

# Recovering Place: On the Agency of Post-disaster Landscapes

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Based on the author's ongoing involvement in the recovery after hurricane Katrina in New Orleans, and the Lower Ninth Ward neighbourhood in particular, this paper discusses the implications of alternative strategies and tactics involved in the recovery, restoration and rebuilding of post-disaster landscapes. It emphasises that the recovery and rebuilding of community is as important as physical restoration. The empowerment of disaster-affected communities is posited as a central element, in particular, because disasters often reveal long-standing underlying dysfunctions and uneven development patterns as important factors disproportionately affecting communities that were already victimised and marginalised.

Design and planning approaches that gain the trust of local residents can reveal hidden, suppressed and alternative narratives and histories central to understanding the processes leading up to the disaster and to the development of viable and sustainable future scenarios. The active participation of traumatised communities is critical to an inclusive discourse on their future, allowing them to become co-authors of the landscapes and places they inhabit instead of victims of hegemonial agendas that created pre-disaster conditions in the first place.

The paper discusses a modest spatial intervention in the Lower Ninth Ward and its impacts as an example of the agency of landscape in processes of cultural change. It discusses the instrumentality of a truly public space in a critical location in asserting the viability of a post-disaster neighbourhood and in changing the discourses on human–environment relationships to facilitate a sustainable future in a landscape shaped by challenging social and environmental dynamics.

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*Post-disaster landscapes  
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## Introduction

New Orleans is an inevitable city on an impossible site (Lewis, 2003, p 17).

The recovery of post-disaster landscapes usually focuses on the rebuilding or restoration of physical and infrastructural systems. Consequently, spatial design and planning fields emphasise physical and biophysical processes and conditions often to the point of exclusivity.

Landscape and place are both artefact and agent in a continuous interplay of natural forces and human activity. The analysis and interpretation of this interplay through physical evidence is a core activity in design and planning processes. Traditional modes of site analysis and interpretation in landscape architecture and related fields divide landscape into discrete fragments with particular methodologies and implicit value systems (for example, ecological, cultural, economic) and subsume nature and culture (or, in a less contentious vocabulary, non-human and human processes) as dichotomies.

## REFLECTION

This approach conflicts with an understanding of landscape and place that transcends the consideration of physical conditions that design and planning disciplines habitually focus on. It includes 'soft' qualities, such as meaning, memory, attitudes, and the events and experiences that shape and frame a place and define its people.

It also ignores a more dialectic and dynamic understanding of landscape itself as an ongoing negotiation between conflicting and complementary human and non-human processes, their agency and consequences. Landscapes and places can be construed as being simultaneous 'natural' and 'cultural' ruins, with their position on a gradient between those extremes changing continually.

This paper investigates post-disaster landscapes as critical locations for realising the much-touted potential of landscape as an 'agent of cultural change' and 'a synthetic and strategic art form, one that aligns diverse and competing forces into newly liberating and interactive alliances' (Corner, 1999a, p 2).

### **Disaster recovery: Between reconstruction and betterment**

Outside of large-scale war, natural disasters have the biggest impact on human settlements. It is critical to qualify the concept of 'natural disaster' in this context. Whilst non-human processes are the immediate cause of disaster, human systems and their performance frequently play a significant role in the disaster's occurrence, severity, impact and the corollary damages in the aftermath.<sup>1</sup> Erikson and Yule (1994) frame environmental disasters 'caused by the invisible hand of man' as a 'new species of trouble' that is particularly hard to bear for the communities affected (cited in Tonnelat, 2011, p 5).

The most significant mid- and long-term impacts of such disasters do not originate in the physical destruction and loss of life and livelihood. Instead, these impacts originate in the post-disaster conditions and recovery processes that reveal underlying patterns of uneven development and systemic and systematic discrimination, marginalisation and disenfranchisement of particular neighbourhoods, communities and demographics.<sup>2</sup>

Almost all post-disaster recovery and rebuilding efforts operate in a tension between reconstruction and betterment. These efforts are constrained by the urgent and time-sensitive need to address the immediate rebuilding of critical infrastructure and housing as well as economic recovery (Olshansky and Johnson, 2010). The longer timeframes needed for a thorough analysis and development of alternative future scenarios, let alone for a meaningful participation of affected communities, often make it impossible to develop proposals for significant betterment. The pressure to rebuild as fast as possible creates situations in which spatial designers and planners, with their focus on reconstructing functioning physical and ecological systems, become inadvertently complicit in perpetuating the processes and patterns of uneven development, discrimination and marginalisation, and thus they serve (often hidden) hegemonial, capital and colonial agendas (Harvey, 1996; Mitchell, 2003; Smith, 1984).

### **'Bring New Orleans Back': A plan and its implications**

New Orleans and the Lower Ninth Ward neighbourhood, in particular, are a pertinent example of where such agendas have been served because they present

a wide range of issues typical for post-disaster conditions and the processes of recovery. New Orleans is a place with a high risk of natural disasters, among them tropical hurricane systems with their combination of high winds and precipitation. Its location in a coastal delta system, with low-lying lands, continuous land subsidence and deteriorating coastal wetlands, makes New Orleans particularly susceptible to flooding – from storm surges originating in the Gulf of Mexico and from high water levels descending from the upper reaches of the Mississippi River.<sup>3</sup>

The landscape planning and design efforts for the rebuilding of post-Katrina New Orleans are a textbook example of the continuous contestation and competition between different agendas, institutions, interests, values, forces and protagonists. An even cursory overview is beyond the scope of this article, and, in all likelihood, would be impossible because many critical decisions were made by political and economic power elites behind closed doors without any attributable authorship.<sup>4</sup>

A particularly telling example for the inherent political and cultural agency of any design and planning decision, and for the aforementioned inadvertent complicity of designers and planners in long-standing hegemonial agendas, is the plan for the rebuilding of New Orleans brought forward by the ‘Bring New Orleans Back Commission’. This entity, charged with managing the process of recovery and rebuilding, reiterated the past insensitivities and systematic discrimination against the historically marginalised black and poor New Orleanians. Recommendations received by the commission from the Urban Land Institute in November 2005 and from over 50 development experts became the foundation for a recovery plan developed by Wallace Roberts Todd (WRT).<sup>5</sup> The 95-page plan did not mention how to address social and racial inequalities in housing or access to infrastructure nor how the proposed parks and other infrastructural elements would improve or exacerbate those inequalities. Consequently, the ensuing public debate focused on how:

... reducing the urban footprint, reintroducing wetlands into the city in the form of new urban parks, or building mixed-income housing in low-income neighbourhoods, as suggested by WRT, is really informed by a mindfulness of long histories of urban renewal and interstate highway and park construction in New Orleans which caused their own devastation in mostly black residential neighborhoods (Breunlin and Regis, 2006, p 744).

A key element of the WRT plan was to convert several low-lying and flood-prone residential neighbourhoods, among them large parts of the Lower Ninth Ward, into parks and wetlands – a plan lauded by the American Society of Landscape Architects (ASLA) as exemplary (ASLA, 2006) (Figure 1). From a physical planning perspective, this proposition seems more than reasonable – as ASLA elaborated in its defence of the proposal. A fact unacknowledged in the plan – the neighbourhoods were occupied predominantly by poor blacks and had an unusually high level of home ownership – is responsible for its highly contentious reception, which took the plan’s authors by surprise (Langhorst, 2011).

The ensuing – and very public – debate equated the creation of wetlands, parks and greenspace<sup>6</sup> with acts of racism. Ancillary proposals to redevelop large

