricultural practices, inherently, people become more closely linked to each other, enriching the social fabric of a neighborhood. Costs associated with processing, packaging and transporting food are reduced, therefore providing more economic vitality for the residents and businesses. Agri-Urbanism strives to achieve more holistic, livable urban centers that focus on the agri-food system, which may be exactly what the framework of future sustainable cities should be.

"Agri-Urbanism strives to achieve more holistic, livable urban centers that focus on the agri-food system, which may be exactly what the framework of future sustainable cities should be."

Precedents

Great successes exist in the 'Urban Agriculture' realm at the Intervale Center in Burlington, Vermont, and in Goleta, California at the Center for Urban Agriculture at Fairview Gardens. Agricultural hubs in both projects have greatly improved the nearby communities' quality of life through a series of improvements and agricultural interventions to the land over time. SWA's Bishops Bay project in Middleton, Wisconsin is an exceptional example of a rural agricultural planned community, but by definition would more likely be considered Agricultural Sub-Urbanism due to the location, density, framework, and amenities.

Conceptual rendering of the Town Center at the Xi'an Mountain Spring Agricultural Community project.

As Agri-Urbanism is an emerging school of thought, it is believed that only planned projects exist at this time. Andres Duany of Duany Plater-Zyberk & Company (DPZ) has been advancing this agenda through his work and various lectures over the last several years. However, skepticism follows DPZ's work as 'New Urbanism' was ever present in the firm's portfolio up until recently, which includes the Craig Ranch project on the outskirts of Dallas, a project that integrates the Cooper Institute – and their focus on human wellness and longevity. Planned Agri-Urbanism projects of DPZ include Sky in Calhoun County, Florida, Hertfordshire County in England, and perhaps the most comprehensive is the Southlands plan for Tsawassen, British Columbia, Canada. These projects, along with SWA's Preserve project in Stockton, California and Nanhu in Jiaxing, China, follow a similar set of design guidelines, principles, and strategies, while the SWA Mountain Spring Agricultural Community planned for Xian, China, attempts to apply a much more urban characteristic to the site with increased densities appropriate for the needs of a developing country.

Challenges

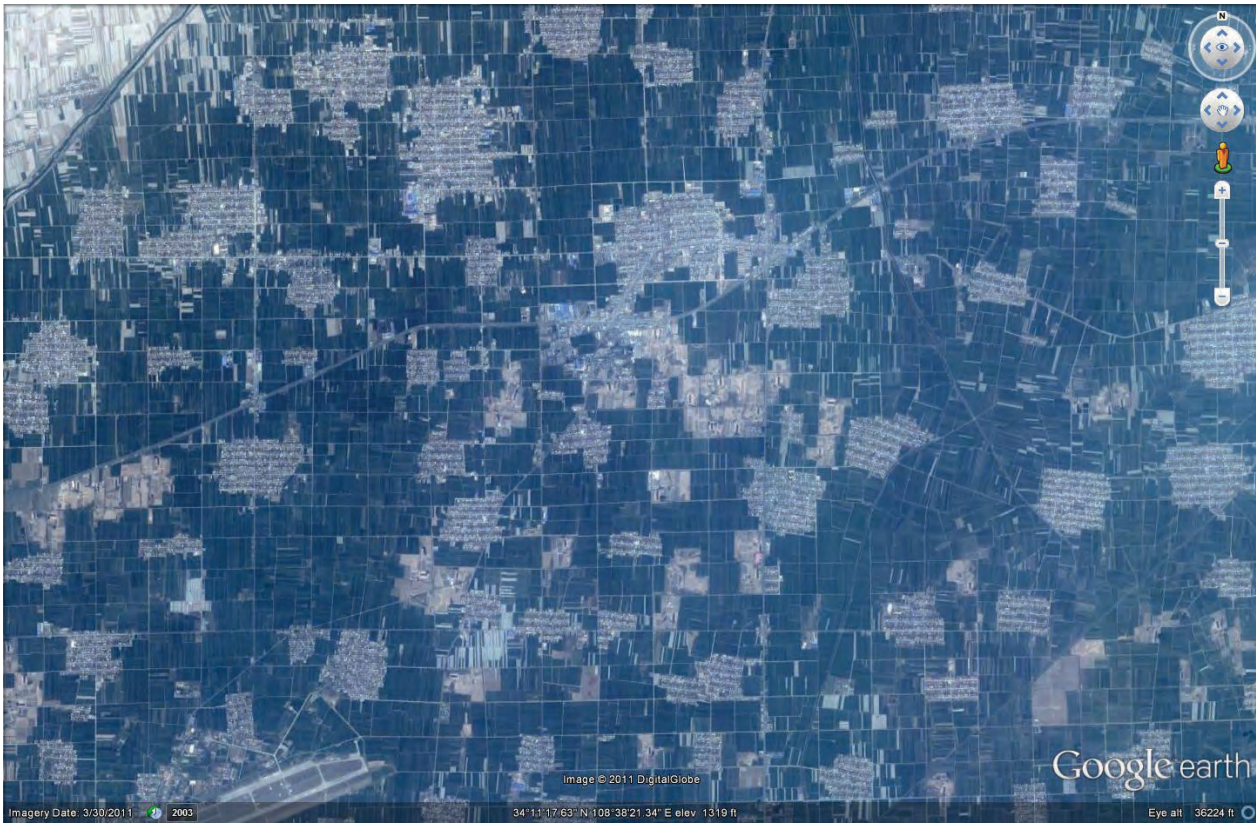
Several challenges surround the future of Agri-Urbanism. To begin, the idea is new and success is un-documented. Municipalities are often times reluctant to introduce design applications which are not proven or even widely built. Another challenge acquiring initial buy-off from developers is that even the architecture takes a land-based approach – an idea that is still too new for many developers who are primarily interested in reaching Floor Area Ratio numbers and meeting government approvals to move the project forward.

Marketability of property with an Agri-Urbanism framework is another challenge. Design strategies must be developed that deal with simple questions like image, pest control, long term farm management, who is responsible for assuring that the farm does not go to seed and how is that funded, safe integration of working farm circulation, and function from other community functions.

Even if the municipality or developer does support the ideals of the project, many times zoning prohibits agriculture and historically and intentionally separates it from commercial and residential areas – a direct conflict with the ideals of Agri-Urbanism. Common in every project, especially introducing a trend in the profession, one must question the genuine intent of the client. Understanding whether the municipality or developer truly cares about creating a sustainable, innovative community and if they are willing pay the cost and put forth the effort to establish and maintain an agriculturally-focused community is critical to success.

In addition to approval difficulties, accepting agriculture into our communities requires an acceptance of all that goes with it. The side effects of agriculture can include additional noise, smells, and to some, unkempt, informal landscapes – elements that urban dwellers might not expect or appreciate in a new community.

Lastly, and perhaps this is only an internal professional challenge for Agri-Urbanism, but as landscape architects and planners, a question of our role in this approach comes to mind. Are we suited to plan and propose this kind of development or should technical agricultural advisors be brought onto the team? As a new development strategy, do Agri-Urbanists exist for consultation?



The historic patchwork framework of agricultural urban centers in Xi'an, China.

Conclusion: rationale for viability

The foundation of implementing Agri-Urbanism is creating an urban environment that values, encourages, activates, and sustains agricultural enterprise through integration of people, the places they live, work, and play. In a world where we are greatly disconnected from our food sources, it invites agriculture back into our settlement areas, taking into consideration the abundance of food system activities and contributions that might be viable for a range of spaces and environments. There is a definite need for prioritization of food security within our cities, from both economic and safety perspectives. If Agri-Urbanism can rise to the challenges it faces as a development strategy, it has the potential to improve the way we design cities and meaningfully advance the quality of human life.

"Are we suited to plan and propose this kind of development or should technical agricultural advisors be brought onto the team?"

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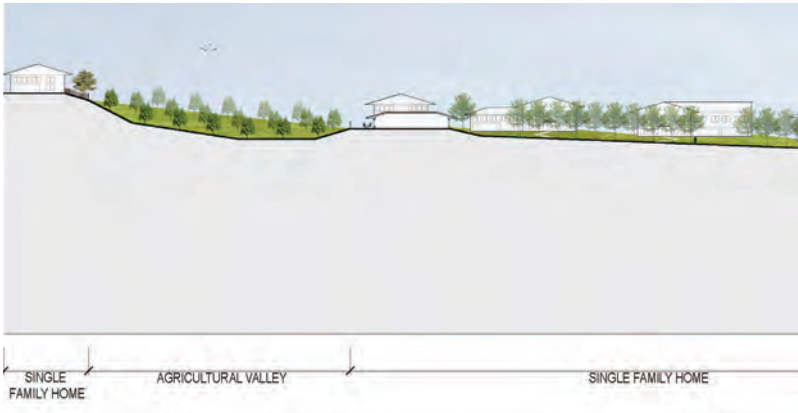


Scent of Orange

Owner/Client: CHIC Capital

SWA Office: Sausalito

SWA Project Team: John Wong, Joe Runco, Ellen Burke, Minhui Li, Don Xu

Additional Consultants: Natural Systems International

Scope of work: Master Planning

Project size: 3200 HA

Design: Oct 2010/April 2011 (planning)

SCENT OF ORANGE

designing for a produce distributor/developer

Scent of Orange is a mixed-use development 60 km southwest of Chongqing with an aggressive agricultural mandate that preserves 80% of farm land in productive uses on a 3,200 hectare site. As a model project for the central government's 'Integrated Rural Urbanization' program, Scent Of Orange addresses the government goals of promoting "balanced urban and rural development, strengthening rural economies, protecting arable lands, addressing employment and living problems of rural migrant workers in cities, and improving working and living conditions in rural areas."

