PART 3

URBAN RISK AND RECOVERY

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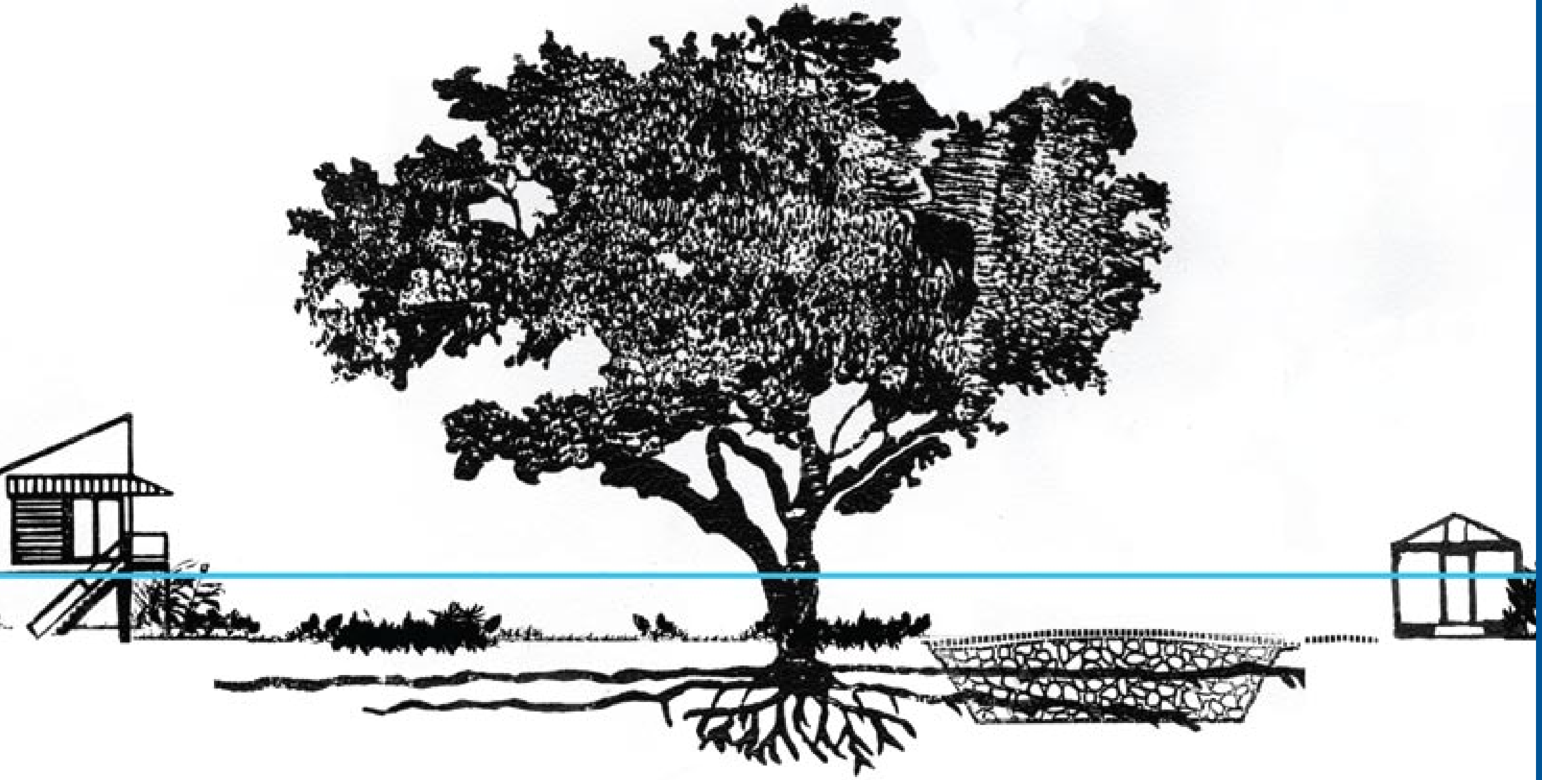


BELOW THE SILL PLATE: NEW ORLEANS EAST STRUGGLES TO RECOVER

DEBORAH GANS WITH
DARCH, ARCHITECTS, NEW YORK

A full six months after Hurricane Katrina, New Orleans was still like a city the morning after, as if the revelers had all just gone home or the last fan had departed the Superdome after a game. Yet the detritus littering the streets was not the usual Mardi Gras bead-laced garbage, but streetlights blinking as they lay on their sides and houses unmoored from their stoops. We drove for miles past the wreckage along avenues named with insouciance in the face of previous historical troubles—Elysian Fields, Desire, Esplanade—then east across the Industrial Canal, another fault line in the present mishap, and on into a territory called New Orleans East. There, the blue cloudless sky set off the profiles of tidy ranch houses built side-by-side along gently curving streets. Gradually, we discerned the signs of an event and its aftermath—the broken windows and moldy sheetrock. In the absence of the neighbors, the writing on the walls told their stories in the emotion-laden language of graffiti scrawled on garage doors: "We Will Be Back," "House for Sale," "See You Soon!!!!" With a house on every block marked or under renovation, the people had placed a tactical hold on the neighborhood in hopes of saving it from demolition. Over the four years that followed we became advocates, planners, and architects for the *anywhere* suburbs of New Orleans East, in particular the neighborhood of Plum Orchard, and subsequently for portions of the Lower Ninth Ward. This is a story of our work from the ground up—of its rich range of consequences and, ultimately, of its limitations.

