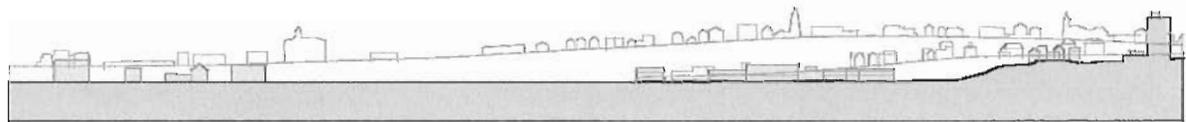
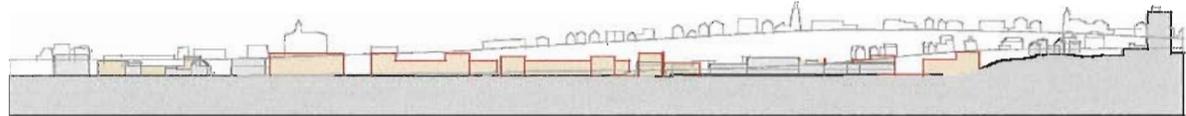


Eastern Waterfront Building Height Study Portland, Maine



SECTION E EXISTING - EAST / WEST (with Congress Street and Fore Street Elevations)



SECTION E PROPOSED - EAST / WEST (with Congress Street and Fore Street Elevations)

EASTERN WATERFRONT HEIGHT STUDY

Portland, Maine
September 2004
MRLD, LLC



September 2004

Prepared by:
City of Portland
Planning and Development Department
and
MRLD, LLC

Adopted as part of the E. Waterfront Master Plan, December 2004

Eastern Waterfront Building Height Study

Portland, Maine

Portland Planning Board

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Draft Final Report

INTRODUCTION

In 2004, The City of Portland retained MRLD, LLC to complete an *Eastern Waterfront Building Height Study* as part of the process of implementing the 2002 Eastern Waterfront Master Plan. The study builds on and fine-tunes years of work analyzing and discussing the future of the Eastern Waterfront, specifically the *Design Guidelines for the Eastern Waterfront*, dated June 3, 2003 which were drafted to support *A Master Plan for Redevelopment of the Eastern Waterfront*, also dated June 3, 2003.

As noted on Illustrations 1 and 2, the study area includes approximately 56.5 acres, comprised mainly of surface parking lots, the Portland Company complex and a few notable buildings such as the Turner Barker building at the existing corner of India and Commercial and the Shipyard Brewery Building near the intersection of Hancock and Newbury. The City owns approximately 14.2 acres within the study area as shown on Illustration 2.

The study area includes the B2b, B5, WSUZ and WPDZ zones. The current maximum allowable height is 45' or a typical three to four story building except for the B5 area where the maximum allowable height is 65'. It is the goal to consolidate the four zones to three zones. The Portland Company would remain as WSUZ, the area of Ocean Gateway Terminal would change from WPDZ to Eastern Waterfront Port Zone (EWPZ) and B2b and B5 would consolidate into a B6 Zone. The allowable heights for all the zones would follow the recommendations noted on Illustration 33, Height Map and Building Envelopes.

As noted on Illustration 2, seven adjacent neighborhoods or urban conditions were identified as having distinct character and needs, which should not be adversely impacted by the redevelopment of the Eastern Waterfront. The seven areas include: Munjoy Hill, India Street, the Old Port, Commercial Street, The Ferry Terminal, the waterfront and Ocean Gateway and the Portland Company complex.

The topography of the site offers different opportunities for redevelopment and the project analysis and concept build out modeling responds to these conditions. In regards to the topography, it is most important to note that at the eastern end of the study area, below the Fore and Atlantic Street intersection, there is approximately 88' of grade change over the 400' horizontal distance to the shore and at the western end beginning at the Eastern Cemetery retaining wall on East Federal Street, there is approximately 75' of grade change over the 1,300' horizontal distance to the shore.

The following principles were used to guide the *Eastern Waterfront Building Height Study*.

- Respond to the scale, massing, topography and alignment of adjacent neighborhoods determining:
 - View corridors and view sheds
 - Building heights
 - Building/street walls
 - Building setbacks and stepbacks
 - Road alignments
 - Focal points
 - Building articulations and massings
 - Civic spaces
- Protect, enhance and create views from various vantage points surrounding the study area and within the study area
- Analyze and design the study area from north to south and from east to west
- Place taller and larger buildings in the “shadow ” of existing grade changes and buildings
- Use view protection, creation and enhancement to create a range of civic spaces:
 - Streetscapes
 - Pocket parks and corner plazas
 - Pedestrian/service alleyways
 - Waterfront pedestrian piers and park structures
 - Maintenance of narrow gauge railroad and Eastern Promenade corridor
 - Public and semi public pedestrian alleys allowing:
 - Phasing
 - Access to multiple sides and levels of buildings
 - Surrounding natural light
- Orient building towers with narrow end facing uphill
- Align building towers and focal points with asymmetrical pedestrian and vehicular sight lines as well as existing street extensions
- Create intersections, alignments and setbacks encouraging unique buildings and spaces (such as the Hay Building and Boothby Square)

PROCESS

A. Site Sections

The process began by studying the site in a series of sections as shown on Illustrations 3 and 4. Illustration 4 shows the site elevation changes from north to south in two instances and one cross section from east to west. The east to west section is particularly important because it shows the existing buildings in relationship to the Fore Street elevation and further back the Congress Street elevation as it runs up Munjoy Hill. The Portland Observatory is clearly recognizable.