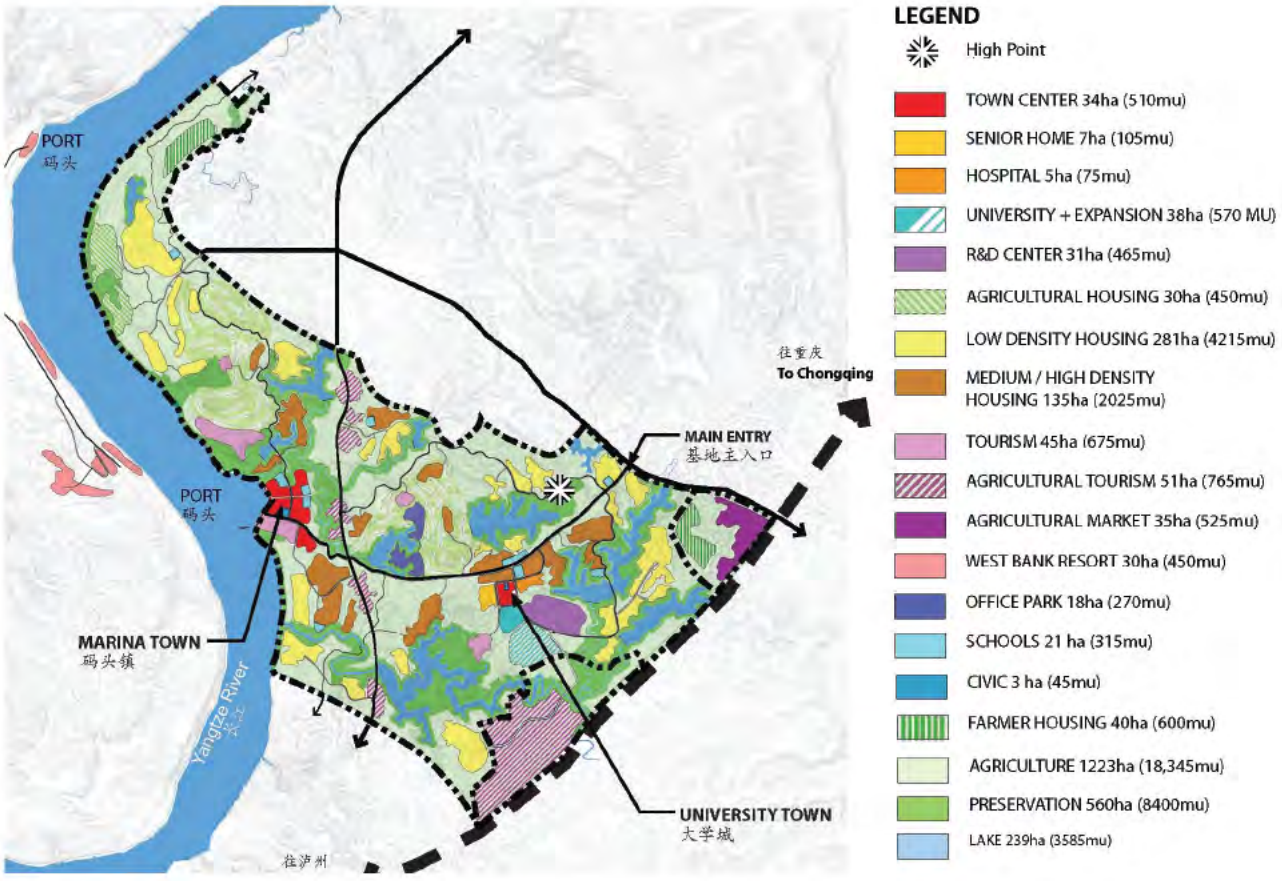
The Scent of Orange Master Plan was prepared for a major produce distributor-cum-developer, which created the unique opportunity of working with a developer invested in the agricultural plan as much as the development plan.

By focusing on agriculture as a driver for development, the design team was able to formulate strategies for land use that address both the government and client objectives. It is a strategy that flips the traditional relationship between farming and cities on its head. For centuries farms have enabled cities to grow and cultures to flourish, by freeing people to pursue business, arts and education, but at Scent of Orange, it is the city — in the form of a strategic development strategy that supports agriculture — that allows traditional farms to be preserved and introduces modern methods. However, it may be more useful to understand the agriculture and development as a set of symbiotic programs that each strengthen and catalyze the other.

The first key strategy of the plan is found in the physical relationship between development and agriculture. The design objective was to integrate the two as much as possible and the resulting plan can be read as a series of 'villages' surrounded by farm fields. This approach enhances real estate values, and provides a unique and real identity to the development. Collector roads meander through fields, new homes overlook valleys of agriculture and orchards come right up and into the two town centers. Farmed for centuries, the dramatic topography has been carved by generations of farmers into a terraced landscape. The master plan suggests minimal grading and a strategy that retains the unique physical trace of the past by fitting development into the contours of the land.

Studying the traditional response to the land, a clear pattern emerged in relationship to the topography, in which buildings are placed on slopes and high points, and valleys are used for agriculture. The unique relationship between present homes and the site inspired a strategy which identifies farm home sites to be retained, and transformed into villa sites, boutique hotels, restaurants or even relocated farmer housing. This again reinforces a physical relationship between development and the land, between old and new, and defines the agricultural park as a primary identity.

The project mandate to describe modern agriculture and how it might support a better standard of living for farmers and encourage real economic growth in rural areas led the team to develop a strategy that can be described as diversified agriculture. Diversified agriculture primarily focuses on values beyond production, such as education, tourism and markets. It also seeks to balance smaller market farms with more efficient means of production; the bulk of the agriculture program is large scale citrus orchards, selected for the suitability of the crop to the regional climate.



Developing a program of agricultural-tourism, farm restaurants and inns, demonstration farms, farm resorts and farmers' markets is an economic strategy wherein high value farm programs enable a higher standard of living for rural residents. These programs create a demand for the farm landscape as visitors begin to understand the connections between food and productive lands, and as a unique leisure activity for the nearby metropolis. The profits earned from sale of produce, as well as meals, tours, admission fees and hotel stays are intended to be cycled back into the local rural economy, creating opportunities for education, health care, housing and jobs not currently available. By creating a robust local economy, the hope is that more rural residents can remain in the countryside, balancing the current urban migration trend.

The third leg of the modern agriculture plan rests on the environment as a support of the agricultural efforts. A system of storm water lakes provides irrigation water, and setbacks to natural riparian corridors protect these resources from runoff and siltation. The master plan suggests organic cultivation methods, integrated pest management and native hedgerows as essential components of a holistic agriculture plan.

The Scent of Orange Master Plan suggests physical and economic models of development that preserve and enhance agriculture, a critical goal for the Chinese government, given social migrations and concerns about future food security. By engaging the difficult issues of 'modernizing' rural China, the project works within the social context of the landscape, suggesting that the landscape is equally about the people who live and work on it as it is about the natural systems. By formulating a vision of agriculture that looks forward to the future rather than relegating it to the past, Scent of Orange develops a prototype by which we can understand agriculture as part of development, not in opposition to it.

http://www.grow-city.org

farm plus

2007 fellowship update from Ellen Burke

Farm Plus compiled case studies of small working farms integrated with other landscape typologies, such as housing and public parks. The research focused on the viability of agriculture as a landscape program, analyzing existing precedents in order to establish a working framework for creating and preserving agriculture in the built environment. During the course of the fellowship period I visited eight sites within the U.S. and four sites in France, including parks, botanical gardens, new suburbs and temporary installations. Shortly after the fellowship conclusion, I documented the results in the essay 'Hybrid Agricultural Landscapes' published in the volume On Farming (Actar, 2010), curated by Charles Waldheim and Fritz Haeg.

As part of my ongoing post-fellowship research I founded the blog Grow City (www.growcity.org), publishing case studies and articles as a resource for landscape architects, planners and designers interested in working with agricultural programs. The blog is featured on The Dirt, the ASLA's online magazine and is nearing 800 visits per month. I have also published writings on the topic in the online magazines The Grist and Civil Eats.

Beyond writing, my research has taken place in several pro-bono design projects. In this context design is a tool of research, where theories can be tested 'on the ground', and projects include design work for the Alameda Point Urban Farm in Alameda and the Argonne Elementary Edible Schoolyard in San Francisco. Conversely, my research has informed project work, notably the master plans for two communities planned around the preservation and creation of working farmland - 'The Preserve' in Stockton, CA and' Scent of the Orange' in Chongqing, China.

The topic of farming in general, and especially local, urban or sustainable farming, has exploded in the four years since this research formally concluded, indicating that the topic is timely and relevant to the culture at large. There is a growing public interest in enhancing food security through creation of smaller farms closer to home, and an awareness of the irreversible loss of prime farmlands to development near cities. As landscape architects we help program land uses, and are thus in a unique position to advocate for agricultural programs in our projects, contributing to an important cultural shift that will benefit physical health, the environment and local economies. The goal of my ongoing research effort is to help build a knowledge base for the profession to advocate for and implement farm-related projects. ■

STRENGTH OF PLACE

a new model for small town America

Across Middle America, the march of suburbanization has threatened and compromised attempts at farmland preservation. A subdivision is built neighboring a conventional 'agricultural preservation' area, and after a few seasons of plowing, fertilization, and dust, the inevitable happens; the farmer is forced farther and farther away from the incompatible adjacency of cul-de-sacs and tract homes. Consequently, a hopscotch of homes and agricultural preserves expands ever outward. So, how can we strengthen neighborhood connections to the farm and instil a sense of ownership? How can we allow for responsible development, and at the same time preserve a way of life upon which the foundation of our country rests?

Bishop's Bay / Town of Westport and City of Middleton, Wisconsin

Owner/Client: T. Wall Properties (Owner), Vierbicher Associates (Client)

SWA Office: Laguna Beach

SWA Project Team: Sean O'Malley (design and photography), Koichiro Nagamatsu, Worasak Luangsuwan, Jie Bai

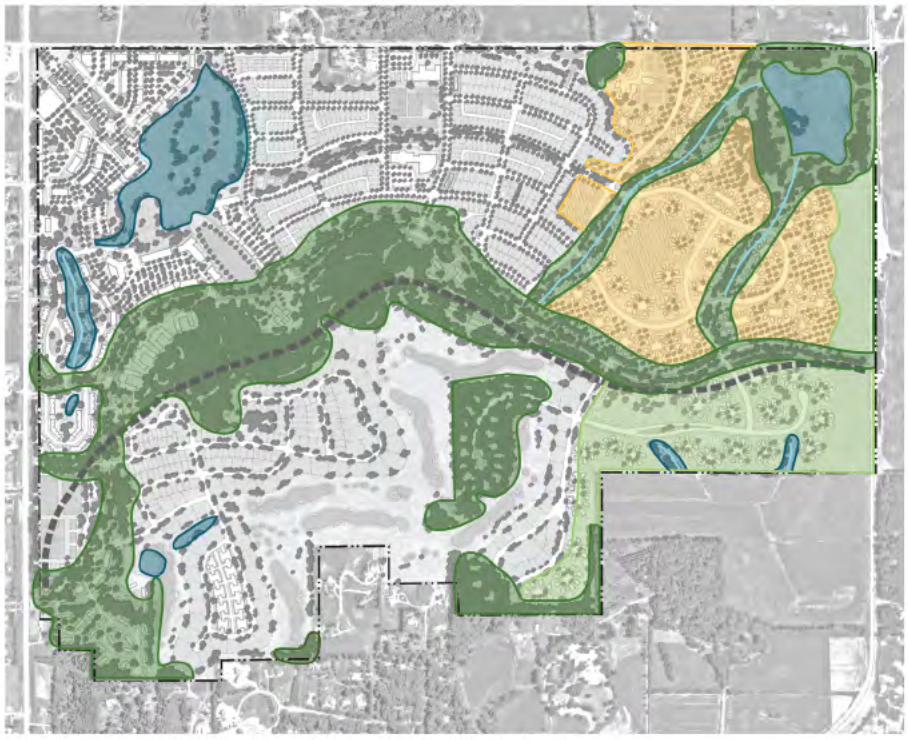
Additional Consultants: Monica Simpson ASLA, Knothe & Bruce Architects, Bouril Design Studio