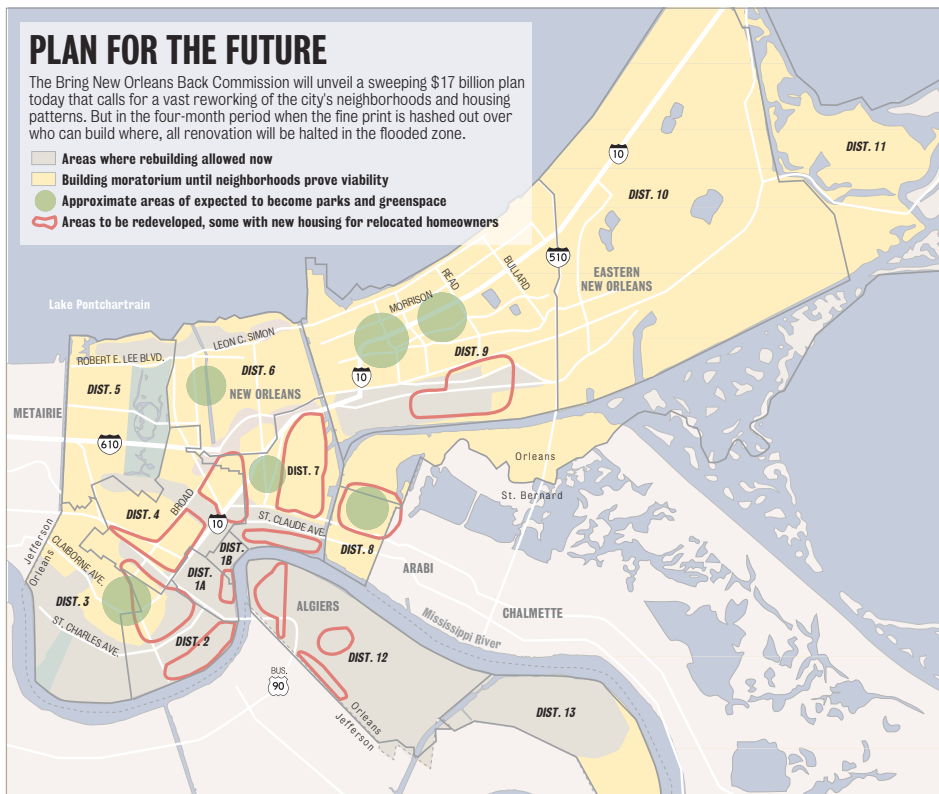


Figure 1: The 'Bring Back New Orleans' plan and its proposed parks and wetlands. The Lower Ninth Ward is designated as 'Dist. 8'. Image courtesy of the Times Picayune, based on the 2006 report from the Bring New Orleans Back Commission.

and less flood-prone parts of New Orleans, based on New Urbanist concepts of higher density and transit-oriented development, were criticised as thinly veiled attempts for the wholesale gentrification and 'whitewashing' of New Orleans. This prompted then mayor Ray C Nagin to assert that a rebuilt New Orleans would remain a 'chocolate city' and would, once again, be as diverse as it had been before Katrina.<sup>7</sup>

Even leaving aside multiple obvious, less obvious and hidden agendas for a 'new New Orleans' and their underlying interests and value systems that may have been served by the suggestions of the 'Bring Back New Orleans' plan, it is clear its emphasis on landform, hydrology and other tangible, physical and 'hard' qualities of landscape, and a total lack of engagement with the 'soft' aspects of place, are largely to blame for the plan's failure. In December 2005, it was clear any successful proposal for the rebuilding of New Orleans would need a new approach that, at a minimum, expanded on the type of site analysis that focuses exclusively on physical environmental change as employed by WRT.

A key element of this approach is the need to engage with a place and its communities and their interactions over time in considerably more depth and breadth than the typical site analysis. A much more comprehensive understanding of the socio-cultural, economic and environmental histories, and, in particular, of the development of landscape–community relationships over time, is necessary to understand the current landscape as the product of complex human–human, and human–environment interactions over time.

Equally critical, and a corollary to the first, is establishing trust with community members – without that, many narratives and histories that may prove critical in determining appropriate design and planning responses will remain hidden. Traditional maps and easily accessible historical data are not sufficient to reveal

critical information because they tend to be biased<sup>8</sup> and, because of their narrow instrumentality, are mostly ignorant of conditions, events and processes central to the identity and functioning of a neighbourhood. These characteristics hold all the more true for neighbourhoods that are a product of marginalisation and discrimination, such as the Lower Ninth Ward (Landphair, 2007; Regis and Breunlin, 2006).

### Responding to the response: Getting involved

Conversations among faculty members at the University of Colorado Denver's Department of Landscape Architecture in autumn 2005 about the worsening situation in New Orleans quickly led to the realisation that landscape architecture as a field would need to find ways to better respond to the challenges of disaster and post-disaster landscapes. The department, led by Dr Austin Allen, a landscape architecture faculty member and documentary filmmaker, whose filming in the Lower Ninth Ward was interrupted by hurricane Katrina, started a unique process. It committed three whole design studio sections taught by four faculty members to work on alternative future scenarios for the Lower Ninth Ward neighbourhood in the spring semester of 2006. In the following two years, at least one studio every semester addressed evolving issues in the recovery and redevelopment of the Lower Ninth Ward and New Orleans (Table 1). Since then, there have been seminar and studio classes that revisited the neighbourhood in different contexts.<sup>9</sup>

Informed by the shortcomings of the 'Bring Back New Orleans' plan, Austin Allen's experiences in the Lower Ninth Ward and the author's experience in disaster recovery in developing countries, it was decided to continue the involvement with the Lower Ninth Ward for at least four semesters. This constant association would provide the time necessary to develop a thorough understanding of landscape and community, and to establish reliable connections with community members. Additionally, providing students with the opportunity to be involved with one place and project for more than one course would help them to reflect on their experiences and critically explore their actions and ideas more deeply.

Moving with a neighbourhood through the process of recovery and rebuilding over several years provided an opportunity to discover, develop, evaluate and adapt alternative approaches to the rebuilding and remaking of post-disaster landscapes and communities. This ongoing involvement facilitated the deeper understanding of community and place, the building of trust and, ultimately, the modest physical landscape intervention that catalysed meaningful and sustainable cultural and environmental change in the Lower Ninth Ward.

Two central questions moved quickly to the forefront of decision making about how to approach the studio pedagogy and studio projects. First, how can the aforementioned understanding of human–environment relationships in their physical, ecological, economic, social and cultural dimensions be developed, in particular, in a place the designer has essentially no familiarity with? Second, what are key considerations and elements in the processes of developing responses (whether it be planning documents, design proposals or actual physical interventions) that need to be considered?

Course	Semester	Title/content/outcomes
Advanced Landscape Architecture Design Studio (Allen, Langhorst, Frankhouser, Mazzeo)	Spring 2006	<p><i>Re-thinking New Orleans: Strategies for Landscape Change</i></p> <ul style="list-style-type: none"> <li>Analysing and understanding the place and its history of human–environment interactions using multiple and transdisciplinary approaches</li> <li>Understanding immediate needs and long-term desires</li> <li>Developing strategies and tactics for short-term, mid-term and long-term change</li> </ul> <p>Outcomes</p> <ul style="list-style-type: none"> <li>Comprehensive mapping and data collection, analysis</li> <li>Establishing connections and trust with community</li> <li>‘9 for 9’ – nine proposals for the short-term, mid-term and long-term change in the Lower Ninth Ward</li> </ul>
Documentary in New Orleans (seminar) (Allen)	Summer 2006	Students created short documentary films, using their own footage shot in New Orleans in spring, amended by found footage and still images
Advanced Landscape Architecture Design Studio (Allen, Brink, Langhorst (consultant))	Autumn 2006	<p><i>A Rejuvenation of Place: The Holy Cross School Site</i></p> <ul style="list-style-type: none"> <li>Proposal for the redevelopment of the Holy Cross School site</li> </ul> <p><i>Creating Social Spaces in the Context of an Ecological Restoration</i></p> <ul style="list-style-type: none"> <li>Proposals for the platform providing access to the Bayou Bienvenue</li> </ul>
Advanced Landscape Architecture Design Studio (Langhorst, Cockerham, Allen (consultant))	Spring 2007	<p><i>Design–build Studio: Access Platform for the Bayou Bienvenue</i></p> <ul style="list-style-type: none"> <li>Design development and construction documents for an access platform</li> <li>Building of platform at the end of the semester was made impossible by the withdrawal of permission from the Levee Board</li> </ul>
Contested Terrains (seminar) (Langhorst)	Autumn 2007	Three-week unit on New Orleans and the Lower Ninth Ward to analyse economic, ecological, social and cultural forces and factors and their impacts on place and community
Platform Build (Langhorst, Cockerham)	18–21 January 2007	Construction of platform based on spring 2007 studio, involving community volunteers, students from the spring 2007 studio and previous studios
Landscape Architecture Design Studio, Louisiana State University (Allen, Langhorst (consultant))	Spring 2008	<p><i>Comprehensive Water Strategies for the Lower Ninth Ward, Part 1</i></p> <p>Taught at Louisiana State University, but involved University of Colorado Denver landscape architecture students</p> <ul style="list-style-type: none"> <li>Collaboration with University of Wisconsin, Water Management students and faculty</li> <li>Comprehensive plan for Bayou Bienvenue restoration, involving alternative treatment for storm-water runoff and sewage treatment</li> </ul>
Contested Terrains (seminar) (Langhorst)	Autumn 2008	Two-week unit on the transgressive appropriation of public space by marginalised communities, rituals of open-space use, looking in particular at second-line processions and the concept of ‘neutral ground’

Table 1: University of Colorado Denver, Department of Landscape Architecture, courses addressing New Orleans and the Lower Ninth Ward.



