NEW SALT:

Connecting New Bedford to Its Waterfront through Adaptive Reuse

Justin Lemma

A thesis submitted in partial fulfillment
of the requirements for the degree of:

Master of Architecture
University of Washington
2019

Committee:
Rob Peña
Nina Franey

Program Authorized to Offer Degree:
Architecture

University of Washington

Abstract

NEW SALT:
Connecting New Bedford to Its Waterfront through Adaptive Reuse

Justin Lemma

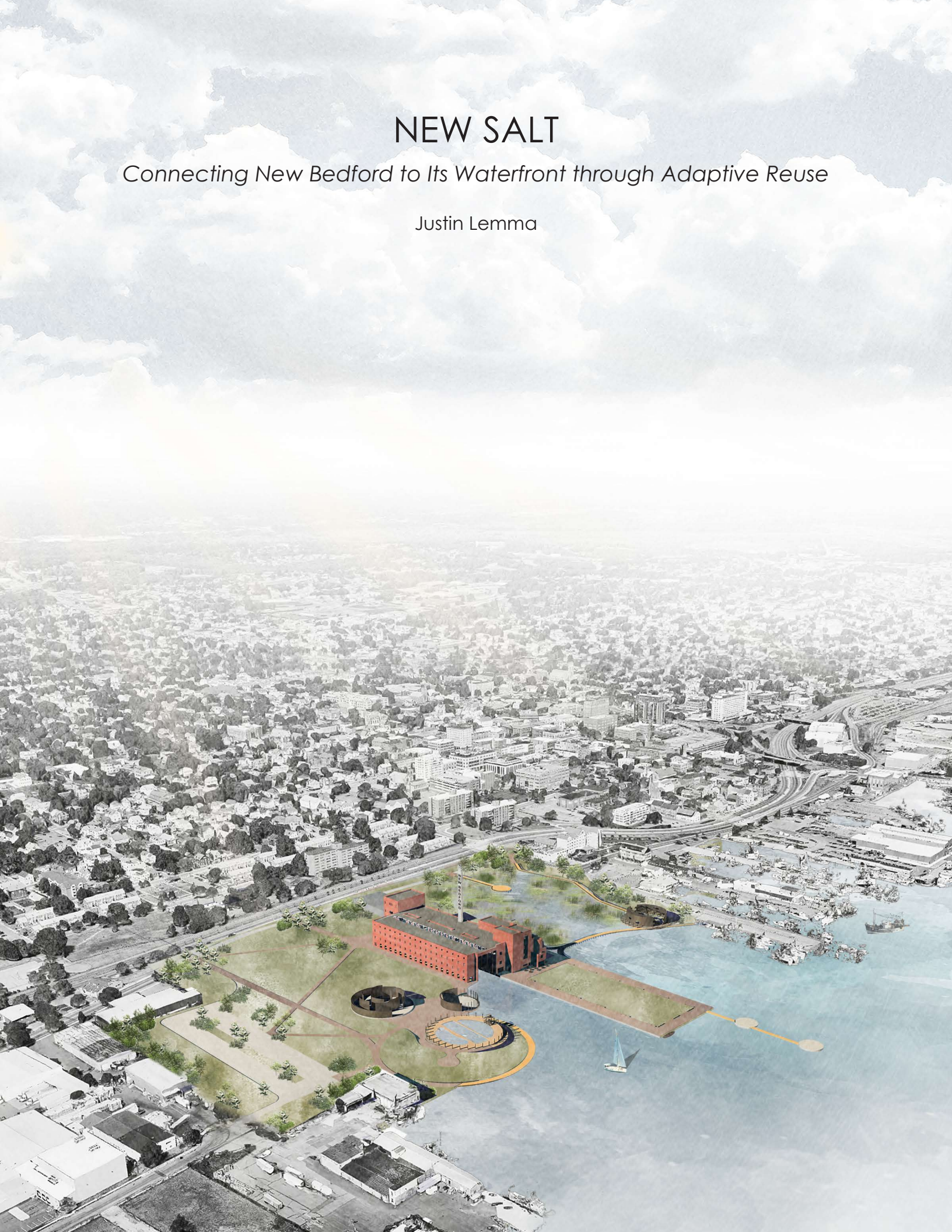
Committee:
Rob Peña
Nina Franey

This thesis contends that abandoned waterfront industrial buildings can be repurposed as public amenity spaces that can connect a community to its water. While the fishing port of New Bedford, Massachusetts prides itself in its working waterfront, very little of the harbor is accessible to the public. A large highway divides the downtown and residential neighborhoods from the waterfront. Originally built to bolster the fishing industry by providing a direct shipping route to Boston, the highway now acts as a barrier that separates its city from the water, its historic source of well-being and success. Along this antiquated highway, numerous vacant historic buildings sit idle while the city grows around them. This thesis proposes that the role of the highway be redefined as a multi-modal pedestrian corridor to encourage public crossing from downtown to the waterfront. It also posits that these vacant sites be adaptively reused to allow the public to get a closer look into the fishing industry, the main source of the city's identity. This design proposal uses techniques that preserve the richness and layered history of these abandoned sites, while removing pieces that no longer serve their community. These methods elevate the importance of historic sites as places of shared memory, but also allow them to be repurposed to play active roles in the future. This thesis uses the Cannon Street Power Plant as an example of how these adaptive reuse design techniques can be implemented. This model can be replicated in other abandoned sites in New Bedford and in other port cities that have been disconnected from their working waterfronts.

NEW SALT

Connecting New Bedford to Its Waterfront through Adaptive Reuse

Justin Lemma



ACKNOWLEDGMENTS

I would like to thank to my wife, Victoria, for introducing me to New Bedford and helping me find the right words to describe it.

I would also like to thank Maria and Victor Pinheiro, Jane Kostow, Kelvin Ortiz, and Anne Louro for all their digging, pestering, and generosity in helping me get information about New Bedford's abandoned buildings.

An additional thanks to Tom Meyer, Andreas Baatz, Joe Graham, Carey Moran, Cale Wilber, Rob Peña, and Nina Franey. Thank you for the creative feedback that inspired this thesis.

fig. 1 Context Map

fig. 2 Cannon Street Power Plant - Kostow-Greenwood Architeccts

I
INTRODUCTION

Well now everything dies, baby, that's a fact,
But maybe everything that dies someday comes back.

Levon Helm, "Atlantic City"

"Old Salt" is a term given to wizened sailors and fishers with the sea in their veins. Bow-legged from years on swaying decks, their skin leathery from countless seasons of cold wind and hot sun. They can be found by the waterfront of every port city in the world, keeping a weather-eye on the horizon. Past their seafaring days, old salts hold within them the epics tales and tragedies of a life at sea that was as grueling as it was invigorating. They embody the history of their port cities and their waters, keeping the stories of these places alive.

In the old fishing city of New Bedford, the abandoned Cannon Street Power Plant stands sentinel in the bustling harbor. Like the old salts spending their days walking down the adjacent docks, its skeleton persists after its life's pinnacle has ended. This thesis explores ways in which the site and building can be adaptively reused to start their next chapter. This "New Salt" can serve its community again by connecting the city to the waterfront while remembering and celebrating its layered past.

fig. 3 New Bedford Whaling, 1890s - Thomas, 2016

II
HISTORY OF NEW BEDFORD

A ONE-INDUSTRY CITY

. . . nowhere in all America will you find more patrician-like houses, parks and gardens more opulent, than in New Bedford. Whence came they?. . . Yes; all these brave houses and flowery gardens came from the Atlantic, Pacific, and Indian oceans. One and all, they were harpooned and dragged up hither from the bottom of the sea.

Herman Melville, *Moby-Dick*

In 1765, Nantucket whaler John Rotch marked New Bedford on the map when he founded the city's whaling industry. "It was then that Bedford Village began to rise out of the sea on the backs of whales," (McCabe 22). Early settlers found that they could increase the quality and yields of whale oil by harvesting liquid spermaceti wax from the skulls of sperm whales and refining it. This resulted in a clean-burning, brighter, and smokeless product, worth six-to-eight times more than standard whale oil. Residents seized the opportunity and New Bedford quickly evolved from a small port town to a central economic hub. The city's whale oil was used all over the globe, marking New Bedford as an important port city and earning its nickname "The City that Lit the World". At the peak of the whaling industry in the late 1800s, New Bedford was the richest city per capita in North America (MacEacheran, 2018). The city became world-renowned when Herman Melville wrote Moby-Dick; the novel being based in New Bedford and inspired by Melville's journey on the whaling vessel named the Acushnet (Thomas 48).

As the whaling ships traveled the world chasing whale pods and delivering their oil, new people and cultures emigrated to New Bedford. The Irish made up the first significant wave of immigrants in the early 1800s, followed by Portuguese whalers from the Azores islands in the center of the Atlantic. Next, French Canadians and Jewish immigrants found their way to New Bedford from Europe. Over the next hundred years, the city evolved from a small industrious Quaker settlement to a rich and diverse city; albeit a city based on one industry. The wealth and culture that the global whaling industry brought flowed through the city found its way into art, theater, churches, museums, numerous other related industries, and lavish mansions. Besides wealthy whaling merchants, the city was also an important place for persons escaping slavery. New Bedford was a prominent stop along the Underground Railroad, earning the city the moniker "The Fugitive's Gibraltar" (Thomas, 2013).

A number of factors caused the whaling industry to swiftly decline in the late 1800s. In 1859, petroleum was discovered in Pennsylvania and, once it was able to be refined, it was proven to be more prominent and cheaper than whale oil. Second, during the Civil War, many of New Bedford's whaling vessels were employed by the Union and either destroyed by Confederate ships, sunk to block southern harbors, or converted to be supply transport vessels during the war. The final blow to the whaling industry occurred

fig. 4 Life Onboard a Whaleship - New Bedford Whaling Museum

shortly after the Civil War when twenty-two whaling vessels were destroyed in Arctic waters as whalers had to travel further to hunt declining whale populations (Thomas 126). Sensing the imminent decline of whaling, merchant families shifted their sights to a new industry.

The era of the textile industry, beginning in the 1880s, was the next chapter of New Bedford's history. The city proved to be uniquely suited for the creation of cotton textiles. It was a prominent port city, the humid ocean climate allowed the cotton to be worked more efficiently, and the city hosted a large immigrant working population. These factors led to the creation of thirty-two textile corporations by the start of WWI, which employed about 30,000 people (Thomas 127). Large brick textile mills hummed around the clock, with workers taking continuous shifts to create fine cotton. The city continued to prosper as it adapted to its new industry. During that time of growth, the industry moved away from the waterfront and up the hill. Zephaniah Pease, a woman of the time, was quoted in the local paper saying, "The eagerness to get away from Water Street assumed the proportion of a panic," (McCabe 25). Just as the whaling industry had died, the waterfront too had been left behind. While the textile industry supported the city until the Great Depression, it left the Waterfront District plagued with disrepair and neglect.

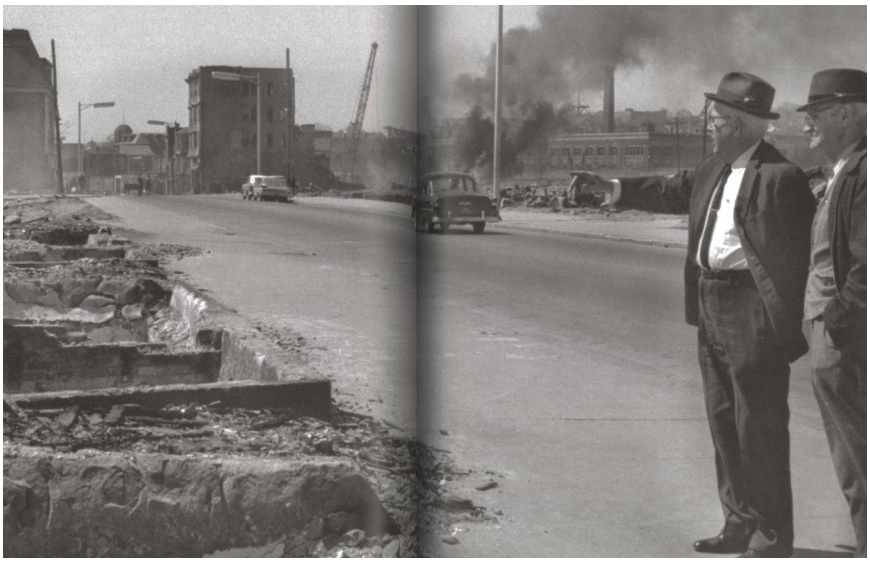
fig. 5 Textile Mills - Thomas, 2016

RECESSION AND URBAN RENEWAL

The ten-acre Waterfront District was a curious mixture of business and blight. It reflected the fortunes of a city that had lost its whales, then its textiles. But New Bedford's fleet still brought in fish. And from the Waterfront District's whaling-era buildings, ships were readied for the sea.

Marsha McCabe*, Not Just Anywhere*

By the end of WWII, textile industry employment had fallen by seventy-seven percent since its peak in 1920. With the market becoming flooded with cotton products and the southern mills having a much lower cost of production, the New Bedford textile industry collapsed. In 1937, the unemployment rate in the city reached 32.5 percent (Thomas 5). Desperate to find a solution, the city turned back to the sea. At the time, New Bedford's Waterfront District was in disrepair and the city did not have a viable fishing fleet. A 1925 Providence Journal article documented a growing shift in the industry of New Bedford: "The spirit which took New Bedford's men down to the sea in ships to barter their lives against a living is not yet dead… As long as there are fish in the sea there will be men to go and get them," (Thomas 9). While not as prolific as the city's lost textile industry, the burgeoning fishing industry proved to be a successful economic source for the city. The port specialized both in scallops and in fresh fish, unlike the ports of New York and Boston which relied on canning and salting to preserve their catch. There were also various other emerging industries that kept the people of New Bedford going after the Great Depression such as fine clothes-making, a rubber industry, rum-running during prohibition, and Works Progress Administration projects. However, it was largely the fishing industry that kept the city's economy healthy after the fall of the textile industry (Thomas, 2016).



