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GETTING AROUND:
A TOOL-KIT FOR ACTIVATING CONTAMINATED, IDLE & TRANSITIONING LANDSCAPES

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ABSTRACT OF THE THESIS

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A great deal of contaminated, idle or transitioning landscapes lie in the once densely-industrial urban waterfront periphery and as such will require a degree of remediation, as classical forms of manufacturing have showed little reverence for environmental externalities. Because the Tri-State Area is host to some of the most exaggerated real estate driven environmental practices present in the country today, the region may serve as a potential role model for sustainable development within a changing economic terrain. The perceived and real dangers of contaminated, post industrial or environmentally sensitive landscapes prioritize land owner liability mitigation practices resulting in the deployment of fences and other physical barriers that may remain in a neighborhood for generations. In the wake of declining manufacturing since the Second World War, the once active industrial periphery along Passaic's waterfront, like many East Coast cities, has been left idle and polluted by virtue of the regional economy that has shifted away from manufacturing. In response, two trends have emerged that re-assign value to such forgotten landscapes; brownfield incentive programs that heavily favor real estate development, and increasing popular community gardens. Both trends offer limited potential. While the use of federally and state funded grants aimed at reincorporating contaminated sites have greatly catalyzed redevelopment, such programs are not designed in a

way that is legible to the majority of citizens or users who lack the education, experience and capital to abide by strict guidelines and physically remediate land at a large scale. This project simplifies the complex framework of post-industrial redevelopment, expands neighborhood land-tenure options and legitimizes local needs on a more appropriate time scale with a tool-kit of pre-fabricated site fixtures designed to safely activate space during the interim period between the recognition of contamination and a site's complete redevelopment.

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Introduction



Figure 1: Newark Waterfront - Boylan Fitzgerald (1909)

Raging engines throwing smoke into a crisp sky, barges carrying the burden of a day's waste, and countless tons of earth forcefully uprooted by articulating shovels. This is the image of industry that I had so romantically built in my dreams, constructed from my father's colorful stories and the mechanical skyline that was the physical and symbolic transition between the waterfront and my childhood home in New Jersey. This was the landscape I fell in love with. As I would learn, this is the iconography of a now distant past. The former permanence of manufacturing now transforming, cities have traded in the promise of traditional industry's economic salvation for the particleboard-clad ratable. I was holding on to the past. Now, left neglected to crumble and oxidize, many of the once active manufacturing zones are held in a

state of purgatory, closed off from the public, only to be awakened by shifts in market values that make their redevelopment financially desirable. Although the economic engine that drove me to my youthful appreciation for industrial architecture is winding down, the same palette of steel, concrete and brick, like the ruins of antiquity remain. But why can't we touch them?

The simple answer is fences! But what social and political devices are responsible for the utilization of such physical barriers that both prevent our bodies from harm and keep unwanted visitors from trespassing private land? This thesis explores a program titled **Getting Around: A Tool-Kit for Activating Contaminated, Idle & Transitioning Landscapes** to provide an alternate approach to current development trends that are more focused on liability mitigation and real-estate speculation than neighborhood need. Throughout the scope of design research, I will attempt to answer a primary question: *How can derelict sites be activated for local users and how can the curation of such sites legitimize their needs?* Because of the complexity of the systems that have shaped the urban waterfront, this thesis is divided into two sections including: Trends, a brief introduction to the economic, political and social values that have guided waterfront development and Proposal, which expands on the physical and strategic framework for activating contaminated, postindustrial and sensitive landscapes using three case studies along the Passaic River.

Trends: Landscape and the Built Environment

National

In order to contextualize the significance of postindustrial landscapes one must first examine how real estate trends have shaped the built landscape of the United States for centuries. While contemporary industrialization practices may occupy an alternate logic now that extensive transportation systems allow finished goods, raw material and a workforce to quickly travel from one continent to another, the urban centers emerging from the industrial revolution have clearly sited large-scale manufacturing close to the waterfront. Between 1880 and 1929 the United States experienced urbanization and industrialization “*faster than ever before*” due to advances in transportation and manufacturing technologies allowing the Northeast and the Midwest to become leaders in manufacturing and cheap energy thus catalyzing the population to multiply seven-fold since 1859¹. As planners and designers would learn more ways to harness power from water, such systems would not only provide the mechanical power to turn mills and machinery for a specific location, but become more systemically designed to and generate mechanical and electric power for a region. While such changes would eventually proliferate to the rest of the world, the majority of the global population resided in rural regions until 2007 where for the first time more people live in urban areas than do not². Now that the great promise of Manifest Destiny has populated the country, industrialized the West and bolstered the agricultural heartland, the frontier has shifted back to cities, drawing a greater deal of importance to the under-utilized urban landscapes that may somewhat ironically host future development.



Urbanization: In contract with NASA and NOAA, this image represents the portion of the United States that is most densely urbanized. Areas with greatest density is rendered in red.



Contamination: This image depicts the EPA's 2007 projection of National Priority List (NPL) sites. NPL sites are eligible for long term remedial investigations and remediation under the federal Superfund program. Proposed sites (56) represented in blue, finalized sites (1,239) represented in green and deleted sites (317) represented in red.

Figure 2: National Contamination vs. National Urbanization

Centuries of resource extraction, environmentally insensitive building practices and pollution gone largely without regulation³ has severely degraded waterfront ecosystems⁴ and in turn has imparted an indelible imprint on culture's collective valuation of such landscapes. Because the functional use of waterfront land has generally shifted away from industry, waterfront real estate is largely defined by the socially agreed desire to reside or work near the waterfront. Of course, such adjacencies conceptually allow for enhanced transportation uses⁵ however, the inflated real estate value distinguishes itself among other landscapes (those without waterfront access or vantage) as a luxury not based in utility⁶. Direct connections between urbanization and contamination (see fig 2) will require future design professionals to occupy additional skillsets including, the scientific understanding of contamination, the political framework that regulates rehabilitation, and the ability to forecast the economic needs of an increasingly urbanized globe.

Like many physically tangible “rivalrous” goods⁷, limited urban land has stoked the expansion of neoliberal land-use practices (speculation based planning of urban centers by the private sector) within our major cities allowing the real-estate industry to become a key component to the leading economic driver concerning development⁸. Although developers often provide the basic human need of shelter, their motivating logic is likely based on the simple return of a capital investment⁹. As a result, developers, planners and designers reuse a limited palette of established form-based design initiatives that prioritize liability and fiscal security in the short term over long term community need. While these tactics often catalyze economic growth, developers and local municipalities promote existing design tropes, limiting the variety of ‘urban-typologies’ present within our shared landscapes and potentially limiting the variety of collective imagination. If individual memory and meaning¹⁰ is based on a “system of conceptual representations” derived from experience, knowledge and the limitations of our physical and social lives¹¹, our ability and even willingness to plan for a changing future may be restricted by past experiences. Learned restrictions may constrain physical more than physical infrastructure¹². Despite bulkheads, bridges and countless acres of infill, the water’s edge and the systems that continue to expel runoff serve as an artifact to the very element (water and water systems) that attracted inhabitants for hundreds of years. These artifacts often provide the original structure to urban development. The Cartesian grid of Manhattan which was designed with larger Avenues running east to west to provide a hierarchy of access to the East River and the Hudson River, however a visitor to Manhattan today is often unaware of the city’s connection to the water systems¹³.

The high water table and the soft soils present under these industrialized zones (now formalized as manufacturing zones) have the potential to spread contamination by proximity to active water systems. Ironically, one of the most significant conflicts that has guided the logic of Western settlements is the very definition of the waterfront or watercourses as something inherently distinguishable from that of the surrounding landscape. Human societies have constructed semi-permanent structures paired with social patterns that delineate bold lines onto an otherwise dynamic system. We build transportation systems, shelter and infrastructures

because of their proximity to water, all of which are considered to be in danger when the flow (flooding, sea level rise, etc.) of these water systems changes to threaten the longevity of these constructs. While contemporary ecological thought supports the concept of the 'edge effect', where increased biodiversity flourishes on the boundary of two habitats¹⁴, urban developers tend to view dynamic systems as something that requires stabilization and predictability. In addition, they often view novel vegetative assemblages that tend to colonize post industrial landscapes as an unwanted mix of weeds and invasive plants. Moreover, popular social norms and media perpetuate the primacy of ownership and use-value, often prohibiting human and ecological flows between two topologies.

Within the US, many states and local municipalities have adopted more progressive development practices regarding waterfront sites. One of the largest influences in the contemporary discourse is the adoption of the Public Trust Doctrine, a common law doctrine based in Roman and English law, that establishes common public rights of use and accessibility to navigable water systems and waterfront land¹⁵. While most accessibility is defined by mean high tide levels¹⁶, many towns including New York City have taken an extra step and stipulated that any new waterfront development require a standard publicly accessible buffer to public waterways. While such buffers are becoming commonplace all over the country, local municipalities rarely take the initiative to design and construct public waterfront corridors themselves as they require large capital investments¹⁷. Instead, the burden is passed to developers who may use this legal obligation to reinforce their value to the local community as though it were a gift. Here, the role of the developer, along with the cast of design professionals they contract out, is reinforced because public access rights have become tied to private development.

Regional

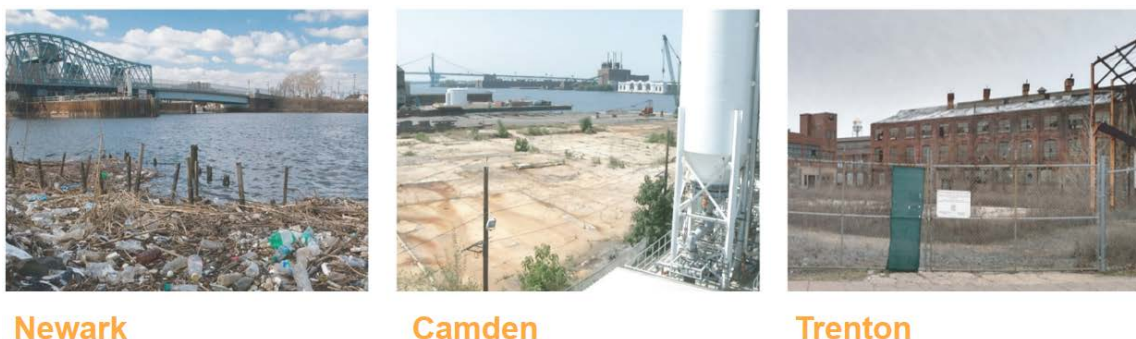


Figure 3: New Jersey cities associated with contamination

As the most densely populated state in the country and one whose borders are three-quarters defined by water, New Jersey can serve as a representational case study for development trends along the post-industrial waterfront. While Newark has the most known contaminated sites in the state at 757¹⁸, many others towns have hundreds similar that will remain idle or vacant as land owners, developers and the DEP navigate a complex legal and scientific clean-up framework. Although post-industrial sites are wrought with complications, they are also situated within (urban regions with longstanding cultural significance) and close to established infrastructure and transportation systems. Like Alan Berger suggests, such urban areas may ironically help address the needs of future urban communities¹⁹.

Today, the term “brown-field” is one of the most commonly utilized phrases in the realm of urban redevelopment and green building strategies. While the term brown-field is often inaccurately used, the Environmental Protection agency defines Brownfields as: “*Abandoned, idled, or underused industrial and commercial facilities/sites where expansion or redevelopment is complicated by real or perceived environmental contamination. They can be in urban, suburban, or rural areas.*”²⁰ A side effect of this definition is its ability to distract the discourse from greater social concepts and imply that only good can follow the redevelopment of previously

unused spaces. This is nothing new, as a similar discourse followed the overuse of the loosely undefined term 'urban blight', which was heavily used in and around the metropolitan area since the 1940s²¹ in order to build highways through neighborhoods and demolish old housing stock. Additionally distracting, the term may not be associated with a landscape until it has become attractive to develop or whose development could influence real estate values of adjacent properties. Throughout New Jersey, numerous brownfield situations occur that are not labeled or formalized until soil testing has taken place or a municipality is interested in redevelopment. Because of insufficient funding, the majority of cities in the United States do not have brownfield programs and are not federally required to map properties with brownfield conditions²². Negative connotations associated with brown-fields and other landscapes which Justin Hollandar call TOADS (Temporarily Obsolete Derelict Sites), have a very real impact on regional real estate values²³. Because cities and property owners do not want to diminish the value of their land, it is likely that further investigation will only follow the interest of new speculative development²⁴. In many ways, this designation and the application for federal assistance will be the result of decisions made by a elite group of elected officials, land owners or developers. In response such landscapes are inevitably physically fenced off and dubbed an unsafe and ugly sore on the otherwise healthy functions of the city.

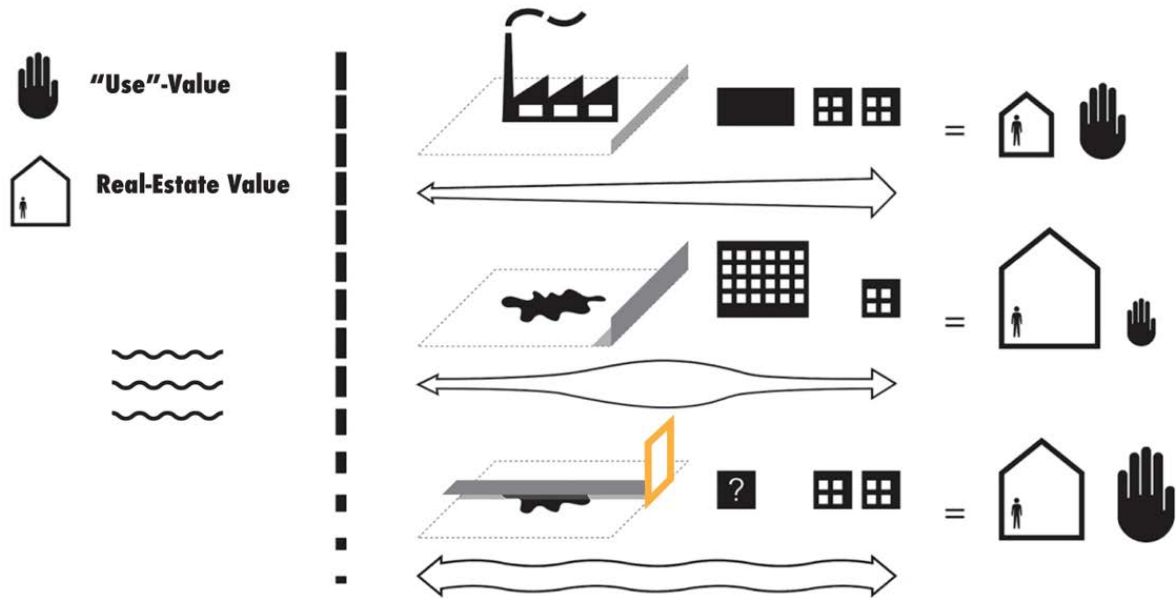


Figure 4: Waterfront use – Waterfront land-use following the industrial revolution is largely responsible existing conditions.

Development trends over the past two centuries have drastically reshaped the human relationship to the waterfront. Such distinctions include the industrial outgrowth of the 19th and 20th century that greatly dominated the waterfront with complexes dedicated to shipping and manufacturing (See fig. 3). Because real-estate trends are continuing to shift toward valuing land for market-rate housing²⁵, many vacant sites are “warehoused” for speculative use. Liability fencing generally restricts access to the water despite the growing density of adjacent residential neighborhoods. As recent initiatives attempt to catalyze development, what methods could be implemented to provide safe interim uses for idle sites? Can this happen in a way that mediates both “Use” value and “Real-Estate” value?