Course	Semester	Title/content/outcomes
Landscape Architecture Design Studio, Louisiana State University (Allen, Langhorst (consultant))	Autumn 2008	<p><i>Comprehensive Water Strategies for the Lower Ninth Ward, Part 2</i></p> <p>Taught at Louisiana State University, but involved University of Colorado Denver landscape architecture students</p> <ul style="list-style-type: none"> <li>• Collaboration with University of Wisconsin, Water Management students and faculty</li> <li>• Comprehensive plan for Bayou Bienvenue restoration, involving alternative treatment for storm-water runoff and sewage treatment</li> </ul>
Advanced Landscape Architecture Design Studio (Langhorst, Allen (consultant))	Spring 2009	<p><i>Living with Water: Alternative Scenarios for the Lower Ninth Ward</i></p> <ul style="list-style-type: none"> <li>• Comprehensive storm-water strategy for the Lower Ninth Ward</li> </ul>

### Approaching a post-disaster landscape and its communities: Counter-mapping and building trust

As students and faculty members started to research the histories of New Orleans, its regional context and the Lower Ninth Ward, the first overwhelming response was ‘Why would anybody want to live in a place like that?’. Consequently, initial ideas focused on shrinking the city, abandoning it altogether or moving it to ‘safer ground’. These conclusions were largely driven by an analysis of existing maps focusing on physical–geographical and hydrological information. After the first visit to a devastated New Orleans and Lower Ninth Ward in February 2006, and after meeting some of the few residents who were back in the Lower Ninth Ward, students’ ideas changed drastically, and the main impetus became ‘We need to help these people to get back’. The ensuing critical conversation in the studio then engaged the concept of multiple contested and conflicting histories and narratives that revealed and constructed landscape and community. There was a strikingly obvious discrepancy between the fragmentary narratives and histories from residents about their place and community, on the one hand, and the histories told by ‘official’ maps, publications and mainstream media on the other. Students started to recognise the need to develop a critical and much broader perspective if they were to understand a devastated landscape and traumatised community, and their interrelations over time, well enough to develop ideas, approaches and scenarios that were appropriate, just and sustainable.

To organise the necessary deeper and more critical research into the history of the Lower Ninth Ward and the development of New Orleans, the method of counter-mapping appeared inherently suitable.<sup>10</sup>

Counter-mapping is a comparatively new approach in critical and human geography. As a method and approach, it is specifically designed to subvert the hegemonial bias of maps and mapping projects to map ‘against dominant power structures, to further seemingly progressive goals’ (Hodgson and Schroeder, 2002) and reveal and assert subaltern and marginalised cultures and their spatial presence. Counter-mapping has been undertaken most in the Third World to assert the claims of indigenous peoples to resources and territories and introduce non-expert local knowledge into environmental disputes. Indigenous peoples

are increasingly turning to participatory mapping, appropriating both the state's techniques and manner of representation (Hodgson and Schroeder, 2002). Counter-mapping is also a frequently successful tool for building indigenous identity: 'More indigenous territory has been claimed by maps than by guns. And more indigenous territory can be reclaimed and defended by maps than by guns' (Nietschmann, 1995, p 34). Because the Lower Ninth Ward was reduced to a problem area on most official maps (based on elevation and demographics), counter-mapping other aspects, qualities and histories helped to establish the community's interrelation with the place it occupied as well as its identity.<sup>11</sup>

It is critically important to not rely on counter-mapping alone – it is as biased as the maps produced by hegemonial power structures. Interpreting a combination of the traditional maps, produced to further the agendas of dominant interests,<sup>12</sup> and the results of counter-mapping offers a close read of a landscape and its communities over time as it developed in response to conflicts and contestations between different systems, forces, factors and interests. It is precisely this dynamic and processual understanding that is necessary to locate a disaster in the long-term interplay between human and non-human processes. Any meaningful disaster response will have to write the next chapter for this interplay – hard to do if one relies on a snapshot at a particular point in time that shows only a small portion of the relevant information.

### Discovering and understanding the Lower Ninth Ward: A counter-map

The counter-mapping revealed the dual and contested identity of the Lower Ninth Ward – as a systematically marginalised neighbourhood with a long history of being discriminated against.<sup>13</sup> The neighbourhood is seen as a place on the margins of New Orleans that started as a colony of escaped slaves and continued to become a location of resistance against the political and economic elites controlling the mechanisms of spatial production. Even for New Orleans, the Lower Ninth Ward is a very particular neighbourhood. Settled first by escaped slaves, it slowly was incorporated into the growing urban and suburban fabric as the city grew. It has a long history of remaining isolated and being systematically disenfranchised, discriminated against, underfunded and undersupplied with even the most basic infrastructure and civic amenities. The following complaint from the Ninth Ward Civic and Improvement League, filed with the city in 1955, illustrates this experience rather drastically:

'Specifically,' the complaint read, 'we refer to poor housing and overcrowded conditions of our schools; the disease-breeding septic tanks, cess pools, outdoor toilets, stagnant water in the gutters; the flooded and muddy streets; the uncollected trash and garbage and the foul odors in the air.'<sup>14</sup>

Upon researching the conditions alleged in the petition, an incredulous Councilman Fred J. Cassibry responded, 'It is almost unbelievable that some of the things listed in your complaint do exist' (Landphair, 1999, p 1).

This attitude, prevalent among city, state and federal officials, did not change in the aftermath of hurricane Katrina. Residents in Lakeview and parts of



New Orleans East (more affluent, predominantly white neighbourhoods), which lie partially lower than the Lower Ninth Ward and sustained more flooding, quickly had power and services restored, and returning residents were supplied with Federal Emergency Management Agency trailers. Lower Ninth Ward residents could 'visit' their houses under the 'Look and Leave' policy enforced by the National Guard.<sup>15</sup>

Among other factors, the systematic indifference of city officials toward the quality of human life turned the Lower Ninth Ward residents into early key players in the struggle for school desegregation and civil rights. The Lower Ninth Ward became a critical location in the civil rights struggle, and one of the first examples of school desegregation, and continued a long tradition of neighbourhood activism:

... for as long as black New Orleanians have been marginalized, they have also created their own organizations that formed a subaltern mainstream. For hundreds of years, African-American communities have organized themselves into social clubs in the New Orleans second line tradition, participating in a long-standing socio-political tradition of self-help, mutual aid, and resistance to structures of oppression (Breunlin and Regis, 2006, p 746).

It was precisely the experience of this tradition that started to inform student projects and the actions of returning neighbourhood activists in parallel, forming the basis for an ongoing critical dialogue. Because community members had experienced maps as tools of discrimination, there was a profound distrust of this visual language and representational medium. Many meetings between students and a slowly growing number of returning residents started the realisation that this hegemonial language could be amended and reappropriated to tell the residents' stories and assert their participation in the discourse on the future of their community by asserting their right to narrative.<sup>16</sup> 'The right to narrative (...) is to tell stories that create the web of history, and change the direction of its flow' (Bhabha, 2003).

A community needs to be able to reclaim its past before it can establish its identity and participate in the processes and discourses for its future. This precondition is particularly critical for communities traumatised by disaster.<sup>17</sup> For the Lower Ninth Ward, the memories of hurricane Katrina are layered on the flooding and destruction from hurricane Betsy in 1965,<sup>18</sup> and exacerbated by the abovementioned systematic and systemic neglect. The Lower Ninth Ward, based on its hydrological and topographical location below river and sea levels, is a particularly vulnerable community. It is almost an island – bounded by the Mississippi River to the south, the Bayou Bienvenue wetlands to the north, the industrial and inner harbour canal system to the west and, to the east, Jackson Barracks, a National Guard garrison that forms a de facto wall from river to bayou and isolates the ward from St Bernard Parish (see Figure 2).

Yet, as vulnerable as the Lower Ninth Ward is, its community also has a long tradition of resistance and resilience. It was the experience of this resilience<sup>19</sup> that gave direction to a series of projects that addressed a wide range of issues in the context of rebuilding and re-imagining a sustainable Lower Ninth Ward.