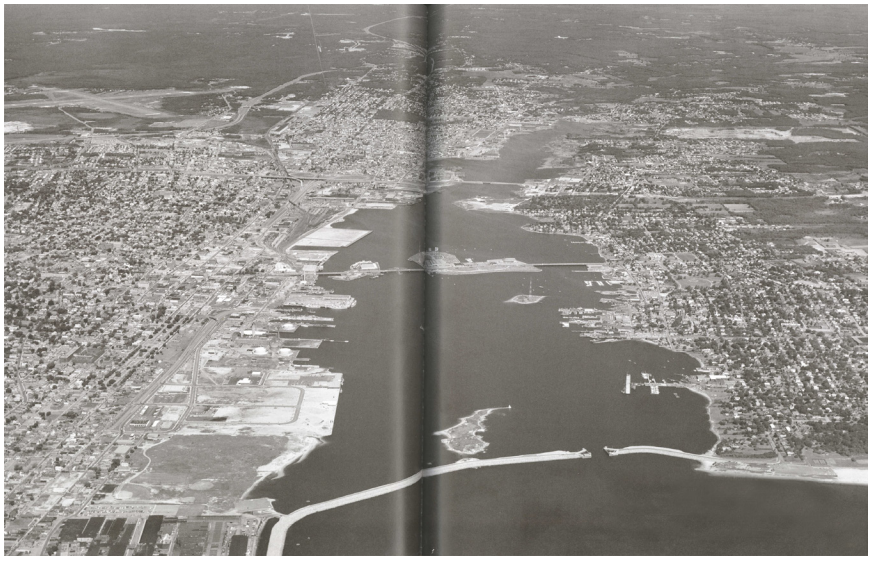
While the fishing industry grew and prospered throughout the mid-twentieth century, it was not able to return the city back to its former glory. The shift of businesses and estates away from the waterfront during the height of the textile era left the historic downtown and waterfront portions of the city sitting in disuse and disrepair. The port still hosted a working waterfront, but the surrounding streets lacked the life and prosperity that they fostered during the whaling days of the century prior. Many prominent mills and historically significant buildings sat vacant as omnipresent reminders of the city's decline. The city was ready for its next chapter. For New Bedford's administration, that next chapter was urban renewal.

In the 1960s and 70s, federal urban renewal funds were used to clear neglected areas of cities and start over. Historic buildings represented the rich and layered history of New Bedford for some residents, despite those buildings being in disrepair. For other residents, those buildings were a symptom of urban blight; the only solution being the bulldozer. With the best of intentions, the city's Redevelopment Authority and Industrial Development Commission acted in favor of tearing down neglected neighborhoods and rebuilding. Over the next two decades, "New Bedford received more federal funds per capita for urban renewal than any other American city," (Thomas 257). The main targets of these urban renewal projects were the downtown and waterfront neighborhoods. In total, 317 buildings were destroyed and replaced by Routes 6, 18, and 195 (Spinner Publications, 2015).

fig. 6 New Bedford Urban Renewal, 1963 - McCabe, 1995

For years, much of downtown was largely empty. From 1963 to 1966, 150 blocks of dense urban buildings were cleared and replaced with wide streets, parking lots, or left vacant. In addition to the highways that connected what was left of New Bedford to cities like Boston and Providence, the focus of the urban renewal project was to invest in the fishing industry. At this point in the 1960s, New Bedford's fishing industry had established one of the country's most economically important ports. In order to better serve this industry, much of Water Street, First Street, and Second Street were destroyed to build Route 18 and to provide the industry with space for growth. New piers and warehouses were constructed, as well as a hurricane dike to protect the harbor from dangerous storm surges (Thomas 258).

fig. 7 New Bedford, 1963 - Thomas, 2016



The urban renewal movement started as an effort to serve the urban poor by removing neglected buildings and creating affordable housing in their place. However, the movement quickly evolved to serve mainly the economic interests of the fishing industry, which acted as the city's main source of economy. In order to serve the industry, "the marsh" neighborhood needed to be removed. What used to be the historic center of the whaling industry was then a mixed-use neighborhood in the 1950s. It consisted of the low-income housing of the immigrant factory and industry workers, as well as several small community businesses. The entirety of this neighborhood was gutted in order to build Route 18, which provided a direct trucking route from fish processing plants along the waterfront to Route 195 (Thomas, 2016). Ironically, this "slum clearance" started out as an effort to support the urban poor. Instead, Route 18 served as a physical barrier between its city and its working waterfront. The whaling industry of the past was able to reach up and infiltrate the New Bedford, bringing life and a rugged charm to the historic city. The destruction of "the marsh" and the construction of Route 18 severed the connection between the city's birthplace and its residents. To this day, the highway acts a physical and social barrier between the city and its industry. Changing that relationship will be a goal of this thesis.

fig. 8 New Bedford (left side), 1966 - Thomas, 2016

RESISTANCE AND PRESERVATION

If you bulldoze your heritage, you become just anywhere.

Sarah Delano*, Not Just Anywhere*

In resistance to the clear-cutting of entire neighborhoods, a small group of preservationists positioned themselves between the bulldozers and New Bedford's historic buildings. Started by city planner Richard Wengraf and then led by Sarah Delano, WHALE – the Waterfront Historic Area LeaguE – was founded in 1962. Their goal was to save the original ten-acre downtown center of the city where New Bedford was founded. Unlike other preservation projects such as Mystic, CT or Williamsburg, VA, the goal was to protect the historic buildings in a living, working waterfront. Rather than displacing the fishing industry, WHALE restored as many buildings as possible and used them to serve the current needs of the city. The buildings would not be hollow relics of New Bedford's heyday. Instead, WHALE led the charge to refurbish them to fit the needs of the working waterfront because the fishing industry "is the district" (McCabe 18).

WHALE was able to raise urban renewal funds to restore, rather than remove, twenty buildings over its lifetime, earning the waterfront district a place on the National Register of Historic Places. By petitioning city planners, raising money from private investors, and sometimes reaching into their own pockets, the group was able to convince the city to reroute Route 18 around the heart of the historic downtown district (see figure 9). WHALE was responsible for selecting feasible buildings, raising money to restore them, and then filling them with tenants that had viable public businesses. Antoinette Downing, a preservationist in Providence at the time, had this to say about WHALE's efforts: "What happened in New Bedford was the most interesting process I'd ever watched in my whole life. New Bedford saved more of its architectural past and made it work perhaps better than any other city in the US," (Thomas 278).

fig. 9 New Bedford Downtown

AS IT STANDS

Dull, inert cities, it is true, do contain the seeds of their own destruction and little else. But lively, diverse, intense cities contain the seeds of their own regeneration, with energy enough to carry over for problems and needs outside themselves.

Jane Jacobs, *The Death and Life of Great American Cities*

New Bedford has had the highest valued fishing port in the country for the past eighteen years, retaining its identity as a one-industry city (Bonner, 2018). Thanks to the actions of WHALE in the 1960s and 70s, the downtown district is now filled with a bustling eclectic mix of working historic buildings, museums, restaurants, and new businesses. The city celebrates its rich and layered past with pride, while retaining the feeling of a modern, working city. New Bedford also hosts a growing art community and strong immigrant populations from the Azores and Central America. Continued growth is in New Bedford's future with plans to connect the city to Boston with a commuter train in the next decade, a growing investment in offshore wind projects, and another plan to revitalize the waterfront with parks and walking paths.

While New Bedford has embraced its past and makes strides to continue to grow and evolve, it is still feeling some of the symptoms of its recession and of the urban renewal period. The waterfront is filled with looming and separated industrial buildings, many of which are critical to the fishing industry but some of which sit vacant. While the city rallies around its working waterfront, much of the city remains separated from the shore by the highway that severed its connection during urban renewal. Across the impenetrable highway, public housing projects and low-income neighborhoods stand disconnected from the water with a lack of building diversity and identity. All the while, the downtown neighborhood to the north grows, expands, and gentrifies. Unlike the homogeneous mixed-use texture of the city prior to the urban renewal period, New Bedford's physical fabric currently stands as three distinct zones: downtown, the industrial waterfront, and the housing districts. Scattered throughout these zones remain vacant mills, theaters, and industrial buildings. They sit idle as fragments of New Bedford's rich history, waiting to be revitalized to serve the modern needs of the city.

fig. 10 New Bedford Harbor - McCabe, 1995

III
FRAMEWORK

BUILDING REUSE THEORY

Architects and planners like a blank slate. They usually do their best work, however, when they don't have one. When they have to work with impossible lot lines and bits and pieces of space, beloved old eyesores, irrational street layouts and other such constraints, they frequently produce the best of their new designs – and the most neighborly.

William Whyte, *The Social Life of Small Urban Spaces*

As the preservation efforts of downtown New Bedford have shown, the retention of historic buildings in cities is essential in order to create healthy urban spaces. Old buildings provide glimpses into the past and act as living memories of the industry and the people that once occupied the city. They also give neighborhoods texture by juxtaposing their modern neighbors and providing a more accurate depiction of the city's history. Jane Jacobs is recognized as one of the most influential people in the discussion surrounding successful urban planning. In her book, *The Death and Life of American Cities*, she continually calls for the retention, rather than the demolition, of older buildings, regardless of their historical status. She says, "Cities need old buildings so badly it is probably impossible for vigorous streets and districts to grow without them," (Jacobs 244). She argues that destroying old buildings and replacing them with monofunctional neighborhoods is akin to draining their vitality both socially and aesthetically (Jacobs 244-260). They give neighborhoods a rich character that is impossible to re-create after their destruction.

In addition to increasing the social vitality and preserving the memories of cities, working with existing structures is also much more environmentally sustainable than new development. Repurposing and reusing existing buildings and their components reduces the amount of waste and energy in comparison to the construction of a new structure. Old buildings contain immense amounts of materials that have already been harvested, processed, transported, and installed. While some of those components may be failing, the repair and reuse of existing materials equates to significant savings in energy and reduction of waste, which often result in financial savings (Rogers Merlino 7).

According to the National Park Service, there are four main approaches when working with historic buildings: preservation, restoration, reconstruction, and rehabilitation. Preserving a historic building entails retaining and repairing the existing materials of the building to fix the condition of the structure, without making significant changes. A preserved building is typically used as it was historically, or in slightly different ways that do not alter the appearance of the building. Restoring a historic building requires more effort and involves reverting the structure back to a certain era by removing evidence of alterations. An example would be the Sistine Chapel. It is meticulously maintained due to its historic significance and retains the same religious function that it always had. Reconstructing a building is an even more invasive process and involves reproducing and installing missing parts of a building in the original construction style to make the building appear whole. Lastly, a rehabilitation involves significantly changing a historic building's appearance and function in order to serve the current needs of its community (NPS). While preservation, restoration, and reconstruction treatments are appropriate for certain historical works, rehabilitation, or adaptive reuse, is the most suitable approach for dealing with New Bedford's abandoned buildings.

Downtown New Bedford demonstrates a preservation approach to working with historic buildings that was successful due to the businesses and active streets in the neighborhood. The buildings were still occupied and simply needed repairs and a greater sense of purpose to continue to be relevant. While that historic preservation approach was ideal for downtown, adaptive reuse is more applicable to the current abandoned buildings of the city because they are completely vacant and lack continuity of use. They do not contain businesses that struggle with their upkeep, as the historic downtown buildings had. Instead, they sit as ruins in a city that advances around them. Even though these abandoned buildings sit empty, they still possess many nostalgic qualities that contemporary buildings lack. Dr. Tim Edensor, author of *Industrial Ruins: Spaces, Aesthetics, and Materiality* and professor at the Manchester Metropolitan University wrote, "Ruins are inhabited by numerous ghosts, absent presences in the traces of life and work, inarticulate forces which again only offer a hint of the past and require us to fill in the blanks but give a profound impression of the seething life which surrounded industrial spaces and has largely been forgotten," (Edensor 170). Adaptively reusing these ruins breathes new life into the ghosts that were forgotten by passersby in the modern city. It offers the opportunity for the community to celebrate their history without sacrificing their future (Rogers Merlino 9). It may be challenging to design around existing structures and parameters, but it can result in sustainable projects that elegantly infuse new life and contemporary ideas into gritty old buildings.

CASE STUDY: MILL CITY MUSEUM

A creative adaptive reuse of an extant shell of a mill building, with contrasting insertion of contemporary materials, weaving the old and new into a seamless whole.
It is museum as a verb.

AIA National Honor Awards Jury

The Mill City Museum in Minneapolis, MN is an example of an adaptive reuse project that preserves and honors the past while providing a contemporary space for modern use. The project stands on the banks of the Mississippi River within the crumbling walls of the Washburn A Mill, once the largest flour mill in the world. The mill began operation in 1880 and was used until 1965, when it then stood vacant for decades. In 1991, a fire destroyed most of the structure, leaving the once-bustling mill in charred ruins. Spurred by the event, the Minnesota Historical Society proposed to recover the Historical Landmark building by creating a museum within its walls. In 2003, the Mill City Museum, winner of the AIA Honor Award for Architecture, opened its doors (MHS).

Architect Thomas Meyer of Meyer, Scherer and Rockcastle, Ltd (MSR) led the adaptive reuse design of the Mill City Museum. Being a museum, the goal of the project was to showcase the history and significance of the site. The design achieved this by working within the ruins of the old mill; the contemporary additions of steel and glass juxtaposing the old masonry walls in a way that clearly marks them as different. This tectonic disparity between the new and old parts of the building demonstrates sanctity with which the past is treated. The entire past is treated equally, honoring both the fire and the building's industrial use. Rather than imitating the materiality of the past and, therefore, competing with it, the new design is intentionally different. It marks itself as something distinctly other than the historic mill. By doing so, the mill ruins become the main attraction. The modern addition reveals itself as merely a platform from which visitors can view their shared history (MSR).

fig. 11 Mill City Museum, 2019

From an urban perspective, the Mill City Museum helped to transform what used to be vacant waterfront into a bustling pedestrian hub. In the early 1900s, the waterfront along the Mississippi River in Minneapolis experienced a period of decline as transportation was rerouted and businesses departed the area towards the inner city. Much like in the history of New Bedford, the city turned its back to the water; the place from which it was born. The waterfront, with its two main inhabitants, a dam and the abandoned mills, was abandoned and deemed an industrial site unfit for urban use. However, with the addition of a bike path, the restoration of waterfront parks, and the adaptive reuse of the mill, the Mill City Museum helped bring life back into the area. With two entrances on its city-side, "the museum functions as a porous link between downtown Minneapolis and the river," (MSR). The positive effect of this adaptive reuse project not only filled the void of the mill, but also permeated the city around it. It is a compelling example of how architecture can breach its walls and instigate urban-wide change.

fig. 12 Mill City Museum, 2016

CONCLUSIONS

The city, however, does not tell its past, but contains it like the lines of a hand, written in the corners of the streets, the gratings of the windows, the banisters of the steps, the antennae of the lightning rods, the poles of the flags, every segment marked in turn with scratches, indentations, scrolls.