As policy based redevelopment practices have become more commonplace, two leading strategies have divergently emerged; one to remove physical harm from the public realm, and another used as a tool to hold the land for future speculative development. Ottensmann states, *“The reservation of land for later development in more intensive uses, either residential or commercial, could produce an urban pattern that may be more efficient in the long run”*, which

represents the view that these 'blank' spaces of the urban periphery could be easily utilized by planning authorities for continued population growth. While this more traditional idea reflects the importance of spatial waste as opportunity for development, it does not take into account the fact that, in many cases these properties are utilized, however informally, by both long and short term residents of a neighborhood who contribute to a collective social memory of the neighborhood²⁶. As Allen Berger suggests, "waste" could be a valuable resource to both judge the success of a society and to allow for the plasticity provided by waste's preservation of land as a resource for future development²⁷. Unlike vacancies which allow a healthy real estate market to expand, Berger's Drosscapes are more likely associated with areas of total transformation, less restricted from former uses and preservation requirements and more likely to be rezoned to accommodate future planning. Waste then, is defined entirely by the user that may find a myriad of values in both a landscape's reinvention and simple existence. This illustrates a paradigm where landscapes of great potential are more boldly shaped by capital investment over neighborhood participation.

Neighborhood

Contemporary strategies that promote the redevelopment of brownfields, vacant lots and idle landscapes are often real estate based, favoring neoliberal incentive programs such as tax increment financing that redirects taxes to pay for project infrastructure. These projects often occupy a larger industrial scale and are granted zoning variances if not completely re-zoned to accelerate development. This along with very costly remediation and capping techniques often favors large-scale residential development. Local users generally do not have the initial investment needed to get the process started, consciously and subconsciously handing over agency to developers and elected officials. Community gardens fill an established alternate, yet small-scale niche that often prohibits potential users through the inherent limitation of their intended function; gardening. While such gardens support community social networks and may preserve open-space for generations, a social void remains between market rate housing developments and community gardens (see fig. 4.). Currently community groups, foundations

and grants are contributing to environmental, urban workforce development and maker-space programming, generally utilizing the roll of education and awareness to provide social good. Unlike the tangible outcomes of a developer's housing complex or a gardener's annual yield, education is more process based and likely to be more adaptable to both shifts in the built environment and social landscape.



Figure 5: Social void of current postindustrial development

Social

The real-estate market and in turn society often prescribes an alternate value to waterfront landscapes from inland areas. Within the densely populated Metropolitan region, acceptable use has often followed the course of industrial or high-end residential acceptability despite countless visitors that less formally access and utilize the very same sites. Such informalities may include fishing, gardening, encampments, drug use, and even artistic expression, while formal use supports manufacturing and housing to name a few (see fig. 5). From the founding of our country to present day we imagine that the most formal or planned use for the waterfront, coincided with the most intensive industrial use.



Figure 6: Social use since European colonization

Formally reserved for the power and transportation required for manufacturing during the industrial revolution, natural water systems are now reserved and utilized by a developmental trend to sell access to nature as a limited commodity with many restrictions. In addition to the likelihood of waterfront sites to be contaminated, the economic and political significance has driven the planning of such properties to be a local and often national attraction, often taking the shape of grand expositions, design competitions and the creation of public private partnerships²⁸. Because two centuries of industrial dominance has given way to an increasingly powerful real estate sector, our society is continually distracted from their former social and spiritual relationship to water sources. In turn, we no longer question the limited scope of our interaction with the water and accept the very few access points provided by the city.

In her piece, *Hungry City*, Carolyn Steel describes the relationship between market preferences versus market efficiency, rendering a metaphor about the once abundant variety of fruits present within Britain's National Fruit Collection²⁹. In Steel's account, social interest of the collection itself along with grower's desire to supply heirloom or rare varieties was diminished as marketing and retail agreements continually narrow selection for the sake of efficiency (transportation, visual predictability, and season availability). If patrons do not regularly see a variety of fruit at a particular vender, they may forget it all together. When speaking of the Model T, Henry Ford famously stated that his customers could have "any color as long as it's black", a sentiment that has been generally understood to be the result of efficiency and budget. Society may accepted limitations in the products they buy however how often do we accept similar

limitations of our natural environment? Like fruit, there are many incarnations of watercourses and waterfront development however, because of the finite and limited configurations of our physical infrastructure, our collective understanding of water has been skewed to accept relatively few manifestations. Our daily experiences with designed water systems (conduits, barriers, flood mitigation systems, *etc.*) has limited our relationship to embody mainly two forms, those of the home (water from a bottle, faucet, toilet, shower-head) and those of the outside world, monetized for housing, transportation and recreation (oceans, lakes, rivers, streams and waterfalls). In Steel's example, the vast variety of a resource was eventually discarded and forgotten not because individual preferences but because changes in industrialized farming and a narrowing range of distribution systems made the preservation of these varieties less economical. Similarly, a culture's awareness of water and its connection to an environmental, social, and economical system are often gone completely unknown because of the limitations of the forms we grow up understanding. Because current trends are slated to reassess the former economical value of waterfront landscapes, contemporary theorists like David Harvey imagine such trends as an opportunity to address social value regarding the public's right to the city and right to the waterfront³⁰.

Restrictions: Philosophy and Design

Ghosts

As Justin Hollander reminds us, brownfields and post-industrial sites are plagued by negative connotations regarding both real and perceived contamination. Love Canal in New York state, the case that largely led to the creation of the country's CERCLA or Superfund act, had a heavy hand in setting the process for contamination safeguarding and contamination remediation for decades to come. Additionally, this event foreshadowed the aesthetic of "us vs. them" antagonism that plagues the redevelopment of contaminated sites in the United States today (see fig. 7). Generally speaking the landscape is rendered useless, destroyed and ugly, and the community is often represented as a somewhat helpless group without agency. In this example, government agencies were tasked with remediating some of the most polluted parts of the community as well as assisting residents find alternate housing³¹. While the public health reforms following the great depression, public safety reforms concerning building code, CERCLA, and growing environmental sentiment from the 1960s, has very real benefits, the regulations also unintentionally omit physical interaction and land tenure. Both greater restrictions and greater awareness deem physical landscapes and the earthly systems that entangle them beyond the realm of the citizen.



Figure 7: The Contamination of Love Canal

Previously described safeguarding measures and governmental regulations (from Europe and the United States following the population booms of the late 19th and early 20th century) have shifted away from a more concrete material conversation into a more nuanced debate surrounding complexity of chemical contamination and sea-level rise. The establishment of what is and what is not dangerous or risky is less obvious. Because of such confusion and complexity, the public sector has surrendered a great deal of control to the private sector which is more efficient at prescribing urban interventions. The rise of neoliberal incentive programs within the past decades has transitioned from the more active 'roll-out' approach that introduces and manages social and environmental services, to the more passive 'roll-back' form that more simply hopes to stimulate such services financially³². Peck and Tickell have described the later as *"providing the spatial requirements for capital accumulation through property-led regeneration and place-making"*³³. Perhaps more simply, construction and social service related projects are more likely to be private sector lead. Because developers themselves become the agency which must research, design and follow strict guidelines regarding sensitive environmental landscapes, the monetary scale and know-how required to construct new building stock rarely includes grass roots level participation.

In addition to the growing complexity concerning waterfront development, the lack of undeveloped urban has drawn more focus than ever before on formally industrial or dangerously polluted sites and lead to a history of governmental administrations which promote the redevelopment of such derelict sites through federally funded remediation tactics, tax abatements and environmentally conscious economic stimulus packages. Although this process has accelerated urban development and provided positive economic gains, fewer available stakeholders have the capital or knowledge capable of addressing the complexity of the remediation process.

Danger and Risk

Transitioning postindustrial landscapes as contemporary ruins both physically hazardous and enshrouded with an aura of danger are potentially the last available urban landscapes to address new urban typologies. Over the course of my professional career including dozens of community brainstorming sessions, I have come to believe that as cities become more built out there are generally less opportunities for community members to imagine changes. While citizens are often apprehensive to propose an alternate use or physical reconfiguration for an established building, they are generally imaginative regarding changes to idle sites that embody the perception of danger. Such sites including, demolished buildings, dormant quarries, former industrial sites and sites with perceived and known contamination to name a few, occupy a physical aesthetic of economic decline and are prescribed to be physically hazardous to the layperson. While the aesthetics commonly associated with danger (at least in the United States) help a community to collectively agree and target common issues, this awareness often cuts both ways and may distract future design interventions from occupying a less visually obvious focus. Additionally, the perception of danger constructs a paradigm where the rehabilitation of a colloquially dangerous or hazardous site is supported by a critical mass of citizens who at the same time lack the finances, education and confidence to do anything about it themselves. Over and over again I recall the mantra that “something must be done with that site” however, because of the level of complexity and risk, most urban landscapes that are perceived to be dangerous are simply fenced off until total transformation or awarded to a developer who will “do something with the site”.

Does the omission of danger and risk from both our physical environment and the top down planning of our urban neighborhoods limit the collective public’s ability to initiate creative decision-making, or does the increasingly restrictive boundary of public safety along with the proliferation of consumer culture³⁴ into our built landscape actually promote efficiency and social cohesion? Much of a culture’s relationship with danger and risk is based on the concept of culturally defining the ‘other’ as the source for danger. In this mode of thought designers,

governmental leaders and citizens often seek to identify what detrimental outside influences can be extracted from the setting of an otherwise healthy urban environment. A primary falsehood of this process results when both community and developer campaign to omit dangerous or decaying landscapes from cultural inclusion, implying they are foreign to the current human system that created them. In his text, the *Production of Space*, Henri Lefebvre states:

Space is not a scientific object removed from ideology or politics. It has always been political and strategic. There is an ideology of space. Because space, which seems homogeneous, which appears as a whole in its objectivity, in its pure form, such as we determine it, is a social product.

In this example Lefebvre likens shared urban environments to a stage created by complex systems of individual performers, all of which are testaments to existing uses that are continually sustained by human and natural processes. Here, the depiction of what is dangerous is valued horizontally among traits more classically considered positive.

The durability of the built landscape itself as a creative medium of wood, stone and metal has the capacity to continually reinforce social flows and values for generations. Physical/visual evidence of a failed past as embodied *decaying* built works and *dangerous* form based conflicts become a resource for vernacular folklore capable of contributing to local and national culture. J.B. Jackson states, "*Ruins provide the incentive for restoration, and for a return to origins. There has to be an interim of death or rejection before there can be renewal and reform.*", asserting a view that the momentary identity of any city maintains past contributions as a way to establish and direct future growth. What is known or felt to define the concept of progress often comes following the comparison of or closure of another concept. A contemporary of Jackson, Kevin Lynch similarly promotes the idea of real-time 'place making' famously stating that the cultural landscape includes the, "*mental image of a city that is held by its citizens*". If we collectively acquire this "*mental image*" from what is seen and touched, a wider palette of urban topologies becomes more valuable. More options means more possibilities. Efforts to omit danger often result in either very tangible and deliberate barriers (walls, fences, etc.) to dangerous sites or the complete redevelopment of formerly dangerous sites. Similarly, if the

visual, physical and conceptual presence of danger are not part of a citizen's basis for learning (experience), their desires and imagination may become unintentionally limited.

Beyond regulations that address contamination and mechanical dangers, concepts of public safety³⁵ and wellness³⁶ have become increasingly debatable; categorized within the rhetoric of social theory and not given the same latent reverence as the analysis of physical dangers. Fences, slum clearing strategies, and strict code based housing regulations may protect our bodies however few intellectual connections to our environment remain that provoke civic engagement. While it may be easier to subscribe to the universal requirements of air, water and food that sustain our bodies³⁷ or keep them from injury, it appears much more difficult to agree on the activities, resources and liberties that sustain our mental health. While it has become popular for organizations to offer grants that relate to 'health and wellness' (a designation that allows for the broadening of socially targeted grants), my experience with town council and zoning board meetings suggests that design professionals and developers find the conversation of wellness too qualitative to act on.

While valuing and recording qualitative inputs, progressive planning strategies and community participation models often have a tendency to reinforce a myth of eminent danger regarding idle, postindustrial and contaminated sites. In my experience, I have found that if a citizen's very introduction to a site is through the topic of danger or contamination, they are more likely to imprint a negative connotation to that site's current status. Overwhelmed, communities may request a top-down intervention that further removes decision making from a local level. Economically successful case studies regarding the reconfiguration of dangerous urban landscapes are rapidly being appropriated by developers who reuse homogeneously neutral architectural forms and aesthetics through a process David Harvey calls a "*counter revolution*" (Harvey, 1973). Additionally, as many developers and municipalities alike are now cashing in on the popularity of the green movement and the general architectural aesthetic associated with redevelopment zones, brownfield redevelopment often takes less form base risks to achieve consensus between designers, local government and community stakeholders.

Neoliberal policies of land acquisition including tax abatements, public private partnerships and municipal financing for private infrastructure, may continue to physically and symbolically fence off valuable urban landscapes in the name of public safety and health concerns unless local groups continue to advocate for their right to utilize their neighborhoods rather than simply request outside intervention.

Contemporary Framework

Despite more recent attempts to make the process of remediation a private-sector lead process, the very topic of contamination still restricts many communities and professionals from engaging. The “Site Remediation Reform Act” that was enacted in 2012 establishes a framework that holds responsible parties to the obligation of remediating sites. An outcome of this act is the emergence of an expert known as the Licensed Site Remediation Professional (LSRP) who oversee this process.

The remediation of contaminated land is often considered to be an undebatable science that guides the requirements for environmentally friendly building practices in a mathematically specific way. During my experience with public participation meetings related to the redevelopment of contaminated sites within New York and New Jersey, I have witnessed at least a dozen DEP professionals, LSRPs or civil engineers remind an un-agreeable audience of their title and education as a means to win favor. Intimidated by the depth of information, local residents often have no way to measure the environmental benefit of a proposal if not for the verification of elected officials and experts.

Over the past decades voluntary point based environmental certification programs such as the LEED³⁸ standards have served to reward and direct environmentally conscious development practices, and showcase how awarded projects have made contributions. While LEED standards target environmental benefits, these guidelines were created by a board of members from the United States Green Building Council that consists of a majority of real-estate driven professionals and generally favors the construction of buildings over land preservation.

Additionally, because LEED certification is often dependent on energy use, waste or environmental impact per square footage, unit or resident³⁹, large scale development may become a logical way for a developer to achieve a higher score. Additionally, a higher score may be achieved when projects are located around pre-existing transit hubs or which promise to 'redevelop' an existing region. Within New York City, some of the largest rezoning and incentive based development zones include waterfront projects such as the Gowanus Canal, Newtown Creek and the Brooklyn Navy Yard, all fitting into many of these guidelines, making them a clear target for real-estate investment.

In addition to the limitation of scientific specialization or complex recognition programs, continued political reforms that attempt to regulate pollution have a profound impact on the dynamics of many urban areas on local level. In many ways our society has been very late to realize restrictions on pollution because these restrictions are often more financially costly. It would not be until 1972 that congress would "*enact the first comprehensive national clean water legislation*", the Clean Air Act, regulating the discharge of pollutants passing through sewer systems (Sze, 2007). Additional federal laws such as the Marine Protection, Research and Sanctuaries Act (better known as the Ocean Dumping Act), would put restrictions on the dumping of waste into the ocean. In 1981 New York City won a federal lawsuit suggesting that it was actually "environmentally preferable" to dump sludge in the ocean as opposed to on land (Sze, 2007). Such methodologies would unfortunately take years before they were incorporated in to both practice and public opinion. Environmental legislation, however removed it may be to our daily lives, directly affects the shape of our urbanities.

While technology has seemingly awarded current generations with an increased quality of life as defined by cleanliness and longevity, we are sharing a similar restriction to the variety and accessibility of water's origins with a now distant past. At some point the European based property right laws have successfully shifted New Yorkers' understanding of the waterfront from that of a collective right of access, to a more regimented industrial usage that mainly awards access through ownership. While Fordist practices of manufacturing connected people to the land through industry and connected industry to the waterfront through its exploitation, society drifted

further from the acceptance of this vital substance as a commons and by consequence of inaction allows its continual commoditization. Although citizens have become more disgruntled with the system of ownership that closes them off to natural resources, it may become clearer that their enemy is not simply other individual users or owners but our collective capacity to organize around the formation of social and political rights, such as the right to access water.

Carol Smith describes a system of beliefs that conceptualizes the city as a body, suggesting that this comparison began to merge “*the relationship between the individual and the collective*” through colloquially managed practices (Smith, 2013). The simple description of a city’s processes as bodily functions allowed the general public to view a city as an entity onto itself, where elements and activities that lead to a sickness were viewed as outside and foreign, thus requiring amputation or sequestration. While technology and the ‘advance’ of democratic processes has led to a more holistic understanding of the systems of our own bodies, political ideals regarding the social health of our communities have been drastically slower to reform and continue to confine our scope of the complexities of water systems.