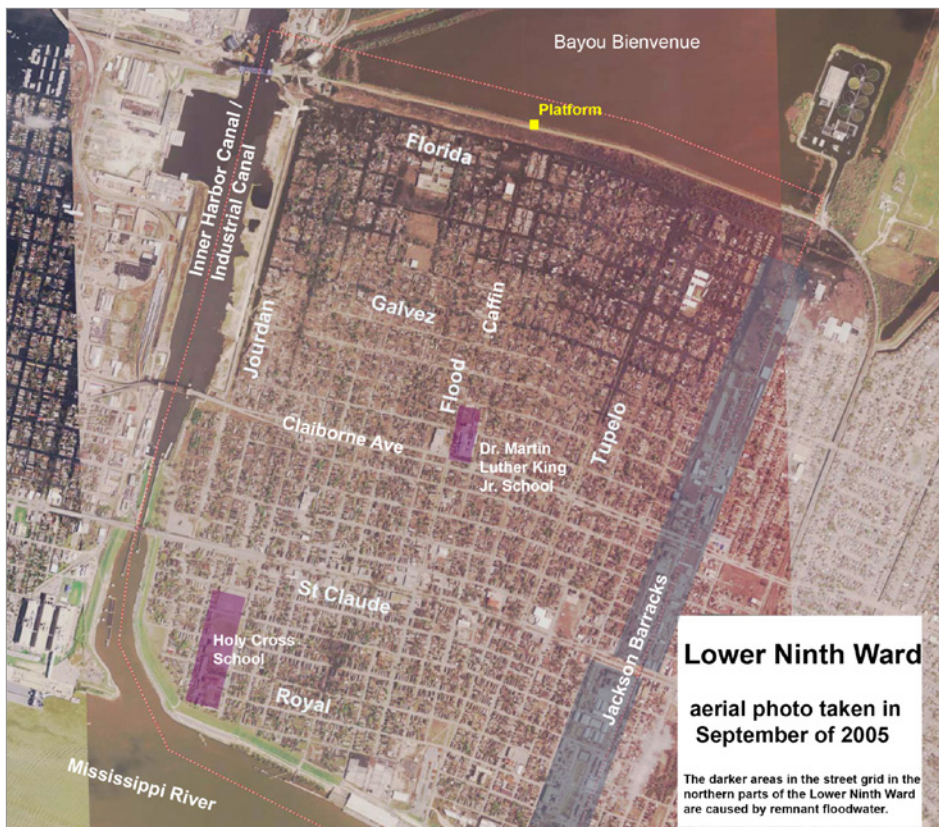


Figure 2: Aerial view of the Lower Ninth Ward, taken in September 2005 weeks after Katrina. The destruction in the north-west quadrant, close to the levee breach, is clearly visible. The darker colour in the street grid in the northern part of the Lower Ninth Ward is remnant floodwater. (Aerial image courtesy of the Federal Emergency Management Agency 2005, student work 2006.)

## Building trust

While counter-mapping was the method central to developing a different and more inclusive understanding of place and community, it became apparent that a successful counter-mapping would only be possible if community members were involved. Without developing a relationship of trust it would have been impossible to get community members to talk about their experiences, concerns and ideas, as well as share the unwritten histories of the neighbourhood. Without this input, the understanding of the Lower Ninth Ward, its problems and opportunities would have been incomplete and any attempt at developing scenarios for its future would have been flawed and negligent. For faculty members and students, building this trust took considerable time and a willingness to suspend their prejudices, listen and slowly enter into a critical dialogue with upset, traumatised and angry residents (see Figure 3). Equally, it required community members to overcome their deep distrust of outsiders and ‘experts’.

A key part to the success of this process was to listen without prejudice, to walk a fine line between taking the residents’ concerns and ideas seriously, and being critical and forthcoming about possibilities, limitations and challenges.<sup>20</sup>

In hindsight, it was the length of involvement and the frequent returns of student groups that removed community members’ distrust. An 83-year-old resident’s comment, ‘By the third time y’all were coming back down here, all that way from Colorado, just to help us, we figured y’all might be serious’, describes one of many moments that established this all-important trust – after which community members shared more and more of their experiences, insights and stories. Sustaining this immensely time- and energy-consuming dialogue put the Department of Landscape Architecture in a unique position in the Lower Ninth Ward and formed the foundation for a successful continuing involvement.



*Figure 3: Workshops with University of Colorado Denver landscape architecture students and Lower Ninth Ward residents and stakeholders, spring 2006.*

With a growing number of residents returning, the dialogue became increasingly complex and involved more and more conflicting positions. It became clear that there was not just a single, monolithic community in the Lower Ninth Ward but a complex social and cultural network that was almost impossible to decipher. Many times consensus or compromise could not be reached, and this frustrated students and residents who were pushing toward a quick result. Agreement usually was on the process of ongoing communication, and a large part of the success of the Lower Ninth Ward in ultimately reinventing itself lies in a communication structure that can be most appropriately described as a forum. While leaders emerged quickly, at every workshop and meeting residents and students felt they could freely state their ideas and positions.<sup>21</sup>

Counter to initial expectations, the first studio produced an outcome very different from a recovery and redevelopment masterplan; it ended with a kit of parts addressing the short-, mid- and long-term needs of the Lower Ninth Ward. Its proposed actions ranged from developing alternative evacuation strategies to wetland restorations, from alternative flood-resistant and flood-responsive housing schemes to urban redevelopment schemes identifying and developing key sites. It included communication strategies for a community in diaspora and ideas for memorialising hurricane Katrina and its victims, with some of the projects operating well outside the traditional scope of landscape architectural projects.

### **From understanding to intervention: Landing, finding, grounding, founding**

Christophe Girot's (1999) framework, with its focus on a method and techniques that 'expand the simple amelioration of sites towards practices that also reactivate the cultural dimensions of sites' (p 59), seemed eminently suitable as a structure for the approach developed in the first studio. Girot labels his framework as 'Four Trace Concepts' because they relate to issues of memory and 'underlie the fact that a designer seldom belongs to the place [in] which he or she is asked to intervene' (ibid, p 60). The four concepts of landing, finding, grounding and founding each 'focus on particular gradients of discovery, inquiry and resolution' (loc cit). Girot's



framework, although not deliberately used as a process in the first studio, became a critical tool for explaining and evaluating the processes the studio went through and began informing the pedagogy for the following studios.

‘Landing refers to the point when a designer reacts to the difference between his or her preconceived ideas of a place and the reality that appears during the first steps of a visit’ (ibid, p 61). This step seemed particularly important and pronounced because the preconceived notions formed by students and faculty members before their first visit could hardly have been more different from their actual experiences. The necessity to negotiate this differential facilitates discoveries that would otherwise go unnoticed. The Lower Ninth Ward was experienced as an extremely foreign and unfamiliar place, one resembling a war zone more than anything else. Walking through areas of extreme destruction, and being able to put physical experience to the previously unimaginable, became a powerful agent in quickly changing expectations and prejudices.

Grounding, as the second step, describes the processes of getting to know a site better, through more systematic research, mapping and successive experiences. During the grounding phase, multiple ideas about, and readings of, a place might emerge, including identification of the array of forces, factors, protagonists and processes that shape it. Grounding is a process ‘implying successive layers, both visible and invisible. It is not necessarily what remains visible to the eye that matters most, but those forces and events that undergird the evolution of a place’ (ibid, p 63). Grounding was likely the most challenging and difficult step for the students. With their mandate to engage multiple and often radically different constructions and conceptions of the same place, with seemingly equal validity, the constant challenge to any conclusion drawn and position argued often led them to buy in – thankfully temporarily – to simplistic interpretations and ideologies. These relapses seemed to be a standard response to dealing with too many positions and too much open-endedness and uncertainty. Girot’s framework offers no guidance on how to ultimately engage the level of contestation, complexity and uncertainty. Students started to look for value systems that could provide normative guidance. Ethical considerations quickly took precedence over the pragmatic or descriptive and forced students to reflect on their own role in the process of developing ideas on how to change the Lower Ninth Ward.

Finding appears as the most elusive and open trace concept:

... findings escape design invention and import, they are something unique (though hidden) that definitely belongs to a place and contributes durably to its identity ...

[F]inding is not limited to the discovery of objects, it also includes the experience of relating and associating ideas, places, and themes (ibid, p 64).

What people find can be an integral part of the landscape structure and performance. One of the conclusions drawn after the first two studios was that ‘finding’ in a meaningful way can only occur if there is sufficient familiarity with the place. Many students commented that, without having had the experience of being in the Lower Ninth Ward and connecting with community members, they might have ‘found’ the same idea but would not have been able to understand its agency and relevance or been able to develop it.

Founding is probably the ‘most durable and significant of the four trace concepts’ (ibid, p 65). It can be either conservative – referring to some past event or circumstance – or innovative – importing something new into a place. Founding might change or redirect a particular site, by physical alteration or changing the uses. Founding ‘corresponds, in archaeological jargon, to an epoch – a given period in history when a cultural relationship to the landscape evolves and changes ... extending the legacy of a place toward a productive future’ (loc cit). Founding then becomes a key concept to any successful recovery of post-disaster communities and landscapes: living well within disaster-prone locations first and foremost requires a particular accultured attitude. Any sustainable approach to dwelling in such areas would require the development of an appropriate ‘cultural relationship to the landscape’, and any successful landscape change, no matter what its scale or scope, would have to contribute to such a cultural relationship as part of its agency.

### Finding and founding: Discovering a critical resource

Without the trust built during the studio’s continuous involvement, and the growing willingness of residents to share more and more aspects of the rich histories of the Lower Ninth Ward, it is highly unlikely that either the finding of the Bayou Bienvenue and its critical importance to the community or the founding of a comparatively modest intervention with immense impacts would have ever occurred.