In addition to the section studies, the site was extensively walked and studied through field observations and photographs. What developed from the analysis is that the study area has three basic "massing / height shadow zone" areas where building mass and height will not adversely impact adjacent neighborhoods while providing opportunities for new landmark buildings and higher densities of residential and commercial development.

The three massing / height shadow zone areas are noted in Illustrations 5, 6, 7 and 8 which are photos documenting the areas beneath upper Fore Street, down hill of Shipyard Brewery, between Middle and East Federal Streets and at lower Fore Street by Hamilton Marine. Illustration 8 of lower Fore does not represent one of the three key massing / height shadow zones, but is included with the site documentation to fully illustrate the extent of topographic variation in the study area and the potential opportunities. Illustration 9 is a plan view of the study area showing the three massing / height shadow zones in the context of the adjacent neighborhoods.

B. Site Precedents

In addition to the opportunities provided by topography, several characteristics of the study area were noted as building/open space precedents and key alignments helping knit the old and the new. Illustration 10 shows what is called the Portland Company alignment and the opportunity to use this existing corridor to align new roads and block configurations. Illustration 11 shows a pedestrian/service alley with open and enclosed skywalks connecting buildings to each other. This is seen as a critical secondary level of pedestrian circulation and service for the buildings after the primary street network. One can imagine this secondary system of circulation having the character of Wharf Street in the Old Port.

C. View Corridors and Alignments

As noted in Illustrations 12 and 13, key north/south and east/west view corridors and critical alignments were mapped. The mapping of these corridors and alignments, in addition to the mapping of massing / height shadow zones, developed an underlying logic guiding the Study.

Some of the view corridors look out over the site, some along existing grades and some along what will become street extensions. The goal was to understand the site from multiple perspectives in addition to existing street configurations, informing the massing and build out of the Eastern Waterfront.

D. View Corridors and Alignments in Relation to Master Plan

The view corridors and alignments mapped in Illustrations 12 and 13 were placed over the existing master plan to better understand the relationship and explore opportunities to protect and enhance views as well as identify new opportunities for interesting street alignments and streetscapes.

As noted in Illustrations 14 and 15, the existing master plan does not respond to view corridors and alignments as much as follow the street extension alignments. Most notably, the Portland Company alignment is not recognized as an opportunity to tie the old with the new as well as create dynamic, quirky streets and blocks as found in the Old Port and in Congress Square with the Hay Building.

Illustrations 15 and 16 show that by simply “splaying” some of the blocks, particularly Hancock and Mountfort extensions and adjusting the building setbacks to vary with the Portland Company alignment, a wider range of streetscapes, building sites and open spaces are created in addition to the prime goal of preserving and enhancing views.

The varying open spaces, streetscapes and enhanced and protected views are most clearly noted in Illustration 32.

One should note that current development proposals on the blocks along the westerly sideline of the Hancock Street corridor are incompatible with the splay shown west of the street and south of Middle Street. In the interest of providing a consistent regulatory process for active proposals, the splays have been simplified in the final regulatory map shown in Illustration 33.

E. Concept Build Outs / 3D Modeling and Photo Simulations

Working with the site analysis, build out scenarios for the approximate seven blocks in the study area were developed using computer-modeling software. Various building height, massing, setback and stepbacks were explored until one concept build out scenario for the study area was selected showing not only the appropriate height and massing of buildings in relation to adjacent neighborhoods, but establishing a dynamic and varied collection of buildings enhancing the street network as well as a series of secondary pedestrian/service alleys.

The concept build out was a test of the conclusions drawn from earlier analysis. The analysis documents are just one of hundreds of possible iterations meeting the guiding principles for the project. It was important to develop a build out scheme to visualize the area as redeveloped.

When the draft build out images were shown to the public at a neighborhood meeting, the clear consensus from the participants was that the concept build out was too aggressive. Working with the City Planning Division staff, the Height Map and section drawing were reduced on a block-by-block basis to reflect public concern, while retaining consistency with the principles of this analysis and the broader principles of the Eastern Waterfront Master Plan.

The final illustrations provided herein, including section drawings, the height and building envelope map and photomontage images, reflect public input generated at the neighborhood meeting. These images are critical for visualizing the concept build out from different vantage points and contexts. The multiple perspectives are helpful for understanding how the redeveloped Eastern Waterfront will become a new and vibrant area while respecting the character and needs of adjacent neighborhoods. The final *Illustration 33, Height Map and Building Envelopes*, will furthermore become the foundation of a regulatory map use in the future rezoning of portions of the Eastern Waterfront

The previous draft analysis documents that show higher buildings, including plans, sections, computer models and photo simulations, will be provided in the final report appendix to illustrate the full process of the study.

FINDINGS

Height

Heights are defined in the study area using the following parameters (one floor or story is considered 11’):

- The overall fabric is from of 3 to 4 floors. Areas allowing taller buildings are noted on Illustration 33.
- The maximum heights for the three massing / height shadow zones noted in Illustration 9 and mapped on Illustration 33 are:

Middle / East Federal shadow:	6 floors
Shipyards shadow:	7 floors
Upper Fore shadow:	5 to 6 floors

- No buildings can break the relative elevation at Fore Street at the four “floating zones” noted on Illustration 33. These floating zones are extensions of Munjoy Hill Street corridors and protect connectivity between public streets and the harbor as viewed over the Portland Company properties.
- Any building mass or “tower” above the 4 story limit, where allowed, has a maximum 70’ width parallel with the shore and a maximum 140’ length perpendicular to the shore. 70’ wide towers must be separated by 140’. Please note that west of Hancock Street, the tower provision has not been applied.