PLUM ORCHARD

We began our involvement in post-Katrina New Orleans as participants in a Housing and Urban Development academic grant to aid particular citizens while developing strategies to prepare the city for future such events. Our local partners, Acorn (Association for the Community Organizations for Reform Now) and Acorn Housing, had strong constituencies in both New Orleans East and the Lower Ninth. After Katrina New Orleans East had received less attention than the historic and central Lower Ninth Ward, despite its equally dire circumstances and the significance of its location. The significance resides first of all in its ubiquity. New Orleans East is an extensive urban zone in low-lying, marshy land along Lake Pontchartrain. Not only is it large in itself but it represents the vast, increasingly vulnerable coastal suburban settlements of America. Second, it reveals the true demographics of such suburbs, which, contrary to popular assumption, house not just the middle classes but also lower-income populations—albeit on property that is the most flood-prone or otherwise marginal. We framed our efforts as no less than reenvisioning the coastal suburb in the age of global warming, in ways specifically beneficial to the lower-income populations.

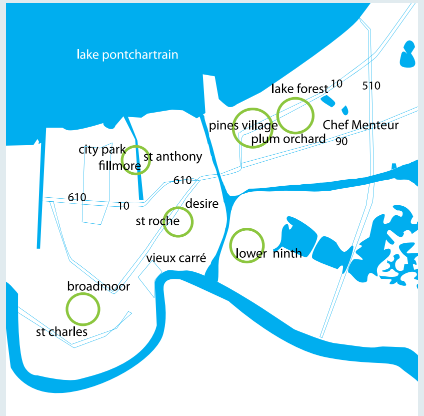
The political dimension of the design of New Orleans as a whole is nowhere more evident than in the suburban settlements of New Orleans East, in the perceived conflict between sustainable communities and sustainable landscapes. The battle for New Orleans pits those who consider the entire city as a single flood plain, all of which is threatened by longstanding social dysfunction (as well as by global warming), against those who would shrink the city to high ground to save it from flooding. A now-infamous plan of the first recovery effort placed dots across a city map to indicate potential areas of prophylactic depopulation and house demolition in anticipation of future flooding; our site was included. The general assumption was that the residents of these areas, who had scattered during the crisis, would remain diasporic or move to other neighborhoods of the city. Yet our site is no lower in elevation than other damaged suburban developments, including the whiter Jefferson Parish, west of the city, so that to empty it of its residents took on undertones of ethnic cleansing. While the "dots" have now been officially discredited, the policy persists de facto in the lack of investment in these districts and as word on the street.

This territorial conflict emerges in part from the facts of the aftermath of the hurricane but also from habitual design thinking, which has long relied on extra-large infrastructure to control the environment, on the one hand, and on individual self-determination to structure the political process, on the other. The catalytic storm rendered this dialectical approach to planning ineffective. The call for the wholesale erasure of neighborhoods, presented as defending ecology, confronted the immobility of individuals, presented as asserting community. In our work with the residents of Plum Orchard we sought to overcome this standoff by accepting the existing suburban morphology of individual properties and then suggesting incremental adaptations to new environmental and social factors that could come to have the shape and impact of a master plan. Perhaps the clearest statement of our initial mindset was *Project Backyard*, a self-help brochure that we distributed to returning residents in the immediate aftermath of the storm. It offered charts of plants, trees, and ground covers suitable to the climate, accompanied by descriptions of how gardens act as easy, cheap, and cheerful ecological tools. It was a big hit in the neighborhood and at citywide rebuilding fairs. It explained that, according to the United States Department of Agriculture National Resource Conservation Service, the massing of many small plots of modified wetland can be an effective device of water management—perhaps as good as a major marsh. *Many*, in our thinking, was an alternative to *extra-large*. While we do not propose this as the only scale of approach to the problems of suburban resettlement, it represents a larger intent—to undo the overdetermined relation between an environmental problem and the social price to be paid.

3.1
BELOW THE SILL PLATE

FIRMS
DARCH AND GANS STUDIO WITH PRATT CENTER, NJIT INFRASTRUCTURE PLANNING, AND HOFFMAN BRANDT LANDSCAPE ARCHITECTS

PROJECT LOCALE
NEW ORLEANS EAST, LOUISIANA, USA



(previous spread) Plum Orchard: at the center of the neighborhood stands a venerable live oak that provides shade, uptakes water, and resists wind. The soft-paved street and the raised house are part of our design. The small house at right is a circa-1900 fishing shack. The blue line marks the level of a 100-year flood.

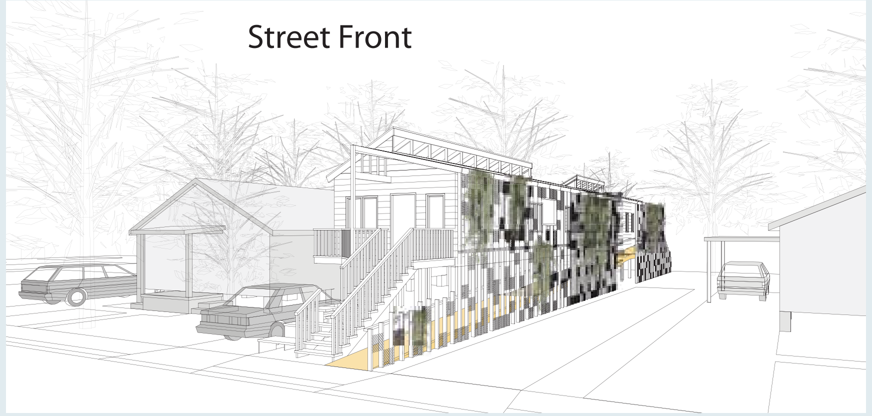
↑ Green Dot Plan: in 2006 the Bring New Orleans Back Commission unveiled a map with green dots designating areas where neighborhoods might be cleared and parks created. While the areas were low-lying, other equally vulnerable terrains were spared. The circles locate the green dots; one dot covers part of our site in Plum Orchard.

