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LANDSCAPE ARCHITECTURE MAGAZINE

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MATHEWS NIELSEN

The art of knots and unknowns

THE SAKURA TRAIL


Ron Henderson follows the bloom
of the cherry through Japan

A DOUBLE-DUTY TREE FOR HAITI

Jatropha, economy, and reclamation

CUBA'S FARM FUTURE

The thaw could change prodigious
urban agriculture

A photograph of a forest landscape. In the foreground, a large, thick tree trunk leans slightly to the right. To its right, a low brick wall or foundation runs across the frame. The ground is covered with fallen leaves and some green grass. In the background, a brick building with arched windows is visible through the trees. The scene is dappled with sunlight and shadows.

WEST POINT
FOUNDRY PRESERVE
Mathews Nielsen was
the first designer to
touch the West Point
Foundry site.



A PAST, IN PIECES

**THE ROARING INDUSTRY OF THE WEST POINT FOUNDRY
WAS STILLED LONG AGO. MATHEWS NIELSEN CREATED
A PRESERVE IN THE HUSH OF WHAT WAS LEFT BEHIND.**

BY JENNIFER REUT / PHOTOGRAPHY BY ELIZABETH FELICELLA



THE TOWN OF COLD SPRING, NEW YORK, has long shared its geographic good fortune with nature-loving tourists, hikers, and a stream of landscape painters who came to the Hudson River Valley. Cold Spring lies on the east bank of the Hudson, just south of the Hudson Highlands State Park and across the water from Storm King State Park and the 16,000-acre

West Point Military Reservation. But along the town's southern border is a place that was mostly known to locals and recreational historians, the old West Point Foundry property. It had never been a state park or a private reserve, and though there had been centuries of human activity on the site, its spatial character until recently had come about more or less by accumulation rather than intention.

TOP

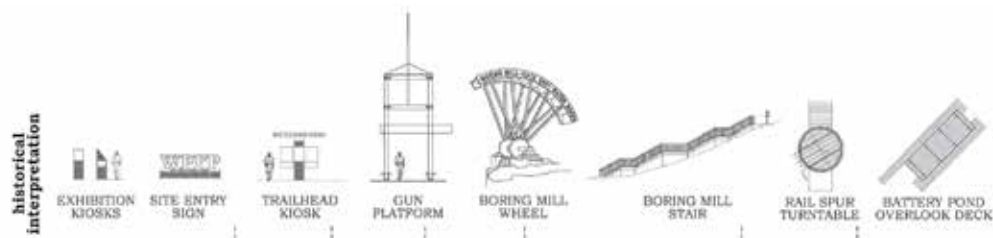
A protected cove and steep ravine made the foundry's site ideal for water-powered manufacturing.

BOTTOM

In its heyday, the foundry site was a dense and noisy complex of buildings almost unimaginable today.



Before Mathews Nielsen Landscape Architects (MNLA) was hired in 2006 by Scenic Hudson, a nonprofit restoration group, to design a plan for the West Point Foundry site, it was a successional forest scored by the desire lines of dog walkers and teenagers with beer. The foundry had been the region's thumping heart of the Industrial Revolution; fragments of its 19th-century structures were still visible, collected around a brook that washed out into a cove that is separated from the Hudson River by a thin railroad embankment. Heaps of junk had randomly accreted into hills,

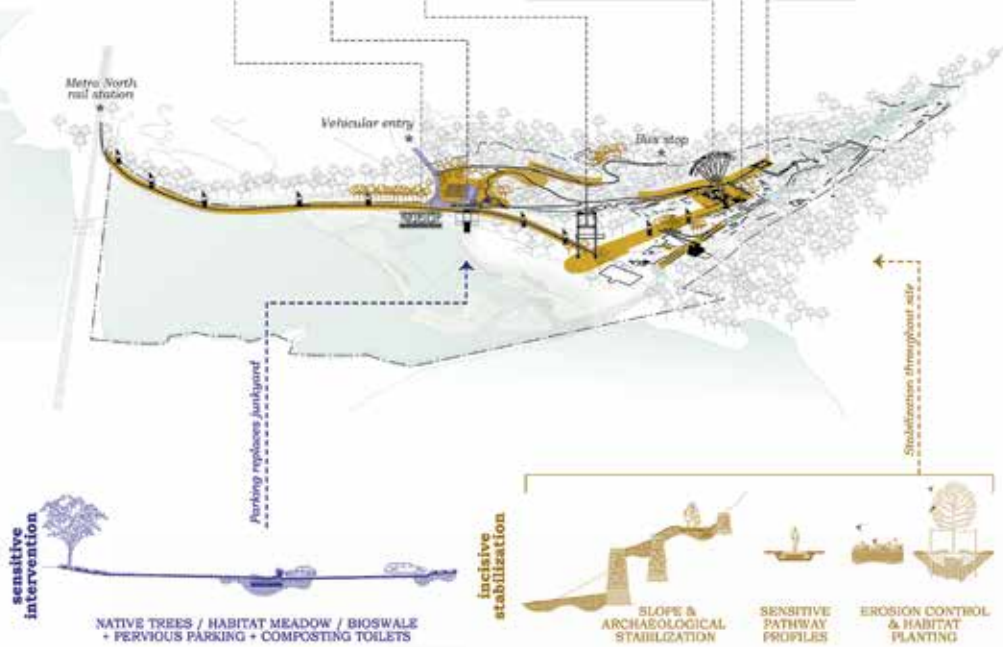


AN ACCUMULATED LANDSCAPE
 Nearly 200 years of archaeological and environmental data informed the design and interpretation of the foundry site.

2013

DESIGN APPROACH

- Historical interpretation
- Site planning for sensitive intervention
- Incisive stabilization



1990s–2000s

ARCHAEOLOGY ZONES

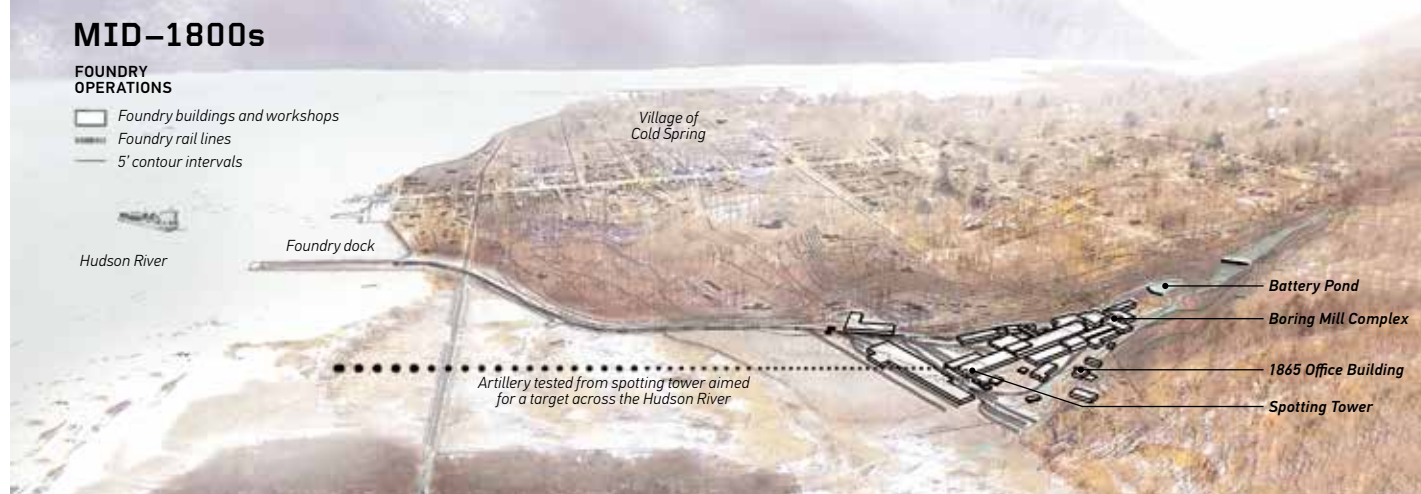
- Intensive investigation with excavation
- Survey, mapping, and testing excavation
- Surface survey and mapping
- Archaeological fabric

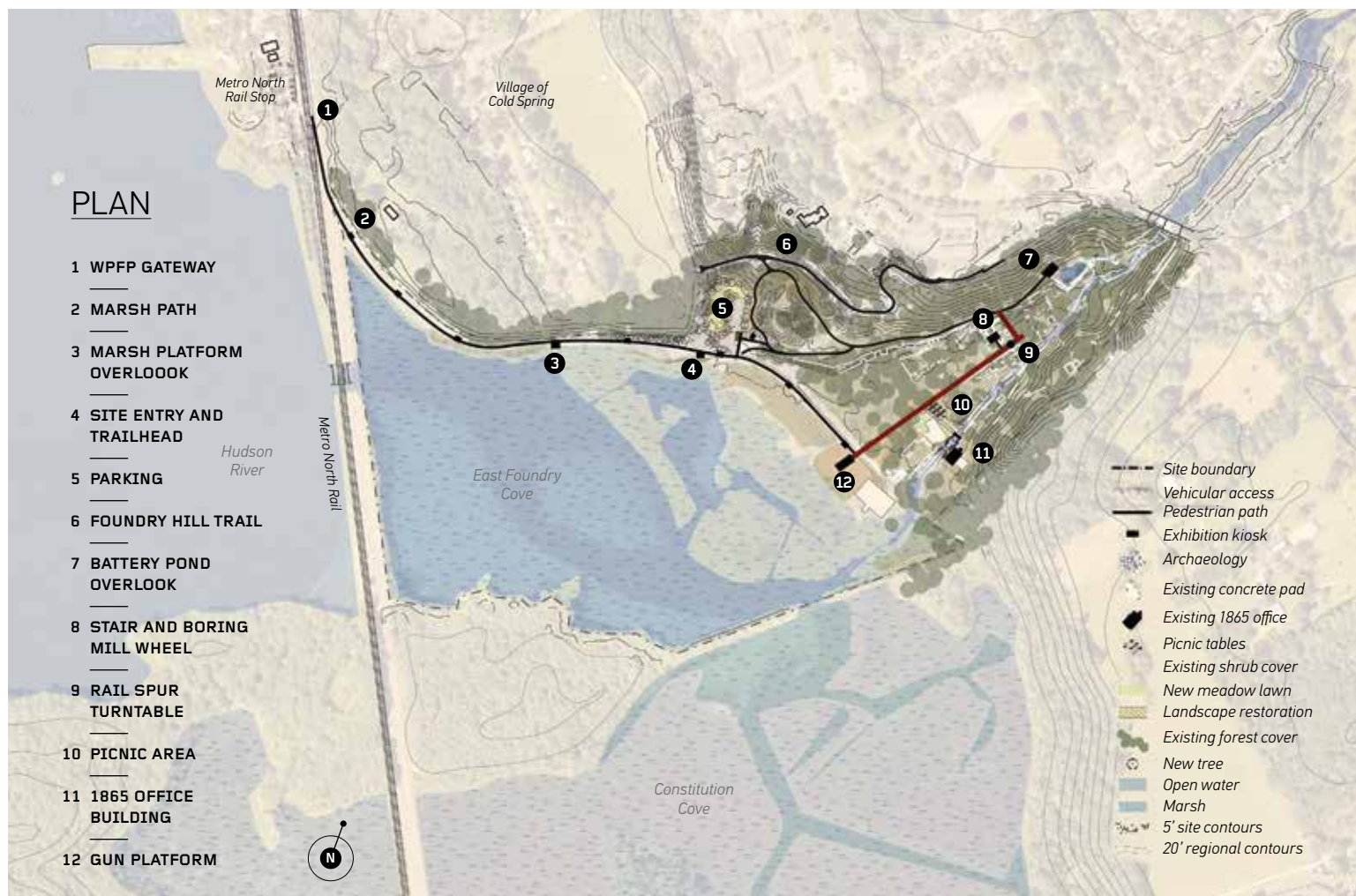


MID-1800s

FOUNDRY OPERATIONS

- Foundry buildings and workshops
- Foundry rail lines
- 5' contour intervals





and a 1993 Superfund cleanup, sparked by years of dumping toxic metals into the cove, added another layer of difficulty to the site.

Kim Mathews, ASLA, a principal at MNLA and the lead designer of the project, quickly realized that for this site, there would be heavier considerations than the ordinary expectations of neighbors. “I was the first touch on this landscape from a designer. That made me feel incredibly responsible all the time,” she told me, laughing a little at herself. Neighbors seemed to either love or fear the place, but because it was knit so thoroughly into the town, they weren’t indifferent to its future use. “I felt like I had to, you know, listen to every single person, everything anybody told me.”

Mathews and I had walked our way through the West Point Foundry Preserve (WFPF), as it is now known, coming in from the north, where the foundry’s dock once shipped out its products, and

where today the Metro-North train drops passengers. We went southeast along a flood-proof gravel path that follows the waterline of the cove before bending north into the site. Planting around this path was limited to restoration seeding, says Mathews. “Interventions were edge-based; we filled in edges that became points of interest along the routes.”