Contemporarily community involvement within the planning of first world cities has been increasing to the point where community canvassing and even participatory planning has become an expectation for any largescale development project⁴⁰. While originating from good intentions, such campaigns are utilized not only to collect beneficial insight but regularly referenced to strengthen urban interventions whose role is now bolstered through a connection to public meetings. As public participatory events which are primarily held indoors continue to become more mainstream and adopted by popular culture and social media, practitioners must enquire how democratic a process can be if it still omits the participants of any land based conversation from occupying the land in question. If physical interaction (touching or using) with a debated landscape itself is not part of the community’s participation process concerning future planning, can a thorough enough investigation even be constructed? Regardless of any number of public meetings concerning contaminated sites I have witnessed, it still appears that fences are not removed until the completion of a development and interaction is not tested prior to public conversations.

The Dilemma: a Primary Question

The analysis of trends and regulations regarding the development/redevelopment of waterfront and contaminated sites, along with the perception of antagonism between developers and local communities, lead to a primary question:

How can derelict sites be activated for local users and how can the curation of such sites legitimize their needs?

The land, water-systems and even air within our built landscape are limited by the physical capacity to reasonably access them. If access becomes overly complicated or rare, the value of that resource and its relationship to daily life may be altered for generations. Because of the complexities of our social relationships and the limited forms that comprise our physical landscape, only a select group (however large or small) will be granted the right to experience the fullness of any environment. The sheer existence of public infrastructure, buildings, parks, industrial complexes, and all other spatial fixtures of a city, create real and symbolic barriers that throttle the flows of its citizens. Simply put, within the logic of a speculative real estate market the ability to access or reside near the waterfront is more likely to be granted to those who can afford higher living expenses.

When it comes to New Jersey's cities these barriers are often very tangible and deliberate. As silent spatial dictators, the very limited number of cross bridges and entrance points, the sheer nature of water requiring a specific vehicle for navigation, and the many very imposing wire fences and concrete walls, all limit the neighborhood's interaction with water in the landscape. The durability of these elements impede contact with water (and other natural and historical resources) to such a degree that these barriers block the advancement of a community's collective memory. It becomes more difficult for an individual to question their access to any resource if they do not have a contradicting comparison to base their rights of use. Over the past decade through my connection with a youth based nonprofit in Asbury Park, New Jersey, I have participated in several community campaigns⁴¹, which advocate for free beach access for local children. Despite a common understanding that the costs associated with access

translates to very low visitation, local youth consistently show little interest in the beach.

Regardless of this group's relationship to the ocean within a town only one square mile, they have not grown up anticipating a right to use the resource that has originally drawn inhabitants to the town.

The proximity to physical resources, whether they are private or commonly held become abstracted concepts, icons and symbols, all having a drastic influence on the creation of identity within a neighborhood; if resources are not physically or visually present, they may be lost. As biodiversity is a method of measuring any ecology's success, I utilize the term "*typological-diversity*"⁴² to describe the variety of urban forms that make up our cities, thus contributing its adaptability. Because recent trends in development within New York City following the Bloomberg administration have promoted high-end development, mainly luxury condominiums, New York's previous diversity has diminished, threatening the flexibility needed to meet the needs of the many social and economic demographics. In Bloomberg's own words he shamelessly suggests that New York is a "*high-end product, maybe even a luxury product*", revealing the former mayor's awareness of the city's general aesthetic of on the world stage⁴³. While New York City may be an extreme example, homogenous physical development serves homogeneous social and economic interactions, and like a planted monoculture more susceptible to a singular disease, may become more vulnerable should markets shift in the future. It is important for policy makers and developers, regardless of their intentions, to imagine how existing incentive programs may lead to an increasing volatile homogenous urban landscape.

If policy shapes the rules which shape our cities (zoning, building codes, etc.), then the role of town councils, planning boards and other elected officials who influence policy should be more cognizant of the social repercussions of their decisions in the long term. While revealing this paradigm is certainly beyond the scope of this paper, I will make two overarching assumptions, that form based rezoning and incentive programs are primarily targeted at the financial/real-estate market and secondly, concerns for public health often becomes a device to strengthen the real estate sectors stronghold of land-use. Following a presentation at Parsons University in 2013, Tom Angotti (Professor Emeritus at Hunter College's Urban Policy and

Planning and the Graduate Center, City University of New York) once described New York as “a *place where anyone with a grasp of the real estate market will understand that residential properties can provide a three to four times the financial gain over industrial ones*”. If policy does not predict social repercussions and planning does not directly promote existing local equity, our transitioning urban landscapes are likely to be primarily directed by the volatile speculative market.

Material & Strategy

Because so much of the investigation and planning of brownfields and otherwise contaminated sites focus on public risk mitigation via fencing, the primary design metric for Getting Around seeks to provide accessibility as soon as possible. With such a tactic, the ideal function of a highly planned future may be sacrificed for the impromptu reuse of a landscape. While there are already a handful of simple design devices used to provide safety during public construction and demolition projects (see fig. 8), how could these established tools be used to provide access?

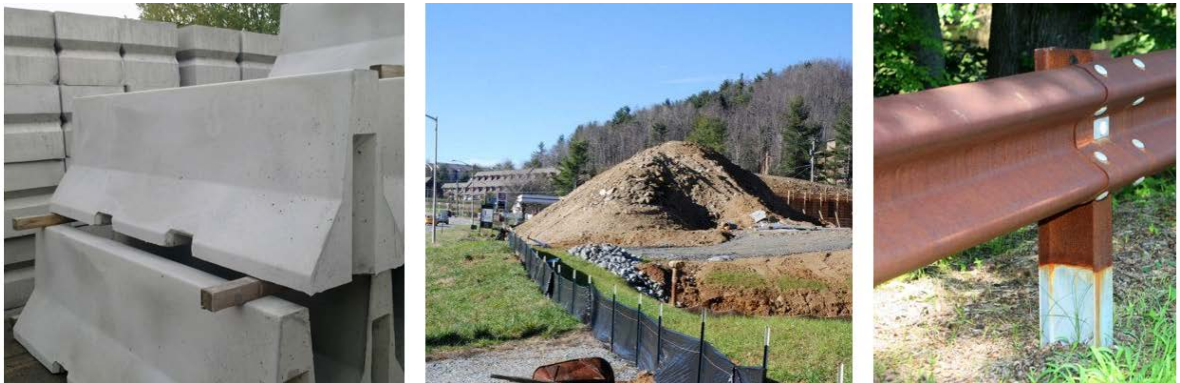


Figure 8: Modular units and construction devices

Coequally named Jersey barriers (modular concrete traffic dividers) are strong, stackable and reusable. Construction professionals utilize standardized methods of storing soil, employing silt fencing along the limit of work and provide rip-rap to define egress points thus mitigating complications with soil erosion. The over forty miles of galvanized steel highway barriers I pass during my daily commute to and from work proves how efficient and replicable pre-designed infrastructure can be.

While researching for this thesis, I was drawn to the strange visual honesty and simple deliberate nature of make-shift construction materials and methods that facilitate access from one landscape to another. Here, a simple bridge crosses the Passaic River (see fig. 9), allowing bicyclists and pedestrians to cross while the adjacent bridge had been reconstructed.

Construction orange suggests caution and sparks interest simultaneously. Without great visual embellishment, a product or material's function becomes conspicuous. With this, I found my aesthetic.



Figure 9: Temporary construction aesthetic

Concept: Research by Design

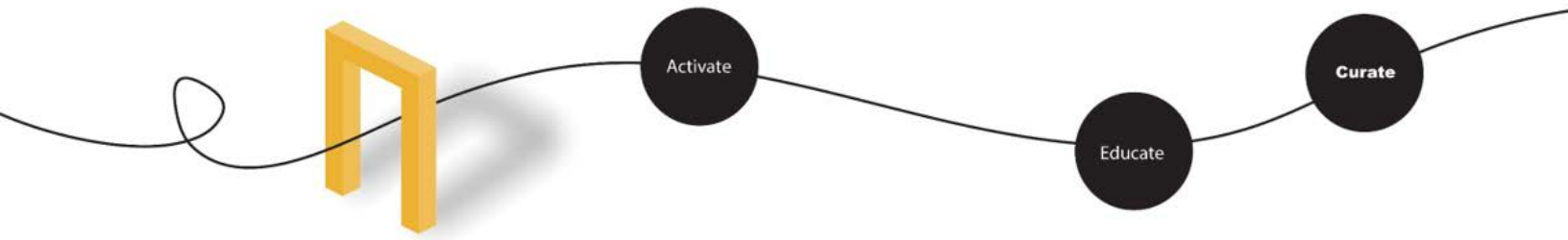


Figure 10: Conceptual elements and program values

Formal Based Investigation and Kit of Tools

Throughout my scholastic and professional experience, I have been fixated by a handful of designed landscapes whose design strategy is as significant as the final product. While there are many examples of acclaimed design interventions based on a unique connection to the specificity of a site, I have focused on the adaptability of a handful of projects (see fig. 10) that use a somewhat algorithmic logic of devices to creatively address environmentally sensitive, dangerous or transitioning land. Within these examples, the interplay of accessibility and restriction is made obvious and provokes a user to explore a site as an anomaly, in turn reinforcing its value.

Paring the logic of ad-hock construction devices with landscape architecture based examples inspired the reduction of forms to be narrowed into three primary categories including the Pod, the Portal and the Spine (fig. 11). Parc Des Cormailles in Paris enshrouds the rubble of a demolished hospital within a two-story landscaped mound as its central feature: Pod. “the Real Estate” park in Israel, incubates an interesting pocket park within a highway buffer. Through the ostentatious threshold, visitors meet a new world with new rules: Portal. The Ribbon Park in China frames the sequence for the exploration of a sensitive waterfront landscape: Spine. While tongue-and-cheek, a handful of pop-cultural references support how such devices already exist within our contemporary social lexicon and are reinforced by familiar elements within our built environment (see fig. 12).



Figure 11: Borrowed landscape forms – The forms of the proposal have been borrowed from a handful of landscapes that have creatively used the concepts of pods (mounds, hills, debris/soil piles), portal (fixed gates to smaller scale landscapes) and spines (boardwalks and elevated pathways) to organize space.

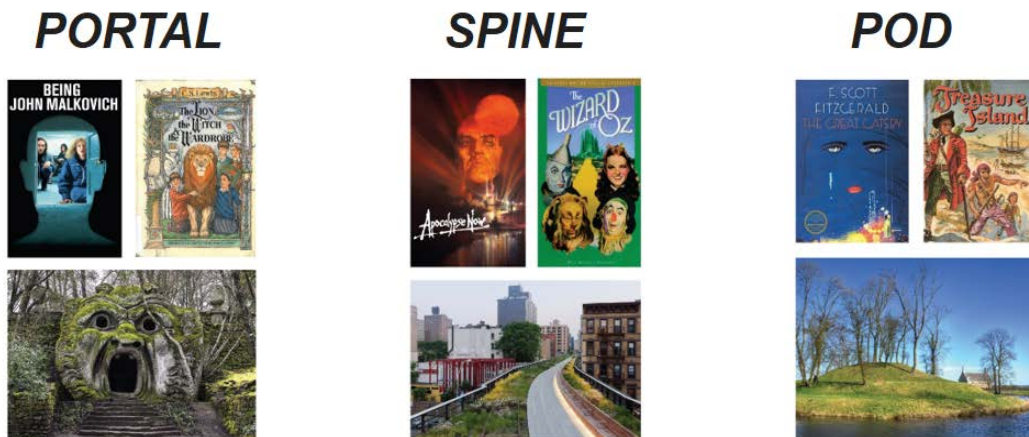


Figure 12: Cultural references

Although Getting Around would introduce a foreign strategy of intervention on urban landscapes, it relies on the physical logic and familiarity of the street as the fundamental connection point. The street side sidewalk then offers the first limb of a system that scales down public streets into branches through the use of portals, pods and spines. Within the urban realm, no two elements so strongly dictate the spatial arrangement and social flows as buildings and streets⁴⁴. Like a duo, these simple forms have established a dominant logic of figure and ground. As language, the majority of a city's inhabitants grow up conforming to an unspoken set of rules past down from one generation to another.

While architects, engineers and planners are often acclaimed or criticized for singular monumental achievements, the streetscape's legibility is perhaps the most influential framework regarding both public and private space. Like traffic infrastructure, the tools supplied by Getting Around are not specific to space, are replicable and physically discernable, allowing them to be scaled to accommodate any neighborhood around a multitude of uses (see page 25). The redundancy of streets and sidewalks allows visitors and residents alike to navigate familiar and unknown regions with comfort. On this topic Jacobs states "The bedrock attribute of a successful city district is that a person must feel personally safe and secure on the street among all these strangers"⁴⁵, revealing how the systems of the city contribute to lived experience and directly

relate to a conscious and unconscious relationship to any individual's level of comfort. While safety to Jacobs includes public accountability and physical wellbeing, the familiar language of the street provides a level of security to the drivers and pedestrians that physically and visually experience streets, sidewalks and public paths on a daily basis. The physically tangibility of common infrastructure that nonverbally reinforces rules is largely responsible for making this rather complicated system work on the public stage. Similar to the laws that direct the design of streets and sidewalks, the design devices that organize space within the Getting Around program are restricted by three values: Ease of implementation (replicability and transportation), adaptability (to the nuance of a particular landscape and temporal use) and security. Additionally, defining the tool-kit of what is used allows ideas of implementation to be further explored in section titled Tool Implementation. Descriptions and limitations include:

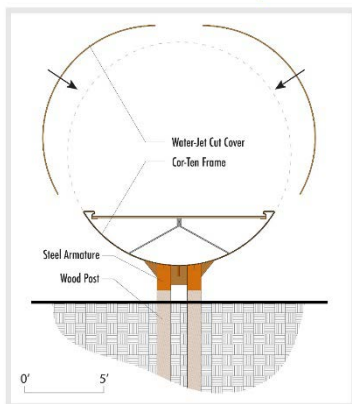


Figure 13: Portal section

Portal - Arches and perforated “Tubes” define primary and secondary Portals; gates that connect existing public sidewalks and paths. Depending on the situation, gates allow egress points to be independently lockable. Additionally Water-jet cut Cor-ten steel coverings provide shade, and structure for lighting and vining plants adding a third dimension to the gateway experience. For safety reasons all coverings are permeable and limited to 75 foot stretches before opening up to non-covered paths. Two overhead panels form the arch

and when are connected with a spine unit will visually reinforce a circle. Independently, three panels can be connected to form a cylinder (see fig 13). In order to fit the dimensions of standardized flat bed trucks, the segments are designed to be stackable and limited to 12.5 feet in length (fig. 17).

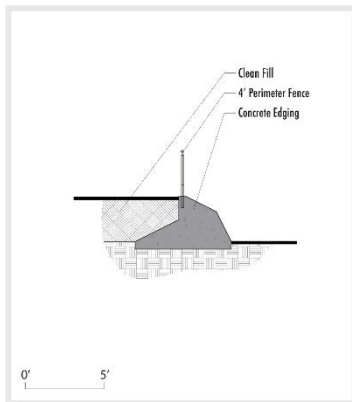


Figure 14: Pod edge section

Pod -Pre-cast concrete edging units are produced in 12.5 foot lengths and can be mitered accommodate a curvilinear design. Like an enlarged curbs, edging units frame the boundary for locally capped pods, provide physical structure for landscaped areas, and includes slots to secures a 4-foot fence required for public areas in New Jersey adjacent to contaminated landscapes. The wide base allows edging units to rest on a compacted subgrade while retaining clean fill that could be adapted for future uses should the blocks be removed.