Scope of work: Master Planning

Project size: 717 acres

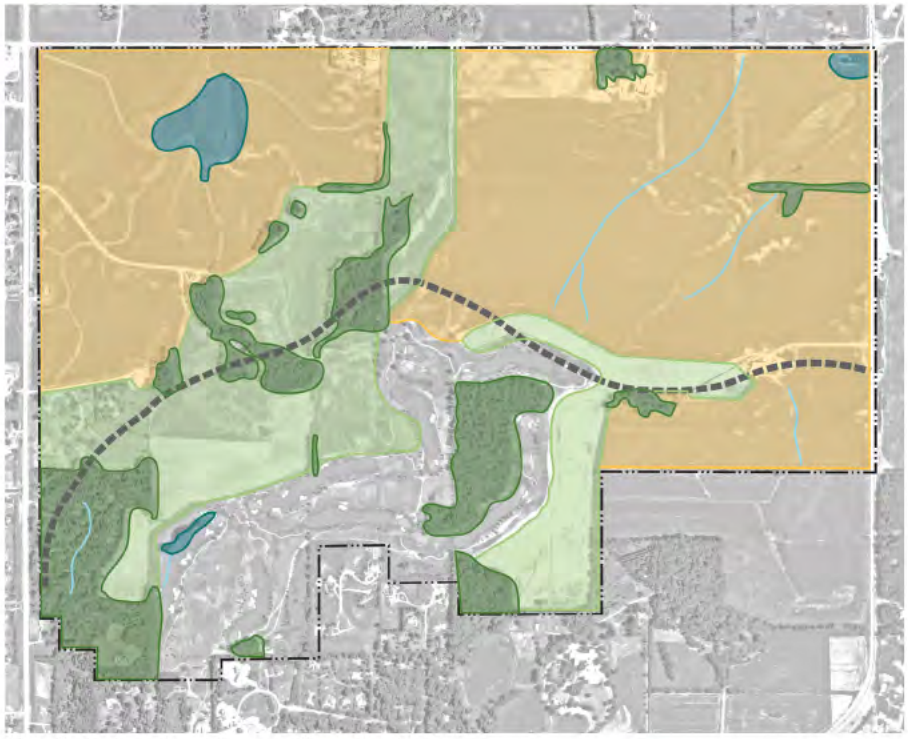
Design: May 2008 – February 2009

2011 Gold Award for On-the-Boards Community of the Year, National Association of Homebuilders (NAHB)



Key Preserved & Restored Landscape Typologies

- Ridgeline
- Restored and Expanded Forest
- Prairie Preserve
- Developed Agriculture
- Wetlands
- Restored Creek



Key Existing Landscape Typologies

- Ridgeline
- Forest
- Prairie
- Agriculture
- Wetlands
- Drainage Swale

The answer may lie on the outskirts of Madison, Wisconsin, where a visionary developer and team of designers are creating a new Midwestern tapestry. Challenging conventional farmland preservation, Bishop's Bay integrates both natural woodlands and manmade agricultural landscape systems which respect both indigenous landscape and local housing needs into a 787-acre patchwork quilt of development for 6,000 future residents. Situated within the rolling Wisconsin landscape of grassland, wetland, and forest, the master plan for Bishop's Bay weaves together important tenets of agriculture, urban design and neighborhood development into a new prototype for the Midwestern Prairie.

The strength of this place is defined by rolling hills, wooded hilltops, drainage swales, two existing farmsteads, and corn fields. Preserving and amplifying these elements as the organizing principle was defined by SWA as the strategy for development. So, a series of wooded hilltops and connecting drainage swales are preserved and expanded as the backbone for future growth. Along the forested ridge and revegetated creeks, a system of biking trails connects various neighborhoods together. A lake and wetland area is created to capture runoff and improve the site's ecological relationship to an adjoining river. Designed to be pedestrian-friendly, a new town center, community center, working farmstead, elementary school, church, apartments, senior housing, family housing, a unique approach to farm housing, and golf-oriented neighborhoods are linked by this natural framework.

Agriculture is woven into the history and culture of Wisconsin; therefore preserving this lifestyle was seen as an essential element to strengthening the **uniqueness of place**. A series of community workshops helped to guide the decision-making process and reinforced the need for a new development model. Thus, a new kind of neighborhood was envisioned, called "The Farm". The Farm offers a prime example of agricultural urbanism, in which sensitively-designed homes and structures are woven with farming uses. Homes are clustered into groups of six to eight, and surrounded by orchard and annual crop belts. Residents take part in planting, maintenance, and harvest, while a full-time 'resident farmer' does the heavy lifting required out of one of the existing preserved farmsteads. In this way, residents become 'owners' of the farm, eliminating the possibility of rejecting it as an adjacent land use, personally tied to its maintenance and success.

The idea of agricultural urbanism appeals to a growing segment of the population seeking healthy foods cultivated within a few miles or even within one's own back yard. The farms on site are productive, and the produce harvested onsite and by local residents can be sold at Bishop's Bay Farmers' Market, the proceeds of which will benefit the Bishop's Bay Homeowner's Association.

Winner of the 2011 Gold Award for On-the-Boards Community of the Year by the National Association of Homebuilders, the project is expected to break ground in 2012 following all local approvals. In February of 2010 the Capital Area Regional Planning Commission (CARPC) approved an amendment to the Central Urban Service Area (CUSA) boundary to include the entire Bishops Bay development. This vital approval will allow municipal water, and sewer, and other urban services to be extended to the property to support the dense mix of uses envisioned for the Community Bishops Bay.

The staff analysis from CARPC stated the project "presents a well-planned, well-integrated, balanced neighborhood" which "allows a comprehensive development not only serving a wide range of housing needs, but also provides the opportunity for inclusion of innovative concepts for urban living that addresses future needs through sustainability features."

To create a landscape is to give form to ideas. We use design to solve problems and to make a place out of space.

As designers, we are intrigued by the physical realm in its performance aspects: how can the physicality of built work influence our happiness? Our health? Our life? How can we, as designers, better understand the conditions that lead to safety and well-being? And lastly, what can we do with our designs to most influence these outcomes?

Increasingly, landscape architecture has been more directly linked to research initiatives looking at the relationship between the design of public space and health, happiness, and public safety.

In Sunnydale, a neighborhood and public housing project, the evolution of the San Francisco urban environment has changed a neighborhood established in a once rural area into an isolated, disconnected, and unsafe place. New design solutions address density, community, and public engagement by re-imagining the configuration of buildings to create social space. By re-aligning the grid, creating multiple layers of public and private space, promoting well-lit, well-seen public space, and situating units to face the streets, the public housing project can become a practical yet innovative example of community design for safety and health.

Ashley Langworthy takes a closer look at public safety and the relationship between physical design elements and neighborhood transformation, integrating her understanding of defensible space, physical and social norms, visibility, and historic research through expanding upon the project objectives and lessons learned at Sunnydale.

Beyond our local projects, designers can look to other cultures and ways of life as models for development and inspiration. In a recent fellowship, Josselyn Ivanov studies Canadian and European design models to better understand the connection between health and the built environment. Specifically, she focuses on the obesity epidemic in America and the causes of it including a sedentary lifestyle. Not surprisingly, she finds common elements that contribute to better health: make it easier to walk and harder to drive, add public transportation options, keep designs small, dense, and walkable, and increase recreation opportunities. We believe these elements are critical in all our design work – creating places for people, for safety, for longevity, and for quality of life.

SAFETY & HEALTH

creating the built environment

SITE PLAN

SITE HISTORY

FROM RURAL INTEGRATION INTO URBAN INTEGRATION

1935: Sunnydale built

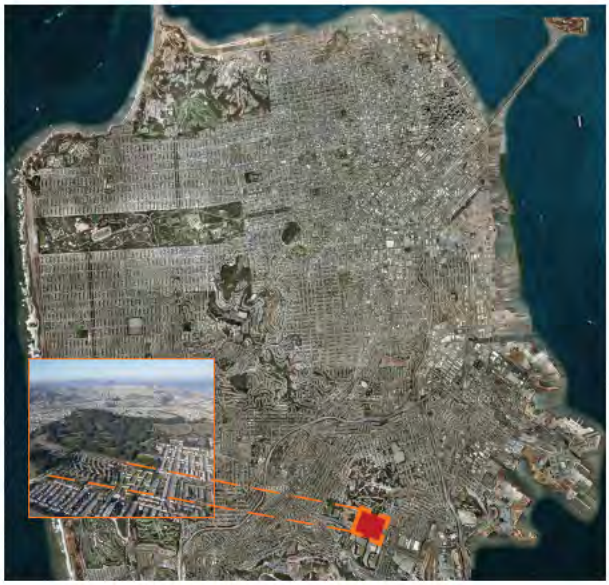
1948: thriving community

1968: disrepair

2015: integrated community

RETHINKING PUBLIC HOUSING

re-incorporating Sunnydale into the urban fabric



Sunnydale is one of the most distressed and unsafe public housing developments in San Francisco. Its isolation, unusual street pattern, barracks style housing and defunct open spaces offer the residents little chance for control over, or pride in, their community.

By realigning and connecting the street grid, creating transitions from public to private space, situating the units to face the streets, socioeconomically integrating the population and creating highly programmed, well lit park spaces, Sunnydale Housing will be modernized to create a model safe and livable mixed-use and mixed income community.