To the right, glimpses of the river, which is particularly deep at this juncture, appear through the hardwood trees and new waterline plantings that populate the cove and its marsh. On the left, a gentle slope rises up to become the steep ravine that cradles and powers the Foundry Brook. Mathews has been enumerating the challenges of making this subtly beautiful site, with its sloping woodland and archaeological treasures and much of its historic fabric in a floodplain, accessible and tolerant of floods. The design and planting strategy would require erosion control, site stabilization, and restoration.

RIGHT

A view upstream of the Foundry Brook.

FAR RIGHT

Signage takes its cue from the original foundry's mark.

BELOW AND INSET

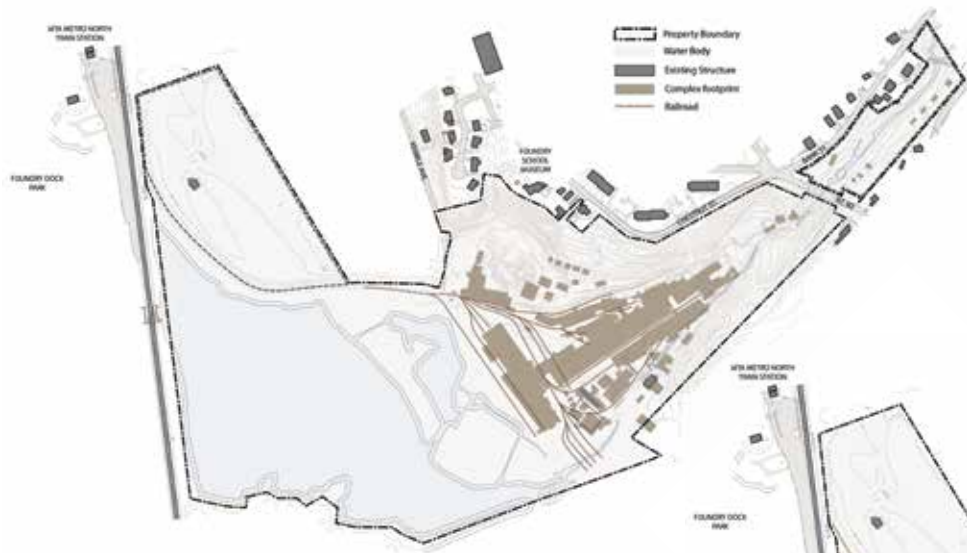
New interpretive elements include a gun platform with metal fretwork alluding to local wildlife, and a silhouette of the celebrated Parrott gun, inlaid with text from a historical article from the *New York Times*.



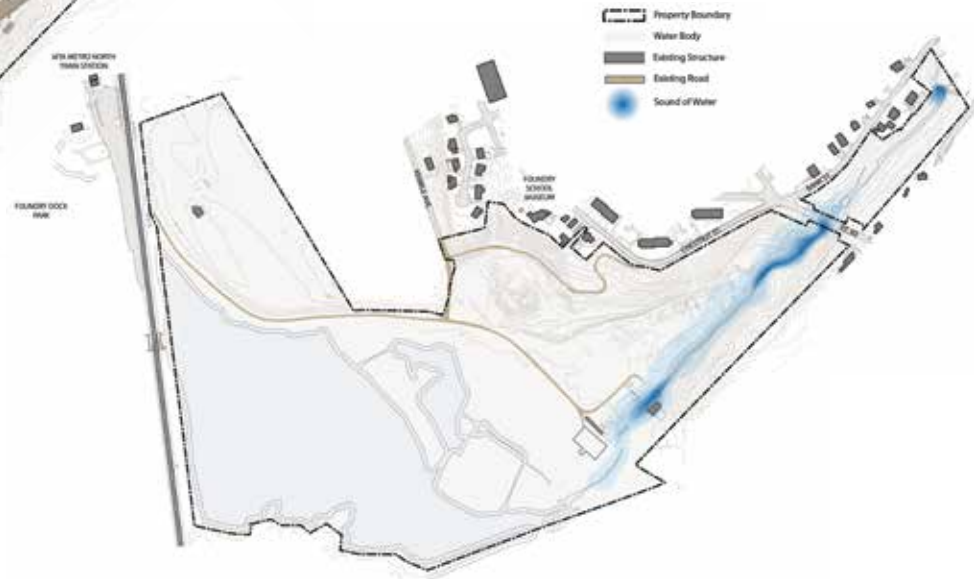
The freshwater brook powered the foundry. It flows down a ravine into the East Foundry Cove, buffered by marshland before it empties into the brackish Hudson. The foundry site is low enough to flood, a consideration Mathews had to absorb after Hurricane Irene in 2011 and Hurricane Sandy in 2012 swept through the Northeast. “During the design process, we had Irene, which actually had a much larger impact on this site than Sandy, and with Irene there was significant flooding on the site that actually caused us to rethink a couple of things,” she says. “We learned a lot about the true flooding potential of this project.”

There’s good evidence that the ravine and the foundry site have hosted human habitation for at least 5,000 years, but it was the confluence of the fast-running brook, the deep Hudson, and abundant timber that brought industry to this quiet cove. The West Point Foundry was established in 1818 and active for nearly 100 years. It’s one of the four great foundries that formed the country’s first large-scale iron production network, and of the four (the other three are at Georgetown in Washington, D.C.; Richmond, Virginia; and Pittsburgh) it has the most archaeological integrity. During

HISTORICAL COMPLEX FOOTPRINT AND RAILROAD DIAGRAM



SOUND OF WATER DIAGRAM



its peak, the foundry was a rambling complex of buildings and infrastructure organized around the making of iron and brass for many purposes, but it was best known for ordnance, particularly the Parrott gun used in the Civil War. Under different ownership, the foundry operated until 1911, and a few successor industries followed, until the last, a silk manufacturer, sold it in the 1930s. From the 1950s through the early 1970s, a battery plant on the site produced materials for the Nike missile program and dumped wastes into the marsh and cove, which required the excavation and disposal of 189,000 tons of contaminated material between 1988 and 1992. In 1996, Scenic Hudson purchased the site, and Mathews Nielsen began construction in 2012.

Today the foundry site is a carefully cultivated ruin. Throughout most of the site, you move among fragments—foundations, culverts, stone walls, piles of bricks, unexpected objects—revealed without fanfare. Three related buildings survive, though they are outside the industrial processes that were essential to the site's character—the Kemble House, the home of William Kemble, the cofounder of the West Point Foundry; a chapel used by foundry workers; and an office building where the company's white-collar work was done. Of these, only the office is within the preserve boundaries. Scenic Hudson funded the archaeology, which was conducted over several years by faculty and students from Michigan Technological University's Industrial Archaeology Program. The archaeologists identified layers upon layers of historic fabric throughout

the site, including the remains of a casting house, a boring mill, and a blast furnace, as well as countless artifacts. Mathews wanted the interpretation of the foundry to share the lightness of hand that was applied to the site's design.



WETLAND DIAGRAM



EXISTING VEGETATION DIAGRAM



A muscular new WFPF logo that picks up on the original foundry stamp is meant to help the visitor feel the clang of industry. There are interpretive stations that sit atop high-end gabion structures, designed by C&G Partners, filled loosely with bricks that were salvaged from the site—a way of incorporating the fragmented materiality of the site into the design without reproducing or reconstructing it. Elsewhere, rusted iron I beams mark edges or transitions. They could be leftover fragments or intentional wayfinding. You really can't tell.

There's enough new and historic fabric to signal that something was here and that it was large and not insignificant, and for most of the site, the interpretive signage isn't overly visible. The natural features work in concert with the fragments and the interpretation to tell the story. The scale and the steep grade of the ravine, and the way it pulls down along the Foundry Brook, allow you to understand how the enterprising Kemble might have immediately seen the power inherent in the water and moved heaven and earth to secure the property.

LEFT

The building used as the office can be seen downstream.

OPPOSITE

Masonry remains from a retaining wall that once supported a rail line.



Lofty trees provide a sense of the now-vanished relationship that existed between people and the landscape in the early republic. You feel smaller here. The forest's scale intrudes on your attempts to envision this as a busy, populated, and fractious industrial site. The site pushes back on your wish to impose human industry on it, even in your imagination. But it's an interesting tension.

In early summer, when we visited, the site was verdant but not yet lush. There are washes of native grasses and sedges planted for erosion control; the seams were visible to me only when Mathews pointed them out. The planting is understated—editing certain parts and augmenting or encouraging others. “It’s amazing what you can do without doing anything, isn’t it?” she says. In places where there was erosion or other disturbance on



PLANT LIST

LOW-GROW SEED MIXTURE

Agrostis perennans (Upland bent grass)
Festuca rubra (Creeping red fescue)

CONSERVATION / WILDLIFE MIXTURE

Andropogon gerardii (Big bluestem)
Asclepias syriaca (Common milkweed)
Chamaecrista fasciculata (Partridge pea)
Desmodium canadense (Showy tick trefoil)
Dichanthelium clandestinum (Deertongue)
Elymus virginicus (Virginia wild rye)
Euthamia graminifolia (Flat-top goldentop)
Eutrochium maculatum (Spotted joe-pye weed)
Festuca rubra (Creeping red fescue)
Helopsis helianthoides (Smooth oxeye)
Rudbeckia laciniata (Cutleaf coneflower)
Schizachyrium scoparium (Little bluestem)
Solidago juncea (Early goldenrod)
Sorghastrum nutans (Indian grass)
Symphotrichum novae-angliae (New England aster)

EROSION CONTROL / RESTORATION MIXTURE

Agrostis perennans (Upland bent grass)
Agrostis stolonifera (Creeping bent grass)
Andropogon gerardii (Big bluestem)
Carex vulpinoidea (Fox sedge)
Elymus virginicus (Virginia wild rye)
Eupatorium perfoliatum (Common boneset)
Euthamia graminifolia (Flat-top goldentop)
Festuca rubra (Creeping red fescue)
Juncus effusus (Common rush)
Onoclea sensibilis (Sensitive fern)
Panicum virgatum (Switchgrass)
Schizachyrium scoparium (Little bluestem)
Scirpus atrovirens (Green bulrush)
Scirpus cyperinus (Wool grass)
Symphotrichum novae-angliae (New England aster)
Verbena hastata (Swamp verbena)

SHADE TREES

Acer rubrum ‘Franksred’ Red Sunset
 (Red Sunset red maple)
Amelanchier canadensis (Canadian serviceberry)
Betula populifolia (Gray birch)
Carpinus caroliniana (American hornbeam)
Larix laricina (Tamarack)
Liquidambar styraciflua (Sweet gum)
Nyssa sylvatica (Black gum)
Platanus occidentalis (American sycamore)
Quercus bicolor (Swamp white oak)
Quercus palustris (Pin oak)

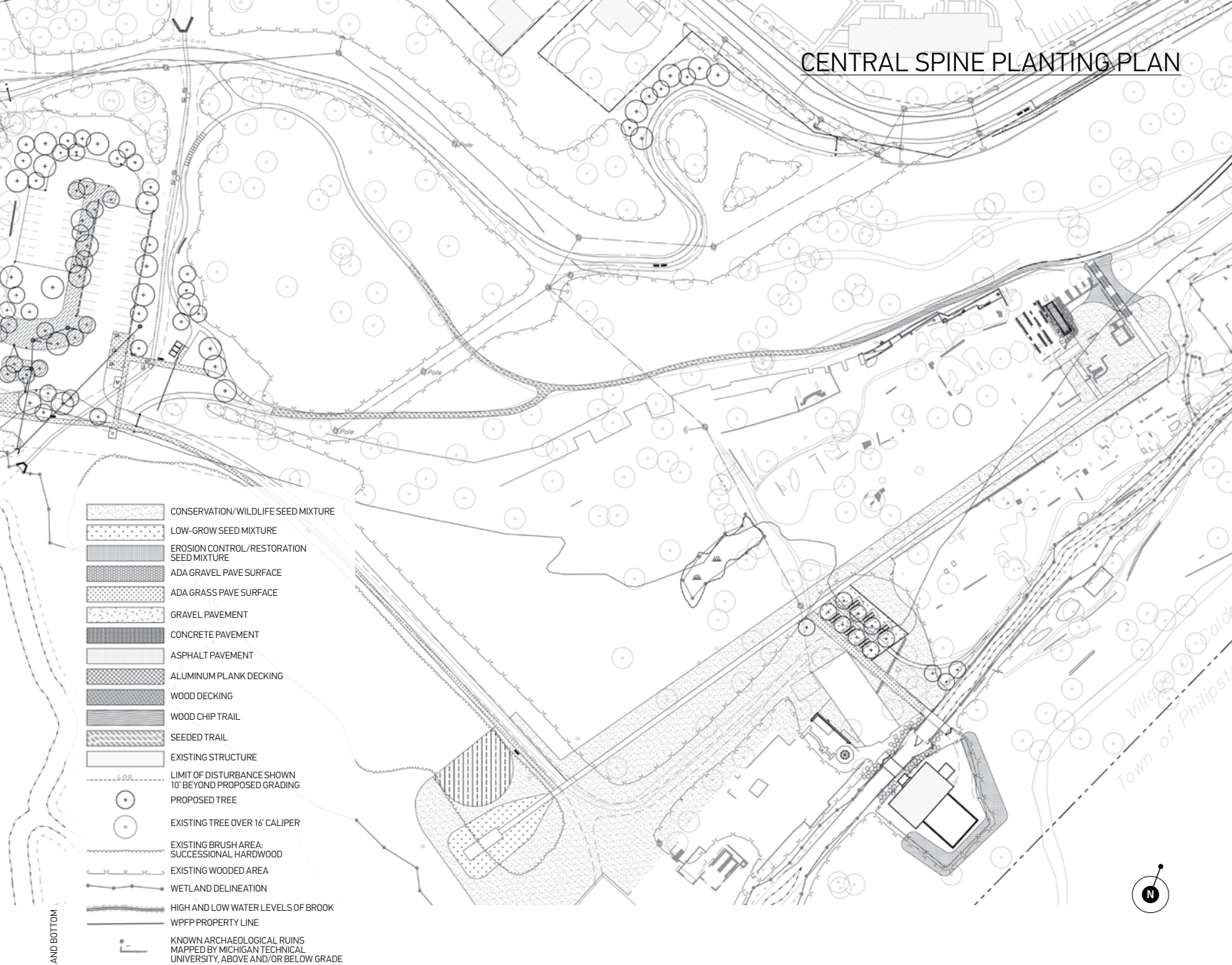
SHRUBS

Clethra alnifolia (Coastal sweet pepperbush)
Cornus amomum (Silky dogwood)
Fothergilla gardenii (Dwarf witch alder)
Hydrangea quercifolia (Oakleaf hydrangea)
Photinia pyrifolia (Red chokeberry)
Vaccinium corymbosum (Highbush blueberry)