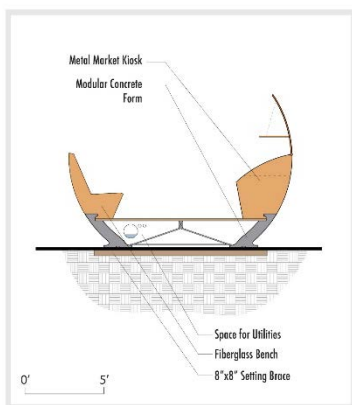


Figure 15: Spine section

Spine - Primary spines define wider straight connections based on a 15 foot diameter circle. Secondary paths are based on a 12 foot diameter circle and weave smaller spaces together. These include curved sections at a 30 foot radius and 60 foot radius. Modular concrete and extruded steel forms fixed into a mirror arrangement by means of wood decking and galvanized triangular lattice. This provides the main structure, allowing for the inclusion of conduit lines, recessed lighting and the addition of a fiberglass bench or market kiosk option. 25'

Sections can be transported assembled and stacked three high or left unassembled to save on transportation costs.

Because the NJDEP hopes to promote public waterfront linkages, alternate and less restrictive guidelines for what they call “linear construction projects” allow this tool to be used with less regulation. Additional Tube-based design features include piling footings for irregular topography or ecological sensitive regions, and boat launches (fig 16). Elevated road crossings, water rills that segregate clean water systems from contaminated sites, and gravel walks link visitors from one space to another (fig 16).

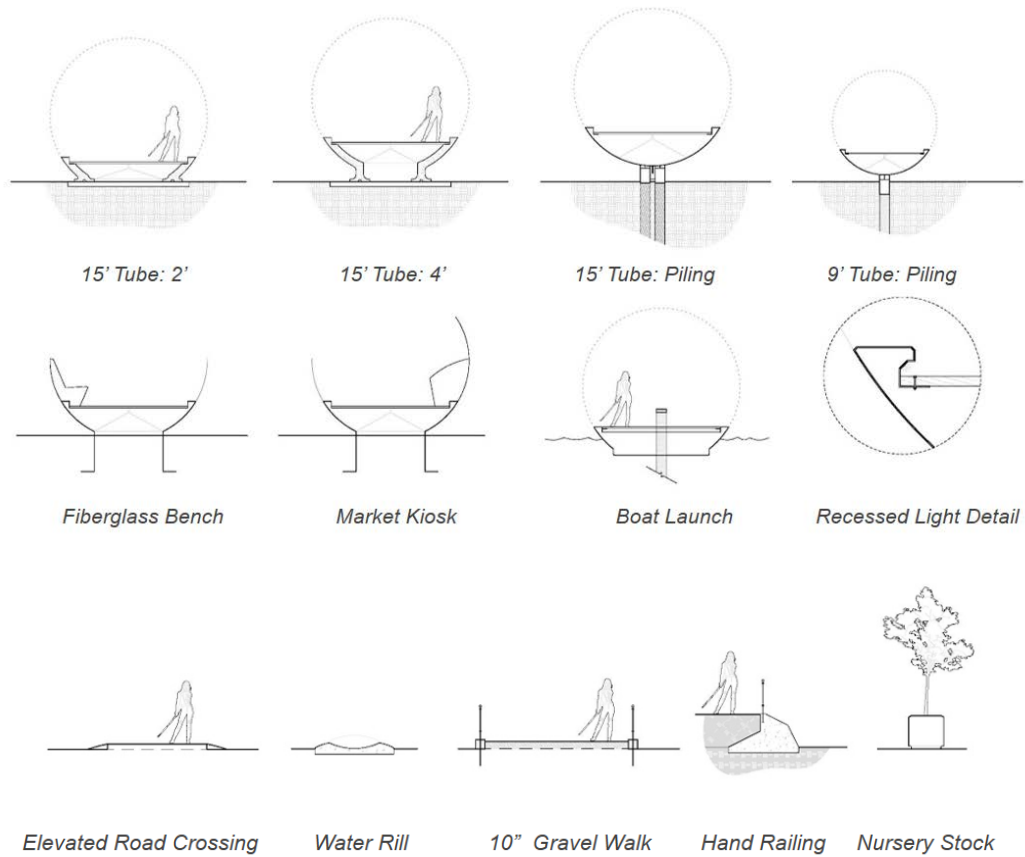


Figure 16: Primary Spine configurations and accessory landscape elements

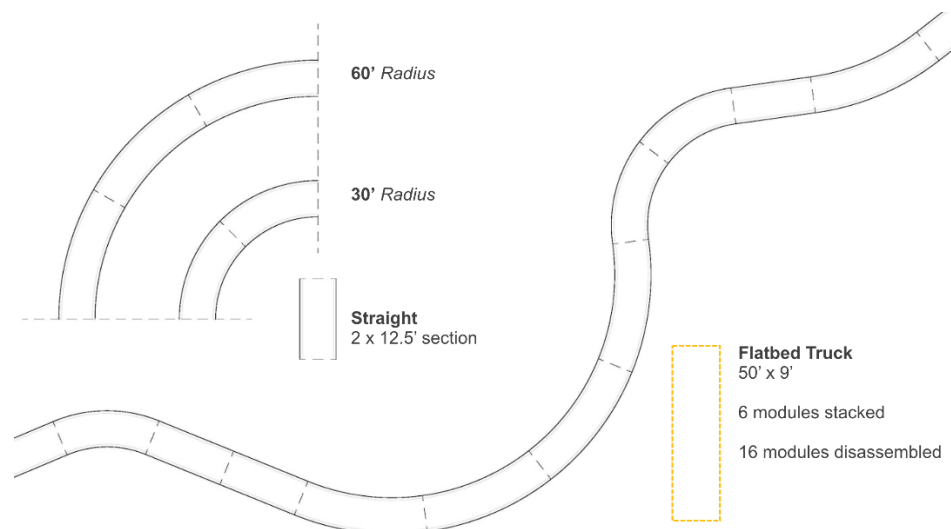


Figure 17: Adaptability of modular Spine sections

Once site tools (Portals, Pods and Spines) were developed, I was allowed explore how such physical infrastructure could host social functions related to need, property size and funding. While numerous needs may emerge from community input once a specific site is selected, I believe the role of a design practitioner should include the communication of educated suggestions of what they feel will work best on site. During my experience both facilitating and participating in community workshops, I have experienced many design professionals who are too cautious to narrow the range of possible uses based on their knowledge. Instead the discourse of some meetings includes the broad question “what do you want to see on this site?”, a question that can often overburden elected officials who now have an unrealistic expectation of the number of programed spaces that can fit on a site. Conversely, design professions often use visual preference surveys to gather knowledge on how the community would like the space to look. This might include six photographs of various existing neighborhoods, provoking a participant to select their favorite. While this may have very real implications to the design process it focuses a conversation on a superficial outcome. In response, Getting Around provides a limited yet adaptable range of uses (mainly based on the form of the Pod) most appropriate for contaminated, postindustrial or sensitive landscapes as a means to catalyze the design process.

The diagram included on the following page (fig 18) represents the six primary landscape types (to the right) that are promoted by Getting Around and compares their area to familiar elements of the American landscape. For each example, a minimum and maximum area is recommended based on ideal sizes and national averages⁴⁶. Additionally, offering primary design models helps to stream-line decision making regarding spatial function and facilitates early conversations of budgeting which is primarily dictated by the area and volume of local capping and the amount of clean fill required. Following selection of landscape type and area needed for use, participants are allowed to explore abstracted design concepts within the parameters of the “Pod” (see fig 19).

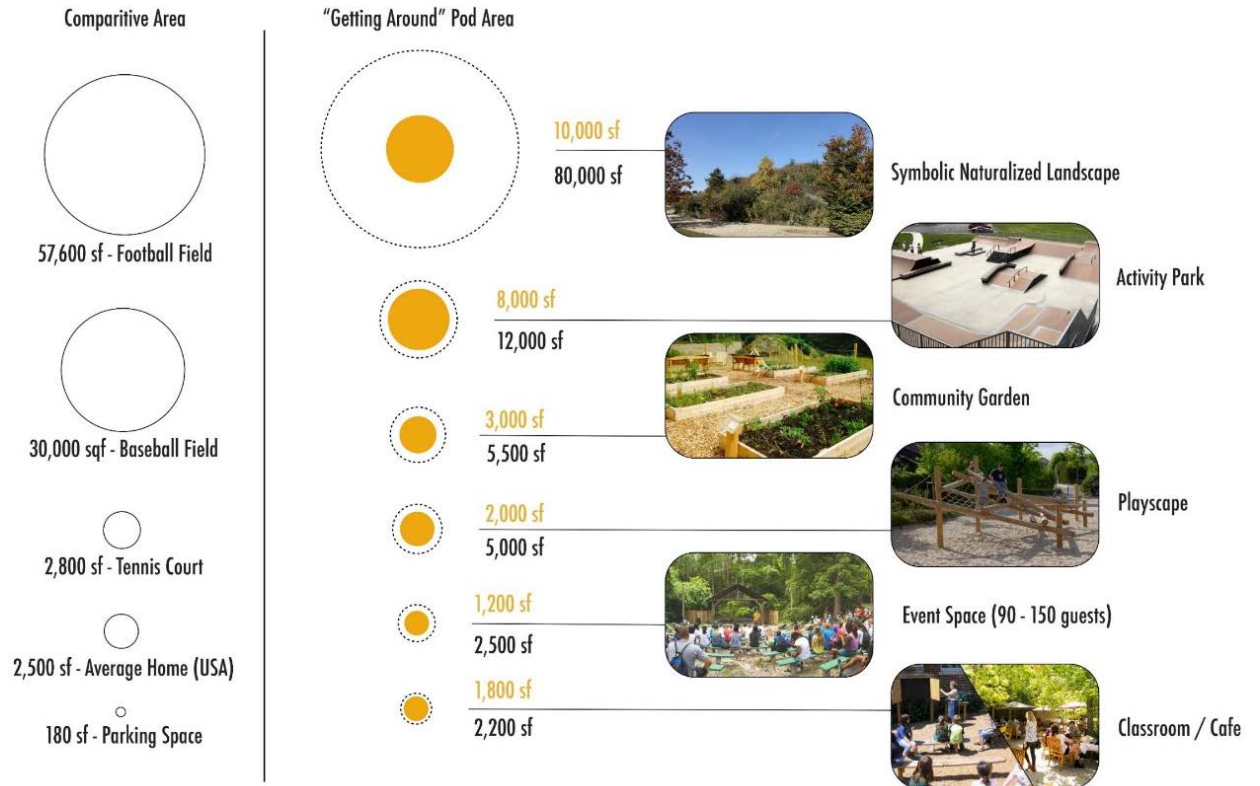


Figure 18: Spatial area analysis

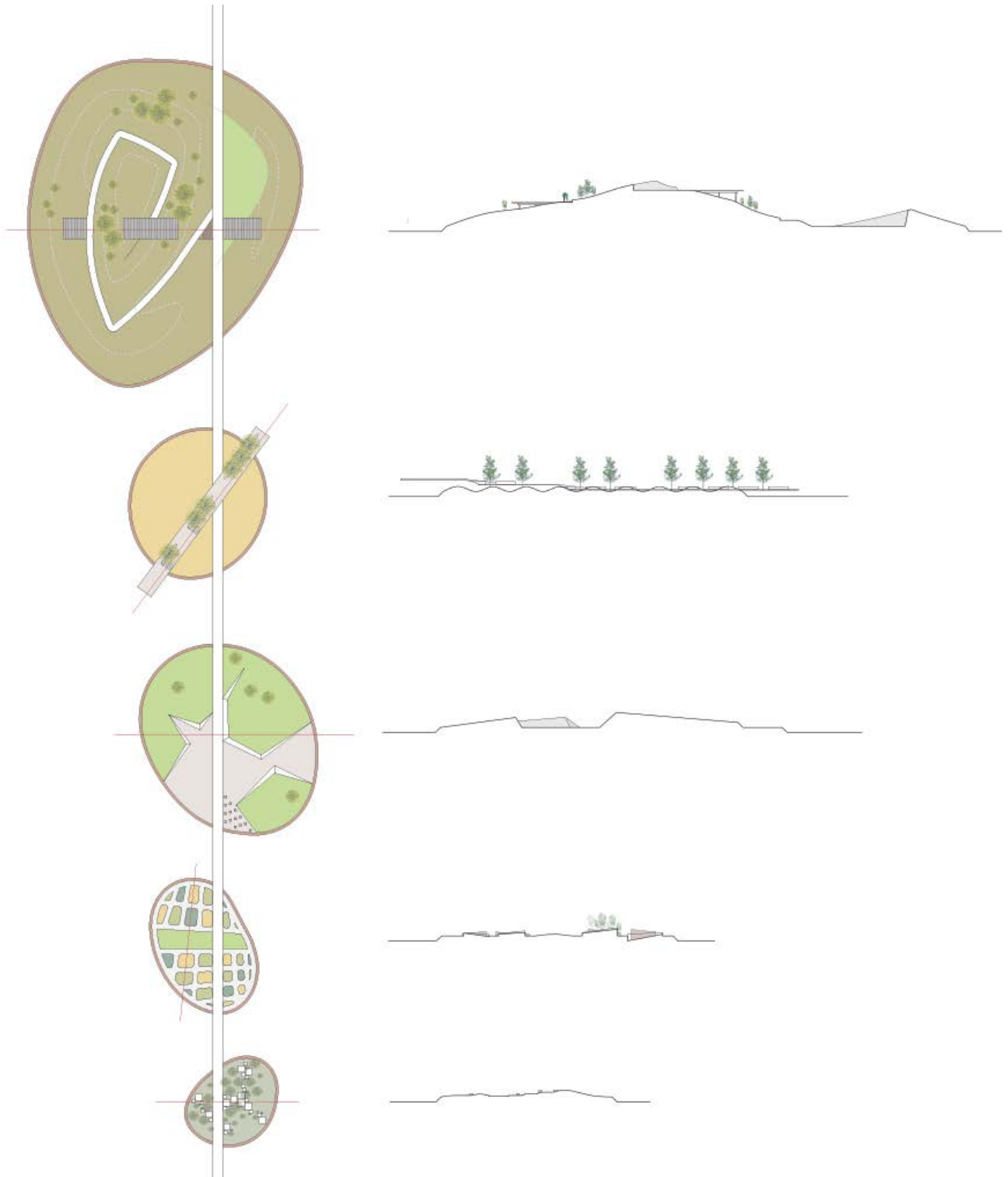


Figure 19: Pod design explorations

Tool Implementation

Because of the social and use based void (see page 11) following the traditional contaminated waterfront development discourse, this program focuses on the following four categories of what may be most appropriate for any site:

Education: Amenities that promote learning and outreach, including phytoremediation and other treatments not backed by traditional remediation strategies. This application promotes curation (maintenance, staging and program design) by local schools and universities.

Ecological: Applications providing access, views and expands on the biodiversity and habitat diversity within the ecological communities of idle sites. This may include the curation of landscape that are not intended to be touched by human visitors.

Art: Infrastructure that facilitates sensitive landscapes to be utilized as viewing space, preserving a visual connection to the landscape. Hazardous sites may be curated by licensed professionals as sculpture ground to be viewed from the safety of sidewalks and Spines.

Financial: Any application of the program that can either generate funding for the property owner or offset the costs of operation. Such examples may include providing storage for Public Works vehicles and infrastructure, including the use of solar panels or even renting out curated spaces for events.

Spine segments and Pod edging (local capping edging) would be constructed from pre-cast or pre-formed segments, designed to be efficiently transported to a site or (like Jersey barriers) easily movable within a property should more immediate remediation processes be required. Following conversations with an LSRP regarding the design of this system, he informed me that some projects are remediated in phases and suggested that Portals, Pods and Spines

may help activate unpremeditated sections until design research and budgets expand in the future.

Due to the many physical and scientific complications concerning remediation and site-safeguarding, this program utilizes a table of appropriate applications (fig. 20) as the backbone of its design process. The diagram included below pares the most common chemical contamination restrictions with the most highly probable use outcomes. The bottom section of the table represents how the inclusion of preexisting landscape features can be included within the implementation of Getting Around specific furnishings. This method was created using NJDEP's capping guidelines⁴⁷ along with the primary distinction of chemicals presented in the text, Principles of Brownfield Regeneration⁴⁸, which organizes chemicals based on their mobility and the severity of harm they may contribute to the human body. Method has been concept reviewed by an environmental contractor, a LSRP and a DEP professional, all working in New Jersey.