Sunnydale HOPE SF, San Francisco

Owner/Client: Mercy Housing, Related Companies of CA

SWA Office: San Francisco

SWA Project Team: Rene Bihan, Ashley Langworthy

Additional Consultants: Merrill Morris Partners, VMWP, KPFF, SvR

Scope of work: Landscape MP, Schematic Design

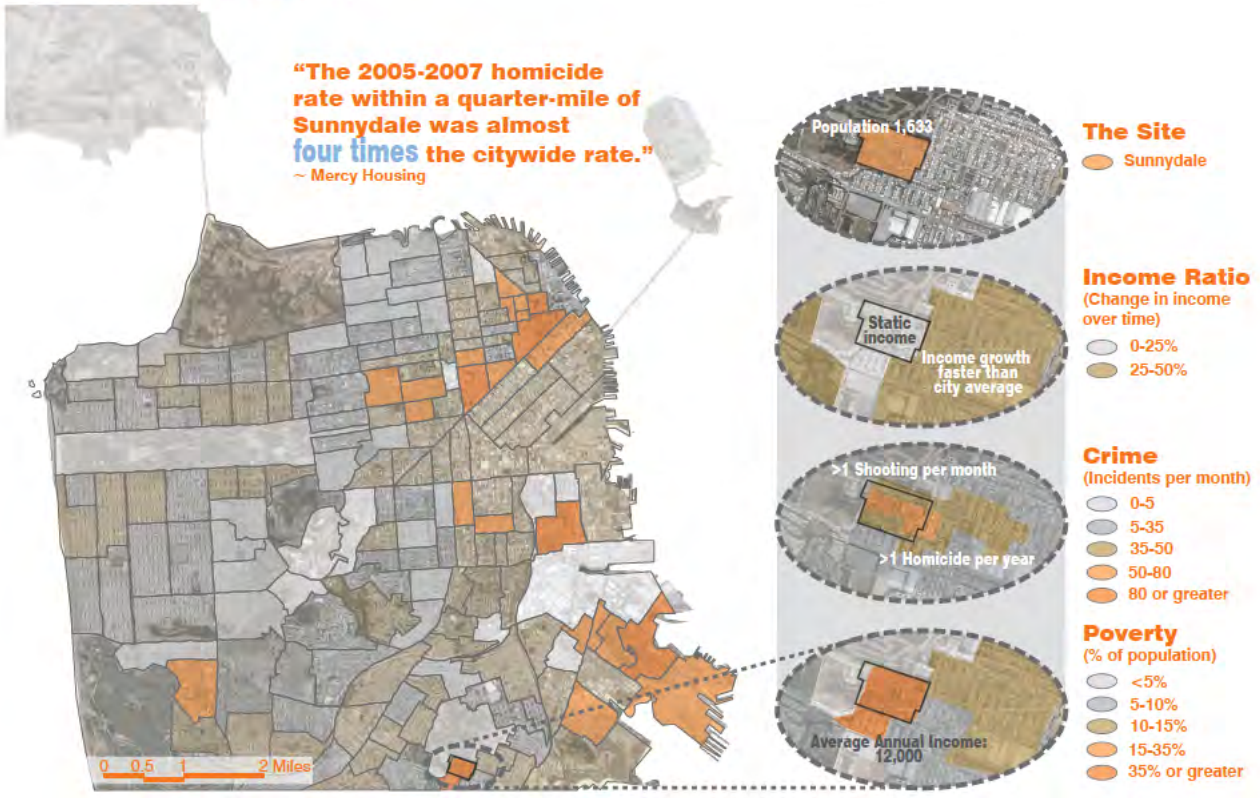
Project size: 50 acres

Design: begun November 2008

Special accreditations: LEED ND Gold

ANALYSIS

CONCENTRATION OF POVERTY



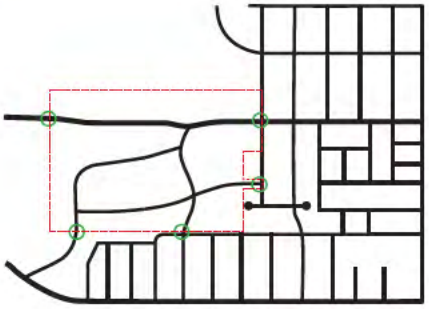
DISCONNECTED AND ISOLATED

curvilinear and discontinuous

inconsistent with grid and scale

dense vegetation and golf course

steep topography

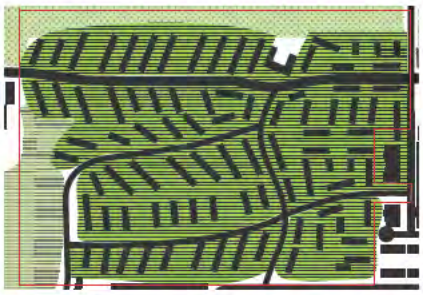


STREET PATTERN

FIGURE GROUND

BARRIERS

NO TRANSITION FROM PUBLIC TO PRIVATE



Background and analysis

Originally built in 1939, Sunnydale was once a thriving community of worker housing for the shipbuilding industry. Set in Southeast San Francisco, the 50-acre site afforded sweeping views of the San Francisco Bay and an idyllic agricultural setting. Thomas Church, the landscape architect of the original project, envisioned a garden community with wide-open communal lawns between the buildings. Picket fences defined front lawns of the buildings, which gave residents a semi-private space adjacent to the communal lawns. These front yards and shared open spaces were once sources of great pride and important elements in this garden community. However, the fences were eventually seen as maintenance barriers and removed by the Housing Authority, and the entire landscaping maintenance was discontinued in 1982.

The open spaces on-site have since fallen into total disrepair. With the front yard fences gone, there is no transition from public to private space. With no front yards, stoops or porches, and with inhospitable communal open spaces and the barrack-style residential buildings set away from the road, there are also no eyes on the street. While the sweeping Bay views remain, the garden community no longer resembles the visionary housing solution originally intended.

Physically, the neighborhood lacks connections to surrounding neighborhoods, parks, and transit links to employment zones. While the original master plan's vision included curvilinear streets, linear communal housing and large shared open spaces, as the neighborhood of Visitacion Valley grew around Sunnydale this asset became a major obstacle to the neighborhood. The site became isolated from its surroundings with a lack of vehicular and pedestrian connections, large block sizes, and atypical housing typology. Connections were made to the four main access points, but because no other street connections into the site existed, the neighborhood began to turn its back to the development. When the Gleneagles Golf Course was created in the southeastern corner of McLaren Park in 1962, another barrier was established.

Once designed as worker housing for shipbuilders, decades ago the community became 100% public housing. In addition to the physical isolation, this concentration of poverty has also led the community to be socially and economically isolated from its surroundings. Currently Sunnydale is home to 785 public housing units and ranks as one of the worst public housing projects in San Francisco.

SOLUTIONS

SOCIOECONOMIC DIVERSITY

NOW: 100% PUBLIC HOUSING

785 public housing units
0 market rate ownership units
785 TOTAL UNITS

DENSITY: 16 units/acre

FUTURE: 59% PUBLIC HOUSING

1006 public housing units
694 market rate ownership units
1700 TOTAL UNITS

DENSITY: 35 units/acre

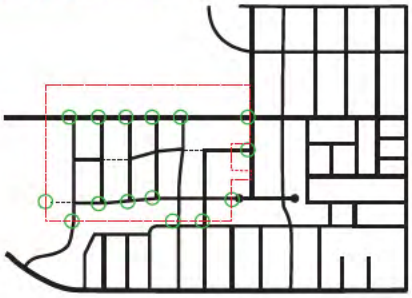
PHYSICAL INTEGRATION WITH SURROUNDINGS

straightened multi-modal roads with increased access points

blocks created to engage the street

connections to adjacent open space

terraces create universal access



STREET PATTERN

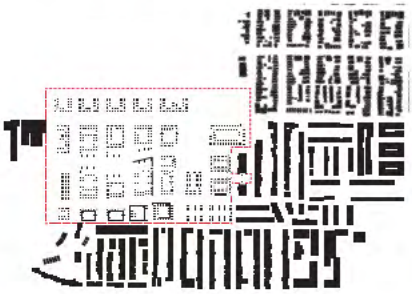
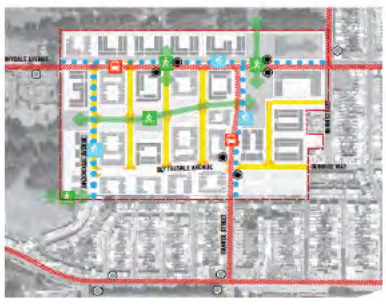
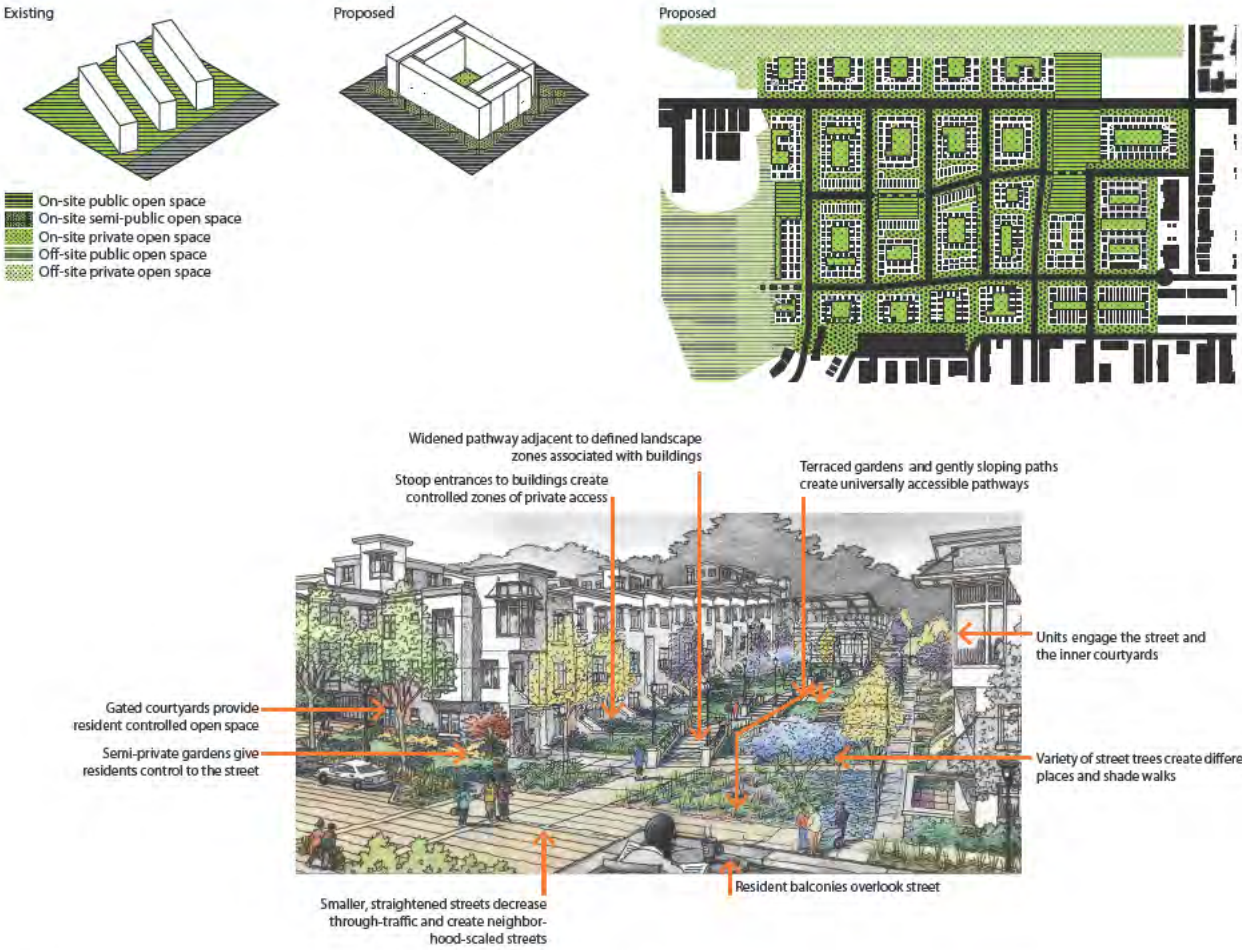


FIGURE GROUND



ACCESS

TRANSITION FROM PUBLIC TO PRIVATE



What are we doing to fix the problems?