View Corridors, Building Envelopes and Street Wall Development

Assuming certain street layouts, Illustration 32, Alignments / Open Space Map creates and protects views and establishes a range of streetscapes due to the interplay between the building walls and street alignments.

For this scenario to work, the engineering of the road alignments is critical for establishing the setbacks, which in turn allow for varying sidewalk widths and the preservation of views. As stated above, in translating Illustration 32 in to the regulatory Height Map and Building Envelopes map, the “splays” have been simplified to reflect current development proposals.

Recommendations Beyond Building Heights

Alleys

In addition to building heights and alignments, this report recommends a system of alleys modeled after Wharf Street and the area between the Portland Company complex and the “Map Room” tower. These alleyways are proposed as a secondary level of pedestrian and vehicular circulation. The conditions can range from an open alley with sky bridges to arcades with minimum height of two stories. One alley may vary, beginning with a covered arcade and three stories of building for a depth of 35 or 70 feet and then an open alley with skywalks.

Step backs

Step backs have not been specifically addressed as the maximum building height is seven stories and the “aerial splays” studied in the three dimensional model, specifically on Hancock Street may be too specific/restrictive for planning and market implementation. The varied street level experience is not impacted by the loss of step backs. The majority of view creation and preservation is maintained using building heights and setbacks/alignments. It is more important in the Eastern Waterfront to create defined and energized streets than focus on step back formulas.

Design Guidelines

Design guidelines need to be adopted to ensure public space is not privatized with above grade plazas (roof deck areas not included) and that buildings reinforce and enhance street life. Areas and buildings such as the One Canal Plaza, One City Center and the pedestrian link between Monument Square and Free / Temple Streets and the 100 Middle Street complex are distinct breaks in the Old Port typology of building edges, defined streets and the defined public park/civic spaces such as Post Office Park. The above mentioned buildings and spaces tend to be self contained pieces of real estate rather than urban architecture addressing the scale, type and character of the city, ultimately ignoring the most important public space in a city: the street. For example, One City Center manages to turn a cold shoulder to all street frontage. Even though the main entrance opens on to a pedestrian mall adjacent to Monument Square, Once City Center feels like an isolated suburban development set down in Portland. The surrounding pedestrian malls and plazas are more like buffers than civic spaces.

In relation to the recommended building heights, the following urban design guidelines are suggested:

- Large recessed plazas defined by three facades should not break the street wall (One Canal Plaza).
- Structured parking should not front on streets.
- Alleys and streets should subdivide a parcel in favor of private lobby areas (100 Middle Street).
- A building should engage the street, not look inward creating a sense of isolation and disconnection with the city (One City Center).
- In this area with limited building heights, the high point of a project should not be in the center, of a block or step backed too far from the street edge as to not have a presence at the street level.

Conclusions

In analyzing the Eastern Waterfront for building heights, it became evident that the scale of buildings needs to be integrated with the alignment of roads and open space to achieve the goals of the Master Plan. Additionally, while building height maximums are needed, maximums by them selves could result in overly monolithic building forms that are out of character with Portland's varied and diverse development history. It is the finding of this study that a four to six story building fabric will be compatible the policies of the Eastern

Waterfront Master Plan while protecting the views and character of the surrounding neighborhoods. In designated areas, judicious use of building towers, some as high as seven stories, can be employed to increase density and add interest to architecture, while still protecting significant public and private views.

The recommendations of this report encourage varied rooflines within blocks, protected view corridors, moderately scaled development, with taller buildings taking advantage of topography and existing view shadows. Implementing these recommendations will allow Eastern Waterfront development to contribute to Portland's history of building livable urban neighborhoods, while positioning Portland as an exciting city of the 21st Century.