Italo Calvino, *Invisible Cities*

New Bedford's successful historic preservation efforts in the downtown district demonstrate the value of retaining the buildings that were instrumental to its growth. With the emergence of its arts community and the arrival of a Boston commuter train on the horizon, New Bedford is on the verge of its third renaissance; a time in which the city can prosper while solidifying its identity as a port city. Rather than demolishing its industrial ruins to redefine itself, the city can rehabilitate these buildings to reclaim its history and its waterfront. This thesis proposes that the urban redesign of an arterial highway and the adaptive reuse of abandoned buildings in New Bedford has the potential to repair some of the damage that urban renewal caused in the 1960s. While the Mill City Museum has demonstrated that the positive effect of a rehabilitation effort can reach beyond the building's borders, that same effort will not be successful in New Bedford unless one directly confronts the JFK Memorial Highway that divides the city in such an impenetrable fashion. Once the highway is redefined, the adaptive reuse of New Bedford's abandoned buildings can draw the public back to the waterfront, the city's source of well-being and identity.

fig. 13 Notable Sites

IV
SITE ANALYSIS AND METHODOLOGY

THESIS GOALS AND OBJECTIVES

The goal of this thesis is to establish a clearer identity of New Bedford as a port city by connecting the community back to its waterfront. It will address this goal in two ways: by redefining the highway as a multi-modal transportation corridor and by proposing the adaptive reuse of the city's abandoned buildings along this highway. First, at the urban scale, JFK Memorial Highway will be modified to promote crossing and non-vehicular traffic. A biking and pedestrian path will be added parallel to the highway that will connect the abandoned waterfront sites of the city to the downtown district. This will promote a clear connection from the downtown and residential neighborhoods to the waterfront. Rather than simply being a monofunctional highway, this street will give access to bikers and pedestrians while both connecting them physically to the water and giving them a closer look into the fishing industry that gives life to the city. Additionally, this thesis will propose that the street grid reconnect to the waterfront across the highway. This will encourage crossing and slow down traffic along JFK Memorial Highway.

The second way in which this thesis will connect the community of New Bedford to its waterfront is through the proposed adaptive reuse of the abandoned buildings along the 1.3 mile stretch of the highway south of downtown. Three abandoned sites were selected along this route: the Cannon Street Power Plant, the Orpheum Theater, and the Berkshire Hathaway Mill Complex. While each of these sites merit rehabilitation, the design proposal of this thesis will focus on the Cannon Street Power Plant. The intention is that the methods of adaptive reuse demonstrated on this site could be implemented on New Bedford's other abandoned buildings in similar ways in the future.

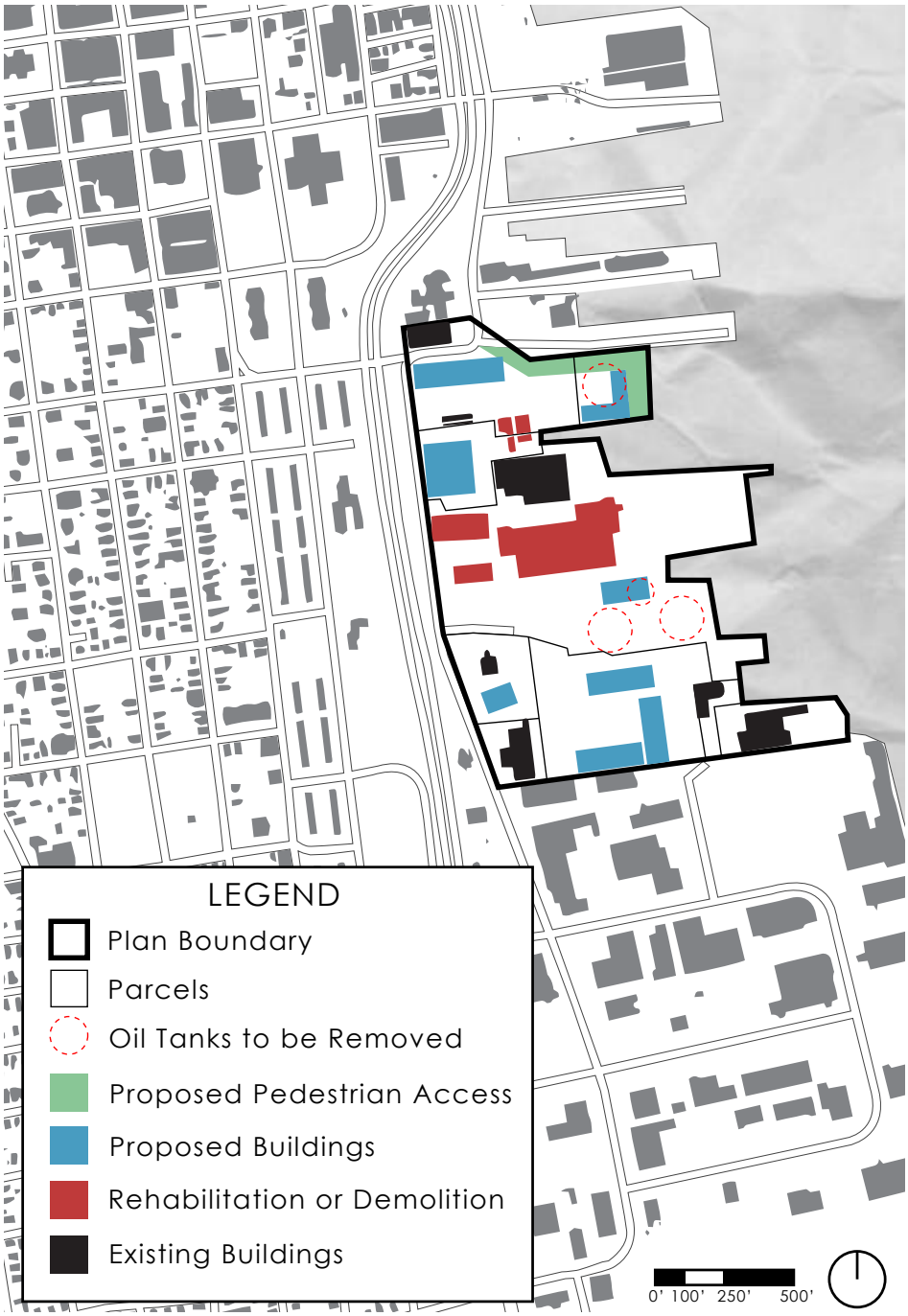


fig. 14 New Bedford Waterfront Redevelopment Plan, 2018

CURRENT WATERFRONT PLAN

It is important to understand the thesis goals stated within the context of New Bedford's existing and proposed land use policy for the waterfront. New Bedford is currently undergoing an extensive waterfront redevelopment process. The main goals of the plan are to promote pedestrian access, capitalize on underutilized space, transform brownfield sites into productive parts of the working waterfront, and to have an overall balance between the public realm and the fishing industry. The city plans on doing this by rezoning portions of the waterfront, demolishing or rehabilitating certain buildings, removing unused industrial relics, and selling off parcels of land to developers for future use (New Bedford Waterfront Redevelopment Plan, 2018).

The South Area Waterfront Plan shown in figure 13 demonstrates a willingness of the city to promote a healthy relationship with the waterfront. Proposing pedestrian access to the water's edge, remediation of hazardous sites, and the development of future waterfront businesses are all changes that will benefit the public realm. While this development plan has the right goals, certain elements of its methodology should be challenged. For example, while the plan proposes pedestrian access on the site, the plan boundary stops before Route 18 and only covers a small portion of the site. Therefore, this waterfront plan is missing a key component by failing to fully address the issues that Route 18 faces to waterfront pedestrian access. Additionally, the plan proposes the removal and demolition of oil tanks and historic buildings that are of significant importance to the city.

This thesis will propose an alternative waterfront development plan on this site using the same goals put forward by the New Bedford Redevelopment Authority. It will promote a balance between public waterfront access and the importance of the fishing industry. By expanding the plan boundary to encompass Route 18 and beyond, the design strategies that address the vacant buildings and lots in this area will have a greater impact on the city. Additionally, the adaptive reuse of the structures on this site will connect the public to their city's rich history, furthering the positive impact of the waterfront redevelopment.

fig. 15 JFK Memorial Highway

THE WALL

The JFK Memorial Highway, or Route 18 extension, was constructed between 1963 and 1965 as a six-lane highway (three lanes in each direction) that connected New Bedford's working waterfront to I-195. The highway is 2.8 miles long in total, although the study area for this thesis is the 1.3 mile portion between downtown New Bedford and the South End known as the "waterfront arterial". The goal of the highway was to provide fishing industry transportation stronger access to I-195 and the city of Boston. In the late 1990s, after observing the negative impacts of severing the public's connection to the waterfront, the city of New Bedford made plans to convert the waterfront arterial section of the highway to a four-lane boulevard in order to slow traffic and provide the public with access to the piers. Two main pedestrian crossings were added at the Walnut Street and Elm Street intersections near the downtown core (John F. Kennedy Memorial Highway).

While the removal of two lanes of traffic and the addition of two pedestrian crossing areas are both good steps to improve the connection between the city and the waterfront, this thesis maintains that the overall identity of this street should change from a highway to a multi-modal corridor. Before the construction of the JFK Memorial Highway, the city grid extended almost all the way to the water with South Water Street, replaced by the highway, being a walkable street lined with businesses (see figure 16). Now, as the zoning map in figure 17 shows, the highway creates an almost perfect division between industrial use on the east side and mixed-use and residential on the west side (New Bedford Zoning). This thesis will explore multiple different ways to reverse the divisive nature of this highway. At the building scale, the Cannon Street Power Plant and surrounding site will be converted to a public amenity to draw people across towards the waterfront. At the street scale, a pedestrian path will be designed to promote alternatives to vehicular traffic along this street. Fences will be removed, traffic will be slowed, and pedestrian crossings will be added to encourage the public activation of the waterfront.