In several conversations as early as the summer of 2006 long-term residents Steve Ringo and John Taylor started to emphasise the historic importance of the former cypress swamp to the north of the Lower Ninth Ward. While maps and aerial photographs clearly show its existence, it is invisible from within the Lower Ninth Ward, separated by a wall of steel sheet piling (Figure 4).

Taylor recalls his childhood, before Hurricane Betsy hit in 1965, when the bayou was still freshwater and he’d go out fishing among the bald cypresses – in fact the stumps of the old trees can still be seen sticking up out of the water. ‘Back then you



*Figure 4: Levee and sheet piling along Florida Avenue, Lower Ninth Ward, New Orleans, 2006.*

couldn't even see across to the other side of the bayou because the woods were so dense. And the water was covered with lily pads' (Tonnelat, 2011, p 1) [Figure 5].

Many residents subsequently confirmed the importance of the bayou as a resource for fishing, shrimping and other activities. These activities formed an important ritual that was part of the identity of the neighbourhood.

This in itself was a 'finding' in Girot's sense because the common understanding always centred the Lower Ninth Ward on the Mississippi River to the south. In the context of the neighbourhood's precarious position at the interface between coastal wetlands and human settlements, the Lower Ninth Ward 'might be said to embody the breadth of the build/no-build line between land to be abandoned and land to be maintained that is so well described by Richard Campanella (2008) in his book *Bienville's Dilemma*' (ibid, p 2).

This line is physically inscribed into the landscape as a nearly 6-metre tall sheet piling. It separates not just the Lower Ninth Ward from a resource that was critical to its cultural identity and economic survival, but also the site of a human disaster from the site of an ecological disaster, both integral parts and signifiers of the catastrophe of hurricane Katrina. Any place can be described as 'simultaneous ruins of culture and nature' (Langhorst, 2012), but there are few that have both expressions of the continuous renegotiation of human and non-human processes separated neatly by a wall of steel.

In various ways, the Lower Ninth Ward has become a symbol in the discourses on rebuilding post-Katrina, struggling with proving its viability as a neighbourhood after still only about a third of its pre-Katrina inhabitants (as at 2011) have returned. However, the residents and their high level of activism, as well as the media portrayal as a microcosm of the contested cultures of New Orleans, are deemed reason enough for its reconstruction (Regis, Breunlin and Lewis, 2011). The identification of coastal wetlands as the most critical element of alternative strategies for flood control (or, in other words, of non-human processes and



Figure 5: Stumps are the only remnant of the bald cypresses that grew in the Bayou Bienvenue before saltwater intrusion killed them.



performances as critical infrastructure) has put the Lower Ninth Ward even more firmly at the centre of discourses on sustainable futures in the region. This status has made overcoming the sheet-piling wall between Bayou Bienvenue and the neighbourhood a centrepiece for the recovery, rebuilding and reimagination, its potential agency and efficacy, extending beyond its immediate spatial context.

Every mile of planted bayou can reduce the flood in case of a hurricane by two feet. The bayou used to stretch all the way to the sea, 75 miles from here. So you do the math. If the bayou had still been alive in 2005, the Lower Ninth wouldn't have got flooded when Katrina hit. That's all on account of the Mr. Go [Mississippi River – Gulf Outlet] Industrial Canal, which, starting in the '60s, connected the gulf directly to the bayou, bringing plenty of brackish water – which the cypresses couldn't take. But it's also on account of the canal that the waters surged into the bayou, first with Betsy in 1965 and then with Katrina in 2005, their speed and their force compounded by its funnel effect. It's because of Betsy, by the way, that they built this seawall, which has separated us from the bayou, cut us off from its riches, but above all which has kept us from seeing its gradual demise. Before this deck, most of the neighborhood folks, the ones younger than me, didn't even know the bayou existed (John Taylor, interview with Stephane Tonnelat, April 2010, in Tonnelat, 2011, p 1).

The initial 'finding' of this particular condition and location led to the 'founding' of the Bayou Bienvenue Wetland Observation Platform, in local parlance referred to as 'the deck' or 'the platform' (Figure 6) . The platform did fit neatly into the neighbourhood's tactics of asserting its right to exist<sup>22</sup> and to rebuilding not by a massive repatriation of former residents (as in New Orleans East) but by turning itself into an ecological and cultural model of a community immersed in a coastal wetland–river delta environment. This development in itself might not be surprising, but in the context of the initiatives and formal and less formal neighbourhood organisations that developed rapidly and were carried forward by neighbourhood members, people who rapidly acquired the necessary knowledge and assertiveness, quickly became respected participants and voices.



*Figure 6: Lower Ninth Ward and Bayou Bienvenue Triangle, looking west. The red dot denotes the location of the platform. (Aerial photo 2007, courtesy of Daryl Malek-Wiley.)*

The collaboration between the University of Colorado Denver's Landscape Architecture Department and emergent neighbourhood organisations expanded quickly. It included a fast-growing array of other institutions, among them a team of water resource management students and faculty members from the University of Wisconsin-Madison. The idea of restoring the Bayou Bienvenue to a freshwater marsh, and eventually converting it back into a cypress forest, became the central argument and objective for the Lower Ninth Ward. This focus helped the community to turn itself into a model on how to survive and thrive in particularly challenging environmental conditions, thus fundamentally changing the narrative on its future identity.

### Building the platform

Access to the bayou became the first priority for the residents to reconnect to a once critical resource, and for water resource management students to regularly test salinity and water quality. Access to the top of the sheet piling and levee provided a place for the landscape architecture students and faculty and all other interested parties to visually understand how human settlements are nested within non-human systems and to experience the thick and thin edge that defines life in the region. This access was not just limited by the sheet-piling wall but also by a thicket of vegetation and a freight rail line (Figure 7).

One particular location quickly became the favourite, for both pragmatic and symbolic reasons. At the end of Caffin Avenue, the sheet-piling wall was frontfilled and backfilled with riprap, reducing the height to be overcome to about 2 metres. Caffin Avenue formed something of a civic corridor, with a former community centre and the Dr Martin Luther King School within viewing