STUDY AREA: 56.5 ACRES +/-

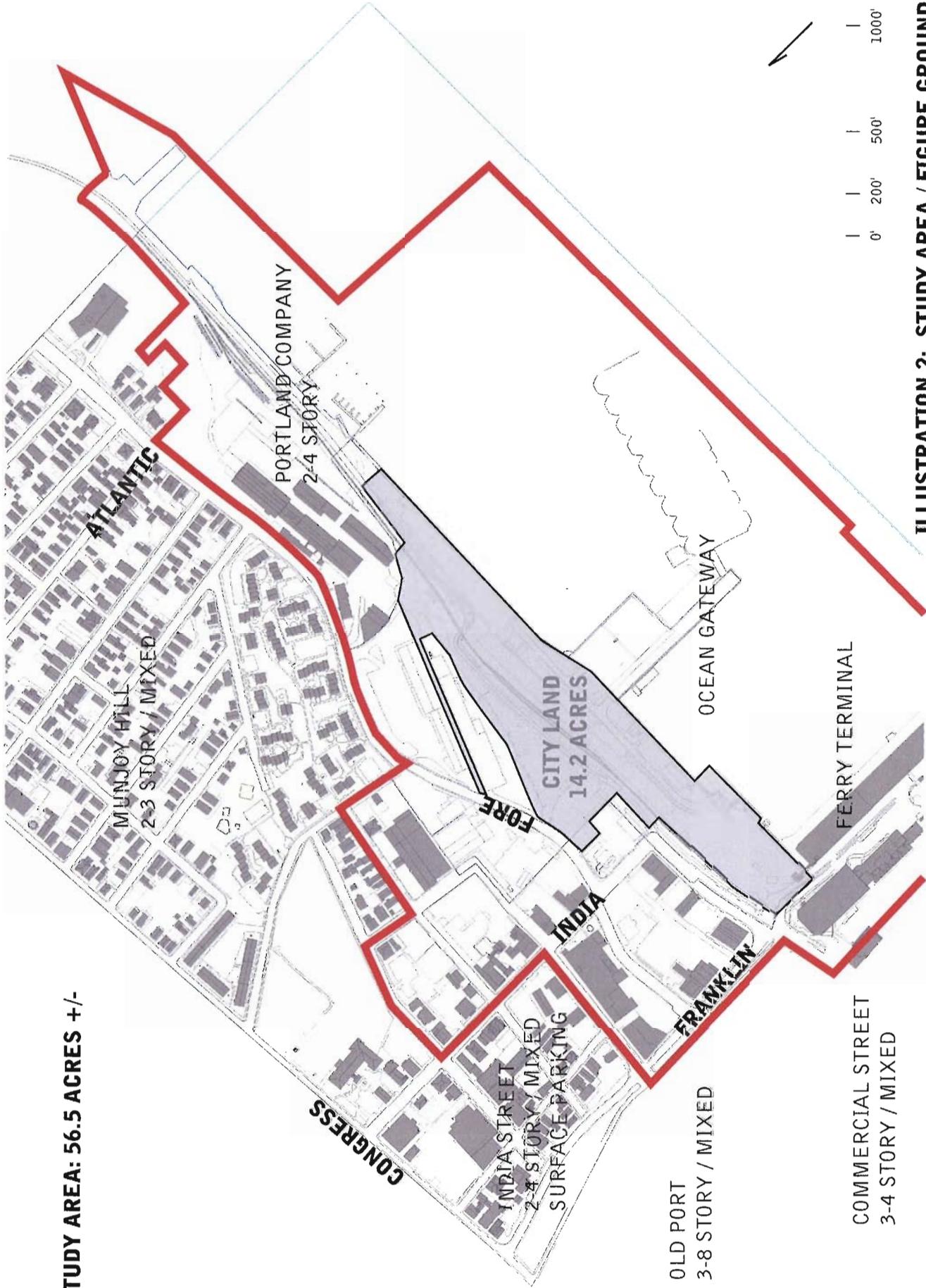


ILLUSTRATION 2: STUDY AREA / FIGURE GROUND

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Portland, Maine

MRLD, LLC

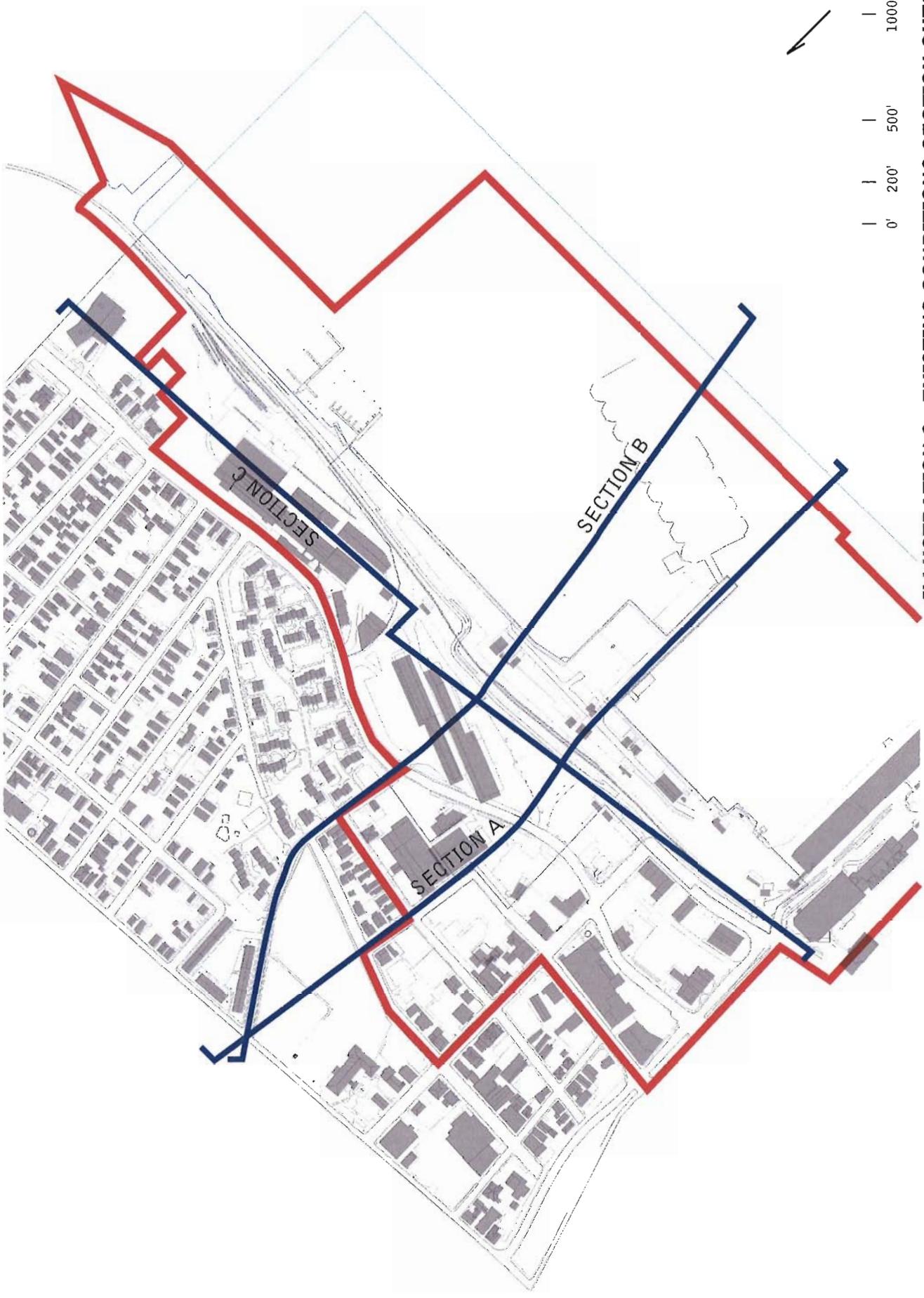


ILLUSTRATION 3: EXISTING CONDITIONS SECTION CUTS
Eastern Waterfront Building Height Study
Portland, Maine