Primary Tools		Historic Fill	Metals	Petroleum	Pesticides	PCBs	Dioxin & HVOs	VOCs	Landfill	Clean Site / Partially Capped	Environmentally Sensitive	
Accessibility	Tube: 2'	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	
	Tube: 4'	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	
	Local Cap: 2'	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	
	Cap: 4'	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	
Intermediate Use	Post Footing	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	
	Dock	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓	
	Water Rill	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	
	Nursery	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	
Financing	Phytoremediation	✓	✓	✓	✓	✓	✓	✓	✗	✓	✗	
	Soil Bank	✓	✓	✓	✗	✗	✗	✗	✗	✓	✗	
	Solar Field	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	
	Catalog	While there are a number of additional site features manufactured or whoredhouse by the program, many of their functions are specific to a designed use and more attached to the primary "Tool Kit". Such amenities include, "tubed" iterations that offer structure for using plants, small covered structures, fibreglass benches, "tube" Merkle-Kards, and signature lighting.										
Existing Supplementary Products	Network	It is likely that an organization may require supplementary features from the ones designed specifically to work with the program's "portal, spine, pod" design strategy. To limit the scope of materials produced the program will curate a network of pre-existing manufacturers and rental companies to provide additional amenities including, shipping container storage units, access ramps and additional furniture.									The program will also maintain a network of licensed professionals capable of curating ecologically sensitive areas.	

Figure 20: Tool applicability table

Framework

Phasing

Property owners or local groups will often not have access to the required funding needed to achieve all of their design goals. In response the program promotes phase-ability, and schedules review periods to identify the need for any improvements. Because phasing is scaled to budgets, property owners will be entered into either a 1, 2, or 5 year lease agreement based on initially available finances and future intended use. The diagram below (fig 21) represents how the implementation of any Getting Around project is appraised by core values including, how successfully the infrastructure (tools) have activated a site, how well does its implementation educate or otherwise inform the community and how the site has been curated by local users. If this program can document community use on a real landscape, that land itself can serve as a physical litmus test to inform future uses.

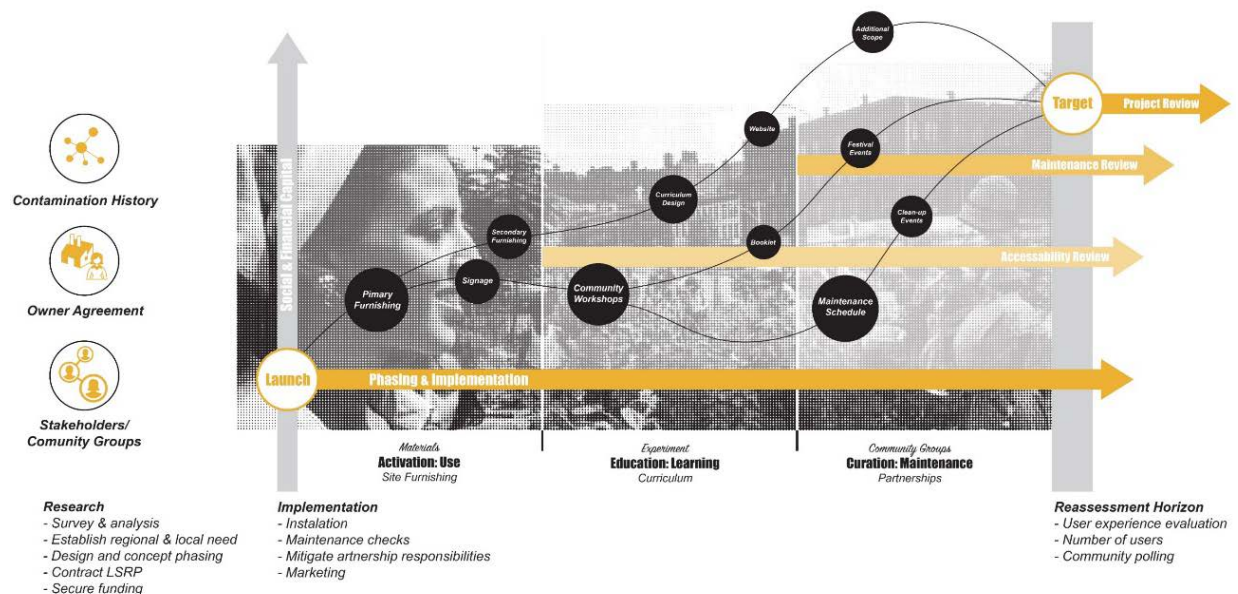


Figure 21: Phasing based on a living record of use

Process

Because this program hopes to be attractive to land owners, municipalities, developers who hope to direct a long term vision and community members alike, proposed changes should be sensitive to existing uses and future remediation processes. In response, the implementation of site infrastructure will only follow a period of site inventory (including soil tests, the collection of geographical and historical data, and community canvassing) and an analysis and design period (including public workshops, concept investigation and the creation of graphic imagery). All periods of research and implementation following initial conversations with land owners will be guided by resident design professions that serve the role of project manager throughout the process (fig 22). It is imagined that initial interest will fall into three categories including:

Community Lead – For community groups and local schools often in a densely built-out urban landscape that seek additional land, meeting space, or hope to explore further growth for their programs.

Owner Lead - For developers and land owners that want to mitigate the negative connotations and local resentment associated with contaminated sites, increase public awareness for future real estate projects, and to test-run future design concepts.

Direct purchaser – Like any manufacturer/distributor, this streamlined process allows Getting Around to act as a vender providing additional income by directly selling site furnishings (tools). Customers may organize transportation of re-used tools for a reduction in pricing.

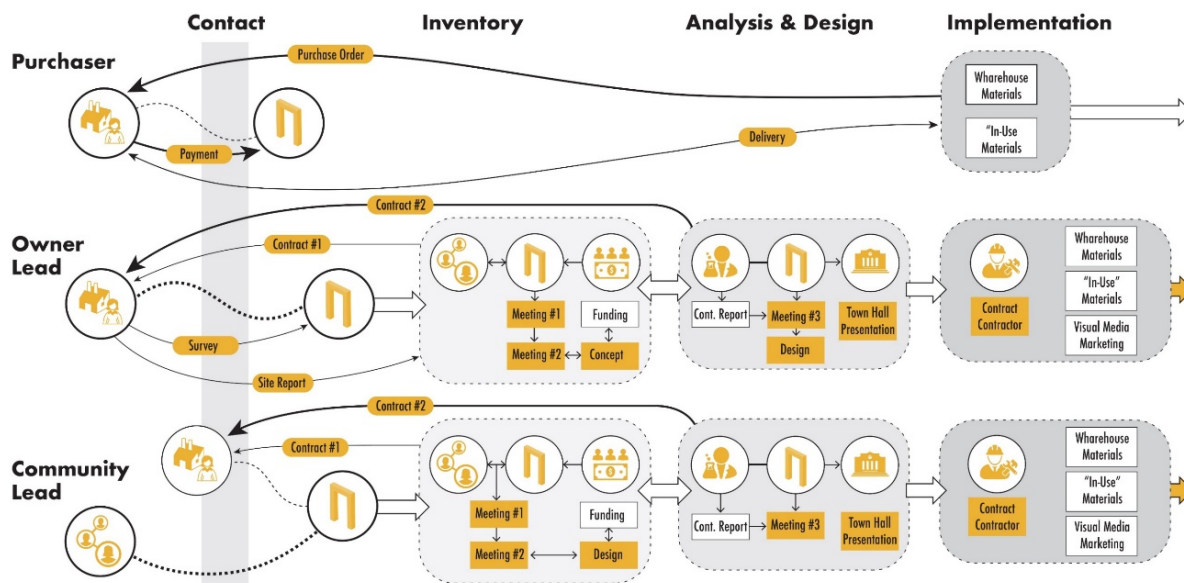
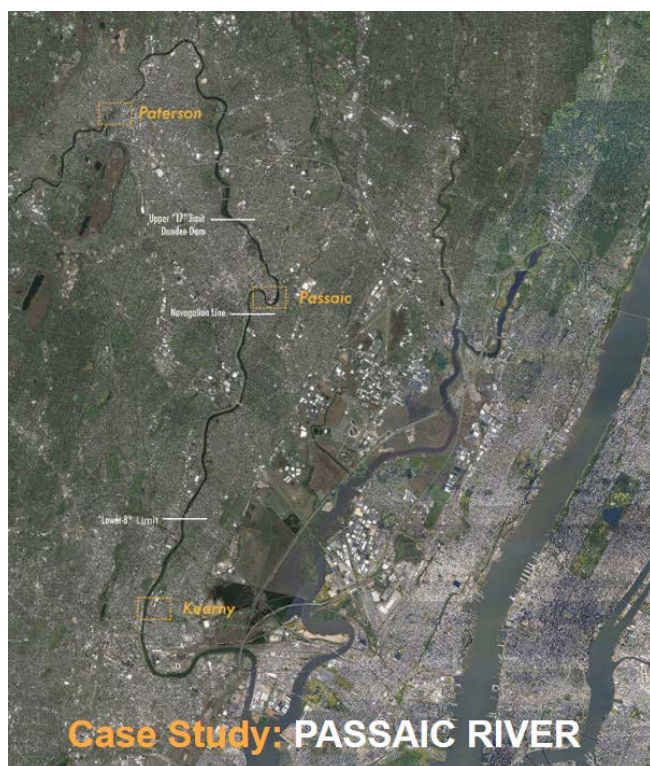


Figure 22: Tool implementation and purchasing



"Lower-8"



"Lower-17"



The Great Falls



Dundee Dam



Newark Riverfront Park

Figure 23: Regional case study for implementation

The centrality within the metropolitan area, the diverse history and abundance of contaminated sites, and because of my familiarity with the region, I selected the Passaic River to serve as a case study for implementation. In order to showcase how a tool-kit of site furnishings can be strategically applied throughout the region, three waterfront sites have been selected including properties in Paterson, Passaic and Kearny (fig. 23). All sites have some real or perceived history of contamination and are situated within neighborhoods with transitioning economic needs. Some additional prominent features within the region include:

- The lower 8 miles of the river which the DEP has prioritized cleanup interventions for including Newark's infamous Diamond Alkali factory largely responsible for the area's dioxin pollution.
- The "Lower-17 miles, which the DEP has defined a more general clean-up strategy for.
- Patterson's 77 foot Great Falls, the impetus for America's first "planned" industrial city.
- Dundee canal and Dam system from 1861 that originally marked the final navigable point of the river.
- Newark Riverfront Park that symbolizes a turning point for the community's relationship to the notoriously polluted stretch of river.

Design Application

Paterson



Figure 24: Views of Patterson's ATP Site

The 7.6 acre Patterson Allied Textile Printing site begins our journey at our most Northern location (fig 21). This site is marked by Historic Fill, Heavy Metals and petroleum throughout. In the late 18th century Alexander Hamilton helped establish the Society for the Establishment of Useful Manufactures, setting of the city's history as a model of manufacturing for the United States⁴⁹. Because this site was originally occupied a jagged 60' bluff, it was quarried and leveled

to better facilitate the construction of the mill-race and factory compound designed by the firm of Pierre L'Enfant.

While many properties within this region have seen increasing investment in recent years, this site which includes several historically significant structures⁵⁰, remains derelict. Because remaining derelict buildings host a local homeless encampment and 3-quarters of the site is surrounded by a 30' rock bluff, the city has physically and symbolically turned its back on this site. Here Robert Smithson's critique of the Passaic's ruins as a memorial to failed immortality resonates most⁵¹.

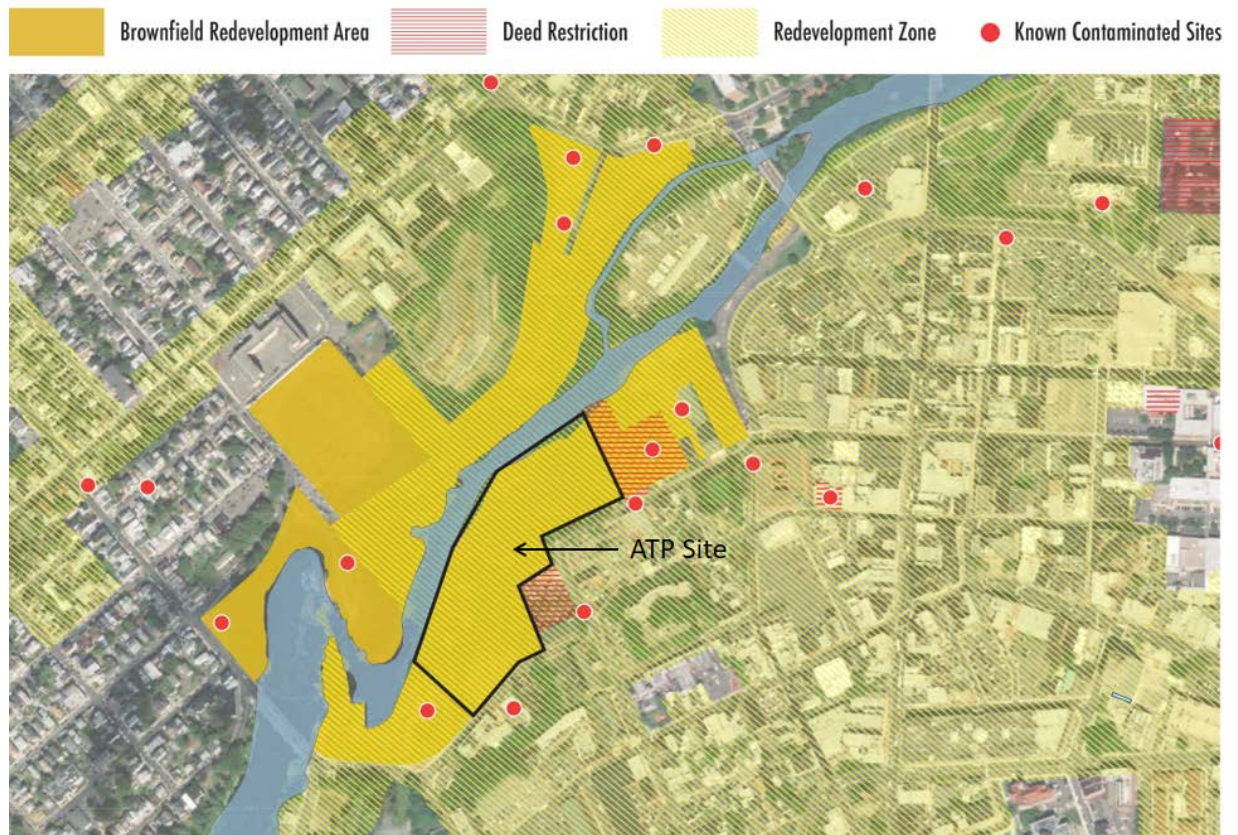


Figure 25: Regional contamination map of Paterson

The entirety of the site is situated within a brownfield redevelopment zone (fig 25). Earlier in 2019, the city of Patterson released an RFP with the intent of guiding the redevelopment of the site for public use. Much of the stipulations regarding public accessibility including a desire for elevated walks and nature viewing platforms was inspired by the research and corresponding conceptual designs created by James Corner Field Operations for the city of Patterson in 2012⁵². Inspired by the level of intervention in Corner's work, this applicability study represents the most intensive intervention of the three case studies, occupying 29% of the site with raised walks and a local cap that provides root space for a large landscape area.