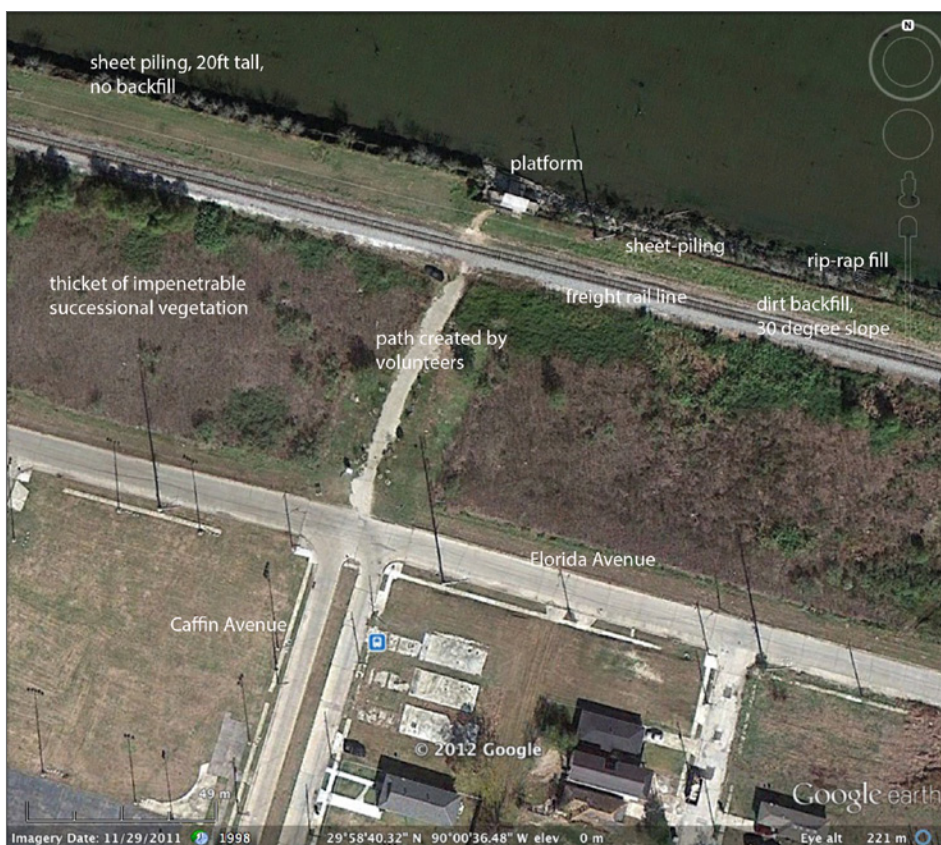
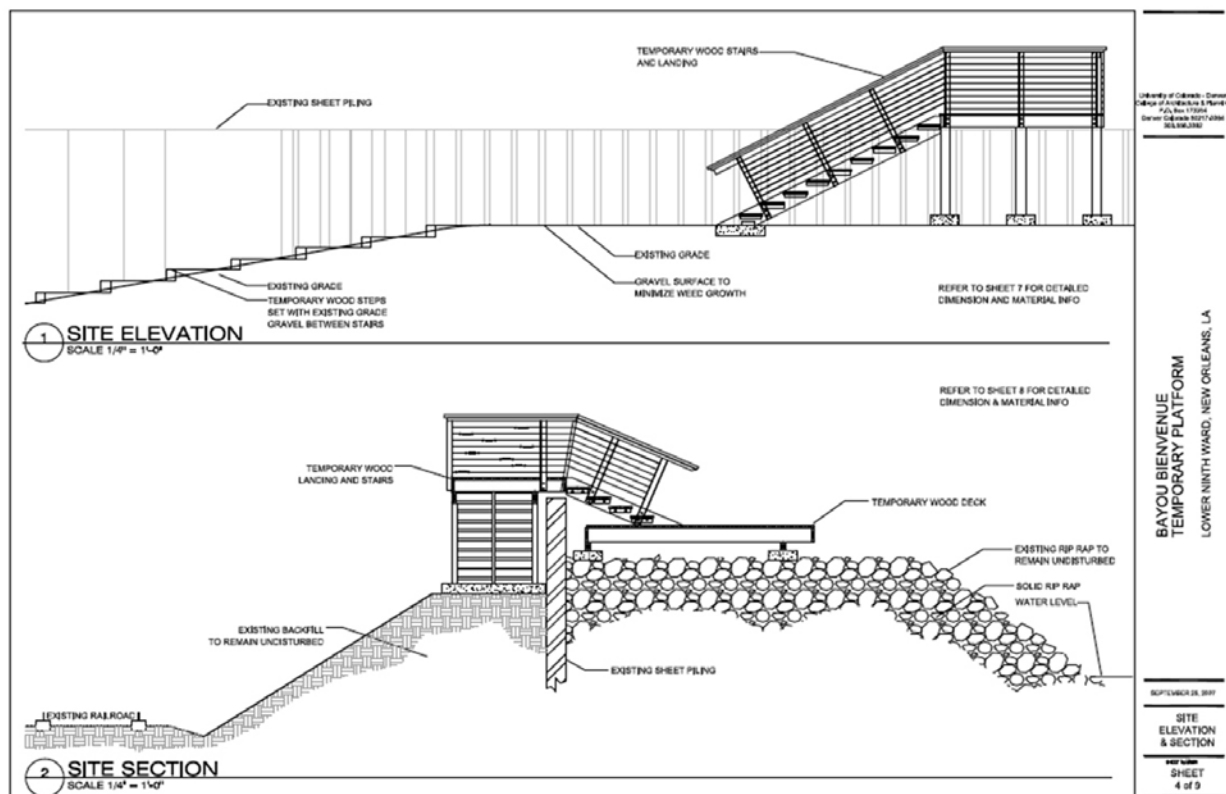
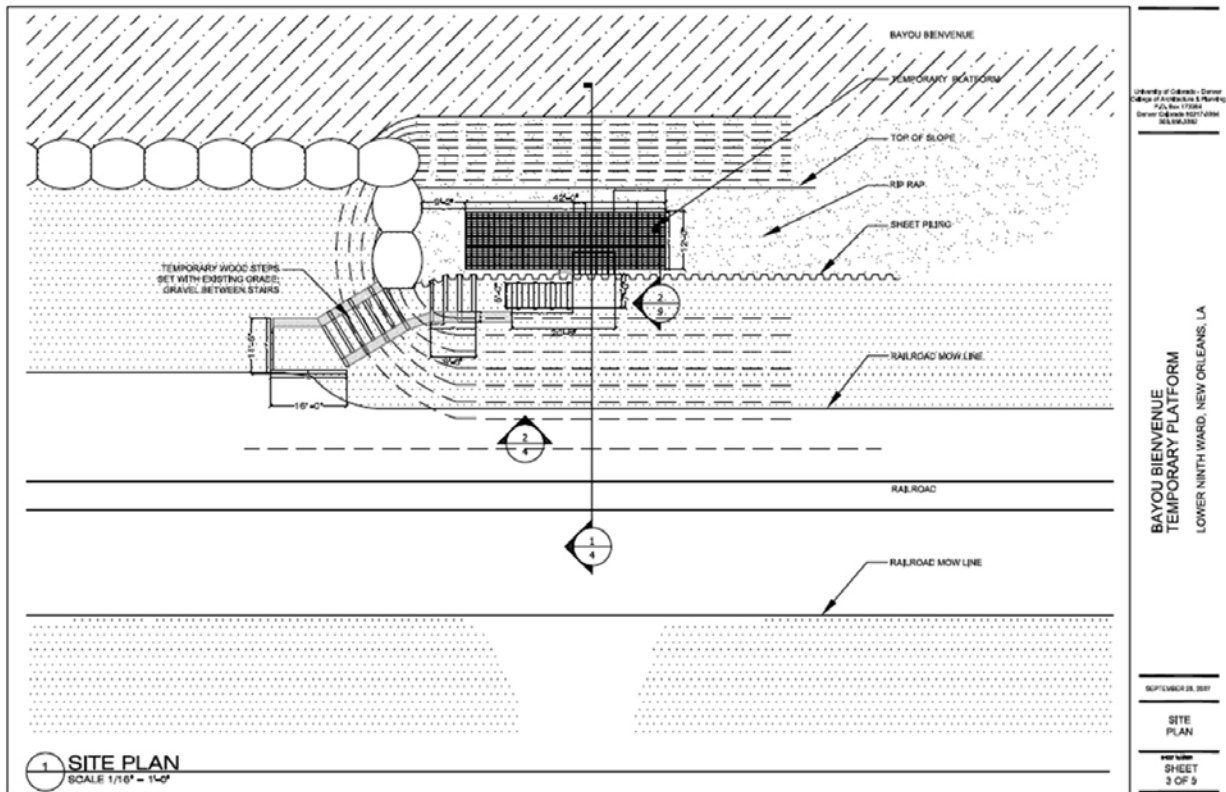


Figure 7: Aerial view showing the platform location. Note the 60-metre strip of successional vegetation thicket and the freight rail line as obstacles to accessing the bayou. (Image © 2011 Google Earth.)

distance of the sheet piling. Despite the challenges, two successive studios developed a proposal from a conceptual to a buildable design and, ultimately, constructed the platform (Figure 8),<sup>23</sup>

Figure 8: Draft construction documents of the platform (student work, spring 2007).





After testing numerous design alternatives, the studio decided to prefabricate the platform frames and transport building materials and tools to the Lower Ninth Ward because building materials were in scarce supply in New Orleans. A construction date in July 2007 seemed attainable after the New Orleans Levee Board, the administrative body in charge of the floodwall, had granted approval for the construction. In preparation, students and neighbourhood organisers cleared a path through the thick vegetation (Figure 9).

After three students drove a truck with supplies from Denver to New Orleans, and a large group of students had flown in to start construction, the Levee Board withdrew its approval and threatened legal action hours before construction was set to begin. The faculty decided not to pursue construction. Students felt victimised by a hegemonial-political system they did not understand, and personally experienced what had become commonplace for the residents of the Lower Ninth Ward and New Orleans in general.<sup>24</sup> Neighbourhood organisations, in particular, the Holy Cross Neighbourhood Association, lobbied persistently and ultimately successfully. After six months of negotiations, involving a renowned local architect and assurances not to structurally affect the sheet piling and frontfill and backfill ('the platform elegantly straddles the sheet piling, resting on floating footings set on the riprap, without penetrating any levee systems' – Tonnelat, 2011, p 4), the Levee Board reinstated its approval. Students and faculty volunteered their time and, in January 2008, the platform was constructed under an incredibly tight timeframe of 48 hours (figures 10 and 11).<sup>25, 26</sup>

### Agency of landscape

Almost immediately after its completion, the platform became an important location in the Lower Ninth Ward (Figure 12). Its prominent location and visibility draws casual visitors as well as residents and facilitates first-hand experiences of the position of the Lower Ninth Ward in relation to the bayou, and of coastal and delta ecologies. Explaining to visitors that they are standing on a coastline provides a powerful reminder of the precarious environmental situation, and an equally powerful visual argument for the restoration of coastal wetland systems in the Bayou Bienvenue and beyond.



*Figure 9: Volunteers clearing vegetation and establishing access to the sheet piling before the platform construction. (Photo courtesy of Daryl Malek-Wiley, 2007.)*



Figure 10 (left): Design-build studio constructing the platform with local volunteers, January 2008.



Figure 11 (right): Completed platform and stairs, January 2008.