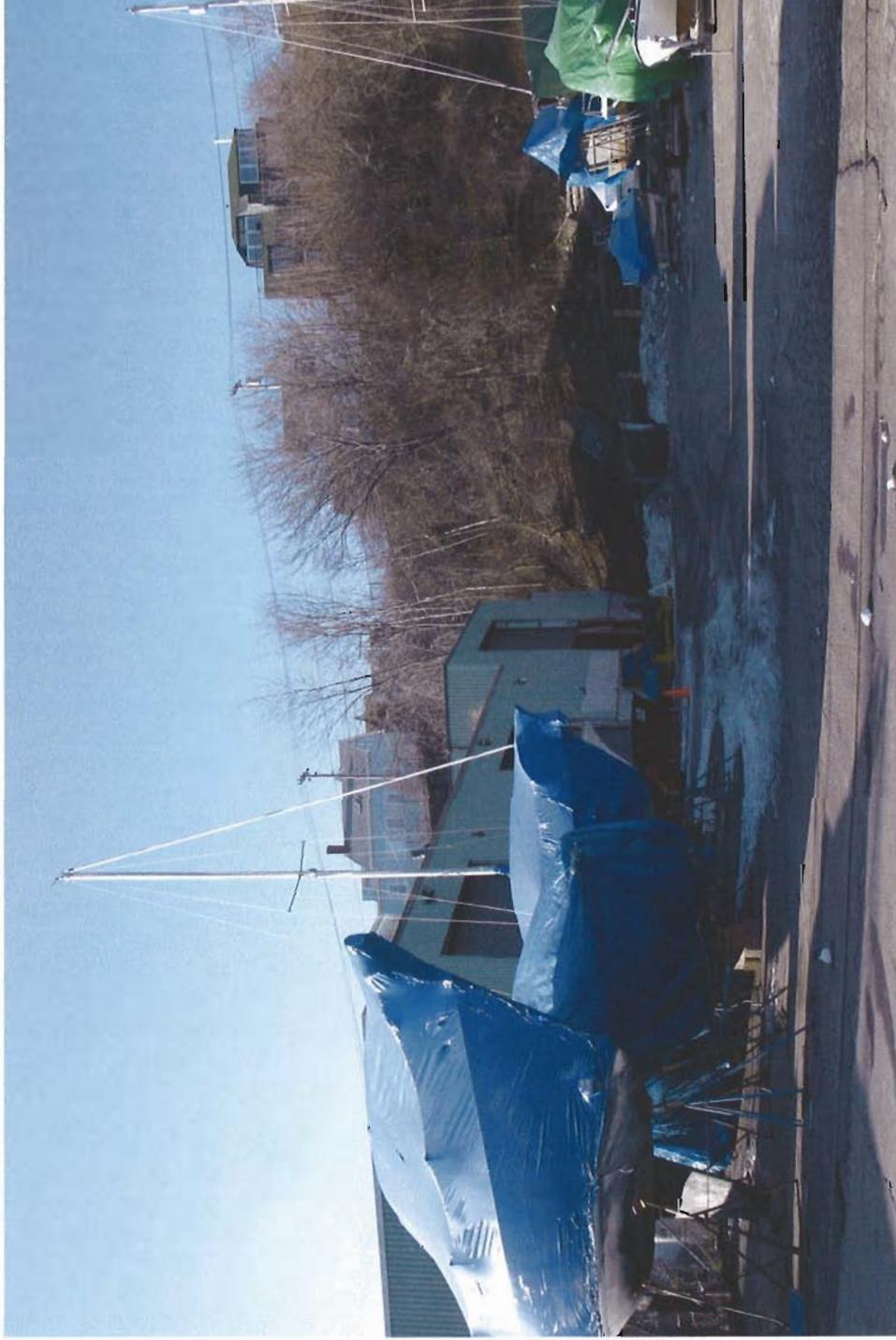


ILLUSTRATION 5: "MASSING / HEIGHT SHADOW ZONE" BENEATH UPPER FORE
Eastern Waterfront Building Height Study
Portland, Maine

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ILLUSTRATION 6: "MASSING / HEIGHT SHADOW ZONE" BENEATH SHIPYARD BREWERY
Eastern Waterfront Building Height Study
Portland, Maine