In the four years that we worked in Plum Orchard, we developed strategies that scale up, in time and territory, from the backyard and its retrofitted house to clustered settlements to an aggregation of twelve blocks called the Model Block, which in turn connects to citywide infrastructures.

RETROFITS

The scattered site development that occurred in the wake of the storm secured the typical Plum Orchard block of houses separated with 3-foot- (1-m-) wide side yards but reduced the possibility for alternative settlement patterns and land use. In order to act fast—faster than architects and planners usually work—we came up with brochures addressed to those in the midst of rebuilding. Some listed available social resources and others described best building practices for flood-proof construction. *Retrofit the Rancher* went beyond specifying waterproof materials to visualize the environmental transformation of an entire neighborhood through devices that could be implemented within an individual property, such as adding attic areas of refuge, solar roofs, cisterns, green walls and fences, and porches for shade and ventilation. As its moniker suggests, the brochure engaged the modest ranch typologies of the neighborhood and illustrated the proposed devices using actual homes and addresses so that residents could imagine such a transformation concretely and aspire to it—which they did.

Retrofit the Rancher: 4237 America Street, Plum Orchard. In this proposed renovation of a house in the neighborhood that survived the flood, a new lattice wall supports vegetation, provides shade, and screens an ADA ramp leading to an additional raised space of refuge.



CLUSTERED SETTLEMENTS: REPOSITIONING IN PLACE

To move back onto an empty block in New Orleans East is to make oneself vulnerable to crime in the short term and water in the long term. There are neighborhood strategies to cope with this vulnerability that predate Katrina, however, and derive from informal social covenants far more powerful than any textbook principles such as “Eyes on the Block.” These social covenants work well in part because they are rooted in the extended families that populate the neighborhood—for example, the Alexander family owns more than a dozen properties there. These families have historically formed strategic links between socioeconomic and physical infrastructure, using real-estate ploys like house swapping among family members according to need, a tactic that readily accepts an environmental logic of abandoning a flood-prone house for the safety of nearby higher ground. They have developed a land-use pattern different from the usual formulas of the suburbs, in that it mixes rental properties and double houses with single-family homeownership. Richer suburbs have resisted the introduction of exactly this economic mix, seeing these types as depreciating real-estate values. But our neighborhood understands that the mix allows families to move up rather than out when the floods come, and thus to remain housed whether young or old, wage earning or unemployed. Today, these networks and tactics sustain people physically and psychologically, in the absence of city investment.

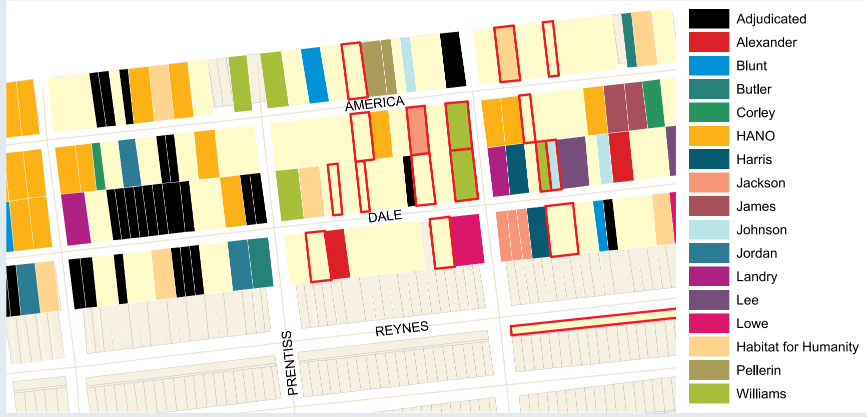
The storm’s destruction of the landscape created the need for a new kind of development covenant linked to the *right to return safely*. In its most succinct form, this covenant argues that no individual should reclaim a territory alone; that a neighborhood is the smallest sustainable unit socially, economically, and physically; and the smallest division of such a neighborhood is the housing cluster. We have made this implicit community understanding explicit in our proposal for clustered settlements. The housing cluster is the sustainable renovation of three or more preexisting contiguous houses. At its best this entails the rebuilding of a swathe at maximum density with a range of aspirational features, such as the aggregation of larger preserves of wetland and off-the-grid services. For several years Acorn Housing adopted this principle in their lending and development practices in that they encouraged and sought out for reconstruction contiguous building sites on higher ground within their areas of influence.

New Orleans is a landscape in which every inch of elevation counts. No enclave is categorically flat, including Plum Orchard, where the highest ground is 9 feet (3 m) above the low point. The covenant’s seemingly small adjustments to where a family may rebuild within the neighborhood—to *repositioning in place*—can therefore have profound effects.