HERBACEOUS PERENNIALS

Iris versicolor (Harlequin blue flag)
Polystichum acrostichoides (Christmas fern)

CENTRAL SPINE PLANTING PLAN



OPPOSITE, TOP TO BOTTOM

An interpretation of a railroad turntable, archaeology of a second turntable, and a privy.

the slopes, planting was more intensive. Here and there the planting stands out a bit. Near the old office building, where the foundry's file clerks moved their orders, Mathews planted irises to call attention to where a tailrace, a pipe that moved water from the boring mill to the brook, once existed. Understory plantings look surprisingly regular, but Mathews described the process more as editing what was there than designing new plantings. Where she did decide to plant, she primarily used native plants. The project began as a pilot for the Sustainable SITES Initiative and received certification in the summer of 2014.

In addition to the paths, bridges, and walkways, there are platforms and decks that tell you where to pause and look. A circle in the path to the boring mill marks a train roundabout. MNLA designed three new structures for WPFP: a 33-foot-high gun platform near the water to approximate the figure of the sighting tower that was used to test the guns that made the foundry famous; a full-scale interpretation of the back shot waterwheel that created sufficient energy to power the boring mill, where the cannons and gunnery were bored; and a stair that brings visitors up to a path that leads to the ridge above the site.

RIGHT AND BELOW

An overlook is set above the Battery Pond. The back shot waterwheel, which would have been within the boring mill, could supply the equivalent of 75 horsepower.

OPPOSITE LEFT

Metal fretwork suggests the moving water that powered the wheel.

OPPOSITE RIGHT

Interpretative images, text, and maps are reproduced on refined gabion structures filled with brick.



Each of the new structures was deployed as an interpretive opening. The waterwheel and gun platform explain or suggest how the original structures had been used in the manufacturing process. The stair is wholly new, and Mathews used this opportunity to talk about the use of water throughout the site, laying text and images on the risers. As with all the work on the project, excavating the stair was a delicate business. A privy unearthed during the stair construction slowed things down for a bit but was an important find. The remains of a second roundabout were uncovered (but not yet interpreted) during construction elsewhere. The archaeologists were part of the process from the beginning and remained involved along the way. Mathews told me their presence was one of the





things that set this project apart from her previous work on historic landscapes, and it's something she'd advocate for again.

The design doesn't force a linear story in terms of moving you step-by-step through the iron-making process—you actually begin at the end, near the dock where materials were shipped out, and move backward through the process along the site's central spine. Mathews describes the narrative strategy as a process of curiosity and discovery, with much left to the visitor's surmise. "The whole site is about these fragments that you run into and ask questions about," she says. "You are taking the cues, right? This cue and those cues and everything else that you've seen, that something happened here."

Much of the site's processional feel was dictated by the existing historical fabric and topography, but there were still decisions about amenities and other infrastructure that would link this site to Scenic Hudson's network of hiking, walking, and biking properties, create access for the town and tourists, and stabilize the site. Parking was placed where there had been the most disturbance—a junkyard that had evolved over time was cleared, and two bioswales were placed to catch and filter the water coming off the ridge at the edge of the town. Part of the parking lot is a meadow that is mowed when the town or Scenic Hudson has an event that requires more space.





LEFT

A view from the ridge as the foundry's workers would have seen it as they descended from their homes in Cold Spring.

Because of the relationship to Cold Spring, the circulation infrastructure and access points required more time and resources than Mathews expected, and issues remain to be worked out. When we paused at the parking entrance to the site, she said, "What the client is telling me is that probably teenagers are coming down here and doing wheelies. So that's a whole new thing we didn't plan for."

For all the sophisticated interpretation—there's a mobile app complete with a booming gun that shakes your earbuds if you aren't expecting it—there is a sense of deep mystery when you are on the site. Part of the mystery is borrowed from the topographical features that produce a feeling of enclosure. And there's still a lot to uncover, and perhaps interpret, depending on funding: The artificial Battery Pond, used to power the boring mill, appears to have a layer of metal along the bottom—intentional or an accident of material accumulation? That research will have to wait for more funding. And the site's current character is so beguiling—and misleading—that you might miss it altogether. "I think you have to stand here and look at it for a few minutes to realize that it's a man-made pond that's part of an industrial process," Mathews says. Because it is so vegetated, she observes, you don't realize "it's part of the machine of the site." ●

Project Credits

CLIENT SCENIC HUDSON, INC., POUGHKEEPSIE, NEW YORK. **LEAD DESIGNER** MATHEWS NIELSEN LANDSCAPE ARCHITECTS, P.C., NEW YORK CITY. **ENGINEERING** GHD CONSULTING ENGINEERS, LLC, CAZENOVIA, NEW YORK. **HISTORIC STABILIZATION** LI/SALTZMAN ARCHITECTS, PC, NEW YORK CITY, AND LIAM O'HANLON ENGINEERING, PC, PORT WASHINGTON, NEW YORK. **EXHIBIT AND INTERPRETIVE DESIGN** C&G PARTNERS, LLC, NEW YORK CITY. **SURVEY** BADEY AND WATSON SURVEYING AND ENGINEERING, PC, COLD SPRING, NEW YORK. **TRAFFIC** FREDERICK P. CLARK ASSOCIATES, RYE, NEW YORK. **ARCHAEOLOGICAL MONITORING REPORT** HARTGEN ARCHEOLOGICAL ASSOCIATES, INC., RENSSELAER, NEW YORK. **ESTIMATOR** SLOCUM CONSULTING, HUDSON, NEW YORK. **ENVIRONMENTAL ECOSYSTEMS STRATEGIES**, POUGHKEEPSIE, NEW YORK. **PHOTOGRAPHY** ELIZABETH FELICELLA, NEW YORK CITY. **HISTORIC IMAGES** PUTNAM HISTORY MUSEUM, COLD SPRING, NEW YORK. **ARTISTS AND CREATIVE SUPPORT FOR INTERPRETIVE EXHIBITS, SIGNAGE, AND GRAPHICS** STEPHEN ALCORN, WOODCUT ILLUSTRATIONS, CAMBRIDGE, NEW YORK; KEVIN WOEST, WATERCOLOR RENDERINGS.

BUILT TO LAST



**WHAT MATHEWS NIELSEN STILL HAS TO LEARN
AFTER TWO DECADES, THE PRINCIPALS SAY,
IS ONLY EVERYTHING.**

BY JENNIFER REUT

PATRICK PANTANO

THE FIRST PROJECT WAS ON CLINTON STREET, A TWO-BLOCK STRETCH BETWEEN EAST HOUSTON AND DELANCEY ON THE LOWER EAST SIDE. IT WAS 1983, AND **SIGNE NIELSEN, FASLA**, HAD BEEN IN PRACTICE ON HER OWN FOR ABOUT FOUR YEARS, MOSTLY DOING RESIDENTIAL WORK. SHE HAD JUST HIRED **KIM MATHEWS, ASLA**, TO TEACH AT PRATT INSTITUTE, NOT LONG AFTER MATHEWS HAD GRADUATED FROM THE UNIVERSITY OF PENNSYLVANIA.

It was a city project, for the New York City Public Development Corporation (later the New York City Economic Development Corporation), a client that would hire them again and again. But in 1983, Nielsen and Mathews had no firm and no related work experience. Mathews recalls: “Essentially, Signe said, ‘Do this proposal with me for free, and if we get this job, we’ll start working together.’” They got the job.

Mathews is earnest, considered, and astute; Nielsen is tough, funny, and forthright. But to say that they seem like opposites risks overlooking the unmistakable regard that has built up between them over their 30-plus years of working together. Mathews became a principal in 1993, after leaving for a few years to do planning at Buckhurst Fish and Jacquemart, and the firm became Mathews Nielsen Landscape Architects.

The firm is successful, with some 495 projects built or on schedule to be built, and around 100 on the boards. Many clients are repeat clients, and at places like Riverdale Country School in Riverdale, New York, where they’ve done 17 projects and counting, MNLA has built up a legacy, outlasting the groundskeepers and headmasters who originally engaged them.

Around the office, which is in the Equitable Building on lower Broadway in Manhattan, the work proceeds in quiet; you can feel a hive energy but not the vexed tension that often accompanies it. In group conversations, no one interrupts while someone else is talking; no one overtalks, or shuffles papers, or fidgets with a phone. They listen to each other, but they don’t hold back. That’s a perception, however fleetingly gained, that extends to the new principals, Molly Bourne, ASLA, and Rob DeMarco, ASLA, who were promoted in 2014. Bourne, who joined MNLA in 1999, is intense, curious, and likes to push. DeMarco, who also joined in 1999, is the managing principal. He worries about the business, the systems that keep MNLA running, and the staff. “With 30 people and 60 to 70 projects, we’re asking a lot of people. Everyone has two, three, four, five projects,” he says.

The firm wants more space but not more people. “We kind of like where we are,” Nielsen says in the office one day in late winter. Except for the drawings and plans that cover most of the walls, it’s an office space that doesn’t seem much different from those of the lawyers and securities firms that populate the rest of the building. The proximity to City Hall, rather than the hubs of fashion and art that attract other firms, is telling. This firm does city business.

OPPOSITE
Mathews Nielsen principals Rob DeMarco, Signe Nielsen, Kim Mathews, and Molly Bourne hash it out around the table.



ABOVE
With 30 people and 100 projects in the works, MNLA staff, like Rae Ishee, have to be able to do a bit of everything.

Nielsen clearly enjoys the back-and-forth with public agencies that comes with city projects. And then there's her role as president of the city's Public Design Commission, a position she's held since her appointment by Mayor Michael Bloomberg in 2012. The commission meets monthly to review projects and presentations and to take public comments. The hearings are now on YouTube, where you can watch the 11-member commission, which also includes the architect James Stewart Polshek and the sculptor Maria Elena González, ask questions and hear testimony from residents. It's a fascinating peek inside New York's public design process, made more voyeuristic by the camera's location, which looks over Nielsen's shoulder.

Many of the projects that come before the commission are pedestrian—installation of rooftop equipment, stoop rebuilds, lighting standards, the location and profile of newsstands—but the commission has been quietly shaping the city through hundreds of small decisions like these for decades. The big projects come through as well, of course, and it's a layer of design review built into the public process that has had a big influence on the design quality of the city. Nielsen says she looks forward to the meetings when landscape colleagues come in with projects.

"There are times when I have to educate my fellow commissioners," she says, "so that they can see why it is that I speak as strongly as I do when a good project comes in that is well-conceived, that has embedded in it all kinds of components that should be part of every landscape."

Nielsen's work on the design commission happens outside her role in the firm—you don't get a sense that her own staff knows much about it—but this is how many of her colleagues encounter her. Despite the breadth of work that Mathews Nielsen has built up over 20 years—academic campuses, houses and multifamily complexes, urban streets and waterfronts—there is still concern that the firm's work doesn't have a signature "look," and Nielsen wonders whether that absence has held them back from being offered certain kinds of projects. Mathews would like to work in the national parks, and Nielsen is curious about resorts, of all things. "Philosophically, it's not what I really believe in, but there's something about the opportunity to create fantasy that intrigues me," she says. But then, "We never thought we'd ever get a cemetery, and we've actually gotten several."