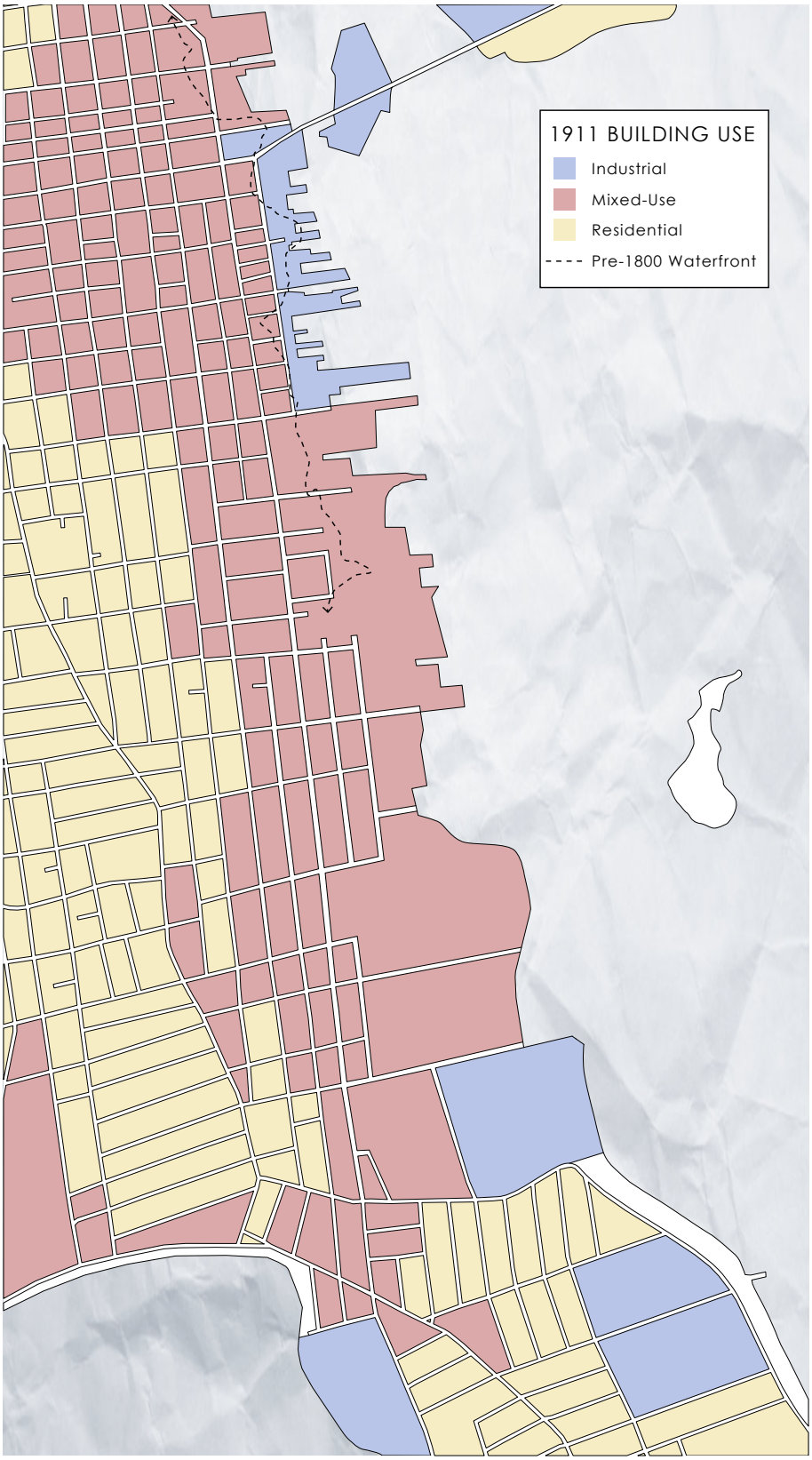


fig. 16 New Bedford Zoning, 1911

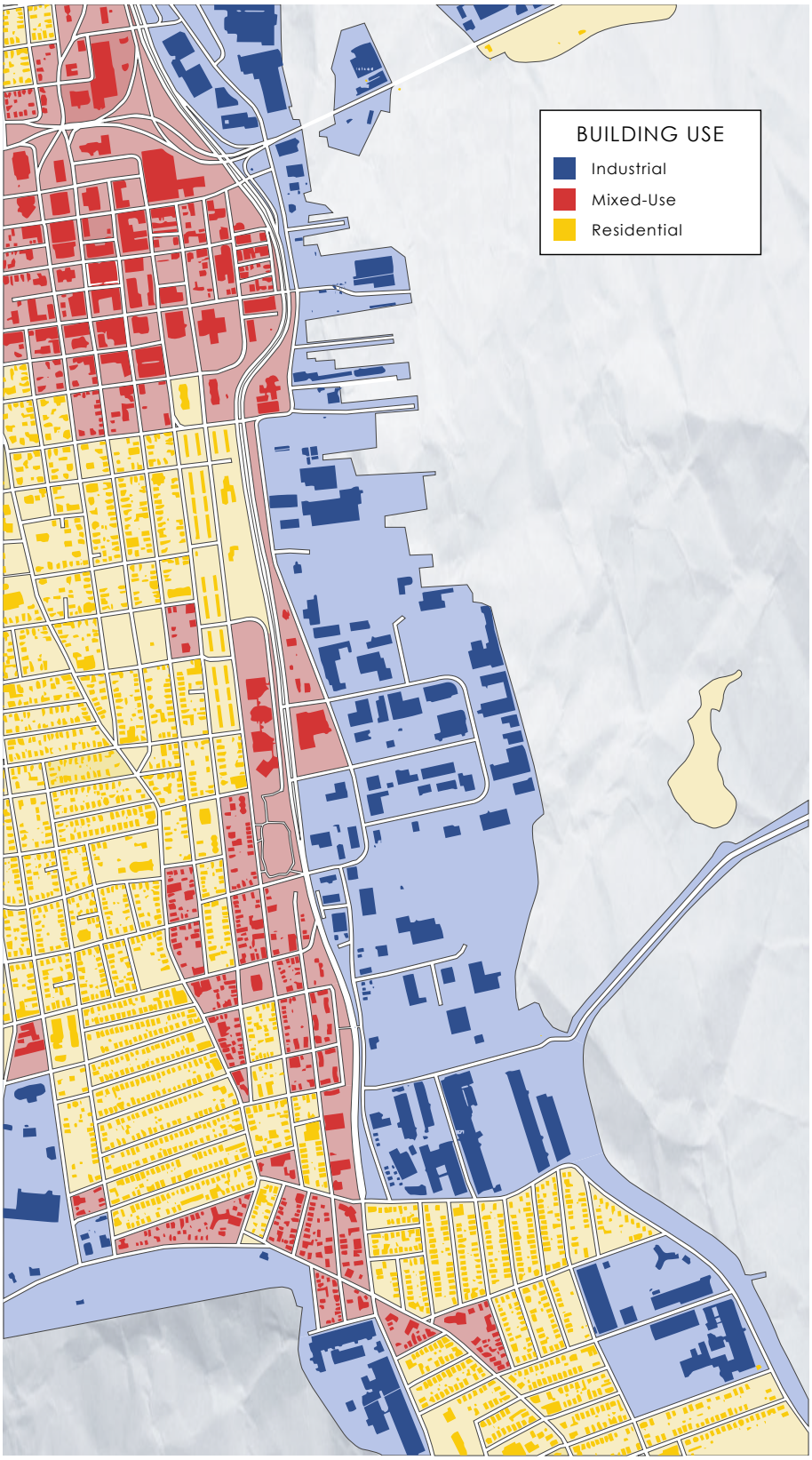


fig. 17 New Bedford Zoning, 2018

fig. 18 Orpheum Theater

THE RUINS:
ORPHEUM THEATER

The Orpheum Theater was built by the French Sharpshooter's Club in 1912. It was designed in a Renaissance-revival style by local architect Louis E. Destremps, who also designed many prominent buildings in the area including the Mills Building, the Central Police Station, the Third District Court, and numerous schools and fire stations throughout New Bedford. The original program of the building was a library and entertainment theater for French-speaking residents of New Bedford. As a theater it offered residents vaudeville, movies, and burlesque shows. The Orpheum Theater was centrally located on Water Street which, before the street's demolition in the 1960s, was lined with businesses and even had a trolley system. The building served as a theater for most of its life, but it has also housed multiple small businesses, a gymnasium, a shooting range, and a troop-registration facility during WWI and WWII (Lambros, 2011). In perhaps its most news-worthy moment the Orpheum Theater was bombed in 1933 in retaliation for the theater owner refusing to pay for local gang "protection", adding to the building's layered history (The Theater Bombings, 1933). The theater closed in 1959 and was eventually sold to a tobacco storage company in 1962. It has largely stood vacant since then, except for a small grocery store which operated out of a portion of the building, but closed in 2010 (Lambros, 2011).

While the design proposal does not focus on this building, this thesis proposes that the Orpheum Theater merits adaptive reuse to serve the residential neighborhood around it. Before urban renewal, the theater and the neighboring shops formed a continuous streetwall along Water Street, creating an active and healthy urban condition. Today, however, the Orpheum Theater stands as the lone surviving structure in the area, surrounded by parking, empty lots, and neglected apartments. While the programmatic and architectural proposal of redesigning this building is outside the scope of this thesis, the building's adjacency to the newly designed pedestrian corridor along Route 18 will activate the area and promote the possibility of future use.

fig. 19 Orpheum Theater, 1941
fig. 20 Orpheum Theater, 2019

fig. 21 Orpheum Theater - Lambros, 2016

fig. 22 Berkshire Hathaway Mill Complex

THE RUINS:
BERKSHIRE HATHAWAY MILL COMPLEX

The current Berkshire Hathaway Mill Complex was first constructed by the Hathaway Manufacturing Company in 1888. The company operated multiple textile mill buildings and eventually merged with Berkshire Fine Spinning Associates and formed Berkshire Hathaway in 1955. As many of the other mills in New Bedford ceased production in the 1930s and 40s, the Berkshire-Hathaway mills continued to be profitable. This profit caught the eye of investor Warren Buffet, who bought the company in 1965 as one of his first major investments. The looms spun until 1985 when the mills were shut down and the complex was sold to a local investor. Today, aside from some of the mills being used as storage, the building complex stands idle. The mill complex has been for sale for the past decade. In 2014, one of the largest mills on the site was torn down because repairs were deemed too expensive. Barring local investment, the remaining buildings on the site are condemned to follow the same fate (DeCosta, 2014).

The mill complex sits in a unique position with residential apartments to the south, the JFK Memorial Highway to the west, vacant industrial lots to the north, and the waterfront with the dike and the New Bedford Harbor Walk to the east. While the adaptive reuse design is outside the scope of this thesis, the newly created pedestrian corridor adjacent to this site will provide activation for the possibility of future use. It has the possibility to provide the community with another public waterfront amenity adjacent to the city's working waterfront.

fig. 23 Berkshire Hathaway Mill Complex - DeCosta

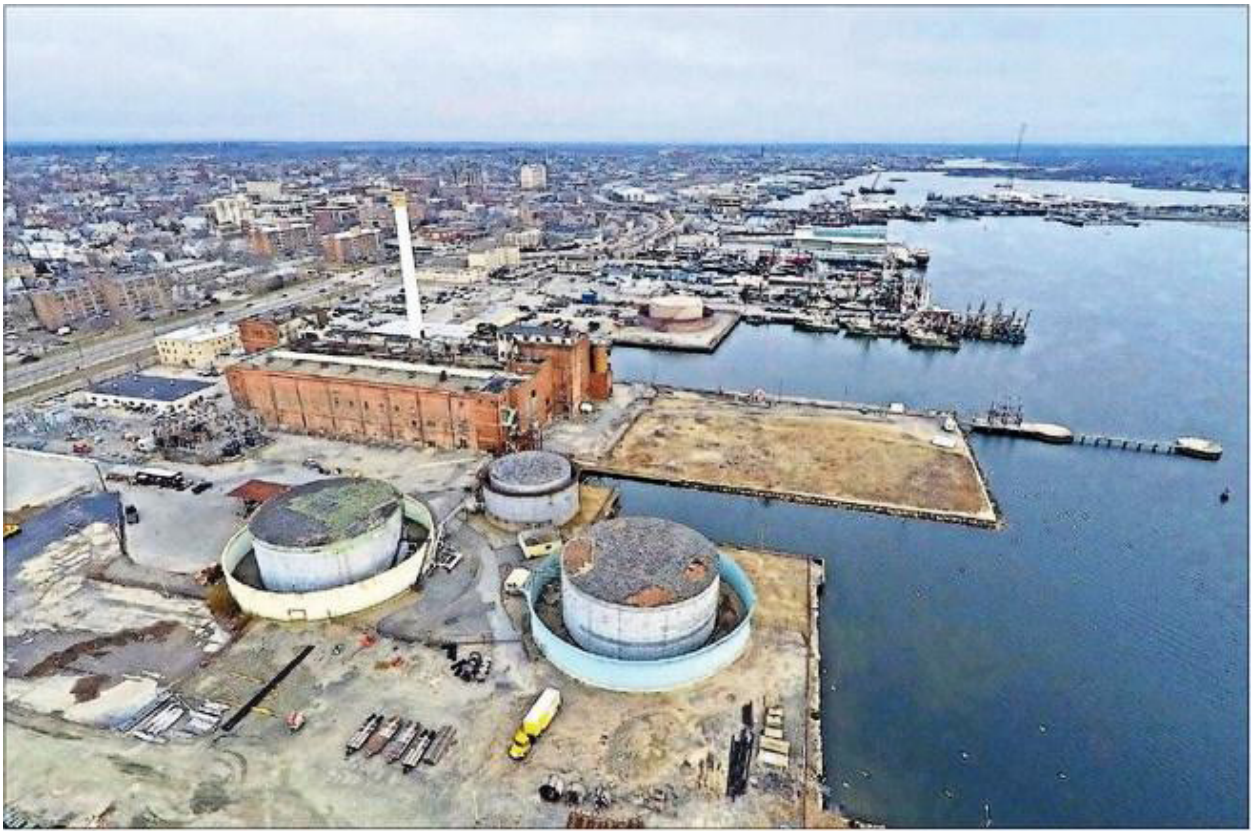
fig. 24 Berkshire Hathaway Mill Complex

fig. 25 Cannon Street Power Plant

THE RUINS:
CANNON STREET POWER PLANT

The Cannon Street Power Station was designed by the engineering firm Stone & Webster and constructed in 1916 (Medeiros, 2015). The building gradually grew until 1950 when it reached its current size of about 390 feet long and eighty feet tall. It hummed with activity until 1992 when the power plant was deemed obsolete and shut down (DeCosta, 2012). The building has stood vacant since then, looming over both the waterfront and the city, waiting for its next chapter. In 2002, the waterfront area around the building was deemed a "National Historic District" and the power station building itself was listed on the "National Register of Historic Places" (New Bedford Waterfront Redevelopment Plan 34). With historic tax credits available to mitigate the costs of structural retrofitting as well as the environmentally hazardous materials on site, investors have proposed both an aquarium and a casino to fill this vacant building. However, neither of these proposals were successful and, instead, the New Bedford Waterfront Redevelopment Plan states that "the clear message from the study process for both the Framework Plan and this Redevelopment Plan is that the economic focus for this area should be water-dependent industrial uses," (New Bedford Redevelopment Plan 34). While this redevelopment plan does propose some pedestrian access, it does not propose significant land use changes to the site.

This thesis proposes community-oriented programs rather than additional industry for the Cannon Street Power Plant and the surrounding site. While the fishing industry and surrounding waterfront industrial businesses are integral to the economic success of the city, New Bedford has proven that its fishing industry can thrive without the use of this site. Instead, this thesis proposes that the abandoned power plant be given community functions to reconnect the public to the waterfront and, in doing so, celebrate the city's water-oriented businesses through pedestrian proximity. This building will be adaptively reused as a Community Boating Center and will house a boat building school, the Azorean Maritime Heritage Society, and a restaurant and event space. The surrounding site will be converted into a waterfront park with a wetland, a waterfront plaza, and various interactive sculptural elements, all connected by a boardwalk system.



In order to understand the scope of this design proposal, one must understand the current conditions of the Cannon Street Power Plant building and site. The approximately thirty-acre site contains the historic power plant and iron foundry buildings, electric transformers, numerous storage warehouses, and four oil storage tanks. These tanks each consist of an outer ring that is used to prevent oil spills and a large central covered tank (figure 31). The tanks are wrapped with steel plates and either have a concrete structural system or steel composed of vertical I-beams and open-webbed steel trusses (steel is assumed for the purposes of this design proposal) (Geyer, 2000). Each of these tanks is approximately thirty feet tall and range in diameter from eighty to 130 feet. The landscape of the side is entirely covered with aging hardscape, aside from the large wharf projecting into the harbor on the east side of the power plant building. A long pier with two concrete platforms projects off the east side this wharf into the sea (figure 30). Along the entirety of the site's intersection with the harbor, the land borders the water with a consistent concrete retaining wall.

fig. 26 Cannon Street Power Plant

The Cannon Street Power Plant stands as one of the largest buildings in the city of New Bedford. Its form has evolved over its lifetime with eight additions to the original structure (Kostow Greenwood Architects). One 200 foot smokestack remains, while originally the building contained four. The exterior of the power plant shows signs of disrepair with efflorescence covering much of the brick, cracked masonry, corrosion on exposed steel, and boarded-up or missing windows. The interior of the building is divided into the turbine hall on the south half of the building (figure 28), the boiler and furnace room (figure 29), and many smaller spaces for administration and other program. While there is evidence of corrosion and rust inside the building, most of the steel structure and load-bearing masonry remains functional (Kostow Greenwood Architects). There is a simple industrial beauty to exposed tectonics in the interior of the building that is emphasized by the natural light in the turbine hall. The intent of this design proposal is to retain as much of the character and utility of the power plant building as possible as it evolves into the Community Boating Center.