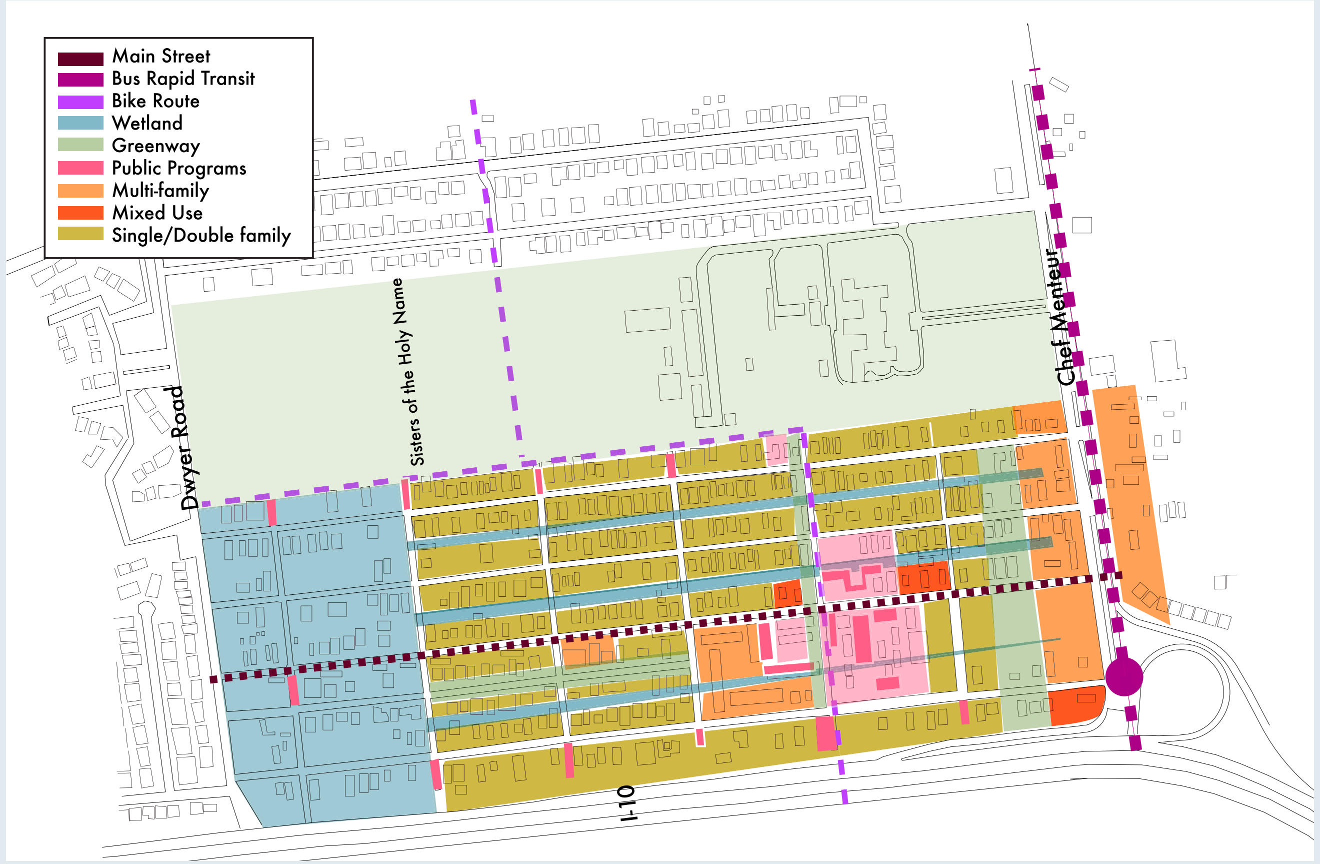
TRUE BOUNDARIES: THE MODEL BLOCK, A PLANNING UNIT OF PROPER SIZE

In formulating a settlement scale larger than the cluster, we sought a planning unit that could support the possibility of safe return through some degree of infrastructural autonomy, both social and physical. To determine its reach we identified such standard community-based planning elements as the ten-minute walk to public transportation, schools, and markets, as well as the perimeters defined by family networks, natural drainage patterns in relation to existing sewer systems and pumps, routes of evacuation, and sites of refuge. A test “model block of proper size” emerged from this analysis, specifically as a group of about twelve blocks in Plum Orchard within a set of preexisting borders: three roads and a defined green space. The I-10 to the west is a major raised expressway and an evacuation route to Baton Rouge; Chef Menteur Highway to the south, on naturally high ground, is the old commercial artery that connects the east to the downtown; Dwyer Road on the north provides major drainage infrastructure at the lowest edge of the site; and the convent of the Sisters of the Holy Name to the east has an extensive campus. Most importantly, the inhabitants identified the area within these boundaries as a natural precinct they called “the Goose,” for reasons no one can recall.

As we were documenting the implicit organizational structure of the Goose, the larger planning processes of New Orleans were



→ Each color in the Family Network represents the property holdings of a single family within the boundaries of our site. Habitat for Humanity and the Housing Authority of New Orleans (HANO) also own multiple lots.