Perhaps the public perception of the firm is skewed by the sheer quantity of built projects, not just in New York City, where they are well-known, but in Pennsylvania, upstate New York, and New Jersey. "At a certain point, we have done a tremendous amount, and I think that sometimes our peers might view us as without a rudder and [think] that, in fact, we do take anything that moves," Nielsen says. "But





EAST COAST

HAVERFORD COLLEGE



THE NEW SCHOOL



**MATHEWS NIELSEN
COMPLETED WORK**
The scope of MNLA's built work includes an apartment complex in Queens (top), the landscape for a Tod Williams Billie Tsien dormitory in Pennsylvania (center), and a green roof for a new SOM building in New York (bottom).



EAST RIVER ESPLANADE
AND PIER 42



HUDSON SQUARE STREETSCAPE
IMPROVEMENTS



**MATHEWS NIELSEN
WORKS IN PROGRESS**
The waterfront projects
and streetscape
improvements on
which they've built
their practice dominate
the MNLA boards.



PIER 55





LEFT
Dan Yannaccone, ASLA,
at work. Hand-drawing
and 3-D gaming
software are used
in tandem.

cipals a lot about what they might be in for, and more often than not, they just say no. But sometimes they make a collective decision to go after an unpromising project with the stealth objective of getting landscape design into a proposal that doesn't seem to want to house it. "And we do that sometimes. We do jam ourselves in," says Mathews.

I don't view it negatively. I view it as all part of learning. It's all part of making a place better, and it's all about the challenges that X, Y, or Z typology enables you to learn and explore."

Despite this possible reputation for generalism, MNLA's principals have a fairly refined sense of what they won't do, though characteristically, each principal has her or his own take. Military and defense projects, Walmarts, and greenfield malls are out of bounds. They won't work in China because they can't oversee the construction, something that's important to the firm's quality assurance. "A lot of it is self-selection, but a lot of it is because people want us because we can do it and we've demonstrated that we can build things," Nielsen says. "I think more than probably almost any other landscape architecture firm I can think of, we build."

And then there are projects that make no accommodation for landscape in the RFP beyond "and landscaping" or "all site work" or don't include a site plan. That tells the prin-

The forays into policy and the mastery of construction, Mathews says, are all part of the same trajectory toward endurance. They are trying to figure out how to build things that will last, given the many known and unknown hazards of sea-level rise and climate change that confront them. She says it's tracking the science and engineering that keeps her up at night, making sure she understands the hydrologic modeling and other factors that inform where and how they design. Mathews finds that the stakes are stratospheric. "We're, right now, being asked to design to protect whole communities and to change their way of life," she says. "I think that, as landscape architects, we have a huge role in this. I would be the first one to say I am not ever going to be the expert on this, but I want to make sure that our firm is getting the right knowledge to inform this discussion."

Nielsen is quite bullish about what they might be able to do, and she's energized by the risky edge the firm now occupies as landscape designers. "It's not bullshit anymore," she says, with a bang of her fists on the table. "The rubber has hit the road in this firm, and that's fabulous." ●



In 2013, *Landscape Architecture Magazine* brought Signe Nielsen and Michael Van Valkenburgh together for a wide-ranging conversation about their work over the past 30 years. You can watch the full interview on landscapearchitecturemagazine.org.



MATHEWS NIELSEN LANDSCAPE ARCHITECTS



THE LEADING EDGE

1993–PRESENT

IN MANY WAYS, THE PLAN FOR HUDSON RIVER PARK BECAME THE BLUEPRINT FOR MANY A CITY'S DESIRES.

BY JENNIFER REUT

THE 1997 MASTER PLAN for Hudson River Park (HRP) with Quennell Rothschild & Partners was arguably a step onto the big stage for Signe Nielsen, FASLA. In 1993, when Nielsen began working on the master plan, Kim Mathews, ASLA, now a coprincipal of Mathews Nielsen Landscape Architects, had just rejoined the firm after six years away. Though Nielsen is dismissive of the residential work she did in the early days, it was well regarded, and there had been publications in a few books and a little press in the *New York Times* and elsewhere. The practice in public work that she wanted to pursue had begun to establish itself. Her work on the reconstruction of three parks along the Prospect Expressway had won a Design Excellence Award from the Art Commission of the City of New York in 1988. Nielsen was teaching at Pratt Institute. But it was the Hudson River Park project that really changed the trajectory for the firm, and in many ways, for cities.



ABOVE AND BELOW

Though the hard edge of the historic bulkhead limited interaction with the river, it now offers a visible fragment of the park's past.

The 5.5-mile-long park runs along the lower half of Manhattan's West Side, from Battery Park up to West 59th Street, and Nielsen has been designing it off and on for more than 20 years. When the project began, the western edge of Manhattan was a rough patchwork of parking, decaying piers, abandoned buildings, and flotsam from the adjacent West Side Highway. It was a place people passed and threw things out their window on their way into or out of the city. Artists looking for a big canvas, like Gordon Matta-Clark, came here and carved up the old warehouses and storage facilities. It was a place that attracted people who didn't want to be caught. It was truly the edge of the city.



Today, the Hudson River Park is simply no more and no less what waterfront parks in many American cities now aspire to be—active nearly year-round, packed with amenities that attract people from outside the neighborhood, filled with every generation of locals as well as tourists, and well cared for by a privately funded conservancy. The park's development began under Mayor Rudolph Giuliani, continued through Michael Bloomberg's administration, and shows no sign of letting up under Bill de Blasio. The park still receives public funds, but the Hudson River Park Trust does the heavy lifting of fund-raising for new projects such as Pier 55 and the mega-Pier 40.

Back when it was originally envisioned, Hudson River Park was designed in tandem with reconstruction of the adjacent West Side Highway (9A), a conduit for commuters, trucks, and college kids heading in from New England to drink. The idea had been floated for a kind of boulevard with a park between the road and the water's edge. A series of piers and pilings, extending into the Hudson at the ends of the borough's east-west streets, were a vestige of Manhattan's active shipping economy, but were by then rarely used except for storage. They would become part of the Hudson River Park as well.



ELIZABETH FELICELLA, TOP; MATHEWS NIELSEN LANDSCAPE ARCHITECTS, CENTER; SIGNE NIELSEN LANDSCAPE ARCHITECTS/QUINNELL ROTHSCHILD ASSOCIATES, BOTTOM



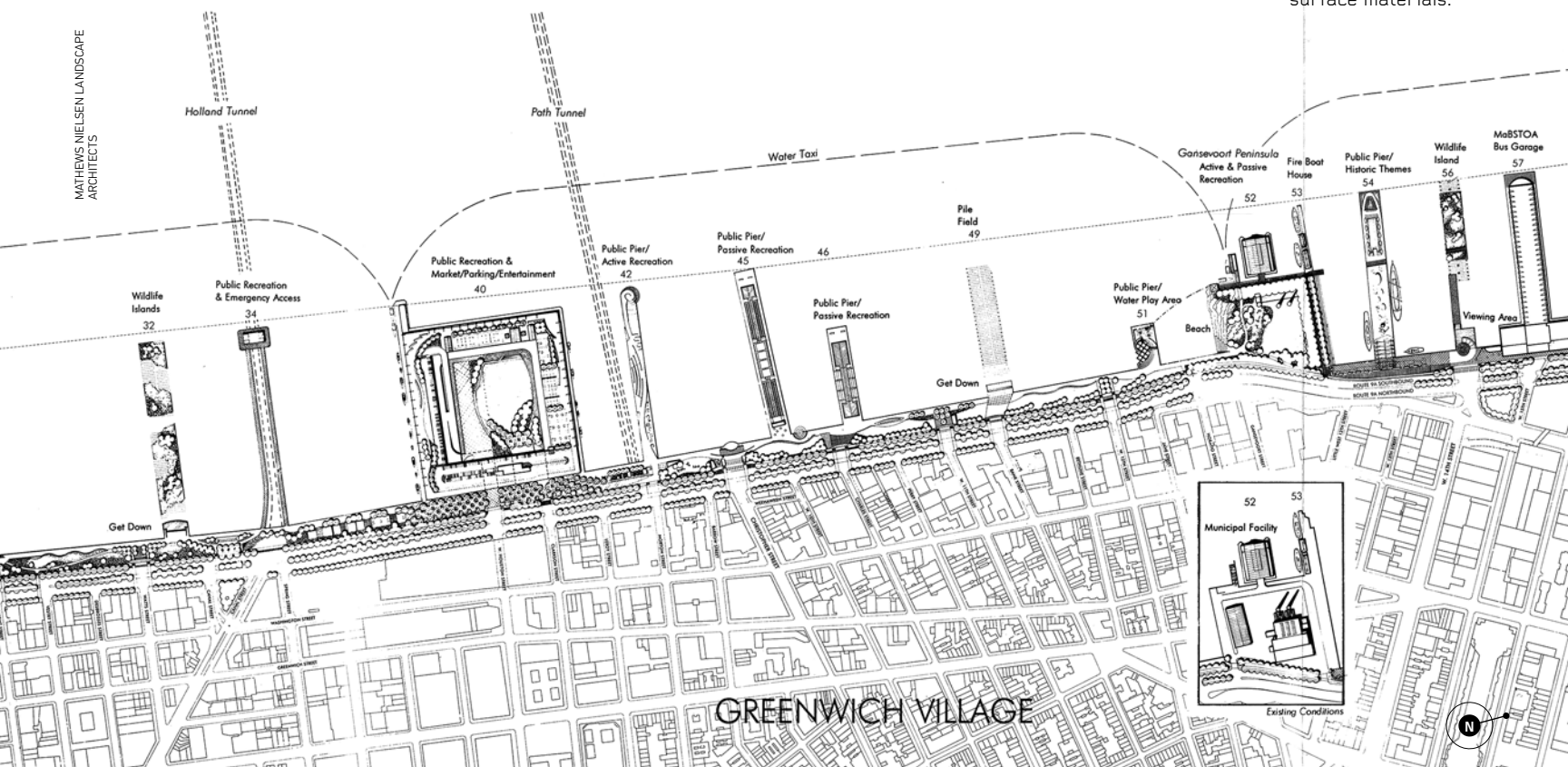


The fabric of the road, park, and water feels more woven together today—walking the park's length, you sense the shifts in program and sensibility, but the whole seems coherent and thoroughly rational to the average pedestrian or cyclist. Not everything works, of course. Here and there are banal or boring moments. At other points, it almost seems like too much programming has been packed into the piers and parks, but people use them in unforeseen ways. The much-maligned benches and lighting standards, chosen by the client, probably to give the space a consistent aesthetic, don't really detract. But the Hudson River, which today is cleaner and more alluring than might have been imagined in the 1990s, is such a striking presence that it dwarfs every design move, good or bad, and at the same time, draws everything together.



LEFT
Paths and plantings weave together views of the water and the urban edge.

ABOVE
Nielsen checks out surface materials.

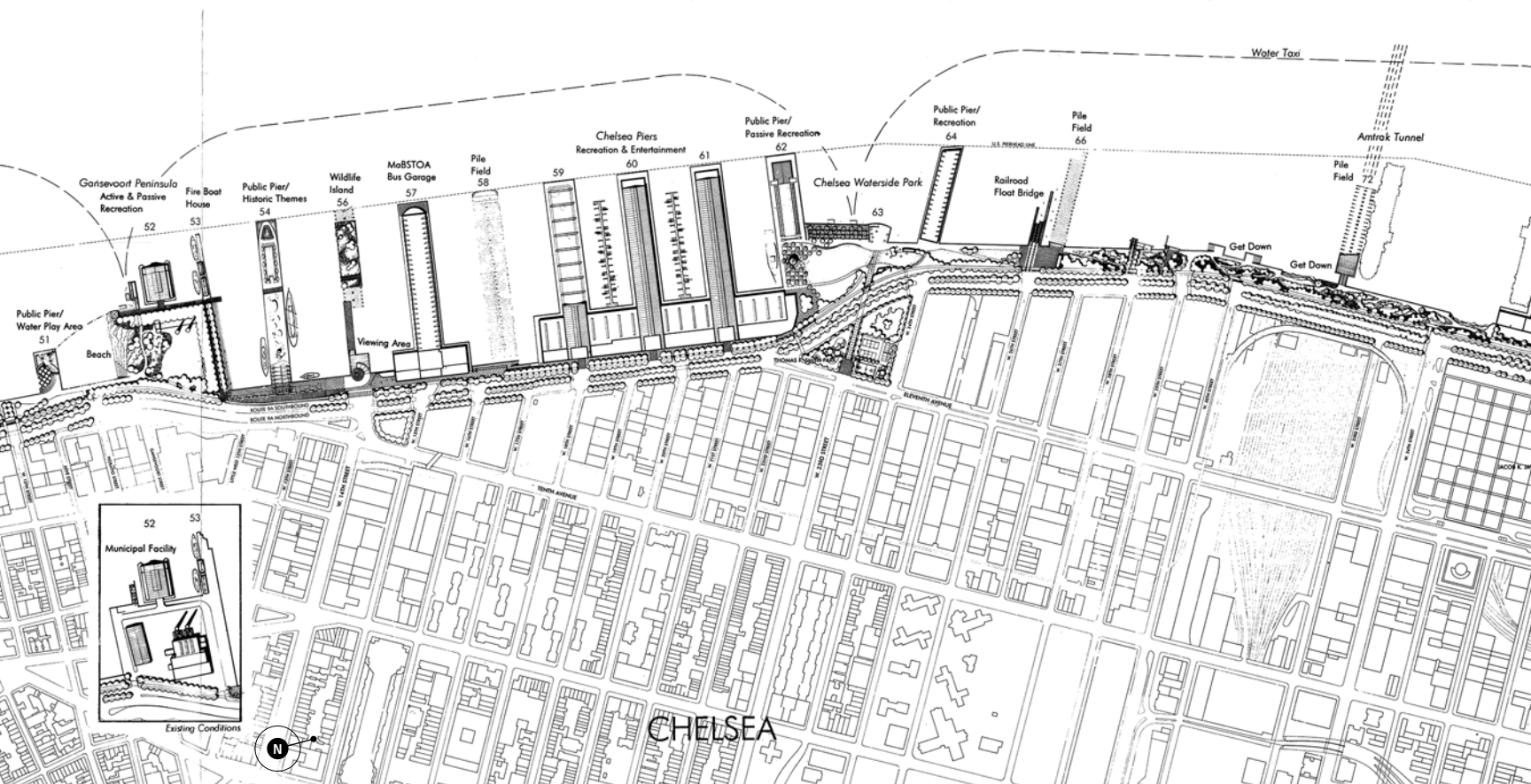




Nielsen likes to point out the less-flashy design elements, like the mountable curbs instead of a breakdown lane that saved 35 acres of parkland. There were other advantages that designing the road afforded, says Nielsen. “We were able to provide all of the utilities to the park, all the water and sewer and electric, because it was put under the road and they didn’t want to dig up the road. It’s supposed to have a 50-year life. That was huge.”