The platform emerged as a central location for all conversations on wetland issues – evidenced by many photographs of and news reports on the deck that have been posted and circulated on the web. In December 2008, two community organisers, the late Pam Dashiell, then Director of the Lower Ninth Ward Center for Engagement and Sustainable Development, and Darryl Malek-Wiley, a Sierra Club environmental organiser, were filmed on the deck by ABC26, a local branch of the nationwide network, explaining the stakes involved in restoring the bayou (Tonnelat, 2011). Aaron Viles, Deputy Director of the Gulf Restoration Network, states that ‘the wetlands viewing platform is quite possibly the most important education/outreach element we have got in the city’ (Viles, pers comm, 14 February 2012).

The closure of the Mississippi River – Gulf Outlet canal (MRGO, or Mr Go in local parlance) by the Army Corps of Engineers in 2009 finally created the necessary conditions to go forward with an ambitious plan for the restoration of the Bayou Bienvenue. The MRGO canal, completed in 1965, was designed to shorten the shipping lanes from the Gulf of Mexico to the Port of New Orleans by 60 kilometres (37 miles). Thereafter, however, it was little used, and is held responsible for the storm surges during hurricanes Katrina and Betsy that



Figure 12: Completed and repaired platform, bayou side, 2011.

caused the devastation of the Lower Ninth Ward and other neighbourhoods. Moreover, the slow increase in salinity that killed the bald cypress forests and the freshwater marshes in and around the Bayou Bienvenue is attributed to the MRGO Canal.

The New Orleans Sewerage and Water Board is actively pursuing a plan to desalinate the bayou waters by discharging effluent from a wastewater treatment plant visible from the deck, thus effectively creating treatment wetlands to treat nitrate and phosphate nutrient loads. The Army Corps of Engineers also proposed rerouting some of the waters of the Mississippi towards the bayou to supply it with freshwater and dredging mud at the bottom of neighbouring Lake Borgne to raise the bed of the bayou to facilitate the growth of semi-aquatic vegetation. For their part, the Wisconsin water management students planted small 'floating islands' in June 2009 to test the viability of various species of brackish-water plants. Another group set up an information booth on the history of the bayou. When an egret made its home on the floating islands, the residents took that as an encouraging omen. That same month, the *Times-Picayune*, the leading local daily newspaper, came out with a list of sights worth discovering in New Orleans: the observation deck came in ninth on the list (Tonnelat, 2011). After parts of the deck were damaged in an accidental fire in 2009, it was promptly rebuilt, and a pergola and steps down to the water were added.<sup>27</sup>

The deck has become a local landmark, with a high level of visibility. It has become a required stop for visiting dignitaries, such as Bartholomew, the Greek Orthodox Patriarch in Istanbul, who came to see the progress on the project and to bless the waters in autumn 2009, and Nancy Sutley, Chair of the White House Council on Environmental Quality, who came to assure residents of the US president's support. John Taylor, who gave them the same lesson in delta ecology described above, greeted them both, and many other visitors (Figure 13).

The deck allows the Lower Ninth Ward community to experience something of critical importance for its past, present and future. Its location on the levee, on the very edge of the negotiation between human order and non-human processes, has turned it into the centre stage of the discourse on coastal wetland restoration and the survival of gulf coast communities. 'In fact, by making the bayou visible, the deck has also helped make the neighbourhood viable' (Tonnelat, 2011). Its aesthetic performance is a critical part of this agency – it enables community members to experience something that environmental philosopher Arnold Berleant, in his definition of environmental aesthetics, refers to as 'being in process with the environment' (1992, p 4). To the north is the Bayou Bienvenue, littered with cypress stumps, a veritable ruin of nature to the north, and to the south the Lower Ninth Ward, a ruin of culture where empty lots by far exceed houses, can both be experienced and engaged from the platform (Figure 14).

A polyphonic narrative, based in this and other immediate experiences of a complex environment, and in the histories and narratives that created the identity of the Lower Ninth Ward, has replaced the hegemonial narrative that ultimately created the landscape conditions responsible for the hurricane Katrina disaster. This new narrative now allows a marginalised community to imagine alternative landscapes and put itself back at the centre of the discourse on its own future.



Figure 13: John Taylor and Patriarch Bartholomew on the rebuilt platform, 2009. (Photograph ©Ecumenical Patriarchate.)





*Figure 14: Bayou Bienvenue in context, looking south-east. The Lower Ninth Ward is to the right of the image, the sewage treatment plant is on the far end of the triangle and the Gulf of Mexico can be seen in the background. The red dot denotes the platform location, 2009. (Aerial photograph courtesy of Daryl Malek-Wiley.)*

The deck has become a public space in two senses of the word. It is a space accessible to everyone and a forum in which to discuss the future of the neighbourhood and city in general, and how to live in an environment characterised by recurring and violent negotiations of human and non-human processes. In fact, it is one of the few public spaces in New Orleans and the Lower Ninth Ward that is not implicitly ‘owned’ by a particular group or organisation. It does not have a history or current practice of privileging certain users to the point of implicitly or explicitly excluding certain people. As such, it finds itself expressing the concept of ‘neutral ground’, a spatial tactic<sup>28</sup> with a long tradition in New Orleans that appropriates the wide median strips on roads for a variety of uses by local residents.<sup>29</sup> ‘Now, at least until the next disaster strikes, no-one in the neighbourhood, in the city, or in the United States will question the Lower Ninth Ward’s claim to be a fully-fledged part of the city’ (Tonnelat, 2010, p 5).

The platform fulfils, in many ways, James Corner’s concept of landscape:

... as a metaphor for inclusive multiplicity and pluralism, as in a kind of synthetic “overview” that enables differences to play themselves out ... In these terms, landscape may still embrace naturalistic and phenomenological experience but its full efficacy is extended to that of a synthetic and strategic art form, one that aligns diverse and competing forces (social constituencies, political desires, ecological processes, program demands, etc.) into newly liberating and interactive alliances (Corner, 1999a, p 4).

The platform’s main agency extends to empowering a previously marginalised and victimised community to participate in the discourses on its own future – and on the future of the landscape and place it occupies. This participation is critical for broadening the discourses on future human–environment relationships; including narratives and knowledge habitually excluded and suppressed as ‘non-expert’. And – maybe foremost – it allows traumatised communities to become co-authors of the landscape they inhabit instead of merely victims of hegemonial agendas, thus reasserting their ‘right to place’<sup>30</sup> and identity.

## Conclusion

The recovery of the Lower Ninth Ward in New Orleans, and the ways in which landscape architecture students and faculty members were involved, suggest several elements that are necessary in a general approach towards the recovery of post-disaster landscapes.

A thorough, critical, deep and broad understanding of the co-evolution of landscape and community is central to any successful attempt to develop scenarios and projects for post-disaster change. This understanding needs to extend beyond physical–environmental dimensions of place to include the more contested social, economic and cultural dimensions. Girot's (1999) 'Four Trace Concepts in Landscape Architecture' can provide a generative framework in this context, but it needs to be applied within an ethical understanding of the role of the designer and of communities.

Another key element is counter-mapping as a method of identifying and asserting alternative constructions of landscape and place, including those generated by non-expert communities in combination with a thorough and critical analysis of traditional maps. Together, these methods can generate the necessary understandings of place that Girot's framework – and any kind of meaningful, effective and sustainable response to post-disaster conditions – depends on.

Equally important is to establish clear relationships between designers and community members. The necessary community trust is frequently achievable only if designers are heavily involved over long periods and prove reliable in their commitment.

Visible physical change for the better is, for several reasons, a critical and powerful element of any post-disaster recovery. A single restored house has a bigger impact than walls full of colourful plans and renderings of a new neighbourhood. The symbolic value of actual physical change – even if it is a mundane gesture such as removing debris or overgrown vegetation – is a powerful way of involving oneself in environmental change, of not being a victim of disaster any more. 'Finding' and 'founding' a physical intervention that goes beyond improving the immediate physical context and serves to locate, develop, catalyse, energise and/or organise a community discourse on its own future might well have an immediate and long-term impact that transcends what would be possible with even the most sophisticated planning document.

Last, disaster recovery can be a long, sometimes multi-generational process. It is critical to establish a process that fairly and equitably identifies and involves as many of the different interests, and establishes basic rules for resolving conflicts. Such an approach is even more important if the disaster involves communities that have already been victimised by patterns of uneven development and environmental and social injustices. Re-establishing and supporting the fundamental right of communities to participate in discourses on the future of the place they inhabit will be central to any long-term, just and sustainable recovery.