fig. 27 Cannon Street Power Plant - DeCosta, 2012

fig. 28 Turbine Hall - Kostow Greenwood Architects

fig. 29 Boiler Room - Kostow Greenwood Architects

fig. 30 Pier and Wharf

fig. 31 Oil Tank

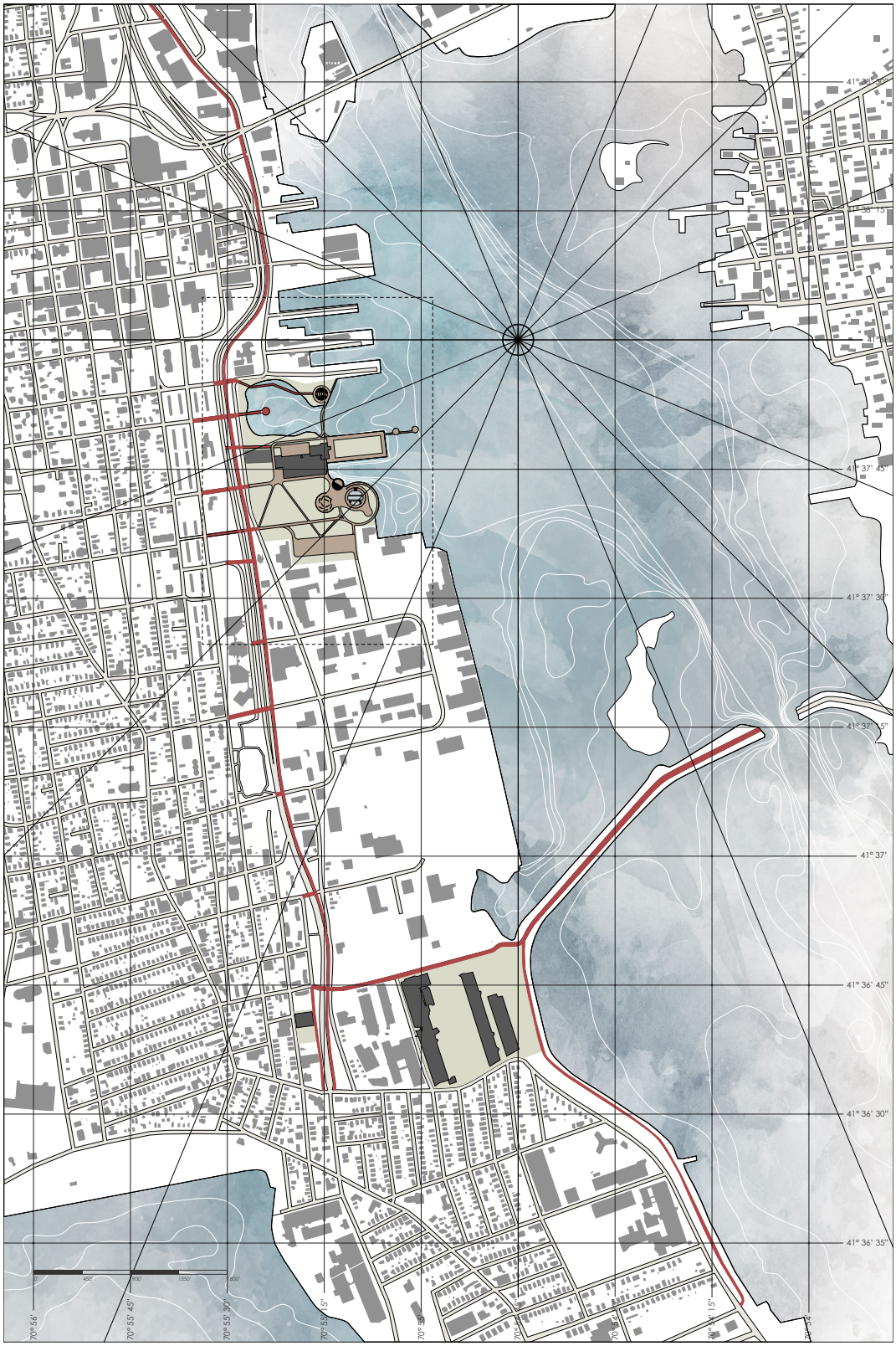


fig. 32 Map of the New Pedestrian Path

V
DESIGN RESPONSE

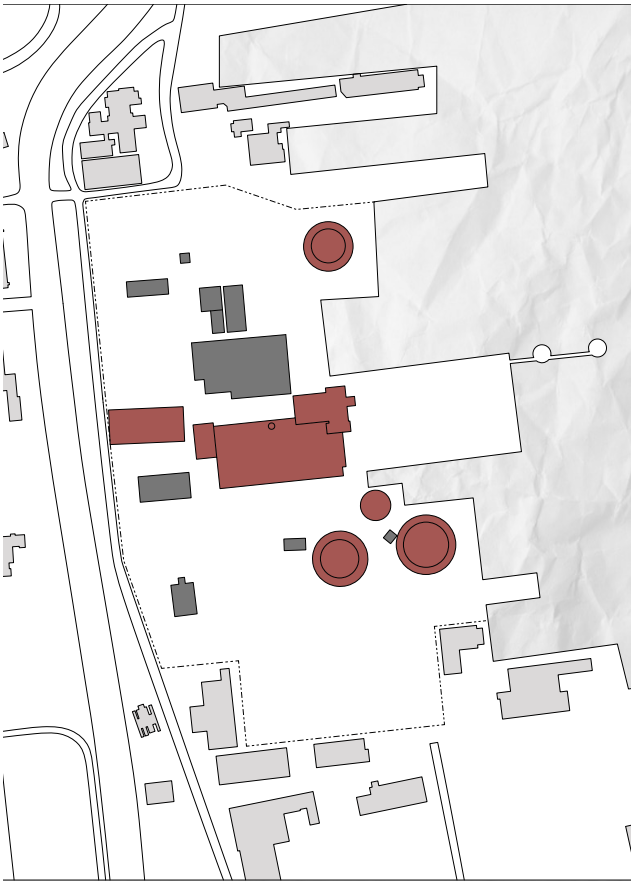
THE PATH

The urban-scale design response implemented in this thesis is the redesignation of Route 18 from a highway to a multi-modal transportation corridor. In order to change the identity of this street, the city grid extends from the residential neighborhoods across the highway to the waterfront in the east, breaking down the scale of this highway into that of an urban avenue. Traffic is slowed by adding crosswalks and traffic lights, which also promotes pedestrian crossing. These crosswalks have the same cobblestone that is used downtown, giving them a texturally different quality than that of the street. In order to encourage alternative modes of transportation and activity along this street, a pedestrian path is added along the east side of the street.

Traveling from downtown to the hurricane dike in New Bedford harbor, the pedestrian path winds in and out of the aforementioned abandoned sites. At some points the path connects with the waterfront while, at other moments, it provides pedestians a glimpse into the industrial workings of the waterfront that fuels the city's economy. Whether it is being used by bike commuters taking a direct path along the redesigned Route 18 or by leisurely tourists and dog walkers, the new pedestrian path creates a public link between the community and its waterfront.

SITE RESPONSE

1. Remember or Forget?

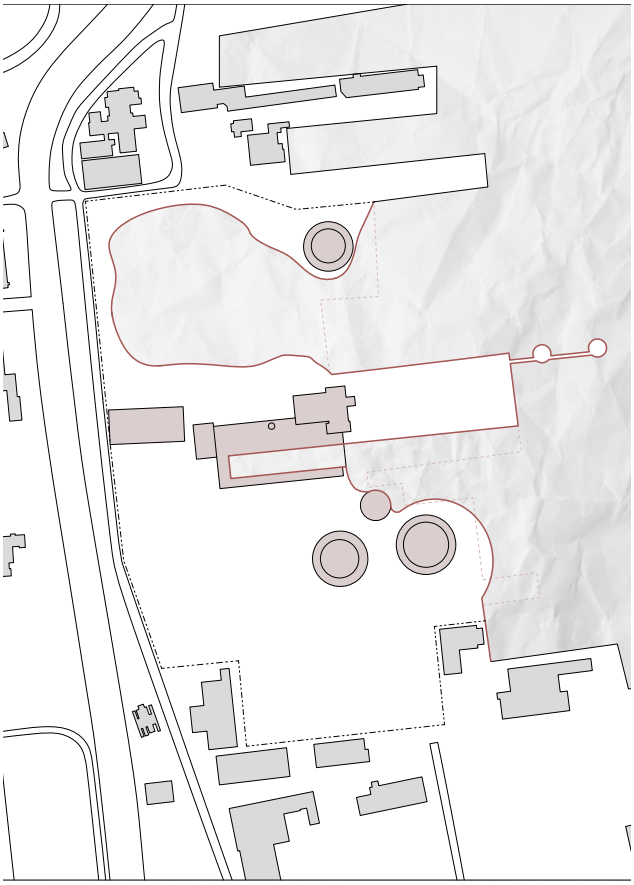


While the Waterfront Historic District has many relics of its layered history, not all of them can be or deserve to be preserved. Multiple small, cheaply built warehouse style buildings are removed to make space for more important public amenities. The electric transformers are also removed as the site will no longer serve as a power generator.

Other aspects of the site deserve to be celebrated as key moments in New Bedford's past. The oil tanks are retained due to their massive and unique shape, and also as a way to acknowledge the city's past reliance on oil for energy. The iron foundry and power plant buildings remain to be celebrated due to their age and significance as industrial centers. Lastly, much of the wharf and pier remain due to their massive presence in the harbor.

fig. 33 Site Response Diagram #1: Remember or Forget?

2. Erode

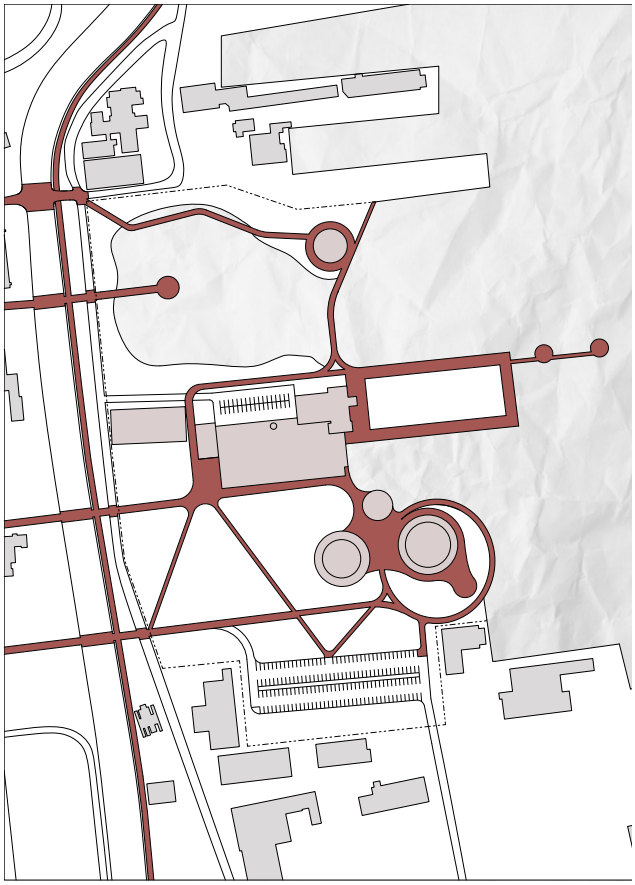


New Bedford's waterfront has swollen, shrunk, and changed shape over the city's lifespan. While originally a naturally shaped result of the flow of the Acushnet River, the harbor is now almost completely bordered by piers, wharfs, and cement retaining walls. To restore some of the important ecological services that wetlands offer, a large portion of the site is reverted back to a natural state. This new wetland at the northern half of the site absorbs storm surge, filters the city's runoff, provides wetland habitat, and gives the city a natural beautiful amenity.

The wharf is also eroded in order to bring the building into direct contact with the water. The waterfront now does not only greet the building, but it flows directly into it, hollowing out the old power plant's turbine hall.

fig. 34 Site Response Diagram #2: Erode

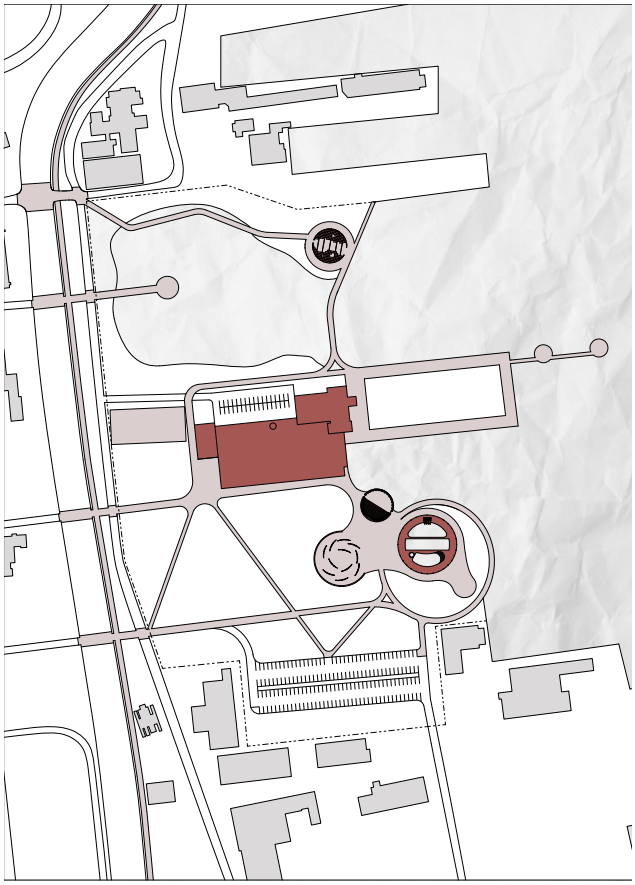
3. Connect



A main urban-scale goal of this project is to connect the park and the waterfront to the neighborhoods across the highway. Therefore, this design proposes that the street grid extends across the highway and becomes the paths and boardwalks that deliver park visitors to the waterfront. At the intersection of the highway and the parallel bike route, these roads will take the same form of the cobblestone crosswalks to the north of this site. Once in the park, these routes will be made of cobblestone and wooden boardwalks, and will cease to be car-oriented, aside from at designated parking areas.

fig. 35 Site Response Diagram #3: Connect

4. Adaptively Reuse



The relics that remain from Cannon Street Power Plant's operating days are each given new roles as the site is repurposed. The oil tanks are each given a different way of connecting the community to the waterfront. The northern tank becomes a gateway: the visitor's first framed view of the harbor. The next is transformed into a theater from which people can watch performances and the activity of the harbor. The third oil tank is transformed into a public fountain, giving visitors an opportunity to play with and celebrate water. The last tank is buried in the soil that was removed in the process of changing the shape of the waterfront and is converted into a public pool.