The master plan for Hudson River Park was released to the public in 1997, and the first projects began to roll out quickly. Small overtures appeared at first that made the linear space along the river a bit safer and more appealing for bicyclists and pedestrians. Then segments of the park—there were seven that aligned with the road—were designed and built. First, in 2003, was Greenwich Village, by Abel Bainnson Butz; Hell’s Kitchen/Clinton and Chelsea North were designed by Miceli Kulik Williams in 2005 and 2006, respectively; Tribeca was designed by MNLA and completed in 2008 (see “Next Installment on the Hudson,” *LAM*, January 2009); Chelsea Cove was designed by Michael Van Valkenburgh Associates in 2010. It’s an omnibus of landscape architecture and the kind of top-drawer amenities that affluent cities now feel compelled to provide. It’s arguably the Hudson River Park, even more than the High Line that followed it, that set the bar for

LEFT AND OPPOSITE Seven years on, the MNLA-designed Tribeca section has become a neighborhood magnet.

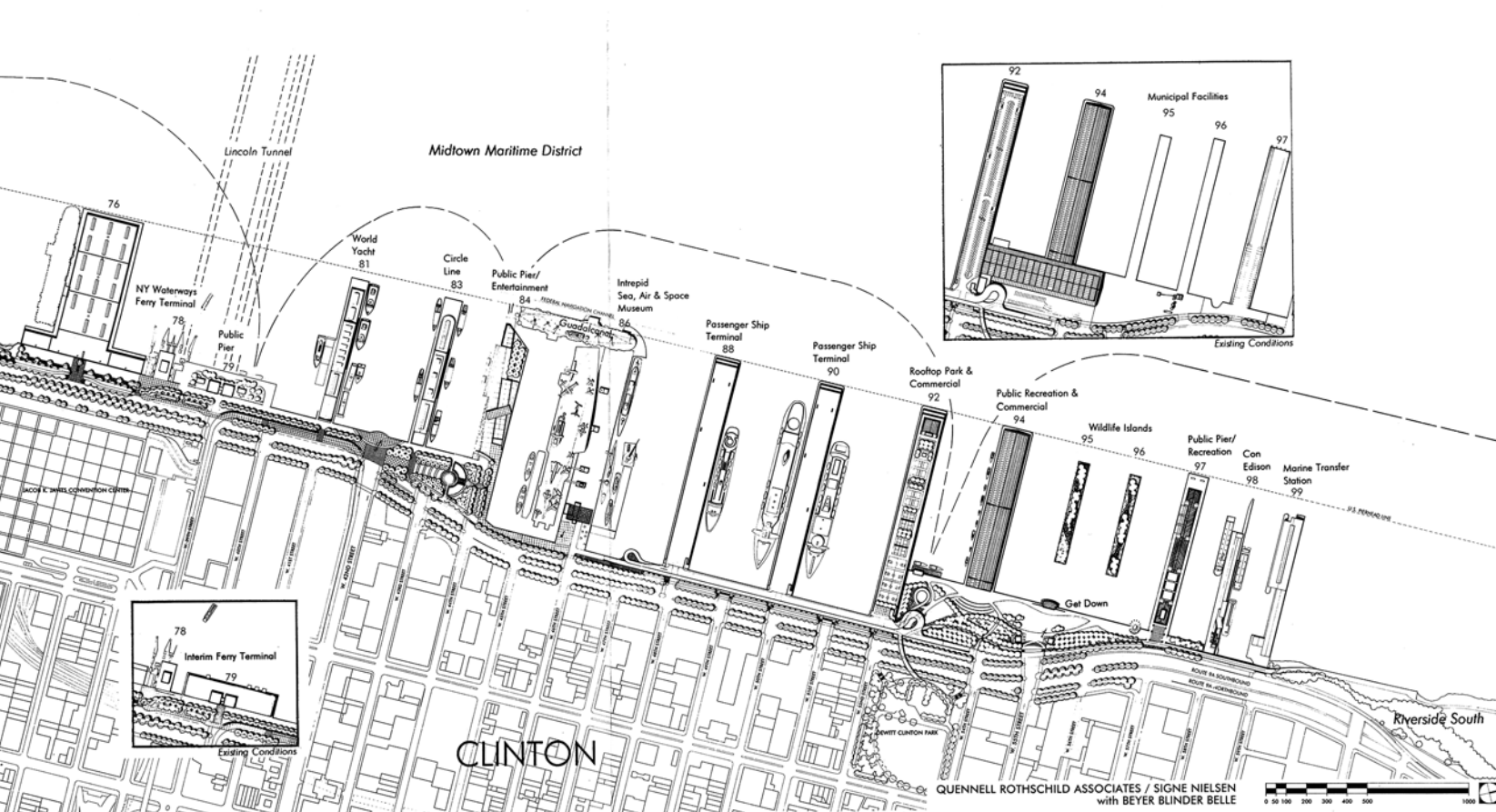




what cities could do with signature open spaces provisioned with enormous budgets. Thus far, with 70 percent of the park built, the budget is tracking at \$400 million.

Looking at the master plan two decades later, a ribbon of parkland with dozens of piers marked for passive and active recreation, Nielsen can see that some unbuilt elements still have currency.

Her original design for Pier 32 in Tribeca was separated from the park completely, with a “get down” at the land’s edge. Some of those ideas would show up in MNLA’s recent design for the Diller–von Furstenberg Family Foundation’s spectacular Pier 55, a series of contiguous upturned bowls designed with Heatherwick Studio and accessed through a walkway. “I had a vision that I wanted, one day, to be realized...that is, to turn a





pier into a wildlife sanctuary. There's something about, when I look back on these ideas, of just severing the pier from land," she says, though she acknowledges that the Pier 55 project is "wildly, wildly, wildly different."

The Pier 55 project raises other issues about funding public space. "What I certainly didn't expect, and it is something that honestly troubles me quite a great deal, is private money," Nielsen says. Her misgivings about the shift to private financing since the early days of the first Hudson River Park projects stem more from frustration than fear of the private sector wealth now needed to finish the park: "The state and the city have totally lost their appetite for funding Hudson River Park. It used to be that the park got \$100 million at a clip, and now it gets like \$5 million," she says. (The Diller-von Furstenberg Family Foundation is putting up \$130 million.) Nielsen is candid and withering about the financing mechanisms and the shifting political priorities that have brought the Hudson River Park to its present state, but she's also practical about what new accommodations—like the upturned bowls of Pier 55—the future projects will have to make for flooding and what that will cost.

Mostly it's the interaction with the water that Nielsen would do differently now. With more latitude and a better understanding of what could



happen after Hurricane Sandy in 2012, the hard edge where the river meets the bulkhead, itself historic and untouchable and below the floodplain, might be softened now as it is in the new projects for Pier 42 and for an esplanade on the East River. And the park might have been built above the floodplain. "God knows we didn't care about flooding. We did care about tides. But we didn't know about flooding," says Nielsen. That's changed, too.

ABOVE AND OPPOSITE
The sight of the skyline of Jersey City, New Jersey, draws as many visitors as the amenity-packed piers.



The firm has come a long way in its approach to how the water meets the land, and Mathews and Nielsen have little patience for some of the ideas that have had fleeting design currency over the past several years. It's easy to get them worked up when the subject of designing the water's edge for resilience comes up. Mathews, who devotes a lot of research time to this topic, says in a characteristically diplomatic fashion, "If we see a plan related to flooding or surge or anything like that,

have any residential population when we did this master plan, like Chelsea, like Midtown, like Tribeca, all of a sudden now are looking at the park as recreational opportunities," Nielsen says. But she's sanguine about the shifting financial models and residential character of Hudson River Park. "I've been through six mayors and three different heads of Hudson River Park," she says. "We keep on chugging." ●



with this pretty green stuff just dotted around the edge—who knows if that would work? Is that the right thing to do there? Is it just the sex appeal of showing that there?" On another occasion, Nielsen, also characteristically, was less temperate: "It irritates me so much. It's my pet peeve of the moment. It's just, we'll put a little oyster bed over here and a little fringe of marsh over here and, poof, Manhattan is now flood-proof," she said. "Bullshit. That's not how it happens. It's going to take a lot more thinking."

The population of the city has also changed a good deal since the master plan, and that's pushed the park's conservancy to pack more programming into each pier that has been developed. Originally, the idea had been that the upland would be park, and the piers would absorb the recreation. "Today, you don't see that consistency at all. It's a mishmash. I think a lot of it is the result of neighborhoods that didn't

DEGREE OF DIFFICULTY





LEFT

Hunts Point Landing, the first park to be built in the South Bronx Greenway.

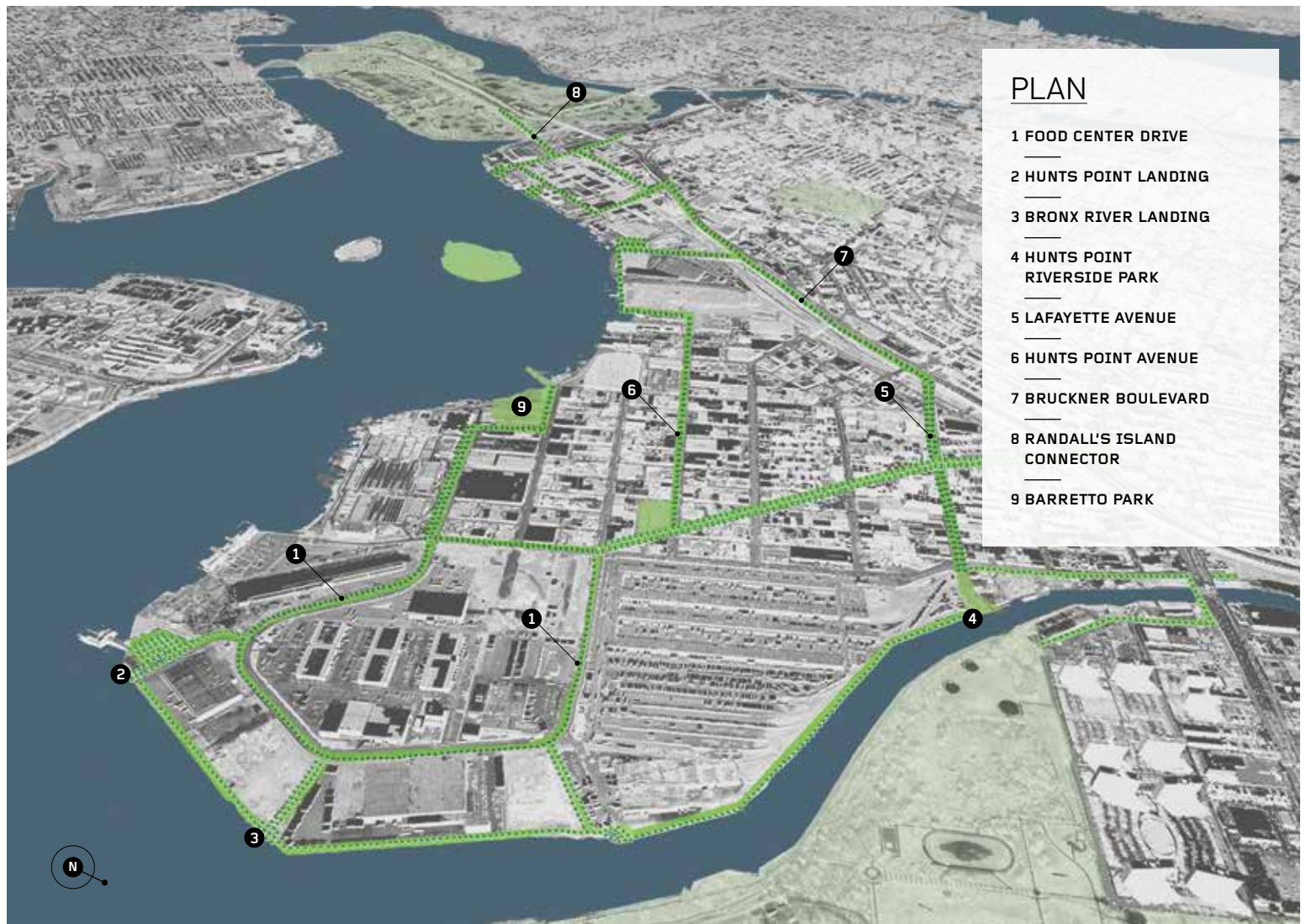
BELOW

Signe Nielsen, FASLA, surveys the site as it appeared in 2007.