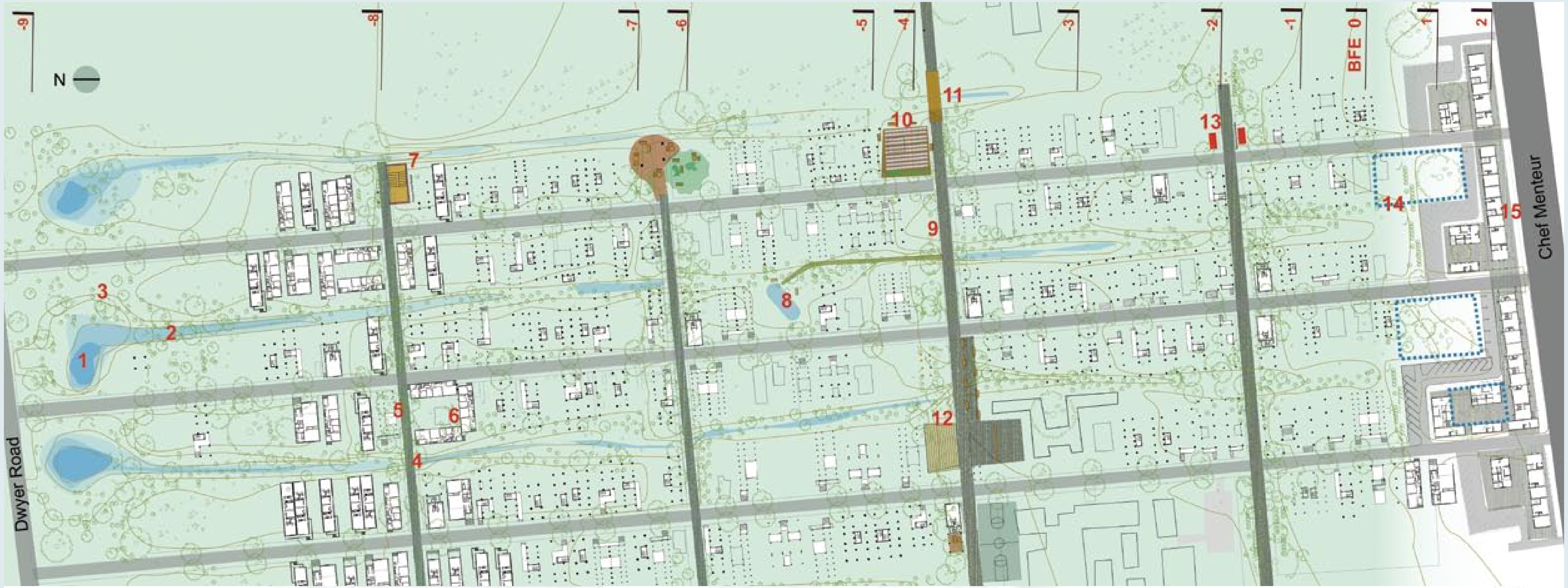
↓ Zoning Diagram: the proposed rezoning is shown overlaid on the pre-Katrina plan of the Model Block. Densely zoned settlement and public infrastructures are proposed for the higher elevations toward Chef Menteur, while the lowest portion of the site, which included many destroyed HANO properties, is reserved for wetland. A pedestrian route runs past schools and recreational spaces. Bus and bike routes connect the Model Block to the city-at-large.

under way. The Urban Land Institute Plan (2005) was replaced by Bring New Orleans Back (BNOB; 2006), which was in turn succeeded by the Lambert Plan (2006), itself succeeded by the Unified New Orleans Plan (2007). All of these plans called for determining the city footprint by the strength of community self-assertion. The BNOB process, for example, required that 50 percent of the local population declare they would return in order for the community to stake a claim to its future—a percentage that Plum Orchard had not yet met. Silence was tantamount to elimination. To stimulate community organization in a bedroom suburb was, therefore, to secure its immediate, short-term survival, as well as to germinate new civic structures for long-term environmental planning. Perhaps our greatest accomplishment was to hold church-basement community meetings and visioning sessions that helped create an educated and engaged citizenry capable of using the instruments of planning even if the City Planning Commission lacked the authority to transform community power into policy.[1]

The planning principles for the Model Block of the Goose begin with the consideration of the site as one continuous field rather than as a street map. A foundational principle for building in New Orleans is the Base Flood Elevation, or BFE, the elevation of a 100-year flood. It affects all aspects of life—from house insurance to zoning and ecosystems to livelihoods. We therefore chose to describe the landscape sectionally as a series of plans cut at different heights above sea level, in order to study the way in which floodplains might suggest new combinations of environment and behavior. Historically, the cultural landscapes of New Orleans have been linked by water and elevation to indigenous building types: saltwater wetland to fishing cottage; brackish marsh to raised Creole cottage; fresh water to house with a raised center hall; upland to shotgun house. Beginning at 2 feet (0.66 m) above the official BFE and descending northward to 8 feet (2.4 m) below, our site is an exemplar, in small, of the total field of New Orleans, where myriad conditions coexist on a single hyperdifferentiated floodplain.

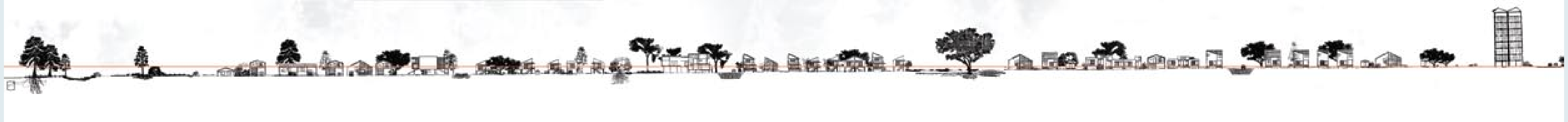
For instance, at BFE 0-0—that is, sea level—the Model Block is a continuous planted landscape, punctuated by the piles, porches, and stairs of raised houses, and features water-management tools such as bioswales and seasonal ponds. At the high southern edge of the site the plan cuts through an underground infrastructure of culverts and drywells. Using a numeric method to calculate runoff, our infrastructure team figured that this field can manage the 5 million gallons (1.89 billion l) per hour dumped by a storm once every ten years.