The power plant building is converted into the Community Boating Center and contains a boat building school, covered marina, and the Azorean Maritime Heritage Society. The foundry building to the western edge of the site retains is current function as an industrial building and will not be a part of this design proposal.

fig. 36 Site Response Diagram #4: Adaptively Reuse

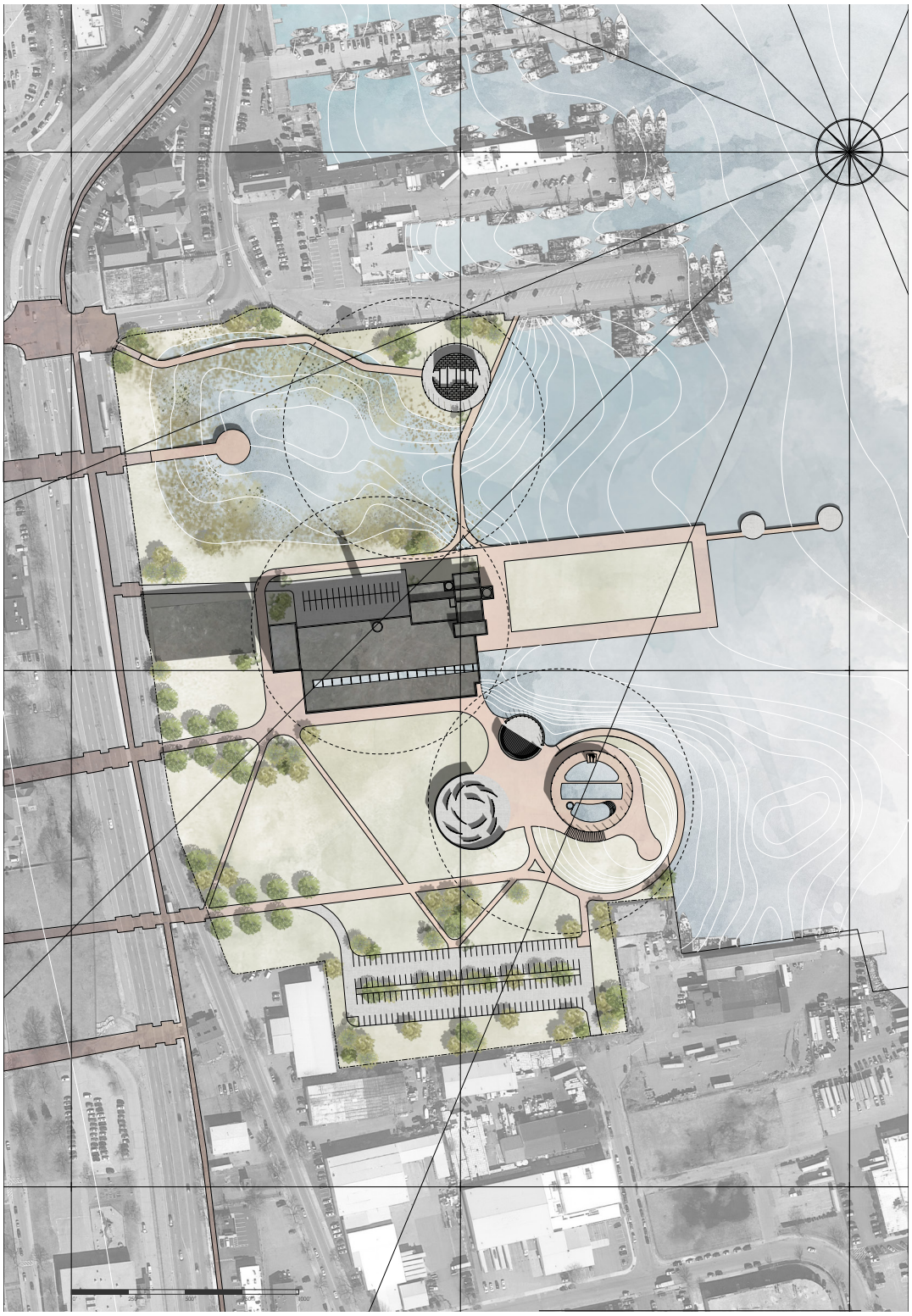


fig. 37 Site Plan

THE PROGRAM

The role of the newly designed site is that of a public waterfront park with a mixture of different types of non-programmed landscape features. These elements provide visitors with various free experiences to enjoy as they travel through the site. A large wetland covers the north half of the park and greets visitors coming from New Bedford's downtown area. This wetland juxtaposes the harsh concrete landscape that previously covered the north half of this site and instead reverts this portion of the site to a naturalized landscape that is representative of the area before human settlement. Traveling south through the site, the large wharf remains as an open lawn from which visitors can gather for performances, sports, or to watch the activity of the waterfront. The pier at the east edge of the wharf also largely retains its original form and provides a unique vantage point in the harbor. The area to the south of the power plant building becomes a group of smaller fields that are divided by paths and vegetation. Lastly, the soil that was dug out of the north part of the site to create the wetland is placed on the southeastern corner of the site. This creates a hill from which visitors can overlook the activity of the fishing industry along the waterfront.

Throughout the park are five specifically adaptively reused structures that provide different ways in which visitors can experience water and connect to the harbor. By having multiple ways of interacting with water, the community has the opportunity to develop associations of the waterfront being a public amenity rather than just a tool of maritime industry. Traveling from north to south, the first of these structures is the northernmost oil storage tank, which becomes the gateway. The gateway is an inhabitable ruin and serves as the visitor's first framed view of the water. Next, the visitor encounters the power plant building, which becomes the Community Boating Center. This center contains a covered marina, a boat building school, a restaurant, and an event space for the Azorean Maritime Heritage Society. The last adaptively reused structures that the visitor will encounter on their journey are the group of three oil storage tanks to the south of the Community Boating Center. Each of these tanks are manipulated to provide the visitor with a unique way of interacting with water. One becomes a theater from which people can passively watch boats travel in and out of the marina and the harbor. The second tank is transformed into an interactive fountain in which people can immerse themselves . The final tank becomes an elevated pool from which swimmers can fully submerge themselves in water while experiencing an elevated view of the harbor.

fig. 38 The Wetland

THE WETLAND

From the southeastern edge of downtown New Bedford, the public's experience begins with the wetland. Immediately upon entering the park from the existing cobblestone crosswalk at the intersection of JFK Memorial Highway and Walnut St, the park visitor is greeted with a winding boardwalk and natural wetland. If the main goal of this design proposal is creating a stronger connection between the city and the water, then bringing the water to the edge of the city is one of the most important interventions that this thesis proposes. Another goal of this design proposal is fostering a healthier relationship between the community and their waterfront. Therefore, this wetland provides the city with the ecosystem services that were present before the water's edge was solidified with concrete. These natural services include stormwater filtration, flood protection, and erosion control. The design of the wetland imitates the natural tidal flats that are endemic to the region. The topography allows for the rise and fall of the tides, while also accounting for the surges of water that will occur during storms. The vegetation and standing pools encourage fish spawning and waterfowl habitat. Circumnavigating the wetland, the boardwalk is wide enough to accommodate bikers, dog-walkers, and runners. The boardwalk is elevated on piles, allowing its travelers to pass harmlessly over the ecological processes happening below them.

fig. 39 The Gateway

THE GATEWAY

The first piece of the site's history that the visitor encounters is the northernmost oil storage tank. Now serving as a gateway, this structure frames the visitor's first view of the waterfront in the park. The form of the gateway building is created by unapologetically tearing away at the metal sheets that formed the walls and roof of the original storage tank. Metal trusses remain to support what is left of the roof and the steel columns that once supported the outer retaining wall remain as a colonnade circling the gateway. The walls of the structure are punctured at specific places to create smaller framed views of the wetland, the boating center, and the fishing docks nearby. Vegetation reclaims the interior of the structure, slowly reverting the building back to a natural state similar to the adjacent wetland. These design decisions result in the visitor having the sense of trespassing in a ruin. This is an elusive feeling that is lacking in adult modern life, and is one that allows the visitor to connect with the history of the power plant site.

fig. 40 The Gateway Plan

THE COMMUNITY BOATING CENTER: DESIGN

The next landmark that the public encounters on their journey south through the park is the Cannon Street Power Plant building, which is now the Community Boating Center. This design proposal maintains much of the character of the old building. Most of the facade remains the same, with new windows replacing the boarded-up openings and only the most recent wooden additions of the building having been removed. The floor plates and overall interior layout remains the same, with the large boiler room and turbine hall remaining as the two main open spaces. The load-bearing masonry and omnipresent steel structure persist, maintaining their roles as the skeleton and spatial organizing features in the building. Also, the smokestack continues to loom overhead. While it was once essential to the power plant processes, it now acts as a wayfinding element, skewering the building and marking its location in the city. The intention behind these design decisions is to allow the functional and beautiful aspects of the structure to continue to serve their original purpose as the building becomes a public amenity.

The main design proposal for the Community Boating Center is the eroding away of the floor of the turbine hall to allow water to flow directly into the building (see figures 41 and 43). This inclusion of the water inside the building creates a physical link between the city and the harbor. Just as the wetland abuts the downtown neighborhood to the northwest of the park, the water immediately greets visitors upon entering the building. This design decision further emphasizes the role of the waterfront as the source of New Bedford's identity. When water flows into the old turbine hall, the space is transformed into a covered marina. The western wall of the room is removed to allow boats to be launched on the new boat ramp and the eastern wall is removed to permit vessels to travel in and out of the marina. This space is intended to remain open to the public at all times, creating a sheltered space in which to observe the life of the waterfront year-round.

fig. 41 The Community Boating Center

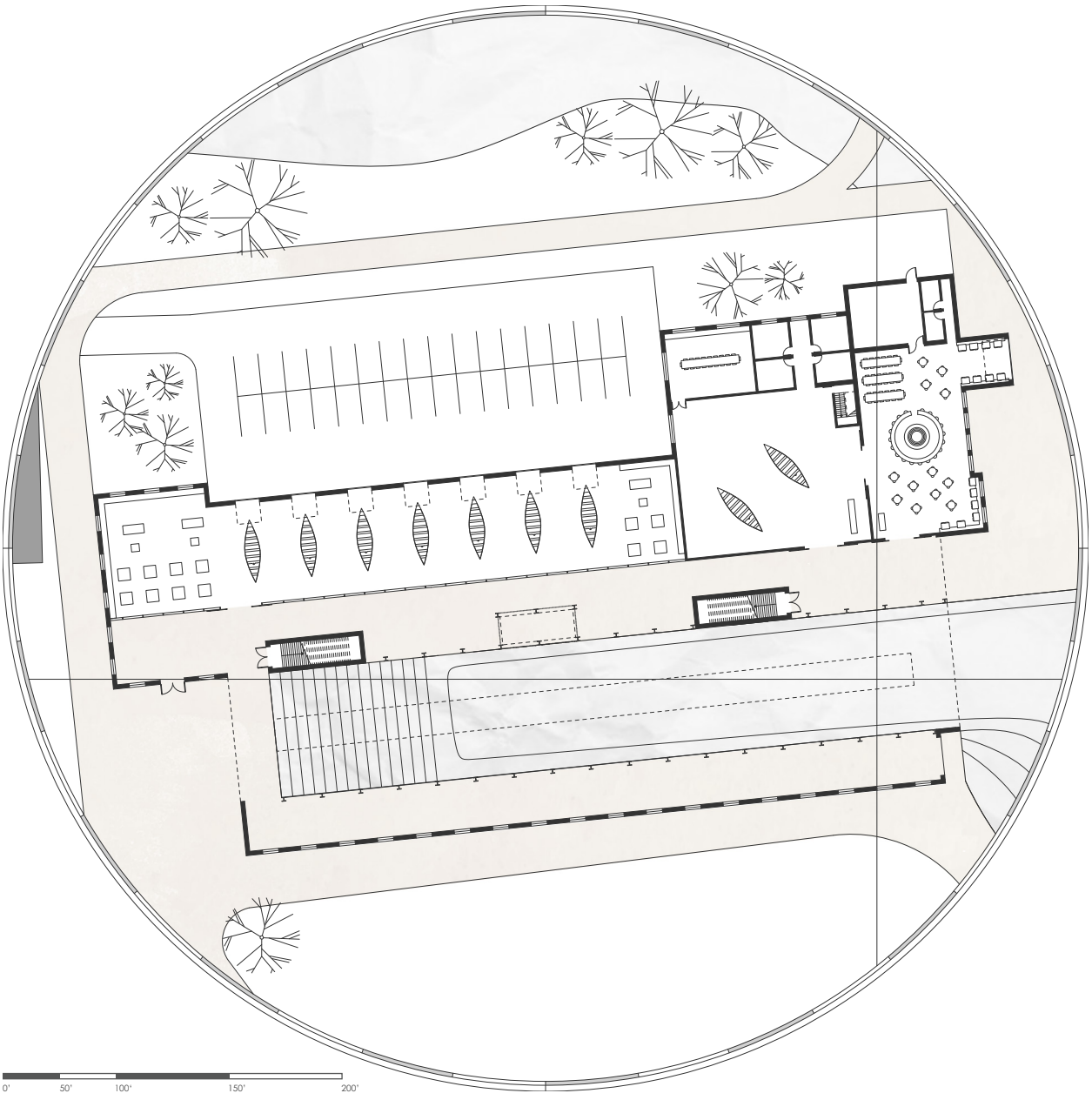


fig. 42 The Community Boating Center Ground Floor Plan

THE COMMUNITY BOATING CENTER: PROGRAM

The Community Boating Center is programmatically divided into four elements: the marina in the southern half of the building, the boat building school in the northwest portion of the building, the Azorean Maritime Heritage Society occupying the old boiler room, and restaurant that opens up to the large grass plaza to the east. The goal of the building is to connect the public to the waterfront and their shared heritage through the lens of traditional wooden boat building. This program respects the industrial nature of the building and creates a tangible link back to the whaling era that provided the foundation of the city. The Azorean Maritime Heritage Society is keeping the stories of whaling culture alive and this building provides them the opportunity to share these tales with the public. In this new building, the traditional thirty foot long wooden whaling boats can be built, displayed, and taken out into the harbor for tours. This gives the public the opportunity to learn about the livelihood of their ancestors in a way that also provides a direct connection to today's harbor. While the upper floors on the north side of this adaptively reused building are not displayed here, this thesis proposes that they would contain additional maker-spaces and opportunities for public viewing of the working waterfront.