A NEW GREENWAY AND WATERFRONT PARK ARE TAMING ONE OF THE TOUGHEST PARTS OF THE SOUTH BRONX.

BY JENNIFER REUT / PHOTOGRAPHY BY ELIZABETH FELICELLA



IT WOULD BE WRONG to assume that it's just cussedness that drives Signe Nielsen, FASLA, to take on unworkable projects like Hunts Point. She says she didn't know what she was getting into.

Hunts Point is a peninsula in the South Bronx that feels like an island. It swells into the East River, with a view, if you could find one, of Rikers Island. It's cut off from the street life of Mott Haven and other Bronx neighborhoods by the Bruckner Expressway. It has acres of industrial and commercial buildings, and trucks barrel down the sloping streets of the residential section, spewing exhaust and terrorizing pedestrians. There are decades of pollution go-

ing back to the 1930s. It is also an economic powerhouse. Nearly half of the 690-acre peninsula is New York's walk-in cooler, the mega meat, produce, and fish market and dis-

tribution center that supplies food to the region, and it's situated on a low-lying site vulnerable to flooding.

The idea behind Nielsen's plan for this area, the South Bronx Greenway, is fairly straightforward. The city wants to develop a circuit of parks and green streets around industrial zones that have divided the community from the waterfront. But there were obstacles, as Nielsen learned. For one thing, the city didn't own all the land. "Our charge, according to the request for proposals, is that we were to make a greenway that goes all the way around the peninsula. So Bronx River, East River, Bronx Kill. Great idea, love it. The problem is that everything here," she points to



FOOD CENTER DRIVE STREET IMPROVEMENTS



a large section along the south cove, “is privately owned waterfront.”

So Nielsen developed what she calls a hybrid scheme, “some areas of real waterfront and some areas of what we called our network plan,” she says. “It has everything to do with the ownership, and because our client was the city of New York, we were not allowed to even suggest that that somebody be generous and allow the greenway to go through.”

If you talk to Nielsen for a while, you find that this is the sort of knotty

problem she likes. “I was so adamant and so angry that it was not going to be allowed, because if I couldn’t do that, I couldn’t connect these two neighborhoods. They finally let me do it,” she says. But only on paper, so far. “It took probably two years of me just being absolutely relentless.”

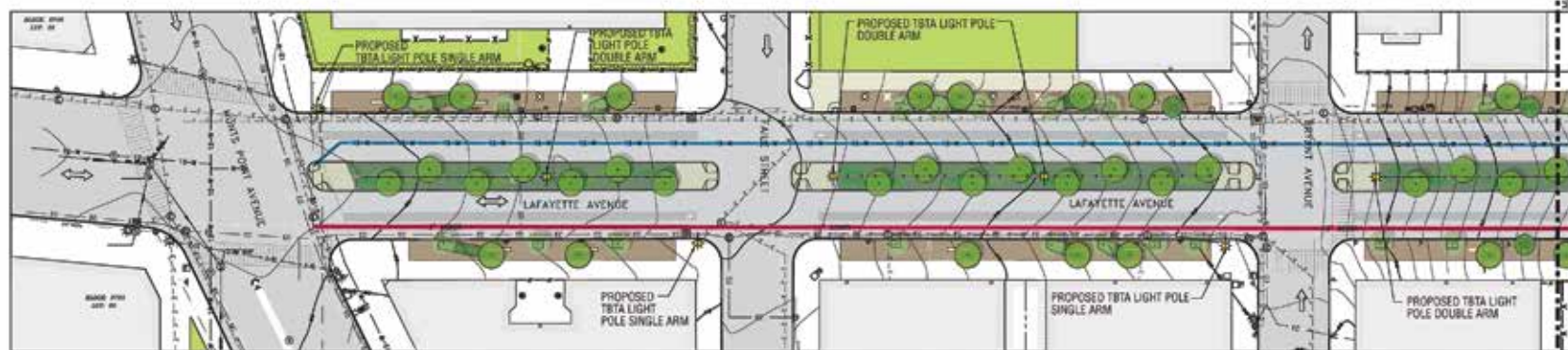
Because of the economic importance of the markets and distribution center, the city wanted to invest substantial funds to maintain their viability. To this end, in 2005 the city released the Hunts Point Vision Plan, which included a restructur-

ing of transportation and land use to grow the food distribution center even more. In addition to rezoning and transportation changes, the plan included a job training program and the greenway and waterfront parks, an idea credited to two local community organizations, The Point and Sustainable South Bronx.

Nielsen says that her firm, Mathews Nielsen Landscape Architects, is attracted to “gritty, hopeless projects” where the transformation seems impossible, “where you just cannot imagine that this site could ever be

ABOVE
Access to the water was via a truck route to the food distribution center. An informal fishing spot marked where Hunts Point Landing would be built.

LAFAYETTE AVENUE STREET IMPROVEMENTS



- FLOWERING TREE
- SHADE TREE
- EXISTING TREE
- TREE PIT
- SHRUB AREAS
- EXISTING GREEN AREAS
- SANDESET ADA ACCESSIBLE PERMEABLE PAVEMENT AMENITY ZONE
- NEW C.I.P. CONCRETE SIDEWALK
- CUSTOM CONCRETE BENCH
- CUSTOM GAME TABLE AND STOOLS
- TBT LIGHT POLE - DOUBLE ARM
- TBT LIGHT POLE - SINGLE ARM
- 5' WIDE BIKEWAY (COLOR FOR CLARITY ONLY)
- RELOCATED WATER MAIN
- RELOCATED SEWER MAIN



ABOVE
Before and after views of Lafayette Avenue street improvements.

for public benefit.” The terrible environmental history, the interminable slog of public process, the multiple players and political agendas—the South Bronx Greenway has them all. But it also has a strong and savvy community that’s been part of the master planning process from the beginning.

The 15th Congressional District, which includes Hunts Point and much of the South Bronx, is one of the poorest in the country, and its residents don’t have enough jobs, health care, or education. It has a tough vein of community activism,

and a congressman, Rep. José Serrano, a Democrat, who has worked to gain state and federal money for this project. The major argument for the greenway is public health. Residents of the Hunts Point neighborhood, along with those of Mott Haven, have the highest rates of diabetes, HIV, and asthma in the city. The parks and greened streets will provide better air quality and access to the recreational opportunities of the river.

The greenway master plan was released in 2006, and the first park and street projects are completed.

The project involves a total investment of \$48 million, according to the city’s Economic Development Corporation (EDC), one of a long and interesting list of stakeholders that contains city, state, and federal agencies, including the National Oceanic and Atmospheric Administration, the Wildlife Conservation Society, and a raft of community groups. There are 20 projects planned for the greenway, which, according to the EDC, “will encompass 1.5 miles of waterfront land, 8.5 miles of inland green streets, and nearly 12 acres of new waterfront open space through-



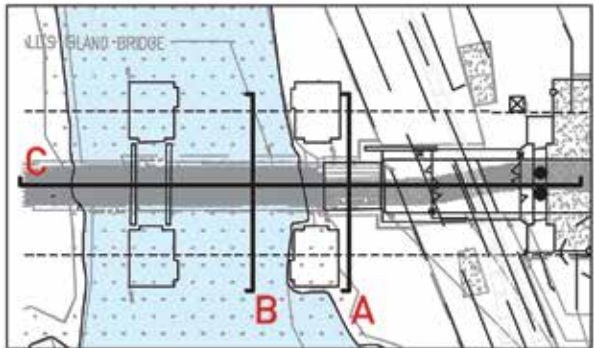
out Hunts Point and Port Morris.” Nielsen estimates this will work out to about seven acres of new open space, “some of it on the water, some of it not,” and 11 miles of greenway.

Such ambitious plans tackled in stages risk flagging budget prioritization and community fatigue, but the South Bronx is used to waiting. Already, MNLA has completed Hunts Point Landing, a park at the end of a spur off Food Center Drive that had previously been a refuse-strewn collapse into the water’s edge, but also a local fishing spot. The park has brought a fine fishing pier, a kayak launch, a soft edge with a stormwater filter, and concrete domes called Reef Balls in the water to encourage a nascent oyster population.

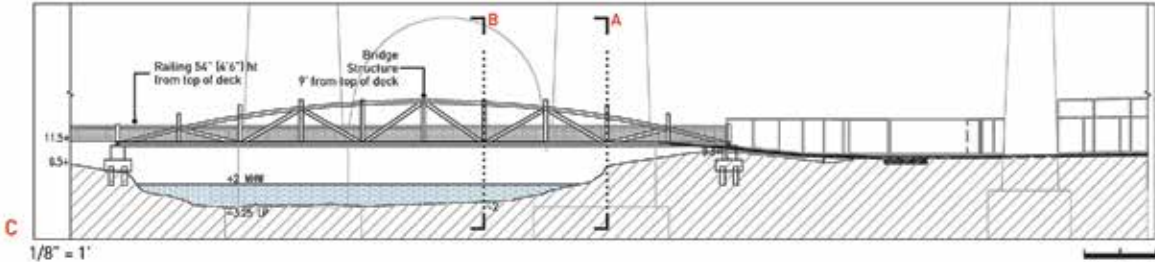
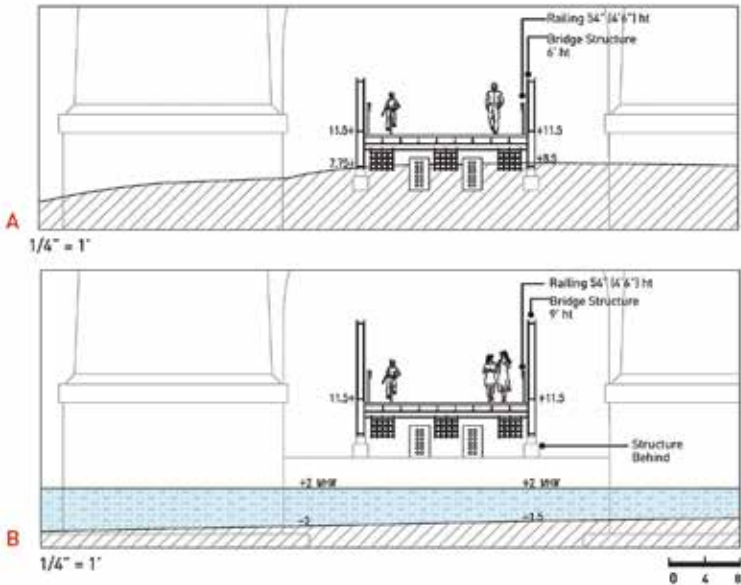
The street greening of main corridors like Lafayette Avenue and Hunts Point Avenue is done, and Food Center Drive, part of a loop around the busiest area of the market complex, is also complete. The green corridors are intended to carry a lot of the project’s weight, and if much of it is not visible to the residents, the

STREET GREENING
Lafayette Avenue (above) and Hunts Point Avenue (left) have both received new median and curb plantings to filter stormwater, improve the air quality, and calm traffic.