Figure 26: Patterson implementation plan

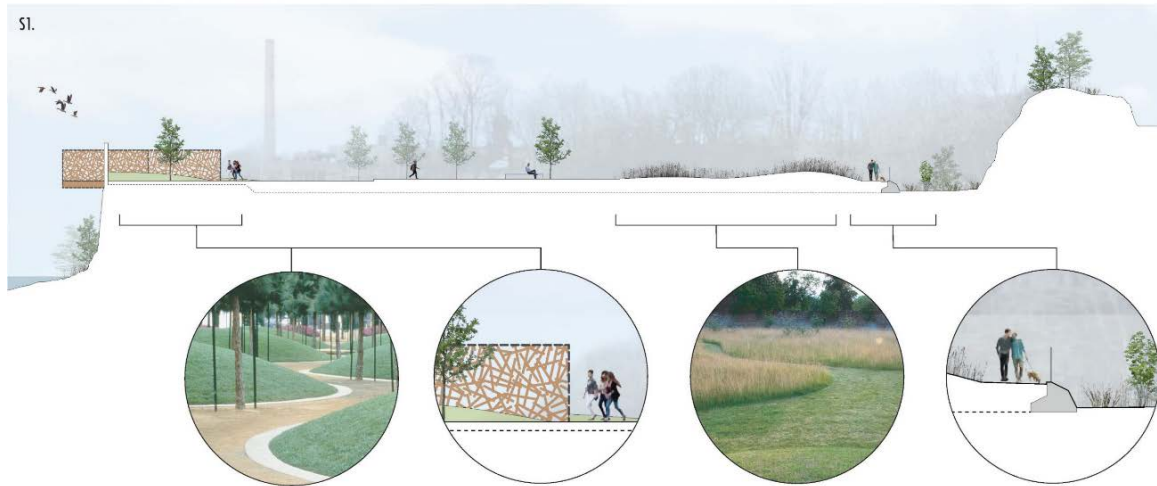


Figure 27: Paterson site rendered sections

A direct axial view of the bluff's edge is composed from Van-Houten Street as "tubes" respectfully cut through the preserved ruins of the historic Colt Gun factory (fig. 26). A "secondary" access point is provided to the south, connecting to nearby Overlook Park. Within this stretch, access is permitted for service and patrol vehicles. Secondary pathways named "the catwalk" connect to a gathering area complete with a core-ten bird blind and a street-tree nursery bosque.

The remainder of the site is strictly off limits to visitors, left to further degrade. The unique topography including the bluff to the north of Mc Bride Avenue, facilitates two main entrances to the site's central feature, the "great lawn" that welcomes visitors to explore mounding turf pods, vistas through restored masonry walls at the cliff's edge, and a grass-land meadow.

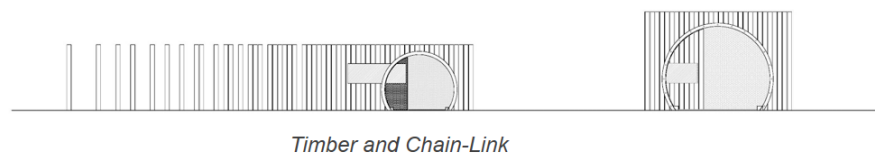


Figure 28: Paterson entrance treatment

Entrance sequences for this site utilize existing chain-link fencing with the addition of rough-cut wood boards to catch visitor's eyes and display signage (fig 28). Phasing prioritizes

ruin stabilization, a wide gravel walk along the cliff, and access from Van-Houten and Overlook Park (fig. 28).

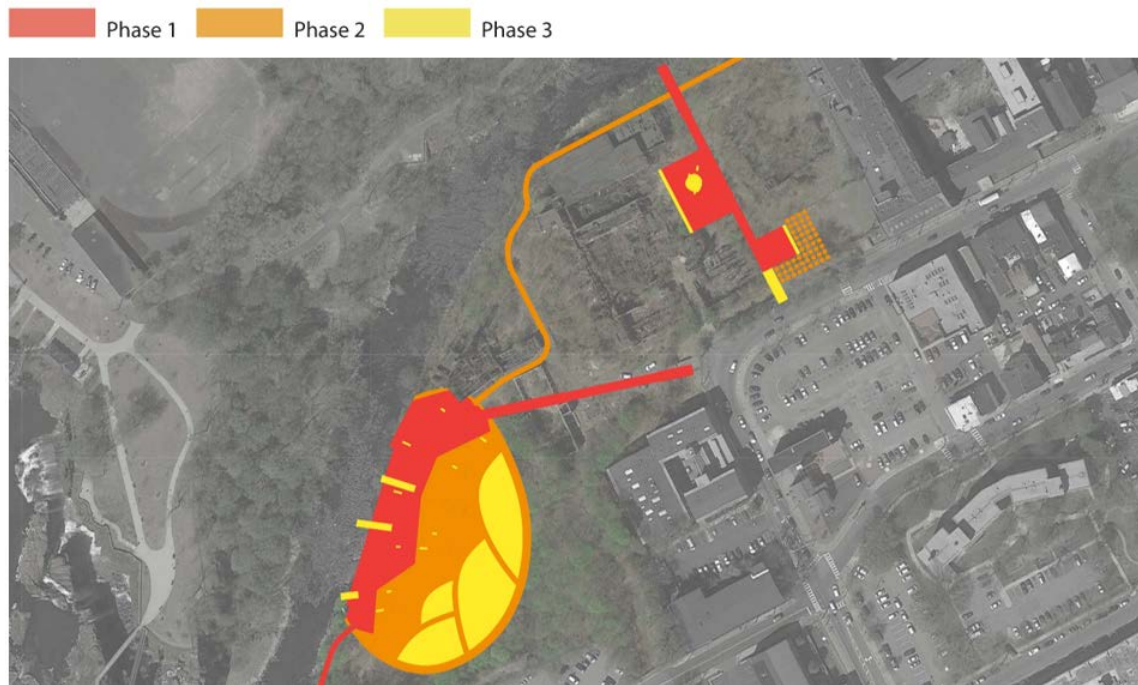


Figure 29: Phasing analysis of Paterson ATP site

Passaic



Figure 30: Views of Passaic's Acquackanonk Landing

The 9.5 acre Passaic Site is about 5 miles south of Paterson. The grounds are considered to have the presence of Historic Fill & Construction Debris. Like many cities along the river, Passaic Township's industrial growth began in the 19th century as a textile and metal processing center. This region, located on a tidal wharf is colloquially known as Acquackanonk Landing.



Figure 31: Regional contamination map of Passaic

Located in a still active district, this site stands out as a dormant relic. Two properties including a 2 acre site that hosts a two-story building from the 1930s and a 7 acre field to the north-east were united by ownership in 2006. While topography is generally flat (2% - 5% slope) until the waterfront, the many piles of construction debris offer an intriguing character, increasingly animated by nature over years of neglect (fig 30).

The former growth is responsible for the compact urban village located to the north, which represents a similar character to Newark's Ironbound neighborhood. While real estate has not been as depressed as other former industrial zones, manufacturing has generally shifted to warehousing and office space, even hosting some New York based organizations with satellite offices. While most of this site is vacant, the southern half is utilized for truck storage and as a grocery distribution hub focusing on South-American products.



Figure 32: Passaic implementation plan

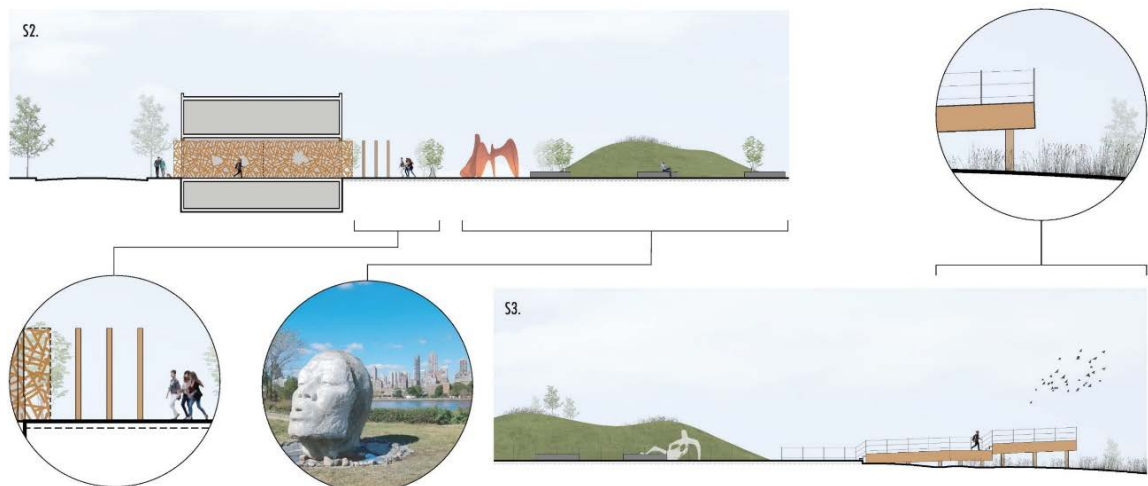


Figure 33: Passaic site rendered sections

Because this site has potential for warehousing and truck storage (a financial generator), general interventions are minimal including a 10" gravel based cap, occupying about 10% of the

property. Such space provides access to overlook platforms that welcome visitors to contribute to phyto-remediating meadows with purchases from a seed-bomb vending machine.

The most daring intervention is access through the sites only structure, the vacant brick building that because of its condition is likely to be demolished rather than restored for future use. Here, depending on budget, a cut can be made through the structure in the dimension of the primary Spines or installation of an archway in front of the existing doorway could give the illusion of a cut as the Spines continue a linear axis on the opposite side. Multiple entrances allow sections to be closed off during specific times. The large field to the north provides a curious background for sculpture and financial assistance if rented for Public Works equipment, solar fields or soil banking⁵³.

In addition to the bold entrance sequence, the building itself facilitates the display of site signage as a canvas for murals and infographics provided by Getting Around.

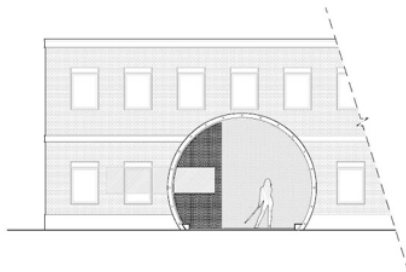


Figure 34: Passaic entrance treatment

Phasing for this site prioritizes a primary entrance from Lodi Street, the establishment of the sculpture grounds, and a connection to the shopping center to the north, a common destination for local pedestrians (fig. 35).

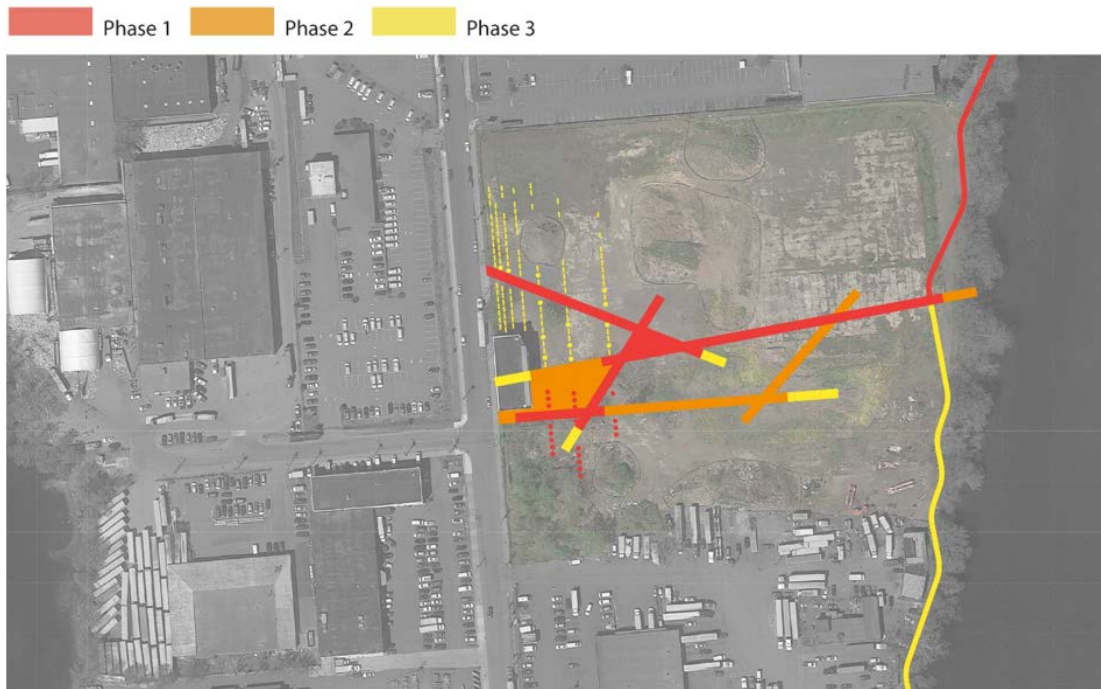


Figure 35: Phasing analysis and infrastructure priority

Kearny

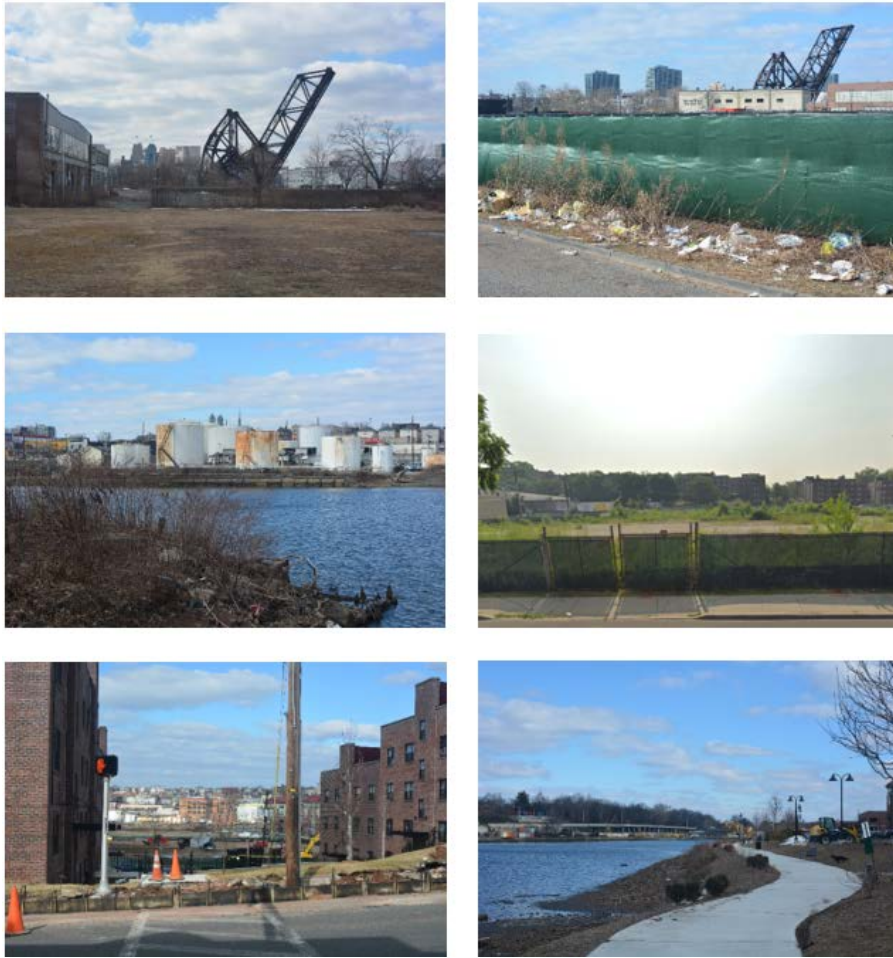


Figure 36: Views of Kearny's KIA site

60 Passaic Avenue in Kearny marks our southern-most site. While the 10.3 acre site is generally categorized as historic fill, heavy metal and petroleum hot spots have been detected. Before its founding in 1899, Kearny already established an industrial region near its southern border. Here textile factories employed poor Scottish and Irish immigrants providing work for both men and women. Industry later transitioned to metal processing following alternate needs during the world wars.



Figure 37: Regional contamination of Kearny

This site, locally known as the “Bat-Factory”, was formally the home of a metal fabricating company who's facilities burned down in an explosive fire in 1986. Long-term residents are eager to tell stories including the size of the fire and hundreds of exploding aluminum bats rocketing into the air after their pressurized internal burst from the heat. It would take three decades for the ruins to be demolished following an agreement with a new owner who until recently retained the site's smoke stack, that like a Roman obelisk could be seen from miles away.

A condensed suburban neighborhood grew northward which has contributed to the recent desirability of local real-estate. While this site comprises two properties that are currently vacant, developers have already begun preliminary environmental remediation practices that will clean the site to residential standards. Like Paterson's ATP site the entirety of this site lays within a brownfield redevelopment zone promoted as KIA or Kearny Industrial Area.