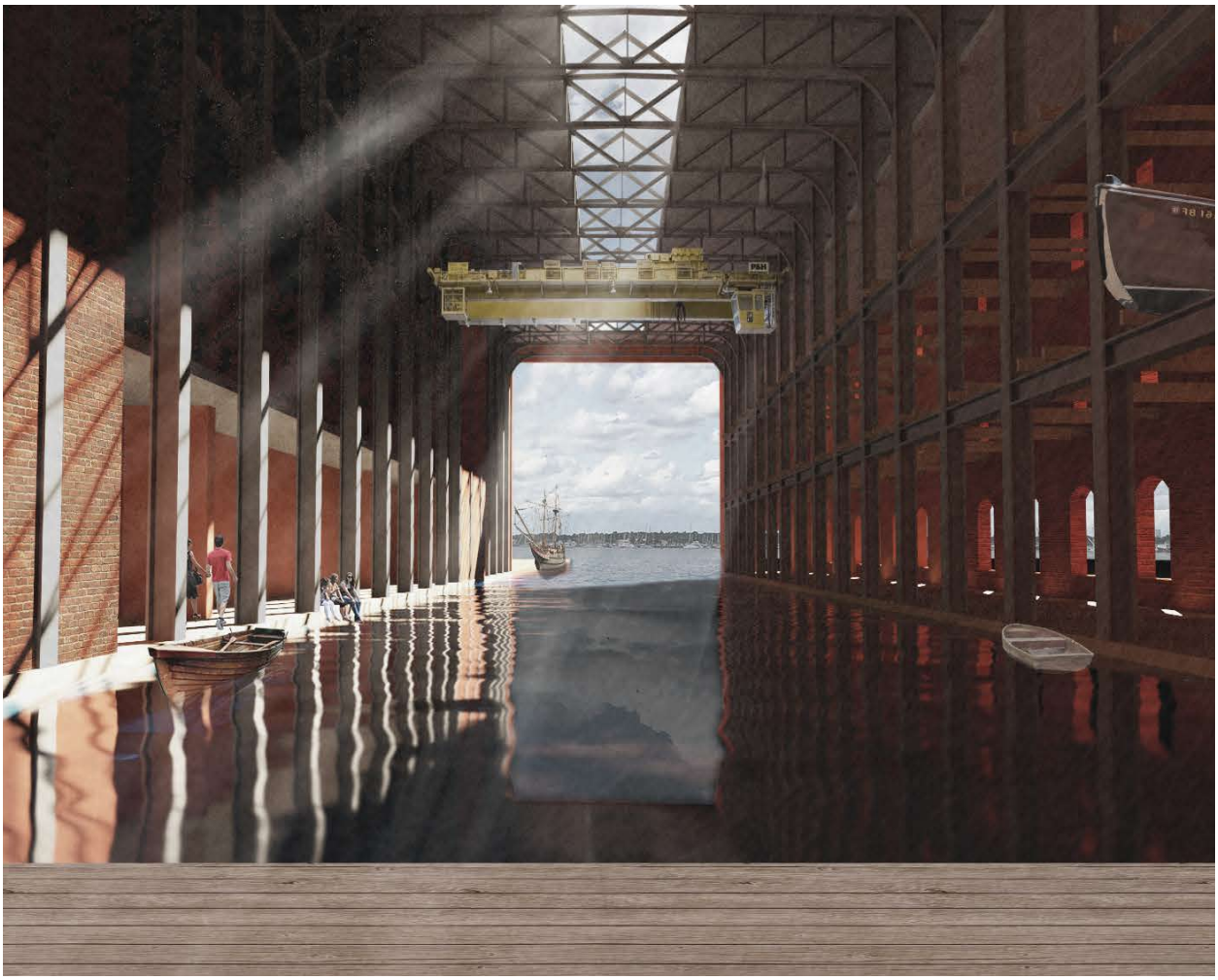


fig. 43 The Marina

THE COMMUNITY BOATING CENTER: MARINA

The covered marina in the old turbine hall is the largest space in the building and the most radical proposed design decision. Water fills the entirety of the approximately sixty foot wide and 350 foot long space. As seen from the position of the boat launch in figure 43, boat storage racks occupy the southern have of the marina and can be filled using the existing mechanical lift that hangs near the ceiling and was originally used to lift turbine parts. The center skylight that travels along the entire length of the ceiling remains as a strong source of natural lighting. Vertical circulation occurs in the large brick sections of the building to the north side of the marina that were once used to support smokestacks that have since been removed. On either side of the water, the ground floor is open to pedestrian travel, giving non-boaters the opportunity to experience the activity of a working marina. This boat slip is intended to be open not only to the members of the boat building school and the Azorean Maritime Heritage Society, but also to recreational boaters coming to visit the park, restaurant, and city of New Bedford.

fig. 44 The Theater

THE THEATER

Upon exiting the south side of the Community Boating Center, the visitor encounters a plaza surrounded by three adaptively reused oil tanks. The first tank at the northern side of this plaza is the Theater. The form of the theater is created by cutting the oil tank in half, removing the steel plates from the water-adjacent half of the structure, and infilling seating on the plaza-adjacent half of the structure. The columns that remain near the water serve as lighting elements that help frame the performance space, provide structure for a projector screen to be hung, and are spaced widely enough to provide spectators and unobstructed view of the activity of the harbor. The design intent is for this space to be an informal and open public theater that visitors can use even when there are no performances. It provides the public with a tranquil place to observe the working waterfront.

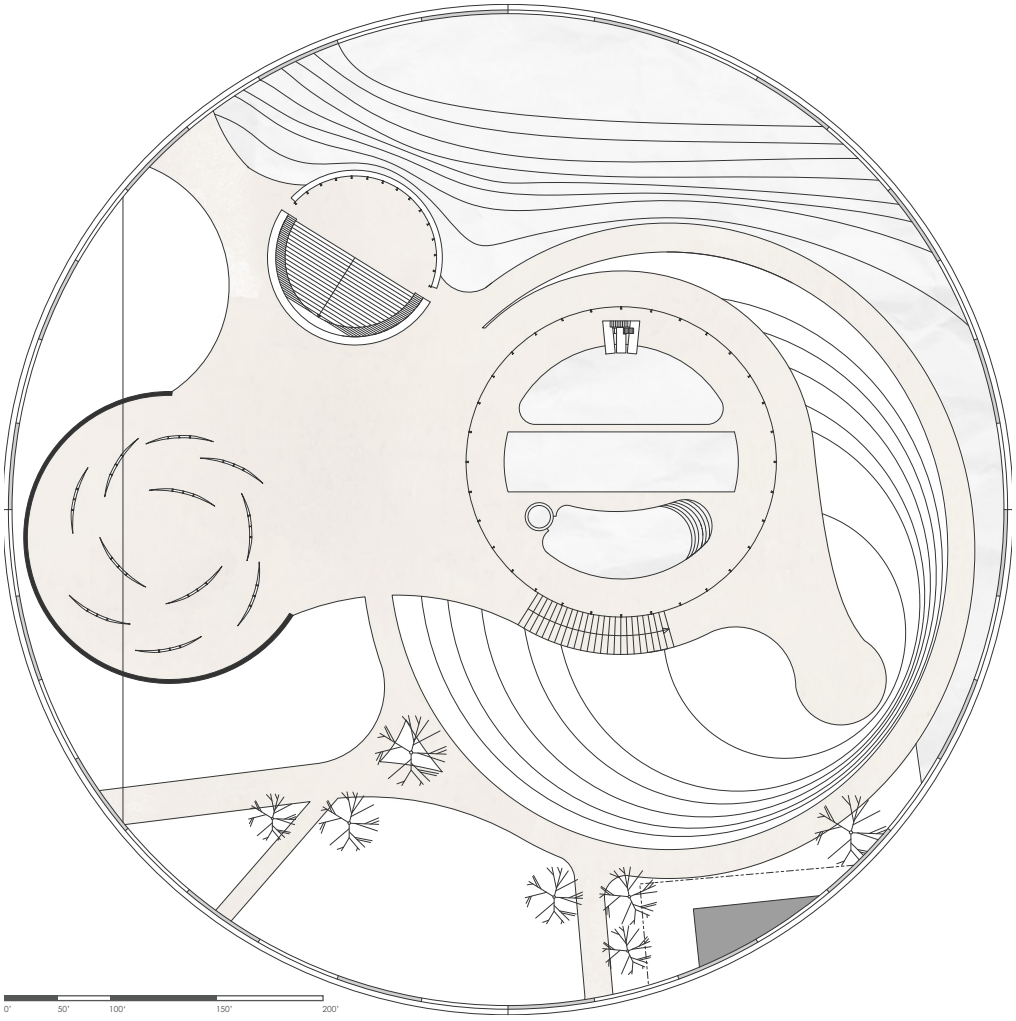


fig. 45 Floor Plan of the Southern Three Tanks

fig. 46 The Fountain

THE FOUNTAIN

The next landmark that the visitor encounters is the fountain. The form of this interactive feature is created by dismembering the oil tank and reassembling the metal sheets to form vertical fins. The majority of outer bundle of the oil tank, seen on the right side of figure 46, remains to guide visitors through the fountain. The inner fins are arranged in a loose spiral, directing the public into the center, much like being guided by a current into an eddy. All-throughout the sculpture, the visitor can touch and play with the streams of water flowing down the metal sheets and pooling in the center of the fountain. The intent behind the design proposal of this oil tank is to give the public another way of interacting with water. New Bedford is intricately linked to its water. The ocean has been the city's historic source of prosperity and identity. This fountain provides the visitor with a unique way to celebrate their relationship with water.

fig. 47 The Pool

THE POOL

The last landmark that the public will come across on their journey south through the park is the pool. This fifth and final interactive element is created by dividing the center of the tank into three different swimming areas: a shallow pool, a lap pool, and a deep end. The outer bundle of the oil tank is capped with a boardwalk that circles the entire elevated pool structure. Soil that was removed from the wetland area during its construction is piled around the pool, creating a hill from which visitors can observe the fishing boats unloading their catch into the processing plants to the south of the site. While the height of the original oil tank was about thirty feet, the overall height of the pool is only twenty feet above sea level. The remaining ten feet of the original oil tank can still be witnessed in the form of the steel columns that create a ring around the structure. This steel colonnade functions in the same way around the pool as it does at the gateway and the theater structures; it marks the past life of the structure as something completely different and serves as a wayfinding and lighting feature. While perhaps a more direct way to interact with the harbor would be to propose a swimming area in the sea, the position of this thesis is that the working waterfront should not be impeded by the activities of this site. Proposing swimming amongst fishing vessels and barges, although an exciting and interactive idea, would inhibit the operation of the fishing industry. Instead, swimmers can submerge themselves in the water of the pools while having an elevated view of the bustling harbor below them.

VI
CONCLUSION

This thesis proposes that abandoned industrial waterfront sites can be repurposed as public amenities that link their communities to their water and their shared history. New Bedford, Massachusetts is a growing coastal city with a rich industrial history. It contains many of these vacant ruins and this thesis posits that these should be viewed as opportunities for future public use. These buildings have the potential to redefine themselves from utilitarian structures of the past into relevant and community-oriented buildings of the modern city. They are a unique resource that have the ability to tell the stories of a community's ancestors while simultaneously serving its current needs.

This thesis claims that one of the main things holding New Bedford's abandoned buildings back from being adaptively reused is the city's street organization. While the JFK Memorial Highway serves its intended purpose of providing high-speed transportation to the city's working waterfront, it is doing so at the expense of the public's ability to access their harbor. In a city that so strongly identifies as being a fishing port, it is enigmatic that it is so difficult for the public to experience their harbor from the downtown core of the city. This thesis proposes that New Bedford should redefine the role of this highway in the 1.3 mile stretch south of downtown as a multi-modal transportation corridor. In addition to slowing down traffic, the street should promote biking and pedestrian travel by providing a parallel designated path specifically for non-vehicular travel. Perhaps the most impactful decision that the city could implement is the extension of the city grid across the highway to the water. Rather than being blocked by the highway, these streets should revert to their pre-urban renewal forms and reconnect to the working waterfront. This thesis maintains that these urban design decisions would not negatively affect access to the fishing industry. Instead, these decisions would allow the public to get a closer look into the maritime traditions that support their city.

New Bedford rightfully has pride in its working waterfront and, therefore, has taken measures to ensure the continued zoning of the area as industrial. This thesis argues that abandoned sites along the waterfront can be converted into public amenities for the simple reason that the fishing idustry has proven it can thrive without the use of these sites. New Bedford has been the most economically successful fishing port in the United States for the past eighteen years and the thirty acres of the Cannon Street Power Plant complex have been vacant for all of that time (Bonner 2018). The programmatic proposal of this thesis demonstrates that public amenities along the working waterfront do not need to work in opposition to the

fishing industry. Rather, by providing public access, the maritime industries that are so vital to the city's success can be viewed, appreciated, and celebrated from sites like the Cannon Street Power Plant. While the proposed redesign may not function in the same industrial fashion that governs the rest of the waterfront, this thesis demonstrates that this site can "work" again in a different way to stimulate tourism, produce goods, restore ecological vitality, and develop a stronger relationship between the public and their harbor.

New Bedford's historic abandoned buildings are undervalued social and economic resources. Like the old salts that preserve the traditions of their days spent at sea, these old buildings hold within their walls the stories of New Bedford's past. When they are demolished, the tales that reside in their craftmanship, scars, and materiality die with them. Rather than losing these fragments of shared history, buildings like the Cannon Street Power Plant, the Orpheum Theater, and the Berkshire Hathaway Mills should be revitalized to tell the stories of New Bedford's youth. This thesis demonstrates one way in which sites like these can be redeveloped into public amenities. Before demolishing these historic buildings, cities should examine what is most important to their communities and ask themselves if these historic buildings can help achieve their goals. For New Bedford, this thesis argues that the city's relationship with its working waterfront is vital to its identity as a coastal city. The adaptive reuse of the Cannon Street Power Plant into a public amenity can strengthen the city's identity and give its community a clearer relationship with its water, the historic source of its well-being and prosperity.

WORKS CITED

Bonner, Mike. Port of New Bedford Ranks No. 1 for 18th Consecutive Year. South Coast Today. 2018. Web. <https://www.southcoasttoday.com/news/20181213/port-of-new-bedford-ranks-no-1-for-18th-consecutive-year>.

Calvino, Italo. Invisible Cities. Italy: Harcourt Brace Jovanovich, 1978. Print.

DeCosta, Steve, Historic Berkshire Hathaway Mill Torn Down. South Coast Today. 2014. <https://www.southcoasttoday.com/article/20140114/News/401140337>.

DeCosta, Steve. Abandoned Power Plant is Cavernous Hulk, but Maintains its Dignity. South Coast Today. 2012. Web. <https://www.southcoasttoday.com/article%2F20120923%2FNEWS%2F209230330%2F-1%2FNEWS>.

Edensor, Tim. Industrial Ruins: Spaces, Aesthetics and Materiality. Berg Press. New York, New York. 2005. Print.

Four Approaches to the Treatment of Historic Properties. National Park Service, 2019. Web. <https://www.nps.gov/tps/standards/four-treatments.htm>.