## NOTES

- 1 For an excellent overview and timeline of the flooding events, in particular, the failures of flood-control systems and the role of the Mississippi River – Gulf Outlet canal, see [www.nola.com/katrina/graphics/flashflood.swf](http://www.nola.com/katrina/graphics/flashflood.swf)

- 2 Harvey (1973; 1996), Mitchell (2003), Soja (1996) and Scott and Soja (1996) peripherally address this issue in their writings on ‘right to the city’, as does Smith (1984) in the context of uneven development and environmental and spatial justice. Campanella (2007) and Landphair (2007) describe aspects of such patterns in the context of New Orleans. See also Lewis (2003).
- 3 For a comprehensive description of the development of New Orleans in relation to its environmental contexts, see Colten (2005) and Campanella (2008).
- 4 For an ambitious but ultimately incomplete overview of the post-Katrina planning processes and efforts, see Olshansky and Johnson (2010). For insights into the political cultures of New Orleans, as they impacted on the events leading up to hurricane Katrina, the emergency responses during the disaster and the rebuilding efforts, see Baum (2009), Lee (2006, 2010), Dantas (2010), Lessin and Deal (2008) and Landphair (2007). The author’s own involvement and participation in the recovery attempts in the Lower Ninth Ward since January 2006 have supported the readings of political cultures of New Orleans as particularly invisible and insidious. Long-term resident, nephew of former mayor Marc Morial and political activist Jacques Morial suggested it is preferable to understand New Orleans not as the ‘most dysfunctional North American city, but the most organized Caribbean city’.
- 5 Wallace Roberts Todd (WRT) was co-founded by Ian McHarg and has a reputation for thorough environmental inventories and analyses.
- 6 Since then, the terms ‘park’ and ‘greenspace’ have been fraught with suspicion and, for several years, have held mostly negative connotations for New Orleans residents, in particular, those living in the affected neighbourhoods. This is an excellent example of the impact that even small acts of appropriation of commonplace language can have in changing a whole discourse.
- 7 Nagin also stated that New Orleans ‘will be a majority African-American city because this was what God wants it to be’. (See ‘Evoking King, Nagin calls N.O. “chocolate city”’, *Times-Picayune*, 17 January 2006, <http://www.nola.com/frontpage/t-p/index.ssf?/base/news-4/1137481512176100.xml>, accessed 23 February 2011 and CNN, ‘Nagin apologizes for “chocolate” city comments’, 18 January 2006, accessed 23 February 2011, <http://edition.cnn.com/2006/US/01/17/nagin.city>.)
- 8 For critical perspectives on the agency and instrumentality of maps, see Harley (1999), Cosgrove (1999) and Wood, Fels and Krygier (2010).
- 9 I am particularly grateful to my colleagues Austin Allen, Tony Mazzeo and Jake Frankhauser, and to all 44 students who participated in the first New Orleans studio. Their efforts, energy and willingness to face the most challenging situations with creativity and sensitivity made it possible for a most interesting, insightful and empowering process to emerge. For an overview of the early studios, and the ‘lessons learnt’, see Langhorst and Cockerham (2008).
- 10 The term ‘counter-mapping’ was coined by Nancy Peluso in 1995 to describe the commissioning of maps by forest users in Kalimantan, Indonesia, as a means of contesting state maps of forest areas that typically undermined indigenous interests. The resultant counter-hegemonic maps strengthened forest users’ resource claims. For an overview, see Peluso (1995), Hodgson and Schroeder (2002) and Wood, Fels and Krygier (2010). For an example of counter-mapping of New Orleans and the Lower Ninth Ward, see Meirath (2008).
- 11 I believe this interrelation between a location and people who occupied and shaped it over time is inherent in the term ‘neighbourhood’. All too often this co-evolution as a critical dimension is ignored. See Tilley (1994), Casey (1998), Ingold (2000) and Massey (2005).
- 12 For excellent insights into the instrumentality and agency of maps, as well as the history of their political use and concomitant development of mapping techniques, see Wood, Fels and Krygier (2010) and Harley (1999).
- 13 See Landphair (2007) and Breunlin and Regis (2006). The Lower Ninth Ward did not receive, for example, a sanitary sewer system until the 1960s.

- 14 *New Orleans Times-Picayune*, 9 November 1955, cited in Landphair (1999, pp 35–62).
- 15 The National Guard did sweeps through the Lower Ninth Ward every evening, forcing people to leave. The Lower Ninth Ward's geographic situation made access control easy – there was only one open bridge over the Inner Harbor Canal connecting it to downtown New Orleans, and two roads transecting Jackson Barracks on the St Bernard Parish side.
- 16 The visualisation techniques and media and the respective representational conventions used did not just employ maps. Videography became a powerful tool to facilitate a two-way communication between residents and students and expert communities (Langhorst, 2010a).
- 17 See Huyssen (2003) and Foote (2003).
- 18 A particularly powerful memory goes back to 1927 'when, at the behest of powerful New Orleans businessmen who feared that the engorged Mississippi River might break over the Crescent City, local officials ordered the public dynamiting of the Poydras levee south of New Orleans, destroying the homes and livelihood of thousands of residents of St Bernard and Plaquemines parishes' (Landphair, 2007, p 841). Hurricane Betsy's devastation in the Lower Ninth Ward 'contrasted sharply with minimal damage to the rest of the City, and residents, used to decades of neglect, were certain that officials blew up the Industrial Canal to protect the richer upriver areas' (ibid, p 841). Although no evidence for intentional levee destruction was recovered, a 1965 New Orleans Sewerage and Water Board report conceded 'that much of the area's drainage system could not handle above-average rainfall. In the aftermath of Katrina, Betsy was recalled time and again by residents convinced that the 2005 storm damage and recovery effort involved elite malfeasance' (ibid, p 842).
- 19 The discourses on post-disaster recovery have replaced the concept of 'vulnerability' with 'resilience' when analysing how a particular landscape will respond to disaster. Olshansky and Johnson (2010) state that resilience 'occurs in the aftermath of disasters', and the Lower Ninth Ward with its long history of disasters illustrated a rather high degree of resilience. It has lost parts of its population after every single disaster, though, and different estimates put its current population at about 25–33 percent of its pre-Katrina total of an estimated 18,000 to 20,000 people. While it is reasonable to assume the traumatic experience will have discouraged many residents from returning, it is also likely many simply do not have the means to return from their diaspora in cities such as Atlanta and Houston.
- 20 The continuous assessment of students' thoughts, attitudes and responses quickly became a central element of studio pedagogy. Regular conversations occurred in desk critiques, in group and studio meetings dedicated to giving students an opportunity to reflect and voice concerns, and in exit interviews at the end of the semester. While most students from the first studio continued their involvement with the Lower Ninth Ward throughout subsequent classes and beyond graduation, a small group remained adamantly resistant to changing their prejudices. In studios later in the sequence, the mix between 'veteran students' and students with no previous exposure led to the most interesting and successful examples of collaborative learning as they constructively challenged and interrogated each other's experiences, attitudes and assumptions.
- 21 The position of students and faculty members in the community was an unusual one, and possibly responsible for their ability to participate in community meetings and discussions as trusted people rather than outsiders. Their early presence in the Lower Ninth Ward established relationships with people who quickly became community leaders, and their association with the community leaders allowed them to establish an immediate rapport with newly returning residents.
- 22 Mayor Nagin's policy in the aftermath of the 'Bring Back New Orleans' plan required neighbourhoods to prove their viability and develop plans for rebuilding.
- 23 The studio that developed conceptual designs was co-taught by Austin Allen and Lois Brink, and the design-built studio was co-taught by the author and senior instructor Lori Cockerham.



- 24 The level of frustration students experienced led to many teachable moments. Distraught students were comforted by community members and activists, inverting the assumed and socially constructed roles of ‘helpers’ and ‘victims’. Many of the students volunteered their time when construction finally began after a six-month delay.
- 25 The construction would not have been possible without huge support from the community and the many organisations that provided tools, workers, food and transportation, in addition to the much-needed moral support. I would like to acknowledge in particular the New Orleans Fire Department, which generously allowed us to store massive amounts of building materials in one of its warehouses.
- 26 For a description of the design–build process, its challenges and lessons learnt, see Langhorst and Cockerham (2008) and Tonnelat (2011).
- 27 This work was done by a crew from Brad Pitt’s ‘Make it Right’ foundation.
- 28 The term ‘spatial tactic’ is used deliberately with reference to De Certeau (1984) and Lefebvre (1991). Both describe spatial tactics as forms of occupation or use, often temporary, employed by marginalised cultures against the spatial strategies of hegemonial elites in control of the mechanisms of spatial production. See also Franck and Stevens (2007).
- 29 Street medians in New Orleans are called ‘neutral grounds’, and are used, in particular, during the Second Line parades. Second Line parades are traditionally organised by social clubs and African American organisations in the ‘long-standing sociopolitical tradition of self-help, mutual aid and resistance to structures of oppression’ (Breunlin and Regis, 2006, p 746).
- 30 The concept of ‘right to place’ is an extension of the ‘right to the city’, as put forward, for example, by Lefebvre (1968), Harvey (1973; 1996), Smith (1984) and Mitchell (1993; 2003).

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