Figure 38: Kearny implementation plan

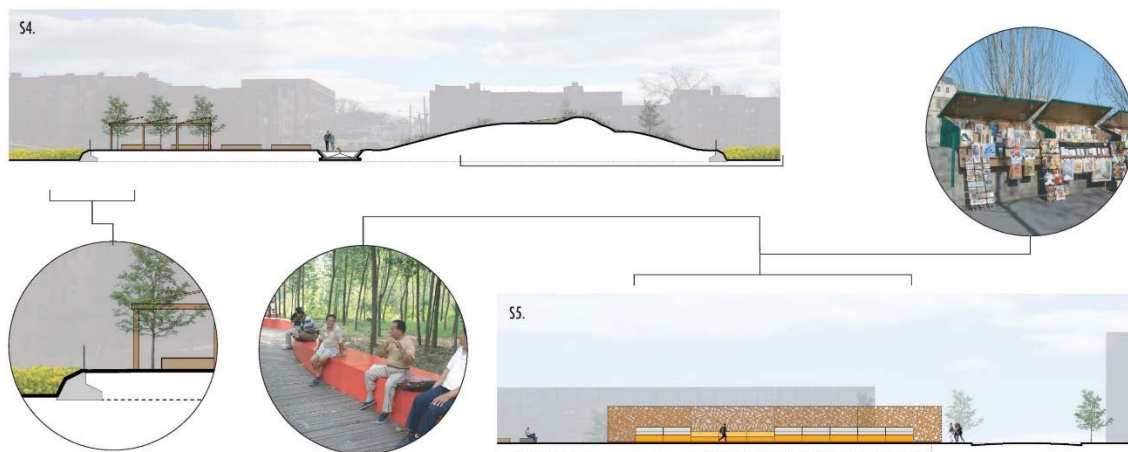


Figure 39: Kearny KIA site rendered sections

Because of the many pedestrians and grade school students that cut through the Belgrove Apartments (Fig 37) to get to the shopping centers to the north-west, this design concept develops a straight access through striped mustard fields before leading to the

waterfront. This axis is framed by market kiosk “Spines” which offer lockable units to venders during farmer’s market and community events.

At the terminus, visitors can launch their boat, lounge on movable furniture and connect to the expanding riverfront walk. Because of this site’s proximity to local schools and the presence of an active gardening community to the north, it is imagined that this site would be the most community lead. In response, the design strategy permits the expansion of “**pods**” or landscaped-islands with additional funding. Primary interventions support programming for nearby Washington School and includes a community farm of 20 spaces, a natural material play-scape, and a symbolic mounded meadow built atop an existing pile of inert construction debris (fig 38 and 39).

Finally, a 25’ section of water-jet cut Core-Ten “Tube”, tangled with vines, announces the former location of the smoke-stack. Entrance sequences emerge from the familiar chain-link fence which becomes a support for colorful information banners.

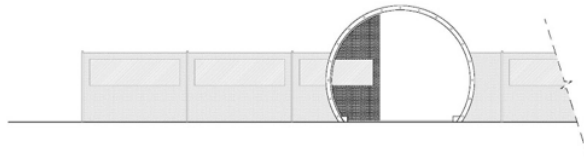


Figure 40: Kearny primary entrance detail

Phasing prioritizes direct water access from Passaic Avenue, the establishment of a gathering area and boat launch, and connection to the existing riverfront walk to the north-west.



Figure 41: Phasing analysis of Kearny's KIA site

Conclusion



Figure 42: Imagined view towards Kearny's waterfront

Because both of my parents grew up within a walkable distance to Kearny's waterfront, I have the greatest personal investment in our most southern example. While I knew this site as a place that has not changed for three decades, two weeks before I presented this thesis in May of 2019, I witnessed the excavation and leveling of the Bat Factory's grounds in preparation for new market-rate apartments. The grand formal axis I imagined connecting Kearny's Woodland Avenue and Woodland Park beyond, to the waterfront will remain only a dream. Here heavy equipment extract contaminated soil and over a century of artifacts including army munitions, one hundred year old cars and dozens of bats, in preparation for the grand horizontal plane of a condominium foundation.

A view of the dozens of gabled roofs of a newly constructed apartment complex towards the north-west foreshadows the site's future; an image possibly stranger than portals, spines and pods (fig.43). Another view towards Woodland Ave is blocked by a dump-truck leveling the earth

with foreign soil (fig. 44). After speaking with a group construction workers, I am told that in anticipation for neighboring improvements and rent hikes, the owners of the Belgrove Apartments beyond, built a new retaining wall to omit pedestrians from cutting through their property and disturbing their residents. With a mix of thick New Jersey, Eastern European and South American accents, talk of such changes are exclaimed as “not coming soon enough”. While this exchange may not truly express the developer’s intentions, the familiarity of the sentiment illustrates how the motivation for property investment (landscape intervention) is routinely normalized primarily through speculative decision making. In this case, the perception of manicured apartment grounds and tenants that do not have to exchange glances with transitory pedestrians equates to higher rent. One fundamental problem associated with this mode of thought is the ability for a desire to be commonly understood, yet because of its ephemeral quality, not given the regulatory considerations⁵⁴ of other formalized systems (policy and property law) and physical structures (zoning, planning, building codes, etc.). In response zoning boards, city councils and community organizations are left to defend the interests of the greater community and invent creative alternatives to problematic proposals while balancing any number of additional tasks.



Figure 43: View towards Kearny's waterfront



Figure 44: View across site to Bellgrove Drive

Because town's like Kearny, Passaic and Patterson have all experienced some level of disinvestment (particularly around the waterfront), any form of investment is typically perceived as a simple good or the result of any number of successful internally designed incentive based campaign to illicit development. Despite this not being the case for every site, the discourse

within the dozens of debates I have witnessed during town council meetings and participatory planning events⁵⁵, regularly validates the logic that more tax ratable properties will have trickle down benefits. Because contaminated and postindustrial landscapes within the urban core are so locally and nationally iconic⁵⁶, this logic is further bolstered by the perception that any development at all will likely ignite change in the economic tide. As postindustrial, contaminated and sensitive landscapes await redevelopment, their future is largely dependent on the imagination of a select few designers, remediation specialists and investors willing to spend the time and capital needed to follow strict guidelines and turn a considerable profit. It then becomes more difficult for any individual or group to stand in the way of capital investment and developer momentum. Use then is often only a side effect of one of two intentions, the desire to make money or the desire to alter a publicly perceived “eye sore”.

While it may be facetiously discussed by practitioners of the design fields, Robert Mosses (among others) apparently acquired a predilection for bridges and highways (over tunnels, bike paths and the like) not simply because of the raw function provided by such structures, but because of their monumental visibility. Similarly, politicians and public officials (including town council members) are likely to promote the redevelopment of contaminated sites as their terms may be associated with such changes. Like Lynch and Lefebvre remind us, we as citizens are often captivated by iconic elements in the urban stage whose presence sets a back drop to a city's status quo. While contemporary environmental regulations have complicated the remediation and redevelopment process with an intricate legal framework⁵⁷ and the financial burdens associated, inactive postindustrial sites are easier to socially classify as wastelands⁵⁸ and less likely to have any existing use preserved. The negative perception associated with a site, the real expertise required to remediate, and the assumption that such sites have no value, limit small-scale intervention and at the same time bolster the acceptance of any investment at all. To complicate this dynamic further, the economic disinvestment responsible for vacant contaminated sites has often occurred decades ago. Landscapes like Patterson's ATP site and Kearny's KIA site are very symbolic of a local and national trend that joins a greater section of manufacturing zones, comprised of several properties into one parcel. Because of foreclosures,

abandonment or discounted sales to adjacent organizations, ownership has been generally aggregated to either a few or a single owner (often the municipality themselves). Again, this increases the agency (in-kind and capital costs) required to redevelop because property areas become comparatively larger than average urban properties and the chemical contamination present is often more diverse due to multiple methods of manufacturing (physical mechanisms, and chemical uses and disposals) that now share one property line⁵⁹.

Now that local real estate markets have accepted the sustained devaluation of industrial urban waterfront landscapes, the conversation regarding their reuse often resides in deep pause. On one side of the conflict, the landscapes have great value because of their situation within the urban fabric (proximity to transportation systems, food systems, energy providers and natural resources) however on another, they are perceived to be ugly and dangerous⁶⁰. While it is the responsibility of any local government and property owner to protect the public from harm, such protective measures may have an outstanding detrimental effect to the local memory of a landscape and the use-value once associated. Laws, policies and measures to reduce owner liability by limiting access to dangerous landscapes, often result in either deliberate physical barriers (walls, fences, etc.) or greatly restrict the potential use of a landscape⁶². Because public safety is the priority, barriers like silent dictators, increasingly limit the number of public touchpoints and limit a neighborhood's interaction with valuable landscapes and water systems⁶³. The durability of these elements (constructed materials of metal brick and wood) impede contact with natural resources and social flows to such a degree that these barriers block the advancement of a neighborhood's attachment to history. As a young man living and working around Brooklyn's Gowanus Canal, the many fences clad with murals, graffiti and warning signs were more well known to me than the contaminated canal I was protected from. The regularity of omission becomes the norm. It is harder for an individual to question their access to any resource if they do not have a contradicting comparison to base their rights of use. It was not until I meet a member of the Gowanus Dredgers, an organization that offers free kayak tours of the Gowanus, that I even had the capacity to think it was possible to use the canal. If postindustrial, dangerous or sensitive landscapes are not part of a citizen's visual lexicon or basis

for learning, their desires and imagination becomes limited⁶⁴. Despite the good intentions of policies that promote public waterfront easements (including Kearny's 40 pedestrian buffer) citizens are less likely to engage with such systems if access points are few, poorly designed, uninviting, or primarily serving adjacent development.

The interpretation and enforcement of policies associated with the Public Trust Doctrine (which has contributed to public waterfront buffers throughout the United States) has almost exclusively been employed through a neoliberal system that favors private investment as a tool for implementation. As this approach has now become mainstream, municipalities are left to accept the vision of a private developer who may favor short term financial gains over community need. More over, any gains in public accessibility are attributed to the developer/development and not the many policies and professionals who have advocated for such requirements for decades. While such municipalities have the ability to leverage use value⁶⁵ and direct landscape quality (including publically accessible buffers of a given dimension), they are in debt to the financial investment of an external organization. Some of the first public access points associated with the Gowanus Canal over the past decade are associated with the redevelopment of the Whole Foods site which includes a roof top beer garden with a view of an attractive canal side walk. Here visitor's possible fears of the dangerous Gowanus are mitigated by familiar architectural and landscape elements and have possibly set the stage for the further development by the likes other private developers including Jared Kushner. These sites are being sold back to urban communities by inverting the danger associated with the metaphoric wasteland, rendering sites as edgy and exciting. While this character is one that I as designer have been inspired by from a very young age, it becomes propaganda if the history of a site is only utilized to reinforce all-encompassing alteration of both landscape quality and land use.

As technology and globalization continue to broaden the reach of consumer culture and narrow our aesthetic desires⁶⁶, concepts associated with postindustrial, environmentally sensitive ecosystems and waterfront landscapes are utilized to elicit an escape from our increasingly comfortable (safe), however many projects offer no real connection to the countercultural elements they associate themselves with. Furthermore, the proliferation of the rogue savior

developer into real estate marketing continues to put society at odds with the generally conservative (traditional models of ownership) values that shape our laws based in private property ownership and direct the capital investments of 'the autonomous family unit'. The idea that the very same attributes (danger, contamination, postindustrial, vacancy, etc.) that caused decades of economic and social disinvestment and land value depreciation are then inverted to market the redevelopment of postindustrial sites, should be a cause for concern. When shared physical landscapes do not reflect the diversity of desires within society, individuals and communities alike are forced to function within a contradictory framework that with one hand values land for being safe (predictable), and another that values citizens, investors and developers for being risky (taking chances). In response to the proliferation of large-scale incentive based redevelopment programs, we are forced to imagine how a heritage of environmental regulations and public-safety based urban planning strategies, with all of their benefits to urban life, have created less exciting built works and more hesitant urban users. Although economic trends and contemporary liability laws have stalled the advancement of thousands of post industrial sites and rendered my pessimistic depiction of the status-quo, this is a hopeful time to occupy any conversation about the adaptive reuse of postindustrial sites. We are living in a time of more formalized social interaction where dozens of participatory planning tools are available within New Jersey alone. Just a fraction of such programs include: NJDEP, the Historic Preservation Office of NJDEP, FEMA, NJ Office for Planning Advocacy, NJDOT, Farmland Preservation Program, NJ Blue Acres & NJ Green Acres, Land & Water conservation Fund, the Trust for Public Land, NJ Future, Sustainable Jersey, the Regional Planning Association, 4-H, the Cultural Landscape Foundation, Urban Land Institute, River Keepers, Creative Jersey and state Brownfield programs. Additionally, While broad and diverse in scope all these programs are united in their goal to provide community and municipal assistance to planning initiatives. Although such programs are responsible for very real changes in the built landscape of New Jersey, my experience over the past decade reveals a void between public assistance and public imagination. My primary critique is that many of the previously stated programs are often overly apprehensive or not equipped with the expertise or capital required to

offer real physical interventions. While these organizations may valiantly record, document and present data collected from the community and make complex urban issues easier to understand through visually attractive presentations, few attempts are made to metabolize the vast needs of a neighborhood via the strategic direction of experienced designers. In response, the Getting Around program has been designed to reveal how safe, historically significant and inclusive sites like Paterson's ATP site or Kearny's Bat Factory are before they are branded as harmful, edgy or exclusive by a third party developer.

While siting this thesis within a landscape that I have great personal attachment to has allowed me to explore my personal interests as a community member, the ten mile stretch of the Passaic River that hosts the Patterson, Passaic and Kearny sites has been strategically chosen to represent national and global trends. As the industrialization and the economic systems which it supports is largely responsible for the urban development of the north-east coast of the United States, the waterfront landscapes adjacent to the Passaic River occupy all of the cultural, political, geographic and economic conflicts regarding postindustrial contamination in extracted form. Patterson's ATP has the greatest number of recorded contaminants and is the most topographically diverse, Passaic's site comprised of scattered mounds of demolition debris is still used as a truck parking lot for a neighboring business, and Kearny's KIA site has been leveled flat following a devastating fire. All sites are relatively similar in area, plagued with the perception of contamination and danger, and are completely enclosed with chain link fences. Alternatively to New York City, the Passaic's riverbanks have yet to take the same level of speculative valuation, and have generally not seen anywhere near the same level of completed physical development. Here, we may be granted with the opportunity to redirect existing paradigms and offer new role models, shaping the discourse of postindustrial redevelopment on the national stage.

As an idealistic design practitioner myself, I hope that my frustrations with the speculative real-estate market and the neoliberal incentive programs which they serve⁶⁸ are not lost however, a responsible designer is forced to acknowledge the political, social and economic apparatus of which they function. Although aware of the deep critical nature of this text, I have decided to build upon the agonism⁶⁹ of the neoliberal system that often limits local land tenure and use its logic to

provoke new ideas. Because environmentally based policies and community participatory planning strategies has become the norm, it is critical that any new program include the language and formality of past generations so that design practitioners, elected officials, law makers and community members who have been working in the field for decades are still validated with their experience and invited to the conversation. Similarly, Getting Around utilizes the lexicon of terms and built elements already well established by experts in the construction, remediation and real estate fields, and offers a radically simplified translation to a concerned and possibly intimidated public. In order for any urban intervention to become enduring, all parties (public officials, designers, land owners, investors, and community members) must operate from a comfortable position of personal and economic safety, making it commonly understood that their hard work will not be futile. Because of the precarious nature of non-profits and grassroots organization (resulting from limited capital) there is a very real limitation to their ability to take chances, inherently limiting their agency within the contemporary redevelopment discourse. In response, more is required to validate their voices beyond the realm of theoretical⁷⁰ (civil rights, cultural heritage, family planning, public space advocacy, etc.) and into the concrete nature of built works. The physical tools (Pods, Portals, and Spines) themselves, like Lego bricks or board game pieces, function as plug-in adaptations to socially familiar urban elements including the streetscape and sidewalks. Here, the totalitarian nature of remediation and redevelopment can be mediated and future long-term uses may be tested at scale based on capital and in-kind investment. Both the framework and built elements offered by Getting Around acknowledge the inherent paradigm derived from the divergent needs and desires of speculative developers and community members, yet like an editor's red-lines, operate to draw attention to something that can be discussed and improved.