At BFE 20-0 one can see the scale and density of the neighborhood with a mix of clustered and traditionally sited houses in a multistory residential development. Along the high ground at the southern edge of the site the plan cuts through the lower level of a group of commercial buildings. The development houses and supports mixed demographics and can help pay for social infrastructures such as playgrounds. A hierarchy of ways designed to provide both social and flood infrastructures appears at this plan elevation. The first way is the major connection of the enclave to the city and its primary evacuation route, Chef Menteur Highway, for which we propose a rapid-transit bus system. Wide north-south streets running downhill from Chef Menteur are paved culverts that move water quickly to the bottom of the site; parallel to them run swales that also carry water. Narrower east-west side streets of gravel slow the water down and are selectively pedestrianized, planted, and regraded. Their culs-de-sac are captured as landscape or used as sites for collective off-the-grid services like solar panels, recycling stations, and cisterns for potable water. These can serve the Model Block in case of emergency and in the continued absence of city infrastructure investment. One cul-de-sac extends past a school and neighborhood commercial center into a greenway and bike path that connects to other communities farther east.



← Model Block Plan at 0-BFE: at 0 Base Flood Elevation, or sea level, the majority of the site appears as a continuous landscape of swales, water gardens, and plantings punctuated by the columns of raised houses. Above sea level at Chef Menteur, the plan cuts through ground-floor commercial property. Toward Dwyer Road, where the landscape is 8 feet (2.4 m) below sea level, the drawing reveals the house plans. This is a border zone of vulnerability between the neighborhood and the newly recuperated wetland.

1 Nature Trail Station
2 Backyard Swale
3 Wetland Park
4 Soft-Paved Side Street
5 Hard-Paved Thoroughfare
6 New Cluster-Housing
7 Bird Watch and Refuge Tower
8 Swimming Hole and Holding Pond
9 Pedestrian Route along Schools and Play Spaces
10 Solar Array and Picnic Shed
11 Foot and Bike Bridge
12 Bleachers across from Paved Court
13 Swap and Recycle Lagniappe
14 Underground Cisterns
15 Commercial Floor of High-Rise



↙ Model Block Elevation at 0-BFE: the red line marks 0-BFE, which is the level of the plan above. The mural depicts the zoning, infrastructure, and housing of the proposed Model Block with multifamily development on high ground at Chef Menteur, new housing types alongside the existing houses, new plantings, the soft-paved side street, and the connection to the city sewer at Dwyer Road.

Taken together the complete set of graded field conditions from BFE 0-0 to BFE 20-0 and their attendant water-management resources ensure that the neighborhood can be pumped out rapidly during almost any flood and help the community learn to live with water.

THE PROJECT REALPOLITIK

At the conclusion of the grant many of the strategies and tactics that we developed for water management and some of the specific desires of the neighborhood that we communicated were incorporated in fall 2006 into the official Lambert/Danzey Neighborhood Rebuilding Plan for District Nine.[2] And while that plan has been superseded, our thinking, by virtue of its resonance with the infrastructural ideas of so many other community-based efforts, seems to have infiltrated the thinking of ongoing city planning.

Acorn Housing then hired James Dart of the firm DARCH and me as architects for a city-sponsored project slated to create as many as 400 prefabricated houses on adjudicated sites, some in New Orleans East but most in the Lower Ninth Ward. These properties were contested landscapes after the storm both because of their low elevations and because they had been condemned long before Katrina as blighted. The prognosis for the neighborhoods was therefore in question. To rebuild houses in these neighborhoods meant to rethink localities that had been troubled for many years. In short it required that we develop suitably raised and protected housing typologies while also looking *below the sill plate* at the social and economic ground on which these houses would stand.

In developing house types for Plum Orchard we always envisioned producing them in a factory. New Orleans seemed the perfect venue for prefabrication, given the immediacy of need, the scale of demand, and the dearth of local labor. Yet the most common prefabricated house in America, the ranch house, had been disproportionately vulnerable to water damage in the suburbs of New Orleans East. In the postwar years, as residents moved out from the Lower Ninth Ward across the Industrial Canal in pursuit of the American dream, they had torn down their old, environmentally sensitive elevated cottages and replaced them with standard suburban-style houses. But the generic American house is not well suited to New Orleans. It requires an elaborate foundation because the ground is not solid enough for the standard slab to rest on. Instead, the slab sits on edge beams that are, in turn, supported on subsurface piles. In Plum Orchard much of this modified ranch housing had been built by federal housing programs, designed for the poorest residents and sited on the lowest ground, and was consequently flooded out of existence during Katrina. This forensic analysis points to the great danger of prefabrication: the illusion of almost universal applicability—formally and socially. Thus far in the rebuilding of New Orleans assimilation to locale has often consisted of importing generic prefabricated homes produced in factories from Pennsylvania to Georgia and raising them to flood heights set by the Federal Emergency Management Agency (FEMA). Our ambition as the architects for Acorn Housing, as in our proposal for the Model Block, was to consider this industrial object, the prefab, together with its lot and landscape as a single entity.