MRLD, LLC

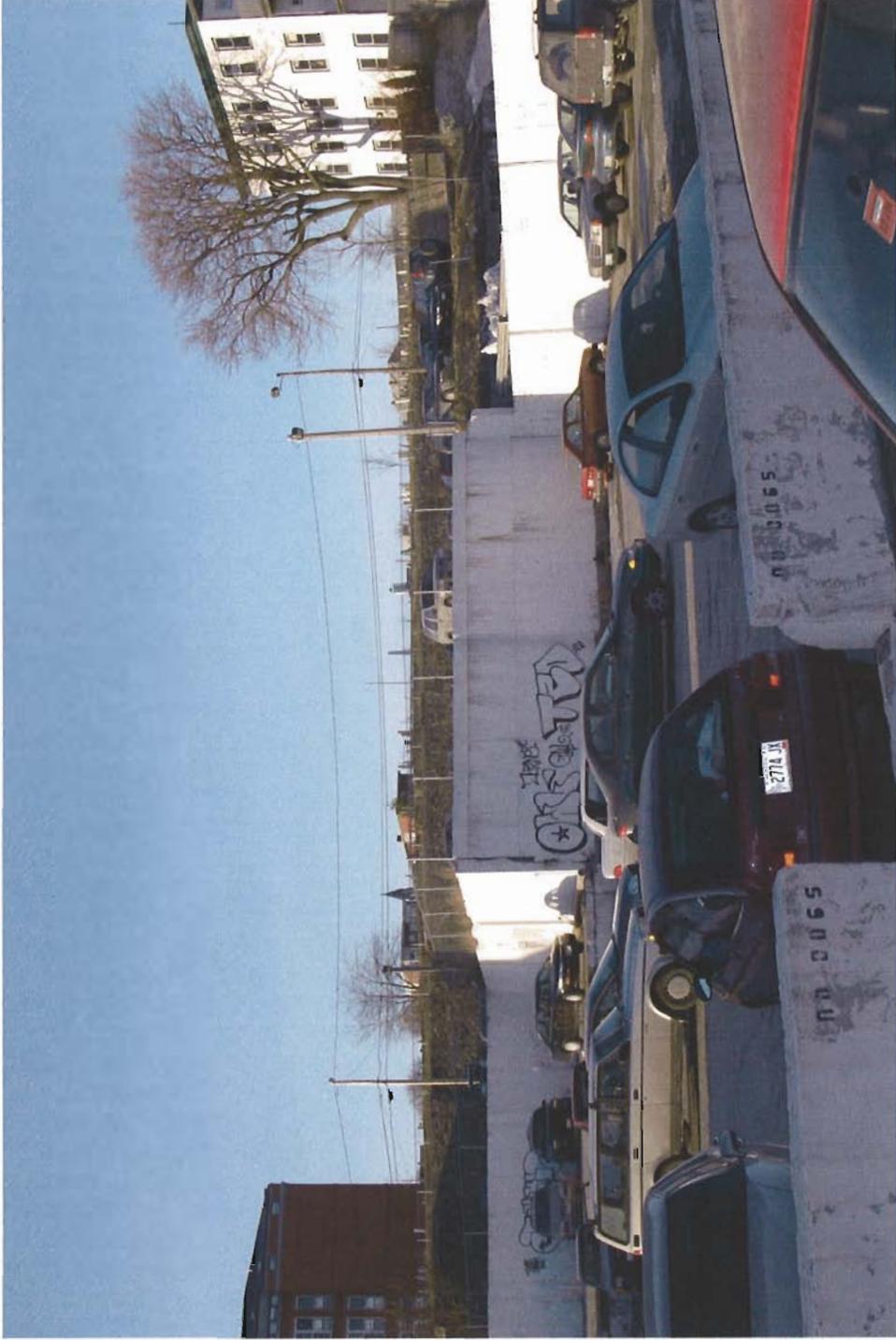
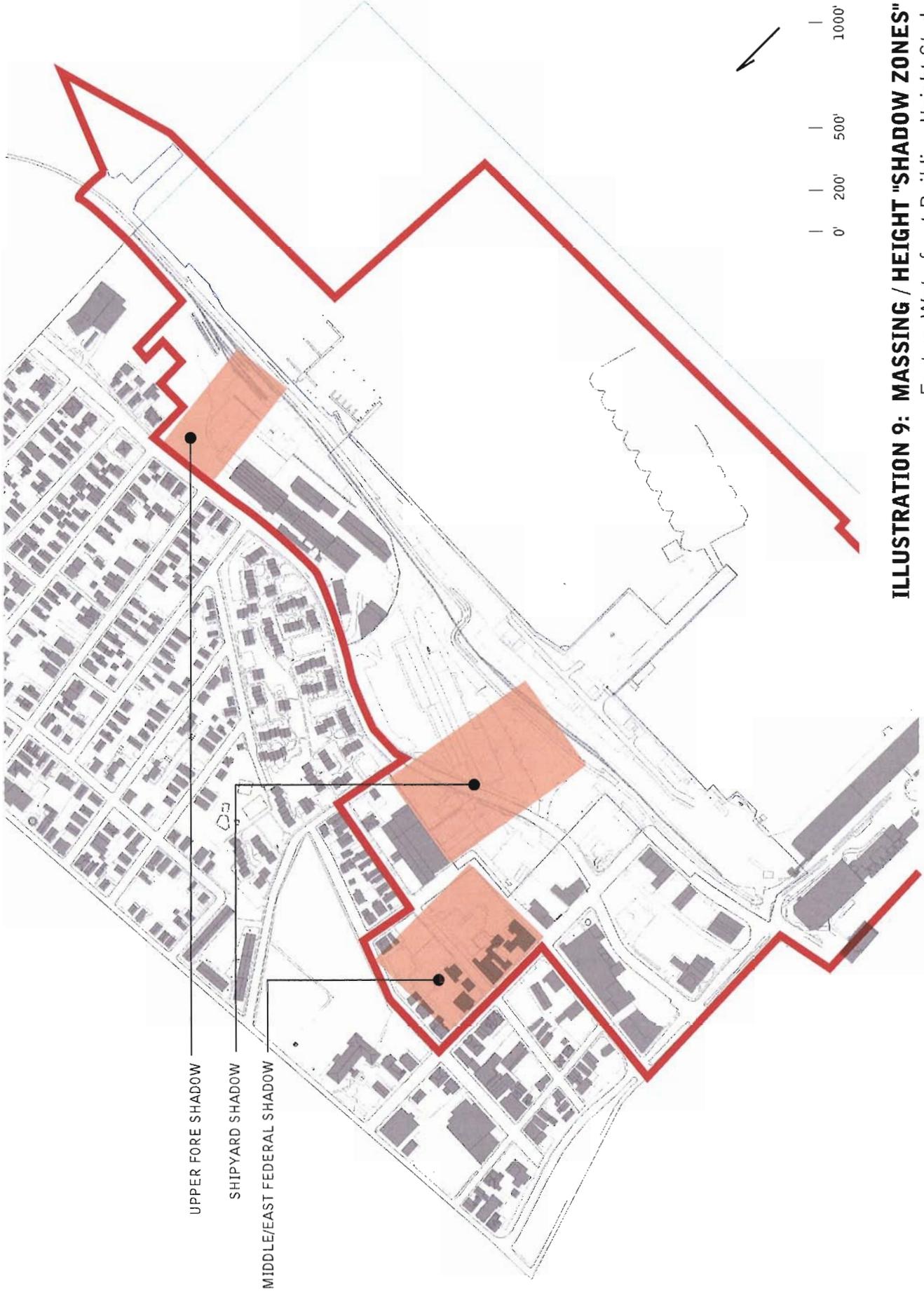