Postindustrial, idle and sensitive sites offer nonverbal cues that broaden the education of citizens and the physical diversity (topodiversity) they provide contributes to greater social and physical resilience. The tradition of fencing, slum clearing, and strict safeguarding, along with the emergence of reliably marketable and highly replicable housing complexes, may provide shelter and protection for our bodies, however few intellectual connections to our environment remain.

Simply, regulations often prioritize restriction over interaction. As the chasm between those capable of designing new landscapes and the population which will use them widens⁷¹ (particularly regarding waterfront sites), design practitioners have the responsibility to question standardized methods of redevelopment to both validate natural and social ecologies, and to construct a resilient urban landscape in the long run⁷². Moreover, local municipalities, grass-roots organizations, and property owners seeking design guidance and local investment, should be encouraged to seek out the re-imagination of idle landscapes without relying on the provocation of speculative planners. As designers have become increasingly more connected to local communities (via technology and policy), the process of redevelopment can become more active, intentionally welcoming participants to contribute to postindustrial sites in real time as a tourist would visit and now review a famous ruin or landmark. In this regard, creating a bottom up approach to design that does not solely rely on the now ubiquitous trend of post-investment public participatory meetings to spread a false sense of egalitarianism, should result in more meaningful neighborhood level contributions. When local groups are preemptively invited into the discourse and able to utilize a palette of tangible investment options (Pods, Portals and Spines), far more meaningful landscapes may result and the veil of danger and complexity which has stalled development for decades may be lifted. The changes folks like Allen Berger, David Harvey and Daniel Bell have forecasted regarding the post-industrial landscape for decades are truly taking root, and change might come quicker than existing local communities can keep up with. As design practitioners working within a field that is slated to yet again change the course of our urban-landscape's relationship to the waterfront, let us make sure that the first things built for the public are not simply fences!

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Endnotes

¹ Jonathan Rees, 2016

² Sheehan, Molly O'Meara, State of the World: Our Urban Future, 2007

³ *"Brute force and universal design approaches to typical development tend to overwhelm (and ignore) natural and cultural diversity, resulting in less variety and greater homogeneity"* (William McDonough and Michael Braungart 2002, p.33)

⁴ Mani, Muthukumara, and David Wheeler. 1998

⁵ Many statistics that record transportation trends including the American Community Survey of 2006 – 2010 (data that is largely used to visualize New York's transportation habits) often represent water based forms of transportation in the general category of public transportation. While the New York Taxi is used locally around Manhattan and the Seastreak ferry carries commuters between New York and New Jersey, water based transportation is generally more expensive and less available.

⁶ Tom Angotti, 2008

⁷ Frishman uses the term *rivalry* to describe the economic dynamic between any limited product, resource, or service and the market. Land, particularly urban waterfront land is included in this description as a very limited resource. (Brett Frishman, 2007)

⁸ The finance, insurance and real estate sector (FIRE sector) defines New York City's largest economic driver. In response decisions concern planning, zoning and private property ownership often seek to attract organizations and corporate investment with real estate based devices. (Tom Angotti, 2008)

⁹ Espinoza and Luccioni suggest that within the United States, developers who invest in contaminated sites and brownfields will seek a higher return on investment to mitigate the risk associated with more complicated projects. Additionally, in the context of a speculative system, projects may become less daring to ensure real estate interest in a changing market. (R.D. Espinoza and L.X. Luccioni)

¹⁰ Kevin Lynch "The Image of the City" p. 91

¹¹ Expanding on the creation of individual meaning and value, Dryden suggests that memory and cognition are based primarily on lived experiences. Without lived experience, an individual's ability to imagine may become limited unless provoked by the arts in order to intellectually attach value. (Donald Dryden "Memory, Imagination, and the Cognitive Value of the Arts." 2004. P 255)

¹² Lynch states, *"The psychological distance between two localities may be much greater, or more difficult to surmount, than mere physical separation seems to warrant."* (Kevin Lynch, 1960, p.85)

¹³ Mark Kurlansky, 2006

¹⁴ Naiman, Decamps, Pollock, 1993

¹⁵ Borrowed from Byzantine and English law, the public trust doctrine became part of the common law of the United States in the nineteenth century. The principal suggests that the ebb and flow of the shoreline defines a ribbon of land that cannot be appropriated for private use. While this principal is not uniformly followed in the United States, it universally limits private ownership to the average high tide line.

http://njseagrant.org/njcoastalaccess/waterfront_users/public_trust_doctrine.html

¹⁶ *Et al*

¹⁷ Avni and Te build a case that waterfront development within the contemporary social/political arena has been exceedingly complicated by four factors including: land ownership, heritage and culture, social and environmental justice, and environment and resilience.

¹⁸ Newark most contaminated sites.

¹⁹ Alan Berger, 2006

²⁰ The EPA defines a brownfield as "a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant." (EPA.gov 2019)

²¹ Gordon, 2003

²² Alan Berger, 2006 p. 71

²³ Hollander defines TOADS and the negative connotations associated with contaminated or derelict sites based on both the negative opinions of the local community (potential residents) and the unwillingness of a developer to invest because they fear greater restrictions and increased liability. (Hollander, 2009)

²⁴ Alan Berger, *Drosscapes* p. 71

²⁵ Thomas suggests that, on a national level, active areas of development within an existing urban core are largely defined by “transit-oriented development, high-rise buildings in prime waterfront or downtown locations, redevelopment of former industrial sites, redevelopment of strip commercial parcels, or large underutilized parking lots.” (Thomas, 2009 p.22)

²⁶ Alan Berger, 2006

²⁷ Berger suggest that vacancies help facilitate a healthy real estate market however contaminated sites often allow for complete redevelopment, reinvention, often facilitate the rezoning of neighborhoods. (Et al, 2006)

²⁸ Huang and Kao, 2014

²⁹ Carolyn Steel, 2013

³⁰ David Harvey, 2003

³¹ Thomas Fletcher, 2002

³² Gene Desfor, 2013

³³ *Et al*

³⁴ Knox draws from his 2008 publication *Metroburbia*, revealing parallels between urban and suburban development and material culture, products and marketing. (Paul Knox, 2011)

³⁵ While the concept of public safety can be broad I am using it here to define any commonly held or politically reinforced norm that reinforces a perceived safeguarding of the human body. This often includes policies and regulations that define building code and zoning, as well as social safety reforms including policing, traffic laws and curfew.

³⁶ More recently, the medical and psychological sciences have increasingly embraced the term wellness in an attempt to construct a more holistic sense of personal health. The National Wellness Institute uses six dimensions of wellness including, occupational, physical, social, intellectual, spiritual, and emotional. Beyond using an alternate (and often more systemic) metric to define health, the term often associated with an individual's lifestyle.

³⁷ In 1948 the United Nations created the Universal Declaration of Human Rights which offers thirty (30) articles of basic human rights Article twenty five (25) defines standard of living rights and includes rights to health, well-being and food. While not universally followed these rights have help set standards for social services and public infrastructure within the United States. While not directly related, social services including welfare, free public school meals and low-income housing, have been established following governmental agreements regarding quality of life.

³⁸ LEED (Leaders in Energy and Environmental Design) Standards was created by the United States Green Building Council (USGBC) to encourage sustainable design practices. The program offers levels of certifications based on a point system that values designs based on social, environmental and energy benefits. The program is voluntary and requires two applications and an application fee to be considered.

³⁹ While the LEED Standards have expanded to include LEED for Community Development, LEED scores often substitute topics regarding local ecology and social wellness with other priorities. (Umberto Bernardi, 2013)

⁴⁰ David De la Pena and others, 2017

⁴¹ I have participated in numerous public meetings, Creative Jersey and Surfrider events in Asbury Park New Jersey where the topic of free beach access to local youth is brought up. While young people (the majority of which are people of color) and their guardians are often absent from these meetings it is imagined the such demographics would be interested in beach access. Additionally, local youth often visit the beach following pay-to-access hours, in some instances resulting in drowning.

⁴² In a similar fashion to Viktor P. Generalov, Elena m. Generalova, Nadezhda A. Kalinkina and Irina V. Zhdanova's piece *Typological diversity of tall buildings and complexes in relation to their functional structure*, I use the term 'typological diversity' to point out the physical diversity of urban builtworks within modern cities. Within the framework of this text (Getting Around: A Tool-kit for

Activating Idle, Contaminated and Transitioning Landscapes), this term is used to suggest that a wider range of physical diversity will support a wider range of social and ecological functions as well as supporting greater economic and ecological resilience.

⁴³ Gene Desfor, 2013

⁴⁴ *Et al*

⁴⁵ Jane Jacobs, 1962

⁴⁶ Generalized requirements for maximum and minimum areas have been provided following guidelines by organizations as well as collecting data on average area paired with specific use. Public Skatepark Guide has defined areas for activity parks. Average sizes of Starbucks locations has contributed to define the parameters for classroom/café. Suggestions for playground space as defined by Studio Ludo has contributed to the parameters for plays-capes. Analysis of Parc Des Cormailles in Paris has contributed to the parameters for symbolic natural landscapes. Averages from a handful of wedding planning websites has contributed to the average amount of space required for the event space category.

⁴⁷ New Jersey Department of Environmental Protection, 2014

⁴⁸ Kirkwood and Gold, 2010

⁴⁹ Mary Bruno, 2012

⁵⁰ The ATP site region includes several historic properties including, a collection of thirty mill and factory buildings. Some prominent structures include the building for Colt Guns, Waverly, Todd and the Passaic Mills.

⁵¹ In his work titled "Monuments of Passaic" Smithson describes the banks of the Passaic River stating, "Actually, the landscape was no landscape, but "A particular kind of heliotypy" (Nabokov), a kind of self-destroying postcard world of failed immortality and oppressive grandeur." (Smithson, 1967)

⁵² Great Falls Park Masterplan, 2008

⁵³ The role of soil banking within the soil remediation fields has come into the discourse following creative adaptations of soil capping guidelines. In some situations contaminated soil may be deposited on sites with similarly designated contamination to level sloped landscapes or to create landform. This allows some developers and remediation contractors to alleviate their soil disposal costs. Additionally, clean fill and soils designated as historic fill (comprising construction debris) may be given or purchased by landfills to cover household waste. This soil use is called 'daily cover' and is valuable in stabilizing the refuse in garbage dumps from blowing in the wind or eroding from storm water exposure.

⁵⁴ While it is clear that regulations exist to maintain tenant affordability and quality of life, it is my belief that the very existence of such laws and restrictions unintentionally validate the commonly held desire to get greater financial returns on a property investment.

⁵⁵ Over the past eleven years, I have experienced dozens of community meeting regarding the contested redevelopment of urban sites. While my professional experience is mainly shared between my work as a landscape designer in Seattle and New Jersey, my previous academic pursuits have lead me to study similar exchanges in Belgium and New York City. I have followed the public participatory process hosted by the DEP/EPA regarding cleanup of Newtown Creek and the Gowanus Canal, and have attended and assisted public outreach meetings for Rebuild by Design. Additionally my experience as a member of the Environmental Commission and Green Team for the town of Red Bank, New Jersey has granted me with further insight to discourse of town council meetings and public review.

⁵⁶ Sites like Paterson's Great Falls, Brooklyn's Domino Sugar Factory or Seattle's Gasworks Park all represent landscapes whose redevelopment had to address contamination and the aesthetic associated with postindustrial urban centers. These sites function as landmarks and are under high regional, if not national, visibility. As such, the redevelopment of iconic sites has a very direct effect on adjacent real estate values.

⁵⁷ Greater laws and regulations associated with the redevelopment of contaminated sites, the complex public safety regulations and the growing environmental sentiment since the 1960s and 1970s now requires design professionals to broaden their expertise. (Kirkwood and Gold, 2010)

⁵⁸ Berger, 2006

⁵⁹ One possible advantageous side effect of property agglomeration is that development may be streamlined as the chemical exchanges (via surface and ground water exchange) between

properties is less legally restrictive. While sites that are proven to have contamination will be monitored by the DEP and EPA respectively, the legal framework has been simplified by the reduction in land owners.

⁶⁰ The presumption of contamination itself often contributes to the devaluation of derelict sites. (Kirkwood and Gold, 2010)

⁶² “One of the most significant mechanisms developed to protect the past owner from continued liability related to contamination is for future use of the property to be restricted. The legal mechanism used is known as an Activity Use Limitation (AUL).” (et al)

⁶³ I firmly believe that public safety reforms have contributed to the well being and quality of life for countless citizens and have contributed to very real environmental benefits,

⁶⁴ Karla Baris, 2012

⁶⁵ Local municipalities often attempt have any number of publically beneficial urban interventions funded and even designed by speculative developers. Such interventions include, improvements to environmentally sensitive landscapes, improvements to water systems and runoff mitigation, the creation of space dedicated to public use and the inclusion of low income housing to name a few. Unfortunately, acceptance of these socially oriented improvements often only results from the exchange of tax breaks or zoning variances. In my opinion as a designer, this tension gives developers greater leverage concerning public design debates.

⁶⁶ As technology continues to connect us, the sharing and influence of aesthetic trends is increased. This includes, fashion, cars and any other iconic product that can be bought and sold, including architecture and public space design. In her article titled “*House Perfect*”, Lauren Collins shares a quote from Bill Moggridge, the director of the Cooper-Hewitt, National Design Museum describing the furniture company IKEA’s aesthetic as “*global functional minimalism*”, stating, “*It’s modernist, and it’s very neutral in order to avoid local preferences, to get the economies of scale they need in order to keep the prices good*”. Like IKEA, urban developers hoping to make a timely return on their investments are limited by the appearance (including physical design and public amenities) of past financially successful developments and the perceived aesthetic desires of popular culture.

⁶⁸ Federal and state funded grant programs along with tax increment financing are the primary mechanisms that municipalities and developers use to collect more capital for contaminated site remediation. Additionally, municipalities often reduce required taxes and allow zoning variances to stimulate development. (Kirkwood and Gold, 2010)

⁶⁹ Chantal Mouffe uses the term “agonism” to define a concept where socio-political issues are addressed following a conflict. Similar to how pain references a physical problem, agonism is positive in its ability to direct change. In this regard, landscape interventions could be developed to draw attention to a problem. (Hansen, 2014)

⁷⁰ While my primary education is rooted in the design fields, I have been involved with several nonprofits located in Asbury Park, NJ. Throughout this time I have come to believe that nonprofits, particularly those that operate only under the funding of external organizations or capital grant awards, at are an inherent disadvantage when countering the interests of the for profit sector. Due to the precarious nature of their funding, decisions may be made to prevent loss rather than promote growth. Additionally, because of the social nature of many nonprofits, such organizations staff often does not include professionals trained in matters of the built landscape (engineers, architects, designers, etc.).

⁷¹ Greater expertise is needed for urban designers to practice in the field because environmentally and socially conscious redevelopment formalities concerning post-industrial sites has become continually complicated by scientific specialization and numerous laws. (Kirkwood and Gold, 2010)

⁷² “The preservation and care of a place is inevitably involves defining boundaries, selecting elements that need attention, and even changing some of a place’s existing qualities so that it can be more resilient in the face of change” p. 46 (Cavano, 2007)

Image Reference

All diagrams have been designed and arranged by Travers Martin. The following citations represent the internet sourced images that have been used to further render diagrams and illustrative images. All other figures and images not mentioned below have been produced by Travers Martin.

Figure 1: Newark Waterfront

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Figure 2: National contamination vs. National Urbanization

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Figure 3: New Jersey cities associated with contamination

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Figure 5: Social void of current postindustrial development

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Figure 7: The contamination of Love Canal

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Figure 11: Borrowed landscape forms

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Figure 12: Cultural references

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Figure 21: Phasing based on living record of use

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Figure 23: Regional case study for implementation

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Figure 27: Paterson site rendered sections

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Figure 33: Passaic site rendered sections

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Figure 39: Kearny site rendered sections

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