Froman, Michael. Urban Redevelopment: New Bedford, Massachusetts. 2017. Honors Thesis. Web. <https://digitalworks.union.edu/theses/31>.

Geyer, Wayne. Handbook of Storage Tank Systems. New York: Marcel Decker, Inc, 2000. Print.

Jacobs, Jane. The Death and Life of Great American Cities. New York: Random House, 1965. Print.

John F. Kennedy Memorial Highway: Historic Overview. Boston Roads. 2018. Web. <http://www.bostonroads.com/roads/MA-18/>.

Kostow-Greenwood Architects. Power Station. 2008. Print.

Lambros, Matt. Orpheum Theater. After the Final Curtain. 2011. Web. <https://afterthefinalcurtain.net/2011/03/09/orpheum-theatre/>.

MacEacheran, Mike. The City that Lit the World. BBC Travel. July 20, 2018. Print.

McCabe, Marsha and Thomas, Joseph. Not Just Anywhere. New Bedford, Massachusetts: Spinner Publications, 1995. Print.

Medeiros, Peggi. A Closer Look at the Remarkable History of Building at the Proposed New Bedford Casino Site. South Coast Today. 2015. Web. <https://www.southcoasttoday.com/article/20150328/NEWS/150329366>.

Melville, Herman. Moby-Dick. New York: Penguin Books, 2001. Print.

Mill City Museum. Minnesota Historical Society, 2019. Web. <https://www.mnhs.org/millcity>.

Mill City Museum. Meyer, Scherer and Rockcastle, Ltd, 2019. Web. <https://msrdesign.com/case-study/mill-city-museum/>.

New Bedford Waterfront Redevelopment Plan: Focus Area South. New Bedford Redevelopment Authority. August, 2018. Web. <http://www.newbedford-ma.gov/planning/wp-content/uploads/sites/46/20180827-FAS-Redevelopment-Plan-DRAFT.pdf>.

New Bedford Zoning. City of New Bedford - Maps. 2018. Web. <http://www.newbedford-ma.gov/wp-content/uploads/2013/2015/Zoning_2015.pdf>.

Rogers Merlino, Kathryn. Building Reuse, Sustainability, Preservation, and the Value of Design. Seattle: University of Washington Press, 2018. Print.

The Theater Bombings. The Standard Times. New Bedford, MA. February 13, 1933. Print.

Thomas, Joseph et al. A Picture History of New Bedford Volume One 1602 – 1925. New Bedford, Massachusetts: Spinner Publications, 2013. Print.

Thomas, Joseph et al. A Picture History of New Bedford Volume Two 1925 - 1980. New Bedford, Massachusetts: Spinner Publications, 2016. Print.

Urban Renewal at New Bedford's South Terminal. Spinner Publications, 2015. Web <https://www.southcoasttoday.com/article/20151030/NEWS/151039924/0/RSS777>.

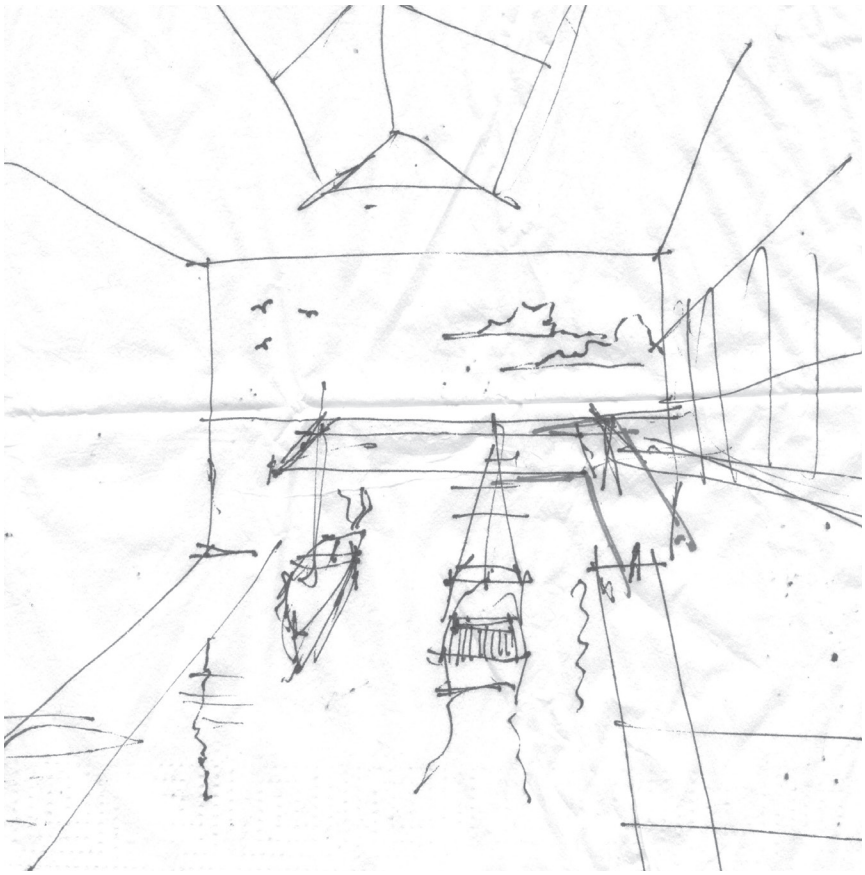
Whyte, William. The Social Life of Small Urban Spaces. San Francisco: Project for Public Spaces, 1980. Print.

FIGURE LIST

All images are created by the author unless otherwise noted

APPENDIX

fig. 48 Site Plan Circulation



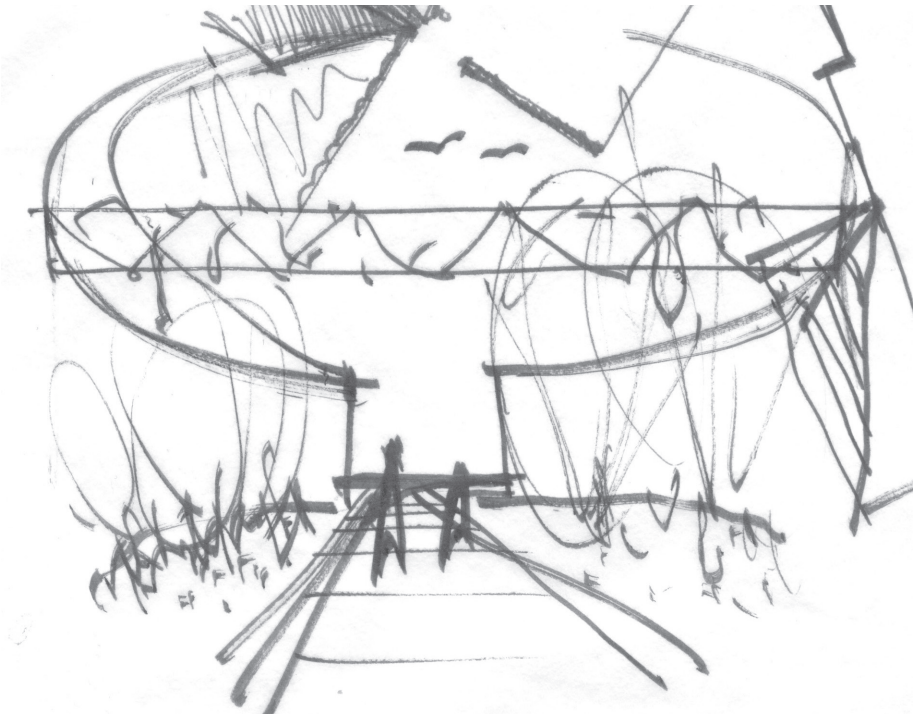


fig. 49 Marina Napkin Sketch
fig. 50 The Gateway Concept Sketch

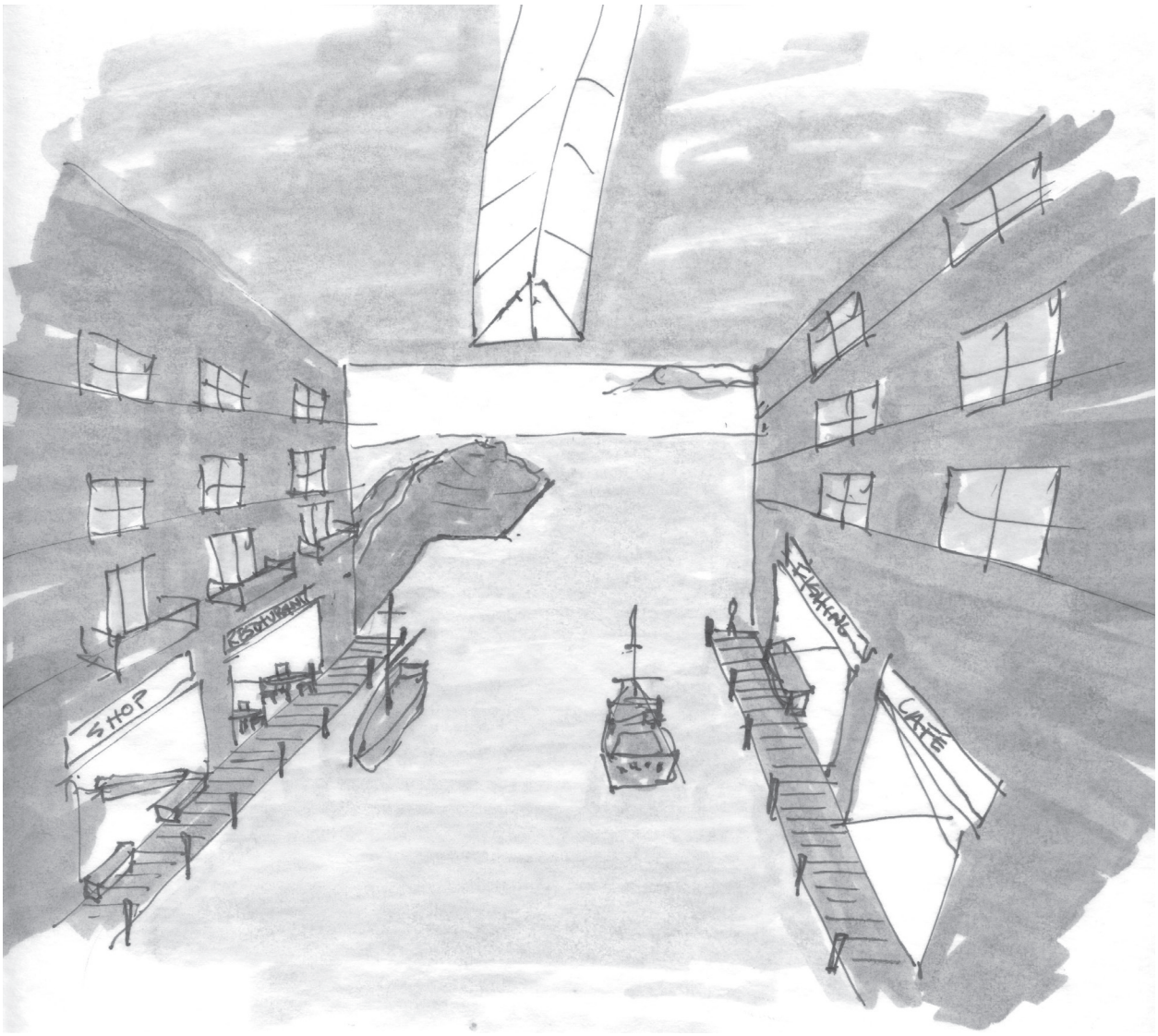


fig. 51 Marina Concept Sketch

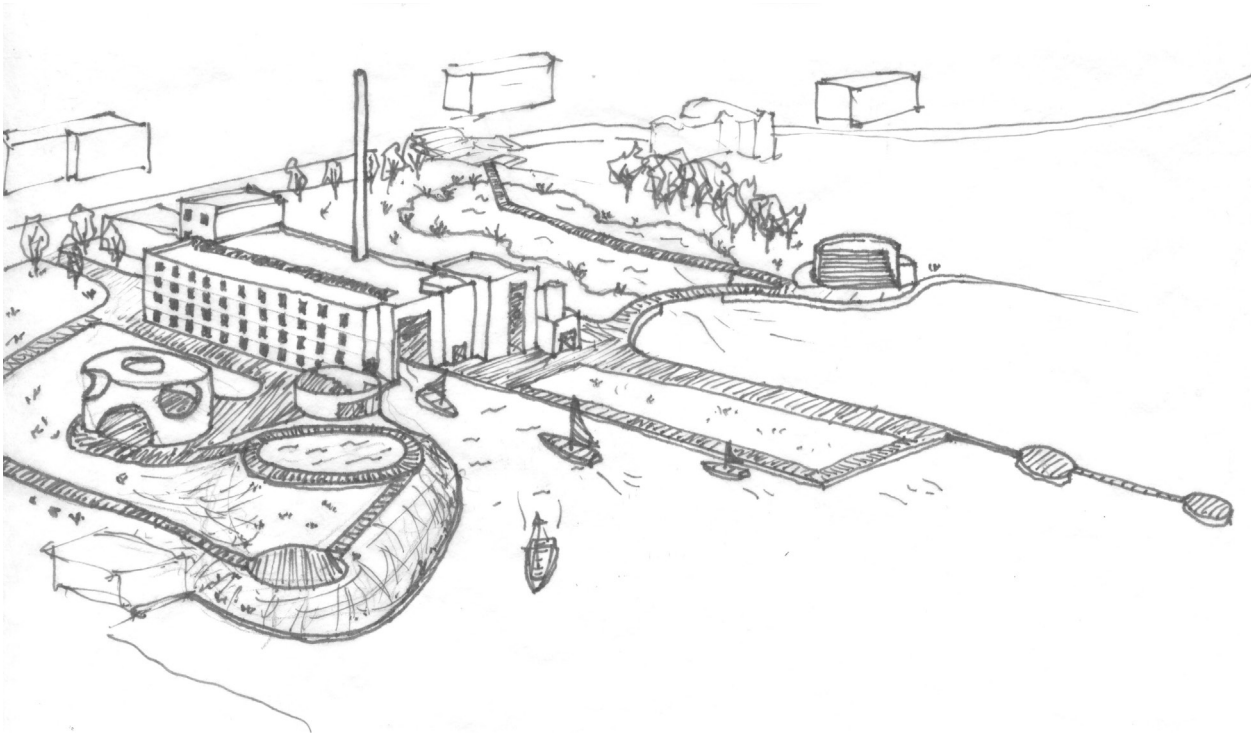


fig. 52 Overall Site Concept