ILLUSTRATION 7: "MASSING / HEIGHT SHADOW ZONE" BETWEEN MIDDLE AND EAST FEDERAL
Eastern Waterfront Building Height Study
Portland, Maine



ILLUSTRATION 8: GRADE CHANGE ALONG LOWER FORE
Eastern Waterfront Building Height Study
Portland, Maine

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UPPER FORE SHADOW

SHIPYARD SHADOW

MIDDLE/EAST FEDERAL SHADOW

ILLUSTRATION 9: MASSING / HEIGHT "SHADOW ZONES"

Eastern Waterfront Building Height Study
Portland, Maine

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ILLUSTRATION 10: PORTLAND COMPANY ALIGNMENT
Eastern Waterfront Building Height Study
Portland, Maine

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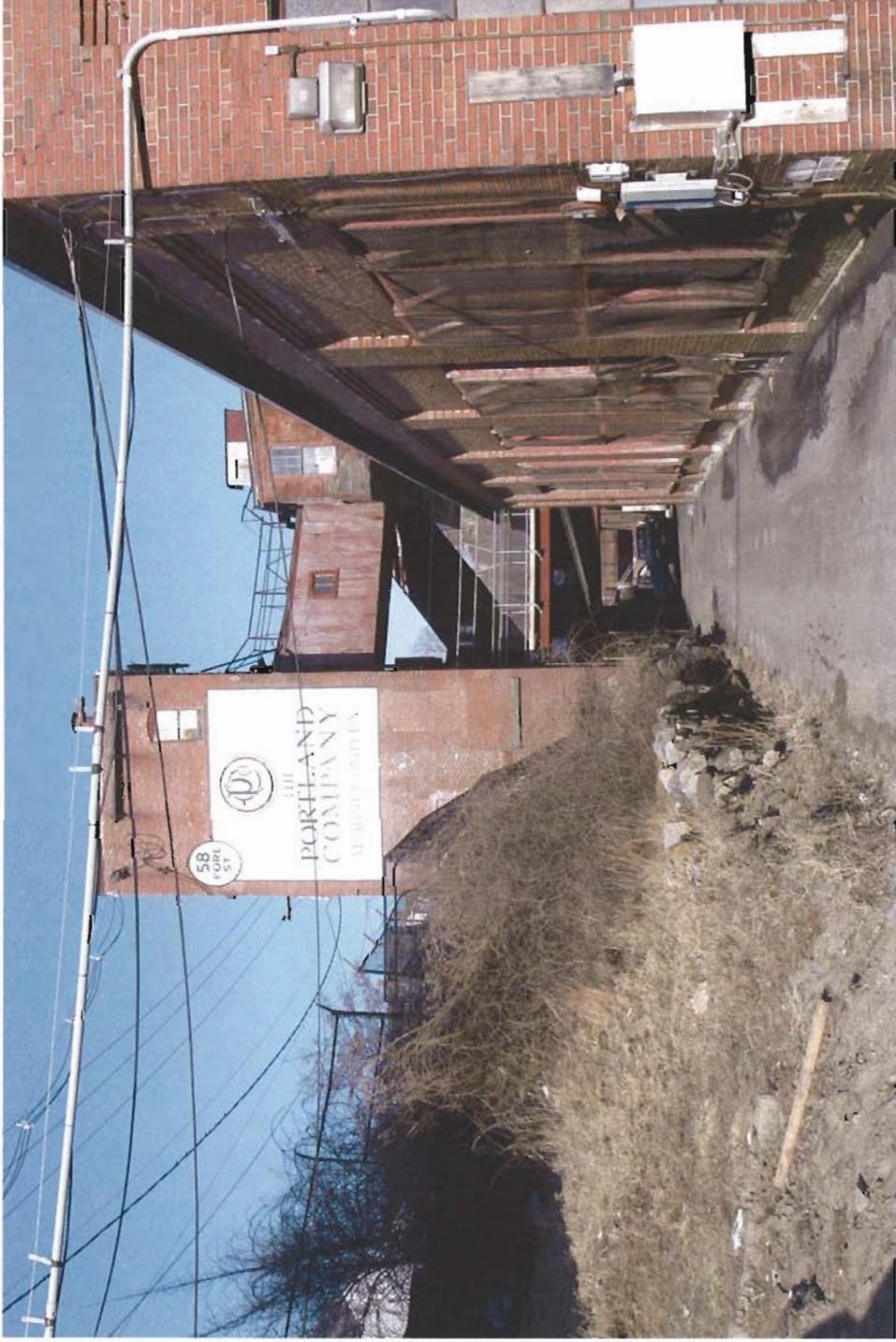