Physical improvements

A new street grid, housing typologies and alignments will connect Sunnydale to its surroundings while providing a higher sense of order and forcing eyes to be watching the streets. A diversification of open space typology creates both highly programmed district park spaces and private courtyards in each block. Transitional spaces are designed, as Thomas Church originally intended, to create a sense of definition between public open spaces and private setbacks, front door stoops and sidewalks.

Socio-economic integration

All residents currently living in Sunnydale will continue to be housed there. With the restructuring, however, there is space for additional housing, which will help Sunnydale blend into the neighborhoods surrounding it and open up spaces and opportunities for mixed income housing. Affordable and market rate housing will be available and compose 41% of the housing units. Community centers with services will be established, and maintenance programs will be put in place.

Public process

An extensive public process assured that residents would buy into the improvements, and gained support for the planning and design efforts. Community input is vital to make sure existing problems are being addressed, and to create accountability to ensure that promises made to the community are followed through. It is also important to have residents be a part of the design process to increase proprietorship. Through this process residents will become advocates and protectors of their new community.

SOLUTIONS

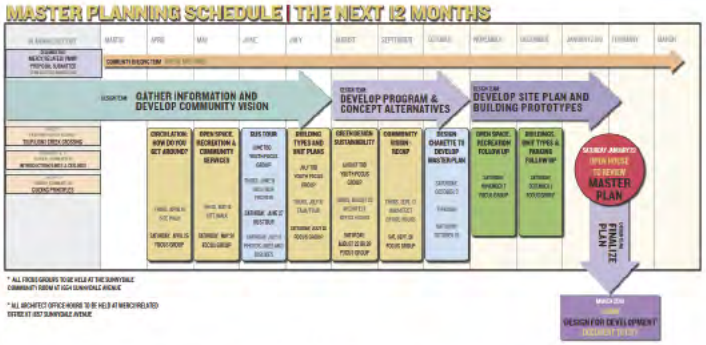
RESIDENT INVOLVEMENT AND BUY IN

Creating a Site Plan

Youth Involvement

Open Space Community Meeting

Tour of Similar Developments



1&2 November 1 & 17, 2008
Introducing Sunnydale Hope SF

3 January 10, 2009
Community Assets

4 May 2, 2009
What makes a great community

5 May 30, 2009
Follow up: What makes a great

6 June 16, 2009
Community goals

7 June 27, 2009
Bus tour: Housing Communities

8 July 11, 2009
Bus tour Debrief

9 August 26, 2009
Site Plan Options

10 October 24, 2009
Visitacion Valley Community Wide Workshop

11 November 21, 2009
Open Space workshop

12 January 23, 2010
Buildings and Blocks

13 March 20, 2010
Follow Up: Buildings and Blocks

14 April 14, 2010
Community Open House

SAFE PRIVATE OPEN SPACE

HIGHLY PROGRAMMED COMMUNAL OPEN SPACE

Making Sunnydale a celebrated San Francisco neighborhood

Aside from solving existing problems, we are initiating other efforts to make Sunnydale not only a great place to live, but also environmentally rated through LEED ND, SF Green Building Ordinance, Green Point Rated, Healthy Development Measurement tool, Enterprise Green Communities Criteria, and Cal Green. Bioswales, porous paving and underground storm water retention will mitigate the storm water on site. Solar photovoltaic power and solar hot water systems will reduce energy needs. The community will be walkable, bike friendly, served by transit and have compact development. U.S. Green Building Council recently certified Sunnydale as a LEED ND Gold master plan.

The open spaces in the neighborhood will join the greater green space network of parks and open spaces in San Francisco. Given the topography on site there is great opportunity to take advantage of the views towards San Francisco Bay and beyond, giving residents a visual of connection to their surroundings. Historically, the site was more rural and was surrounded by agriculture. The master plan updates and urbanizes this connection to the working of the land with the location of orchards and community gardens that will help low income residents grow healthy food. Streets will have wide sidewalks, and street trees will help differentiate space and provide identity to individual streets. Utilities will be located underground and out of site. Sunnydale will join in great San Francisco open space traditions with steps, views, gardens and hilltops. Landscape design and details will provide a variety of tree and plant species, stage, green, mid terrace garden parks, overlooks, sculptural playgrounds and individual courtyards. ■

designing for public safety

By Ashley Langworthy

How does physical form affect conditions of safety? As landscape architects how can we design for public safety?

I have been contemplating these questions for the past three years while I have been working on the redesign for Sunnydale, a public housing project in San Francisco built in the late 1930s that has become a distressed and very unsafe neighborhood. Stemming from this project's particular set of circumstances, I have been compelled to think critically about a different set of design principles in the hope of making Sunnydale a less violent and dangerous neighborhood. While trying to answer the aforementioned questions I have read up on the topic, interviewed those with a perspective, and reflected on the questions myself. From my exploration I have found that concepts such as defensible space, physical and social integration, and visibility of the street and open spaces are all fundamental to transforming a neighborhood like Sunnydale into a safer, more desirable place to live.

Socio-economic environment

Although we have less influence over the socioeconomic environment, it is clearly a leading factor in the safety of a neighborhood and therefore needs to be mentioned. Through the years, city governments have learned that creating housing areas composed of 100% public housing do not benefit the residents or the neighborhood. In revitalizing the worst public housing projects, the Department of Housing and Urban Development no longer exclusively clusters public housing residents. All revitalization communities are now of mixed income and mixed housing types (public, affordable, market rate, etc). With a mix of people, low income residents are integrated into the larger community and crime is less concentrated.

Physical environment

Although socio-economic factors are central to a neighborhood's composition, we have less influence over this realm. Clearly, as landscape architects we have the most control and authority over the physical environment, and in particular as it relates to the public space.

Defensible space is an important concept that emphasizes a clear transition from public to semi-public to semi-private to private space around residences. This transition from public to private space is crucial so that residents can identify intruders early on before they are in the private realm. Public space consists of the streets and parks; semi-public space includes front yards and walks-up; semi-private space includes stoops, hallways, backyards, and courtyards; and private space is the interior of a unit. As intruders make their way out of the public space and into the transitions spaces, they are identified as a trespasser prior to entering the private space.

All spaces associated with a residential building need to be defined and given ownership. Residents maintain and control areas that are clearly defined as their own, but the less ownership a space has the harder it is to agree on what kind of behavior is acceptable in that space, and therefore that space can become dangerous. If a space feels unsafe, neighbors will stay away and consequently make unoccupied spaces even more dangerous.

'Eyes on the street' is well known concept first conceived by Jane Jacobs that puts security in the hands of the residents. Orienting residences toward the street and bringing them up close to the street edge allows people to look out their windows and watch the activity below. Building fronts should be activated with porches, shops, and restaurants. Residents can then perform the function of security guards for their own community, bringing the street under their control.

Streets should provide ample connections to the surrounding area to integrate the neighborhoods. This is not only important from the perspective of unifying neighborhoods, it is also essential for security reasons in terms of police being able to easily and quickly access all locales.

Public spaces such as streets and parks perform the important function of giving neighbors the chance for social interaction and creating a community. Lighting is essential in these spaces, as well as having walks that are visible from buildings. Shared spaces need to be intensively programmed with activities for a variety of ages and desired users so they are full of the right kind of activity. Like the private and semi-private spaces, it is important that residents feel a sense of ownership for public space. Spaces that are well designed and beautiful create pride for a community, and this helps to keep them up and alleviates vandalism. During the design phase it is also critical that residents feel part of the process and are involved enough to buy into and support revitalization efforts. It is even better if residents have a space such as a community garden or backyard that gives them an opportunity to be involved with the improvement and upkeep of that space, and reinforces their identity with that environment. Again, with increased proprietorship, residents are much more likely to protect and care for their new environment.

Concluding remarks

By using these principles, is it possible to transform a neighborhood like Sunnydale into a safe and vibrant place to live? The issues that affect such a community are deep rooted and complex, and certainly there is no quick fix. As landscape architects we do not have the capacity to address all the social problems that affect this type of community, but what we do have is the power to shape physical form and influence the transformation of streets and public spaces. We have the ability to give residents better control over their neighborhood, and make people feel safer with well lit, programmed streets and public spaces. We can create spaces that are dignified and beautiful, and which engenders pride and encourages positive and healthful activity. When combined with other measures of social change, using these tools to alter physical environments are powerful actions that help lead the way to the positive transformation of individuals lives and collective communities.

health & the built environment

A fellowship by Josselyn Ivanov

Pedestrian-friendly downtown Reykjavik

Delft bike storage and bike ramps

Health is a vast and far-reaching topic, so for the purposes of my research, I focused on the emerging public health disaster of our time – the sedentary lifestyle that leads to obesity, heart disease, diabetes, and spans the gamut of so-called first-world diseases. Related to these is the growing body of research on lifestyle-related mental health problems, such as ADHD and depression.

My 2011 Patrick Curran Fellowship led me through more than 20 books, to Montreal for the Eco-Cities World Conference, and to Iceland, the Netherlands, and Denmark. I talked to city planners, trolled the internet for sources, and interviewed 84 European park users to learn about how they were using the spaces they were in, what they liked about them, and whether or not they thought these spaces helped keep them healthy.