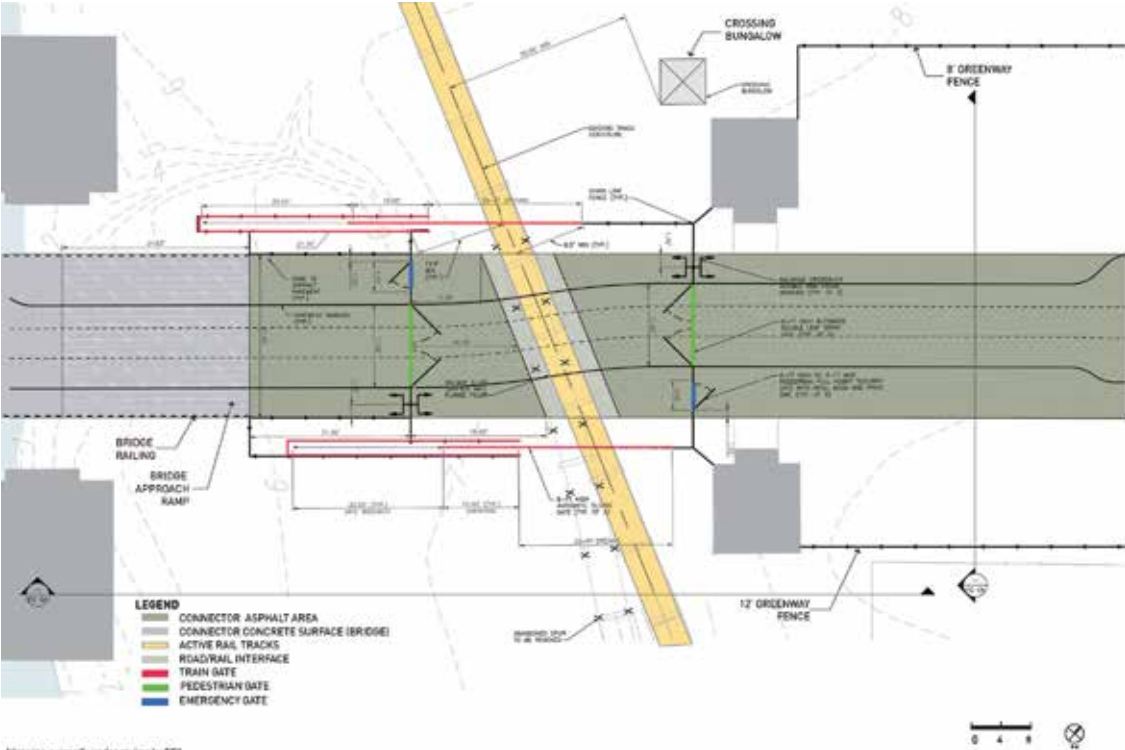
RANDALL'S ISLAND CONNECTOR



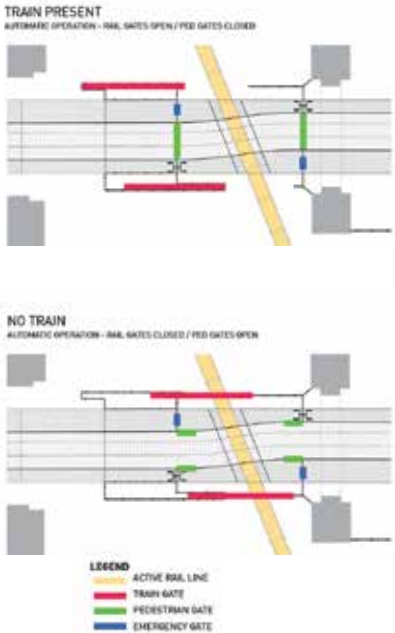
Section Key



RAIL CROSSING

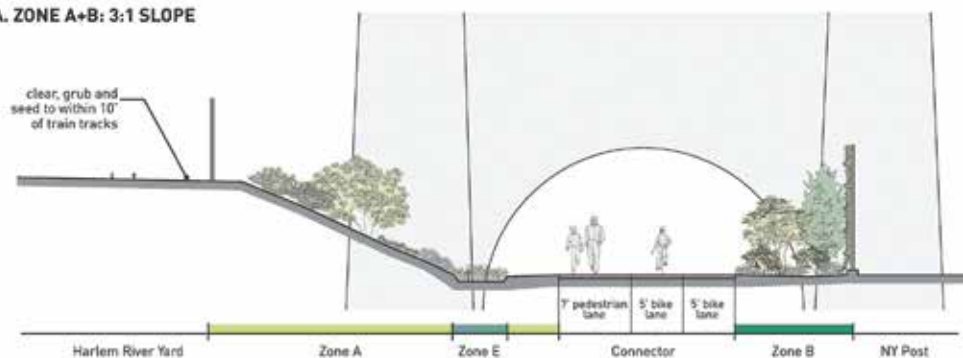


*drawing currently under review by CDR

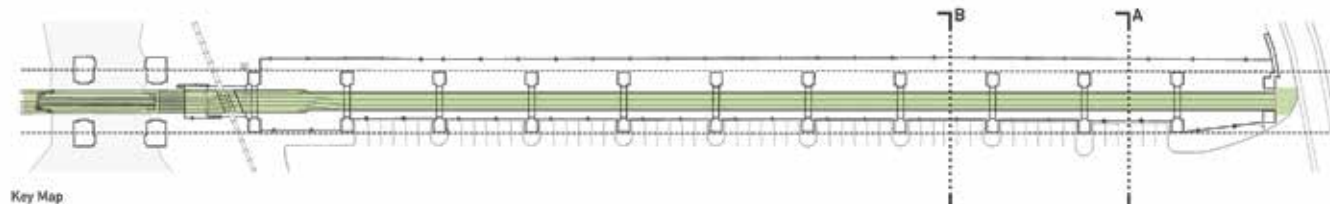
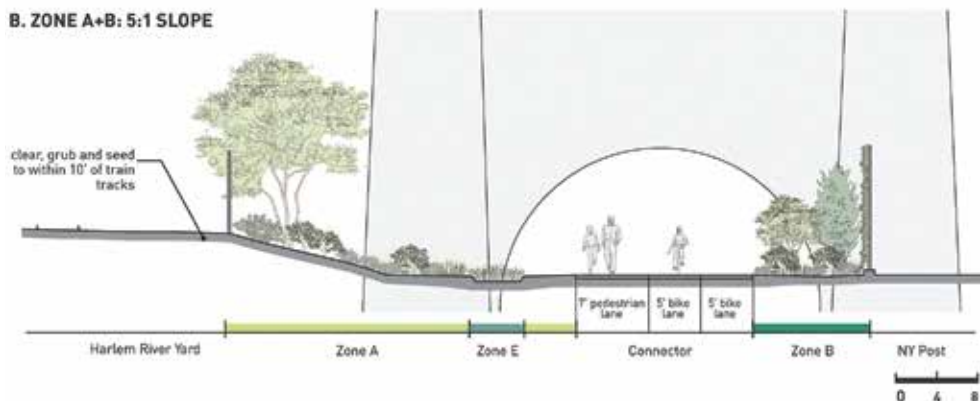


PLANTING SECTION

A. ZONE A+B: 3:1 SLOPE



B. ZONE A+B: 5:1 SLOPE



ZONE A



Slope stabilization required (at 3:1 slope)
Ground cover:
Fragaria vesca, Woodland Strawberry
Liriope spicata, Creeping Liriope
Carex spp., Sedge



Shrubs:
Ilex glabra, Inkberry
Aronia arbutifolia, Red Chokeberry
Aronia melanocarpa, Black Chokeberry
Gaylussacia baccata, Black huckleberry
Lindera benzoin, Spicebush
Fothergilla major, Large Fothergilla



Tall Shrubs:
Amelanchier canadensis, Shadblow serviceberry
Cornus mas, Cornelian cherry Dogwood

ZONE B



Vines:
Akebia quinata, Chocolate Vine
Lonicera sempervirens, Native Honeysuckle
Polygonum aubertii, Silver Fleece Vine



Perennials:
Rudbeckia triloba, Brown-eyed Susan
Echinacea purpurea, Coneflower
Nepeta catamintha, Catmint



Shrubs:
Rhus aromatica, Fragrant Sumac
Clethra alnifolia, Sweet Pepperbush
Aronia arbutifolia, Red Chokeberry
Aronia melanocarpa, Black Chokeberry
Gaylussacia baccata, Black huckleberry
Fothergilla gardenii, Dwarf Fothergilla

Tall Shrubs:
Amelanchier canadensis, Shadblow serviceberry
Cornus mas, Cornelian cherry Dogwood

ZONE E



Wetland Seed Mix with Plugs:
Asclepias incarnata, Swamp Milkweed
Liatris pycnostachya, Prairie Blazing Star
Rudbeckia hirta, Black-Eyed Susan
Aster novii-belgii, New York Aster
Eupatorium fistulosum, Joe Pye Weed
Iris virginica, Southern Blue Flag
Elymus villosus, Silky Wild Rye
Schizanthus scoparium, Little Bluestem
Andropogon gerardii, Big Bluestem
Sorghastrum nutans, Indian Grass

cheerful presence of trees and plantings in previously barren asphalt dividers at least shows that someone is paying attention and putting money into the neighborhood.

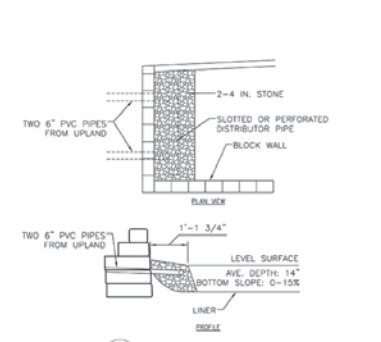
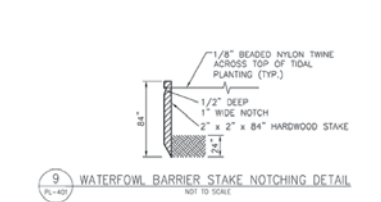
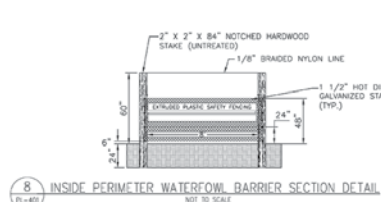
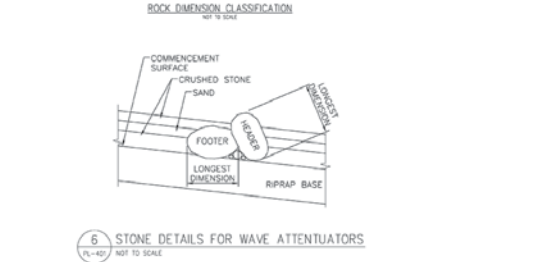
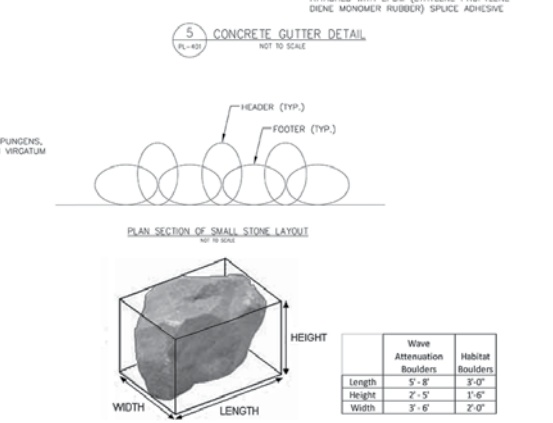
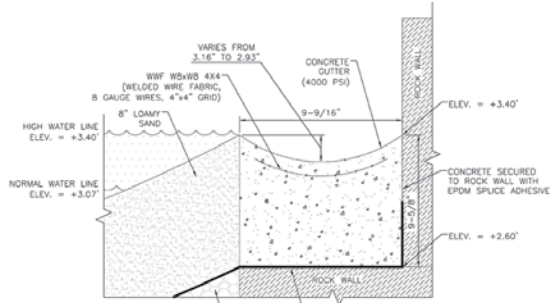
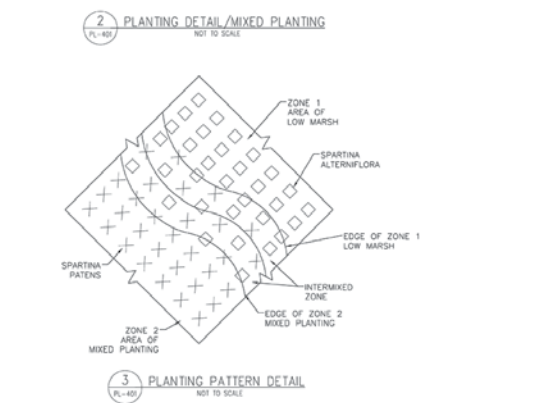
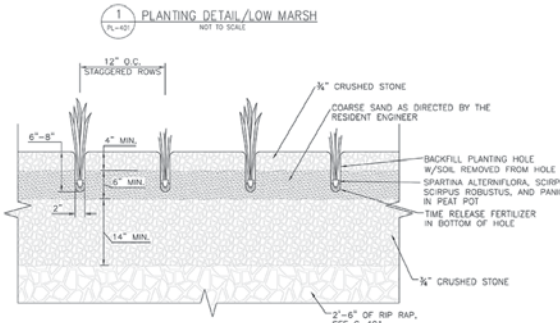
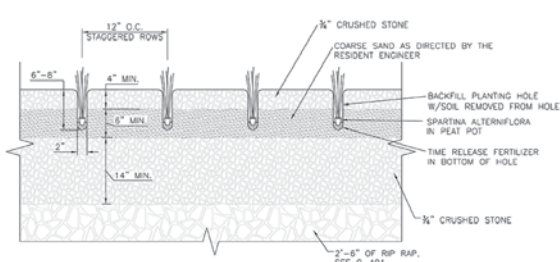
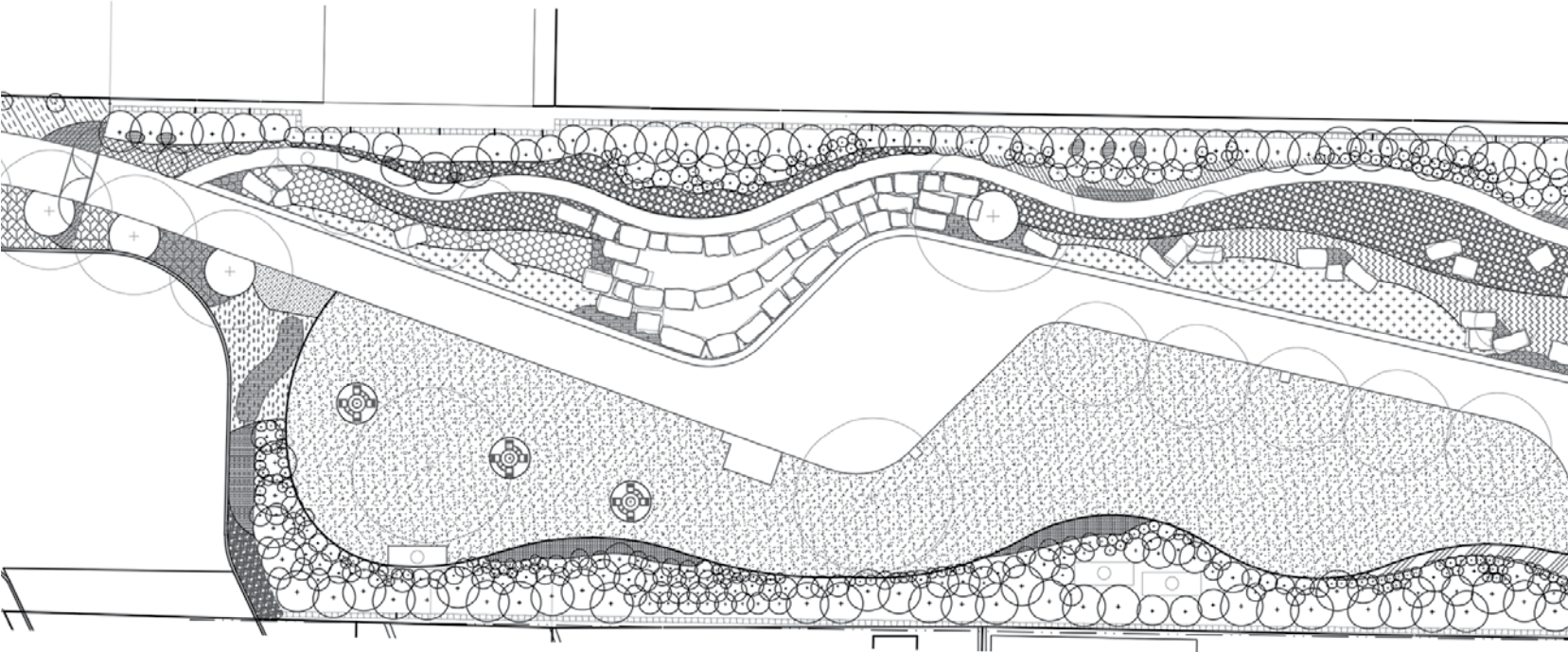
The green streets capture storm runoff through a permeable paving system and channel people safely, even pleasantly, from the neighborhoods upland down to the new amenities tucked in the interstices of the industrial waterfront. They'll serve to soften the edges between the residential and industrial sections and deter the trucks from driving through the neighborhood (the planted median means trucks don't have enough turning radius). And they are surprising to see, these green islands in the