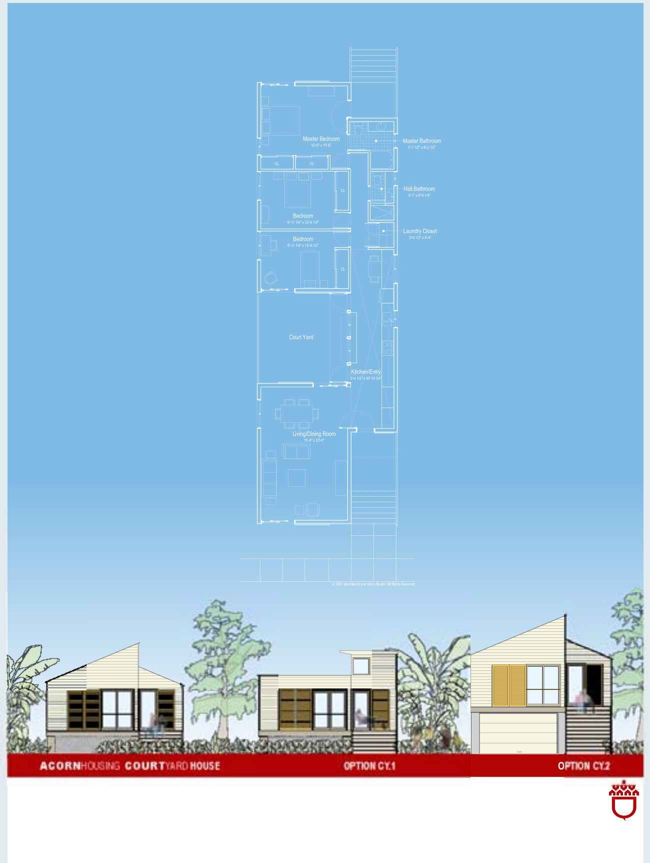
The realities of the adjudicated properties tested our ambitions. The first 150 sites we were granted were scattered throughout the Lower Ninth Ward—recapitulating the problems of planning we had found in New Orleans East just after the storm. In order to remedy the isolation of the lots, Acorn attempted to acquire adjacent properties from neighbors willing to sell and reached out to others interested in rebuilding. We requested that they leave the lower sites fallow and begin

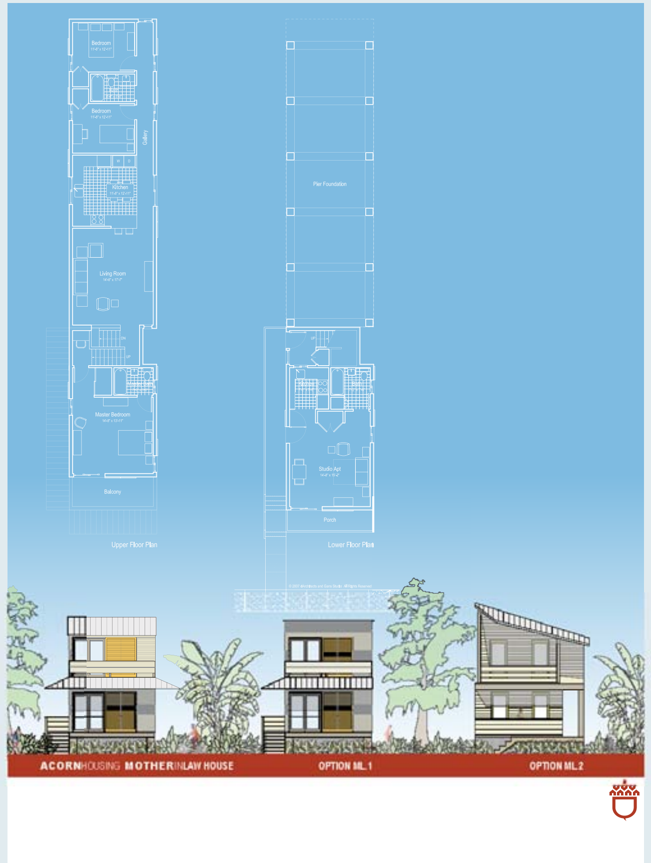
→ Maison Objet Trouvé (Found-Object House): much of the concern over rebuilding in New Orleans circles around the architectural and urban impact of raising houses. In fact there are many local solutions to this condition, as seen in this abandoned workshop with a generous roof.

To inform potential buyers, we prepared tear sheets on all five of our house types. The elevations at the bottom are variations of the basic plan. The back of each sheet described materials, environmental features, and costs.

↓ The Courtyard House is both a classic New Orleans and a modern type as a consequence of their shared concerns with light, air, and landscape. The kitchen is the bridge opening onto the court between the public and private wings.

↘ Mother-in-Law House: A rear residence is a full story above the ground; a street-level front unit is suitable as a studio apartment or for commercial use. The two units connect by an internal stair.





> The lesson of our comparative cost analysis is that it is cheaper to build a neighborhood than a house—which is the financial corollary of our social claim: it is safer to build a neighborhood than a house.

building on higher ones that had the added benefit of proximity to Claiborne Avenue, a central city artery with commercial development potential. These gross tactics aimed to preserve the opportunity to reserve property near the levee in the Lower Ninth for wetlands and to establish a framework of graded development with higher density on higher ground. The test was to see if planting wetland landscapes on an ad hoc, site-by-site basis could create a latent field that could be stitched together over time. But legal complications impeded even this basic planning strategy. The problems of clearing title and establishing Acorn's ownership of the properties trumped the logic of base flood elevation. The first sites legally owned and marketed by Acorn were those with no claims on them, wherever they might be found—which was, not surprisingly, scattered about on low ground.