What I've found, over and over, written in every book on the topic and in the minds of each person I spoke with, is that designing for health is a fairly straight-forward topic. **Make it easier and more pleasant to walk, bike and take public transit, and make it harder to drive.** That's it. That's the best rule of thumb. Almost every design that facilitates driving has negative implications for public health. Almost any design that makes walking, biking and taking transit easier has positive implications for public health.

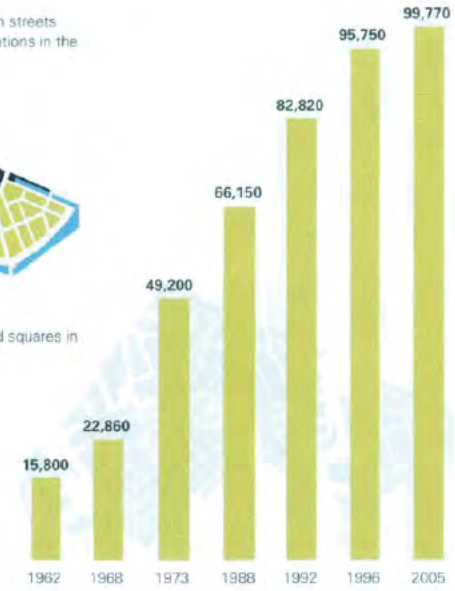
Some people will always exercise and spend time outdoors. Some people never will. But the vast swath of in-betweeners should be the focus of healthy design, and numerous studies show just how dramatically the habits of these swayable people can be changed with subtle changes to the world they live in.

The gradual development of pedestrian areas in the heart of Copenhagen from 1962-2005.

First pedestrian promenade in 1962: 15,800 m².

By 1973, the network of pedestrian streets connected the most important locations in the city centre: 49,200 m².

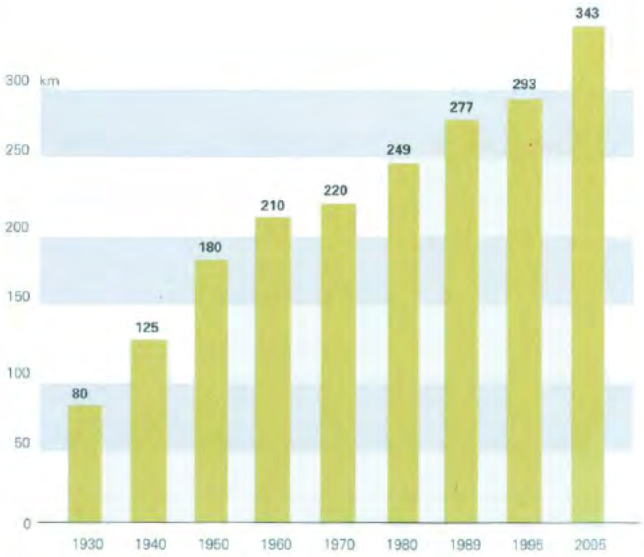
The network of car-free streets and squares in 2005: 99,770 m².



The graph shows the development of pedestrian areas in the parts of the inner city where studies have been conducted from 1962-2005. The numbers indicate m².

Source: Gehl, Gemzoe, Kirknaes, & Sondergaard. New City Life, 2006.

Growth of the cycle lane network in Copenhagen from 1930-2005 (in km)



Source: Gehl, Gemzoe, Kirknaes, & Sondergaard. New City Life, 2006.

Public Space Survey

1. Why did you come here?

On the way back from work

2. How long did it take you to get here?

a. 0-5 minutes b. 5-10 minutes c. 10-20 minutes d. More than 20 minutes

3. How did you get here?

a. Walk b. Bike c. Public transit d. Car e. Other _____

4. Are you here...

a. With friends b. With a dog c. With family d. Alone e. Other _____

5. What do you like best about this place?

Open space, no cars

6. Is this place fun? Yes / No

(Why or why not?) Relaxing, more than fun

7. Do you think that this place helps you stay healthy? Yes / No

(How?) Clean air, relaxes me after work

8. How much time do you spend outdoors on an average...

weekday?

a. 0-15 minutes b.15-30 minutes c. 30-60 minutes d. 1-2 hours e. More than 2 hours

weekend day?

a. 0-15 minutes b.15-30 minutes c. 30-60 minutes d. 1-2 hours e. More than 2 hours

9. Compared to other people, do you think you spend

a. More time outdoors b. about the same amount of time outdoors c. less time outdoors

10. How old are you?

a. 0-10 years old b. 11-19 years old c. 20-35 years old d. 36-59 years old e. 60+

11. How far away do you live?

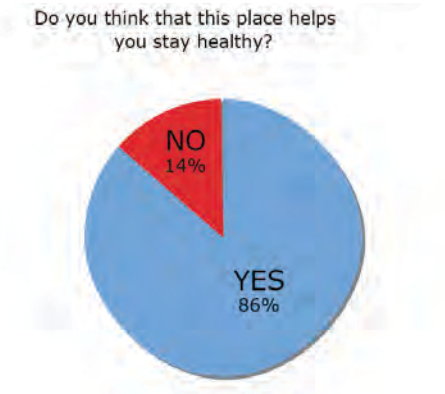
a. Less than 0.5 km b. 0.5 -1 km c. 1- 2 km d. 2 - 10 km e. more than 10 km

Thank you!
This survey is part of a research project looking at the relationship between health and the built environment.

Sample survey and preliminary research

Amsterdam street configuration

Montreal bike share program



One of the key concepts of this field is utilitarian versus recreational exercise. Utilitarian exercise refers to activity done in the course of doing something else, such as walking to the grocery store, climbing a staircase, or biking to work. Recreational exercise refers to activity for the sake of itself, be it biking, running, going to the gym, or taking a walk. Health-positive design can positively impact both of these areas. In a small sampling of some of the data I collected over the course of this fellowship, one can see how design decisions could easily be extrapolated. For instance, the U.S. Women's Determinants Study of 2000 showed that having enjoyable scenery was a predictor of recreational physical activity, as was "frequently seeing others exercise." Other studies have measured high-walkability versus low-walkability neighborhoods, and have found that people in highly walkable neighborhoods walk more than others, sometimes by factors of four and five, and mainly for utilitarian trips. Preliminary results of my own research indicate that 65% of the park users interviewed traveled less than 10 minutes to arrive at the park they were in, reflecting existing research conducted in Georgia showing that among people who reported a place to walk within 10 minutes of home, 41.5% were getting their daily recommended physical activity, while only 27.4 percent without that amenity were getting that activity.

Copenhagen is perhaps the best example of a city that has turned itself around from a car-clogged, low-movement city into a metropolis of activity. Over the past 30 years, they have systematically made it easier to walk and bike and more difficult to drive, resulting in dramatic activity gains: 36% of traffic to workplaces in Copenhagen is bicyclists, and 60% of residents cycle daily. This has been paired with a gradual reduction in city center parking spaces at a rate of 2-3% every year. Copenhagen is an excellent model of what can be accomplished with far-reaching planning vision.

This is merely a brief introduction to the relationship between health and the built environment: for more on this topic, please see my completed fellowship work or contact me directly!

Our designers are active thinkers. We write, publish, iterate, explore, create, and communicate ideas about the work we do and the theories behind it.

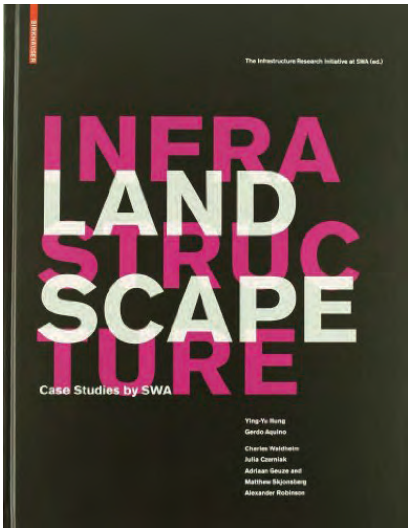
With seven offices, international work, and hundreds of projects on the boards at any given time, it is a rare moment in the life of a designer to stop and look back at where we came from. With this publication we take a moment to reflect on our body of work as designers, record the innovative ideas and tell the story of some of our greatest projects.

This section takes a look at communications and publications published this year, and our fellowship projects awarded annually to associates and staff. In addition, we take a brief moment to look back into our archives to see how projects from decades' past have flourished, grown, and become part of the communities within which they were founded. Through publication, awareness, communication and reflection, we step outside for a moment to look at our practice, our ideas, and our history.

OUTSIDE

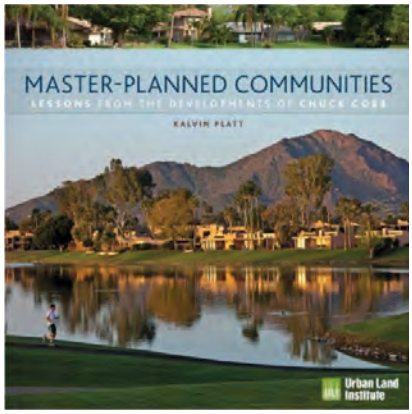
news, notes and historic projects

Publications



Landscape Infrastructure:
Case Studies by SWA
Ying-Yu Hung, Gerdo Aquino,
Charles Waldheim, Julia Czerniak,
Adriaan Geuze and Matthew
Skjonsberg, Alexander Robinson

Infrastructure, as we know it, no longer belongs to the exclusive realm of engineers and transportation planners. In the context of our rapidly changing cities and towns, infrastructure is experiencing a paradigm shift where multiple-use programming and the integration of latent ecologies is a primary consideration. Defining contemporary infrastructure requires a multi-disciplinary team of landscape architects, engineers, architects, and planners to fully realize the benefits to our cultural and natural systems. This book examines the potential of landscape as infrastructure via essays by notable authors and supporting case studies by SWA landscape architects and urban designers, among them the technologically innovative roof domes for Renzo Piano's California Academy of Sciences in San Francisco, the restoration of the Buffalo Bayou in Houston, and several master plans for ecological corridors in China and Korea. Case studies are described extensively with technical diagrams and plan for repositioning infrastructure as a viable medium for addressing issues of ecology, transit, urbanism, performance and habitat.



Master-Planned Communities: Lessons from the Developments of Chuck Cobb
by Kalvin Platt (author); Tom Fox (photography)

Kalvin Platt's new book was published with the Urban Land Institute: Master Planned Communities: Lessons from the Developments of Chuck Cobb. With case studies of some of the most successful master-planned communities in the United States, Kalvin Platt shares design techniques and lessons learned from development over the last 50 years. Illustrated with 200 great Tom Fox photographs and detailed with drawings and maps, Master Planned Communities covers projects from the 1960's onward and compares these built communities to the Smart Growth Principles that came 30 years later. The book details nine categories of lessons learned, both positive and shortcomings, for present day planners, designers, developers and local governments.