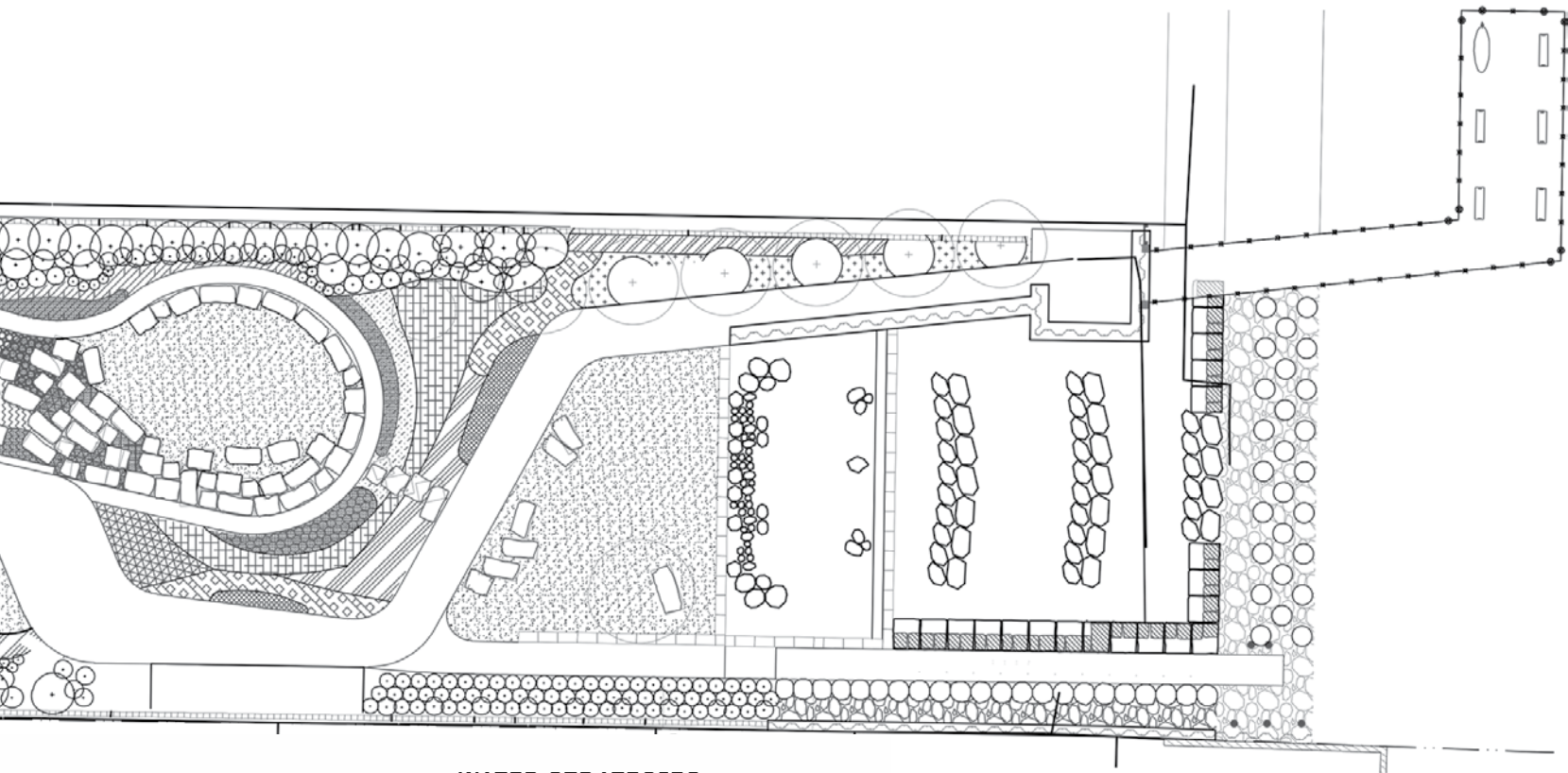
middle of wasteland avenues. They reflect nicely on the nearby apartment buildings and duplexes, some of them quite fine, giving them an aspect of some of the more gentrified parts of the city.

Next to open this spring is the Randall's Island Connector, a quarter-mile pathway from 132nd Street to a patchwork of parks, playing fields, and city utilities on the island that shaves the shore of Harlem and Manhattan's Upper East Side. The project is a shared effort with the electric utility Con Edison, and pedestrians and utilities will traverse the Bronx Kill safely independent of each other, beneath the tall arches of an existing Amtrak trestle. ↘







HUNTS POINT LANDING PLAN AND DETAILS





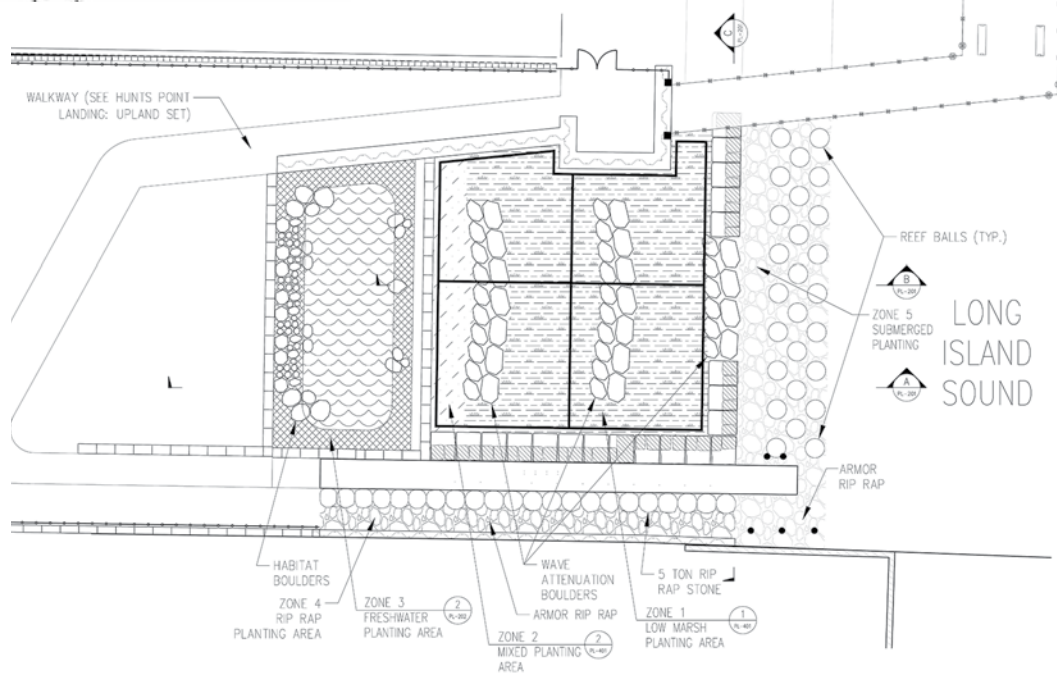
WATER STRATEGIES

-  DIRECTION OF SURFACE FLOW
-  STORMWATER FILTRATION
-  INTERTIDAL POOLS
-  DIRECTION OF SWALE FLOW



FRESHWATER TIDAL WETLAND

- LEGEND
-  ZONE 1 LOW MARSH PLANTING
 -  ZONE 2 MIXED PLANTING
 -  ZONE 3 FRESHWATER PLANTING
 -  ZONE 4 RIP RAP PLANTING AREA
 -  ZONE 5 SUBMERGED PLANTING
 -  OPEN WATER
 -  WATERFOWL BARRIER (SEE DETAILS 7,8,9,11 ON SHEET PL-401)





HUNTS POINT LANDING
A fishing pier and cleaning station, a boat launch, and a tidal wetland are among the new community amenities at Hunts Point Landing.





➔ Things are looking up for connecting the neighborhoods as well. The private owners of some of the waterfront properties have expressed interest in the greenway, and are even pushing for the project now, having come to understand through the planning process their relationship to the community that surrounds them.

The South Bronx Greenway project has yielded some unexpected outcomes for MNLA as well. “Probably more than any other project, this tipped me into the zone of policy, where I felt like the only way I was going to get anything done was to change policy,” Nielsen says. “I began to think about how design is a policy tool. I’ve been more interested in that than almost anything else since then.”

Nielsen is cochair of the Site and Stormwater group within the city’s Green Codes Task Force, which made recommendations for revisions to the city’s existing codes to foster sustainable practices and remove impediments to green strategies in building. She has authored several codes related to street trees, stormwater management, and increased biodiversity on rights-of-way. “People can’t believe that I’ve just spent that many years of my life fighting for something. A permeable sidewalk is now a code in the city of New York,” she says. Although she asserts that the South Bronx Greenway project was the catalyst for her policy turn, it’s not really surprising, considering Nielsen’s evident pleasure when she’s recounting the back-and-forth with city agencies.

Nielsen is frank about the outsized frustrations of working on Hunts Point. “By the time I understood what I was doing, I just decided that I was going to just go nuts and try to change the world,” she says, “and fight with everybody I had to fight with.” ●

Project Credits

SOUTH BRONX GREENWAY MASTER PLAN/HUNTS POINT LANDING, BRONX, NEW YORK. OWNER NEW YORK CITY ECONOMIC DEVELOPMENT CORPORATION. **LEAD DESIGNER** MATHEWS NIELSEN LANDSCAPE ARCHITECTS, P.C., NEW YORK CITY. **TRANSPORTATION PLANNERS** DEWBERRY-GOODKIND, NEW YORK CITY. **ENVIRONMENTAL SCIENCE AND ENGINEERING CONSULTANTS** HDR, NEW YORK CITY. **MARINE ENGINEERS** CH2M HILL, NEW YORK CITY. **SURVEY** LEONARD J. STRANDBERG ASSOCIATES, FREEPORT, NEW YORK, AND MERCATOR LAND SURVEYING, LLC, NEW YORK CITY. **ENVIRONMENTAL GRAPHICS** RUSSELL DESIGN ASSOCIATES, NEW YORK CITY.