To develop basic prototypes for our prefabs we held focus groups with potential buyers, all of whom had connections to the neighborhood. From these we developed five designs that responded to the variety of family lifestyles presented to us. We dubbed our modified shotgun house the Best Shot, with a starter version called the First Shot. The Courtyard house brings the protected outdoor spaces of a New Orleans townhouse to the suburban lot. The Mother-in-Law house has a front unit on the street for commercial, rental, or extended family use, while the rear is fully raised. The Central Stair house has a ventilated core that lends itself to coupling. The fifth is a Two-Story house for small lots. They all negotiate elevation through a series of thresholds that begin at the ground and end with the raised story. Each comes with several design variations for the street level, including stepped porches, garages, and enclosed patios. Several offer the potential for rental units or two-family situations and serve to increase density on the lots to be rebuilt on higher ground. Given the low price point of the neighborhood, the houses are cost efficient: they use passive technologies for moving heat and air, such as orientation, ceiling height, heat chimneys, cross-ventilation, deep shading, and jalousie shutters.

In order to keep the houses as affordable as possible, we assessed cost according to four construction methods: traditional stick-built on-site; prefabricated as a complete unit with wood studs; prefabricated as panels of steel studs to be sheathed on-site; or prefabricated with Structural Insulated Panels. We produced three different sets of construction documents for each house and found that unless Acorn could build at least thirty of the 150 houses, prefabrication would have little impact on cost. Still, even a single house was far less costly than the heavily subsidized homes being built by high-profile developers like Global Green and the Make It Right Foundation. Our pricing increments came in at $140,000 for a 1,120-square-foot (104-sq.-m) Best Shot and $240,000 for a 1,780-square-foot (165-sq.-m) Mother-in-Law. The lesson of our comparative cost analysis is that it is cheaper to build a neighborhood than a house—which is, of course, the financial corollary of our social claim: it is safer to build a neighborhood than a house.

Because Acorn could not finance thirty houses up front, we were unable to begin development at the scale of a neighborhood. Instead, we took on the smallest sustainable unit, a housing cluster consisting of four lots on Caffin Avenue. But to date not a single house has been built. The organization was dragged into a media-enhanced political controversy, and although Congress eventually exonerated Acorn of any wrongdoing, it wasn't before they had withdrawn from the project. Even before those troubles Acorn Housing had been unable, or unwilling, to build an exhibition house that could stake a claim to the site and demonstrate the quality of the product they were offering. They lacked the financing and perhaps the experience to perform as developers for houses on spec. Nor would they entertain a rent-to-own alternative for those who could not afford a straight purchase, because they did not want to manage the ongoing maintenance and administration that rental properties require. They had hoped to spawn a community that was bottom-up and self-run, not one that would require top-down support for some time to come. Their increasing political difficulties made it difficult to secure loans, so the burden of financing these homes fell on prospective owners. Under the terms of the Road Home Program of the Louisiana Recovery Authority, returning residents are entitled to as much as $100,000 to rebuild, but they often receive much less and many have yet to see the money. None of the prospective buyers with whom we were working has been able to secure enough financing with Road Home grants, even in combination with local bank mortgages, for so much as a modestly priced home.

The current failure of this project is incidental within a much larger crisis in the rebuilding effort. It points to the limits of our approach when it is not supported by and coordinated with economic and physical plans at civic and larger scales. The city as a whole is rebounding, thankfully, but the neighborhoods that were at risk before the storm show only isolated pockets of redevelopment. The glamorous enclave of the Make It Right homes, funded by Brad Pitt, stands in the midst of a much larger area of devastation in the Lower Ninth Ward.

Within the miles of abandoned real estate in New Orleans East there lies a significant exception to this general condition. The tightly knit Vietnamese community of Village de l'Est has returned, as organized by Father Vien The Nguyen, the dynamic pastor of Mary Queen of Vietnam Church. He and his parishioners have lobbied City Hall and have even taken on FEMA directly in order to secure their return. Their first triumph was getting FEMA to lay out the infrastructure for temporary trailers in a plan that could later be used for permanent housing for the elderly. With a strong connection to the watery landscape reminiscent of their homeland, they have come back to fish the lake for a living and replant rice and vegetables in expanded community gardens and, eventually, on hydroponic farms. They have overcome the paralyzing conflict between ecology and community by convincing authorities, from the federal government to the city, to buy into their interpretation of what it means to be safe. Their answers are subtle scenarios in which safe haven includes new (or perhaps old) ways of living with water, climate, and landscape, of living in one's house and of evacuating it.

Compared with the linguistic, cultural, and economic specificity of the Vietnamese Village de l'Est, Plum Orchard and even the Lower Ninth Ward are in some regards typical of New Orleans—and of many American cities. Their refugee citizens, formerly regarded as banal suburbanites or marginal inner-city urbanites, are struggling to become decisive actors. They have asserted their right of return and thereby forced planners, politicians, and strangers to understand the difference between political and physical safety. In doing so these residents have inspired us to understand how design can help negotiate this difference.

Notes

The work described in this essay is a truly collaborative, interdisciplinary project of Professors Ronald Shiffman, Vicki Weiner, Brad Lander, Deborah Gans, and Larry Zeroth and their students at Pratt Institute; Professors James Dart, Robert Svetz, Darius Sollohub, and Robert Dresniak and their students at the New Jersey Institute of Technology; Professor Denise Hoffman Brandt and her students at City College of New York; David Bruner of the New York Botanical Garden; and Steve Handel of the Rutgers Center for Urban Restoration Ecology. The prototypes for Acorn Housing are the work of DARCH and Gans Studio.

1 Many other pro bono and academic community-planning efforts did the same, including those of Cornell University and Louisiana State University.

2 Much is owed for this to the infrastructure lead on our team, Darius Sollohub, who forged ties with various local planners, including St. Martin-Brown Associates.