What is a Park: video series

René Bihan, Alec Hawley, Andrew Callaway, Gloria Lau, Bill Tatham

In this first of a five part You Tube series, René Bihan, Acting Principal of SWA Group's San Francisco office visits a kindergarten class to discuss public open spaces, specifically public parks. Most of these precocious youngsters know full well what a park is, but it is more interesting to see them discover what exactly MAKES it a park. Their naiveté concerning the origins of parks (that they are designed and built by people) is eye-opening; as they learn about parks, so do we. Following their lesson, the group heads to nearby Washington Square Park to visualize what they have learned. Following that, they are given a homework assignment in which they are asked to design their own park. This video project will be followed by others designed to draw the general public's attention to parks and public spaces and the roles they play in our quality of life.

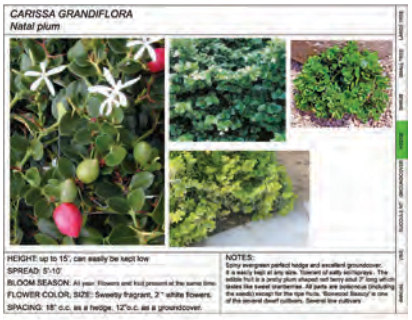
SWA Production Manual

2008 Fellowship Update

Leah Hales

In June of 2008, I was awarded the fellowship project to update the SWA Production system manual from 1973 to today. The purpose was not only to bring the manual up to date in terms of plan graphics and protocols, but also to bring stylistically different offices back to a group style of practice. In order to do this, a committee of representatives from each SWA office came together to produce a set of standards and guidelines to use firm-wide.

The result was the SWA Production Manual. It is a booklet, about 120 pages in length, that is a guideline for how to produce working drawings, what questions to ask, and what coordination needs to take place during each phase of work. It is meant to be a flexible tool that adapts to the ways and thinking of how we produce our work. The manual may also be a starting point of discussion that prompts further thinking on ways to better our practice and make our work more efficient and complete. Ultimately, I hope this document will get people to think and talk about the day-to-day practice of landscape architecture.



Plant Databases

2008 Fellowship Update

Sergio Lima

My fellowship began in the fall of 2008 after working on the Burj Khalifa and Jabel Ali projects in Dubai earlier that year. While working on the planting designs, I realized how unfamiliar I was with local flora and with what was available at local nurseries. I spent 10 days in Dubai visiting local nurseries (Proscape, Desert Landscape, Oriental Irrigation) and established landscape sites (Creek Park, Emirates Towers, Streetscapes in Abu Dhabi, Atlantis Hotel, etc) to collect data on different plant species. At the end of this process, I compiled a planting list with information about growth habits, sun exposure, and salt tolerance, and created 110 planting cards about the most useful species.

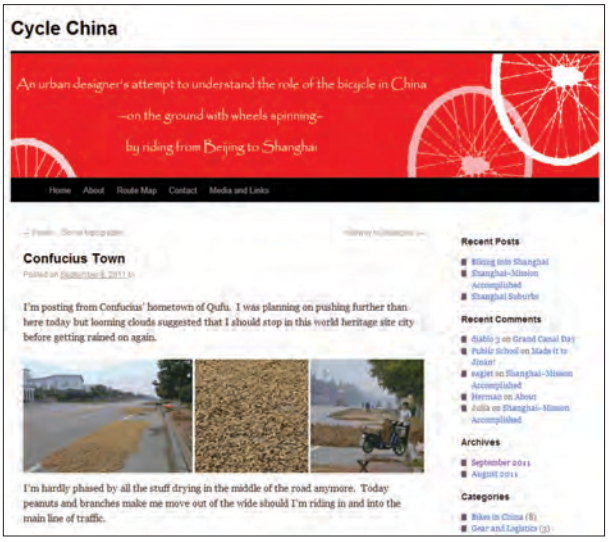
This fellowship set the base to continue my research on planting material for both foreign and domestic work. While working on the Log Mu Bay project I visited Hai Nan to research local planting material and native species, and compiled a planting list for this region. I am currently compiling a plant and image list of ornamental grasses, with particular emphasis on drought tolerant species and California natives.

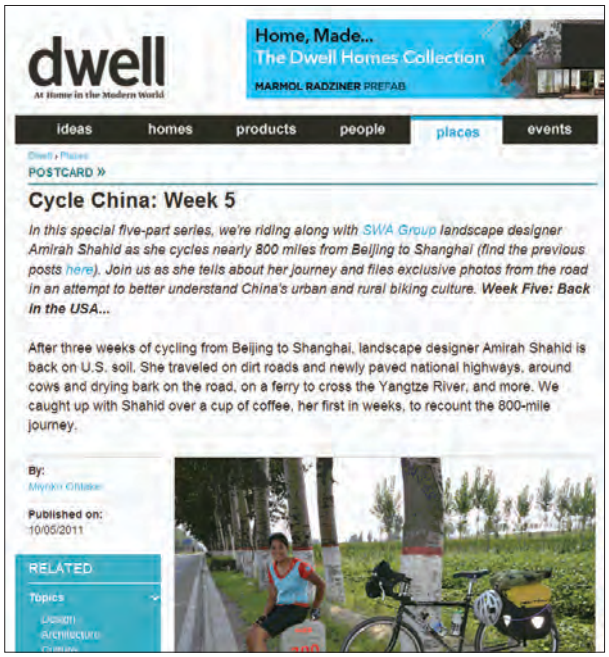
Cycle-China

a fellowship investigating the role of the bicycle in China

by Amirah Shahid

Amirah Shahid documented her fellowship en-route through her blog, cycle-china.com, and in a 5-part series on dwell.com. Now back in California, Amirah is compiling her research to present to interested groups including schools, cycle groups, and planning/ urban research associations



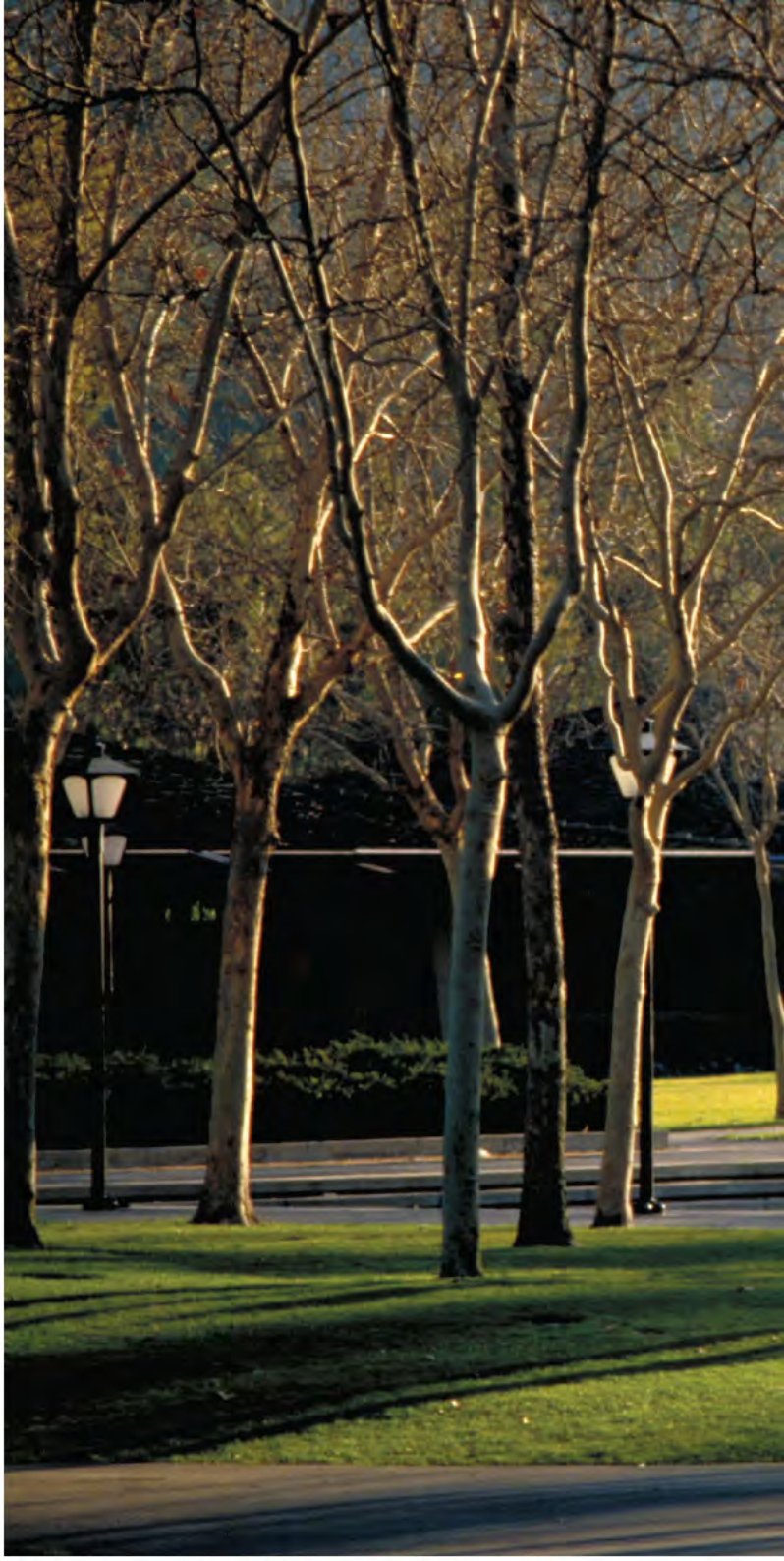


I biked 1250 kilometers from Beijing to Shanghai in September, 2011. The objective of the ride was to gain a firsthand understanding of the role of the bicycle in China and to investigate how cycling culture and bike infrastructure can be integrated into efficient and sustainable transportation design. I travelled through a spectrum of different urban conditions ranging from the dense municipalities of Beijing, Tianjin, and Shanghai, through industrial regions saturated with smog, to wide expanses of agricultural fields supporting rice, corn, and cows.

The most notable part of the ride is how feasible it is to bike this transect. Even with months of planning and research before leaving the states, I was nervous about getting stuck in frustrating and dire situations I could not get out of. However, as soon as I began riding out of Beijing I realized that China is made for bicycles. Its rich history with heavy emphasis on bikes as a primary mode of transportation is still evident in China's automobile age. Bike lanes, separated from the highway by railing or a planted median, were present in even the smallest of towns. National roads, one level down from the main freeways, had limited traffic and wide shoulders. Roads were, for the most part, well maintained and I saw lots of new roads being constructed. It was not uncommon to see other bikes on these roads at all hours of the day. The prominence of bikes can be seen in the frequency and range of bike stores and mechanics set up in everything from a high end retail store to a roadside stand. The high density of bikes made other bikers and pedestrians crossing bike lanes the biggest hazard I encountered.

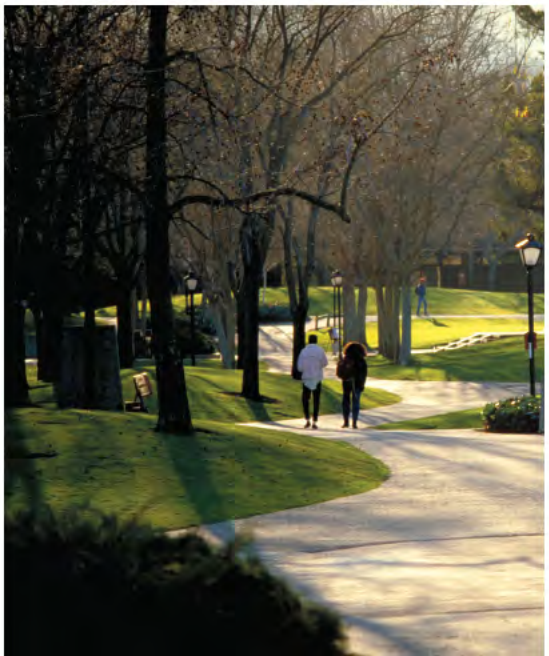
Even with China's obsession with cars and the status they symbolize, bikes remain an important part of the country's future. As designers, this presents an opportunity to create sustainable places that benefit from the presence of bicycles (better air, people exercising, less heart/lung disease, etc.) There are several things to consider when trying to promote the use of bicycles. It's important to have continuous networks where bike lanes connect to other bike lanes. Sections of Shanghai are fragmented and discourage the use of bicycles for travel beyond one's neighborhood limits. Pedestrian lanes should be big enough and clearly separated from bike lanes to avoid accidents. Increased efficiency with bike lane design will make bike travel quicker—probably even faster than cars in rush hour traffic. It seems that convincing people that they can save significant time in their commute is an driving factor in getting more people out of their cars and onto a bicycle. Other ways to encourage bike travel include providing tax incentive to businesses encouraging employees to bike, secure bike parking, and making biking 'cool' to youth.

This fellowship was an amazing experience to understand a country and culture that so much of our work is focused in. The slow pace of the bicycle allowed me to realize the diversity of the landscape and people as I moved from province to province and neighborhood to neighborhood. Cycling around a project site and its surrounding areas can be a valuable site analysis tool in China. Additional photos and details of what I saw and experienced are on the fellowship blog—updated daily during the trip—at www.cycle-china.com. ■



SWA provided master plan consultation and complete landscape design and development including roads, parking, grading, planting, walkways, courts, plazas and terraces for a community college of 3,500 students. The site plan emphasizes the indoor-outdoor nature of an ideal college campus by creating an "acropolis" of interrelated buildings and open spaces atop a hill, with parking located on the periphery below. The Campus Center, along with the new South Slope buildings, is the first addition to the Foothill College campus since its original SWA-Pete Walker design in the 1960s.

Foothill Community College / Los Altos Hillls, California
Owner/Client: Foothill Community College
SWA Office: Sausalito / Laguna Beach
SWA Project Team: Richard Law, Peter Walker, David Berkeson, Laura Curtis, Jim Hellinger, Don Young
Photography: Tom Fox, Dixi Carrillo, Gerry Campbell
Additional Consultants: dd Pagano, Roofscapes, Fred Brown Associates, Masten and Hurd
Scope of work: Master plan, site plan and Landscape Architectural Services
Project size: South Slope - 14 acres; Campus Center - Less than 1 acre
Dates: Community College - 1957-1960
Campus Center - 2003-2004
South Slope - 2002-2004



FOOTHILL COLLEGE

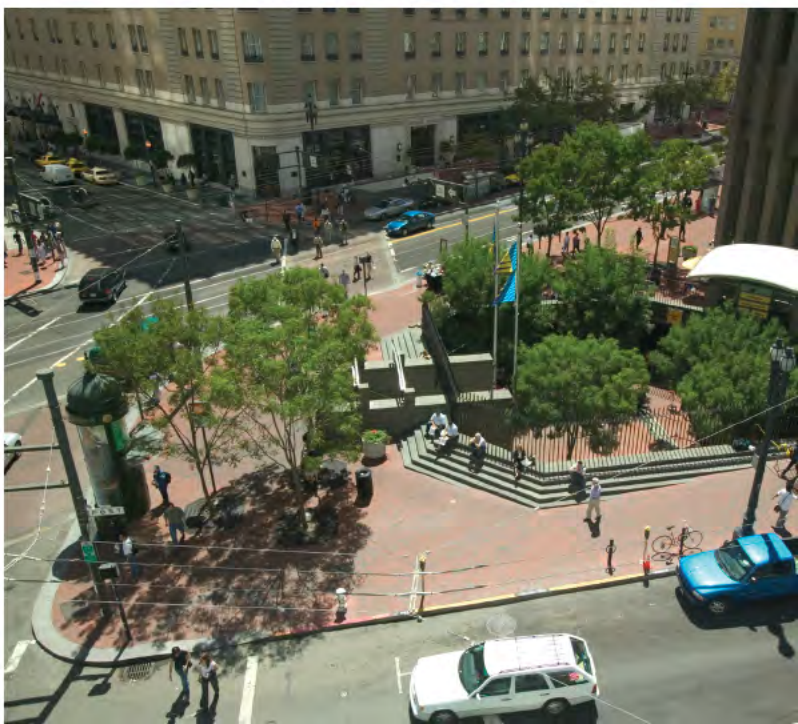
crafting indoor-outdoor learning environments

"The physical structure of Crocker Plaza has an apparent simplicity: from a distance, it is not even obvious that it is a plaza – merely a widened sidewalk and an entrance to the Montgomery Street BART station. Basically, it is an octagonal hole in the ground; from below, people leave the subway stop, cross a small sunken plaza, and exit up some steps to the street. At the lower level, the octagon shape is repeated in two levels of stepped-up platforms; the space is bordered by a physical fitness center, a café, and a flower shop.

At the street level, the octagon shape is elaborated into a series of granite step ledges used for sitting and backed by an iron fence surrounding the pit of the lower plaza.

This is one of the most successful plazas in San Francisco. It is in a highly visible location, is sunny during lunch hour, has food available, has a variety of seating locations, and offers a passing parade of pedestrians and traffic. Users seem to enjoy the combination of being both spectators and on display."

From People, Places. Design Guidelines for Urban Open Space. (1998)



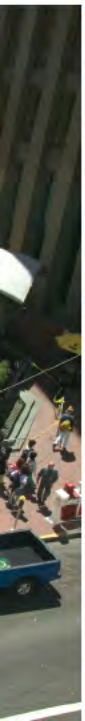
One Post Plaza / San Francisco, California
Owner/Client: Universal Land Company / Ellerby Becket, Inc Architects
SWA Project Team: Peter Walker, Richard Law, Gary Karner, Tom Fox (photography)
Additional Consultants: ELS, HNTB, and HKS Architects
Scope of work: Landscape Architecture
Opened 1969
1972 ASLA National Merit Award

ONE POST PLAZA

engaging in a city on multiple levels

"The space reads like part of the 1970s redo of Market Street, but it was designed by SWA Group to accompany the adjacent 38-story tower that opened in 1969. It's also, by far, the most successful plaza along the way."

John King: "Guide to understanding cities takes a few detours" SF Gate, September 28, 2011



On the Baja Peninsula, a seemingly lifeless desert landscape meets the nutrient rich Sea of Cortez creating a dramatic landscape of eroded mountains, sand, and sea where animal and complex plant communities thrive in one of the most diverse biomes on the planet. Distilling the essence of this arid environment was the task of SWA in the design of the 64 room, 5 star resort, Las Ventanas al Paraiso. Specifically, preserving and promoting a sustainably correct environment and harnessing the dramatic natural beauty in a manner that preceded the eco-tourism movement by more than a decade. When this resort was conceived, the very idea of celebrating a genuine "place" was anathema to the concept of luxury travel. Highly consumptive pseudo-tropical hotel complexes dotted the desert landscape ignoring the reality of the natural environment. SWA lead the design team in a revolutionary approach to site design, where not only would the natural landscape be celebrated, it would be preserved, enhanced, and protected by using existing natural systems as the defining theme for an entire resort community.

Over 15 years later this context sensitive design approach continues to inspire designers world-wide. The minimalism born from the desert nearly two decades ago is a benchmark for international design, and remains as contemporary today as the day it first greeted its guest from across the globe.

Las Ventanas al Paraiso / Mexico
Owner/Client: Ty Warner Hotels and Resorts
SWA Office: Dallas
SWA Project Team: Chuck McDaniel, David Thompson, Leah Hales, Tom Fox (photography)
Additional Consultants: HKS Inc. - Architect; Paul Duesing Partnership – Interior Design; Wilson Associates – Interior Design; Brockette, Davis and Drake – Structural Engineers
Scope of work: Site planning, landscape design and construction observation
Project size: 12 acres, 64 rooms, 40 villa units in 3 buildings
Design – 1995 / Open – 1997
Winner of over 50 awards

LAS VENTANAS

distilling the essence of an arid environment

The map above shows the locations of recent projects from all seven SWA offices:

Dallas
Houston
Laguna Beach
Los Angeles
San Francisco
Sausalito
Shanghai

The need for regenerating the built and natural environments is greater than ever. And so is the potential. SWA is a world leader in landscape architecture, planning, and urban design. Our projects span over 60 countries and have garnered over 600 awards. Professionally focused and employee-owned, our foremost passion is to create exceptional places for our clients.

SWA's identity was originally founded on research, experimentation and risk-taking. . . It still is.

The creative integration of the natural and built environments frames our work; and frames the creative design and planning services that we provide. Our design studio structure and locations are geared towards communication, responsiveness and engagement. Our projects are recognized for their visionary aesthetics, exceptional functionality, keen understanding of social design, and integration of environmental sustainability. Our work is fueled by knowledge, research and active debate. We advocate new ideas and innovation in design theory and practice.

www.swagroup.com