ILLUSTRATION 11: PEDESTRIAN / SERVICE ALLEY PRECEDENT
Eastern Waterfront Building Height Study
Portland, Maine

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ILLUSTRATION 12: NORTH / SOUTH SIGHT LINES AND ALIGNMENTS
 Eastern Waterfront Building Height Study
 Portland, Maine

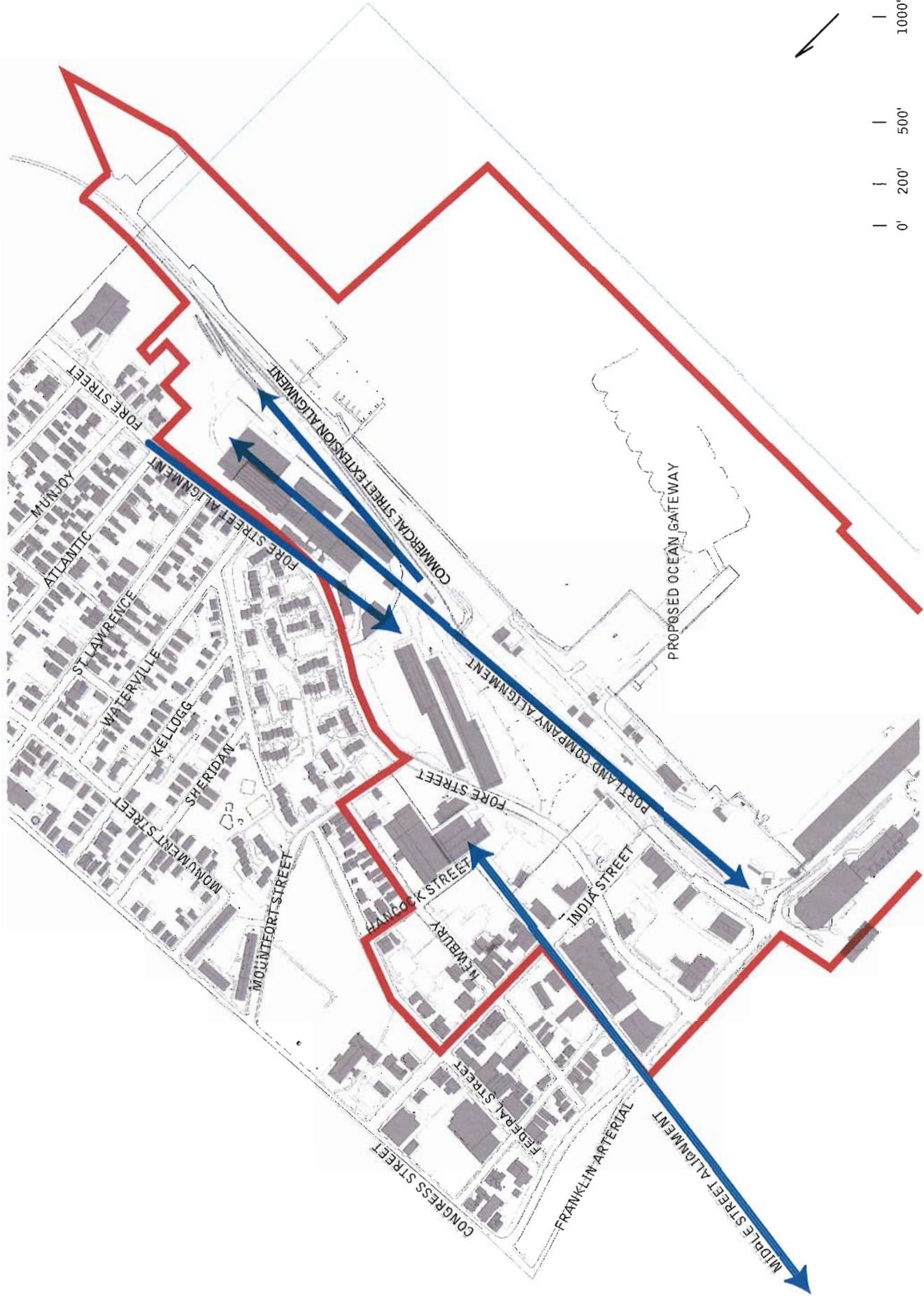


ILLUSTRATION 13: EAST / WEST SIGHT LINES AND ALIGNMENTS
 Eastern Waterfront Building Height Study
 Portland, Maine

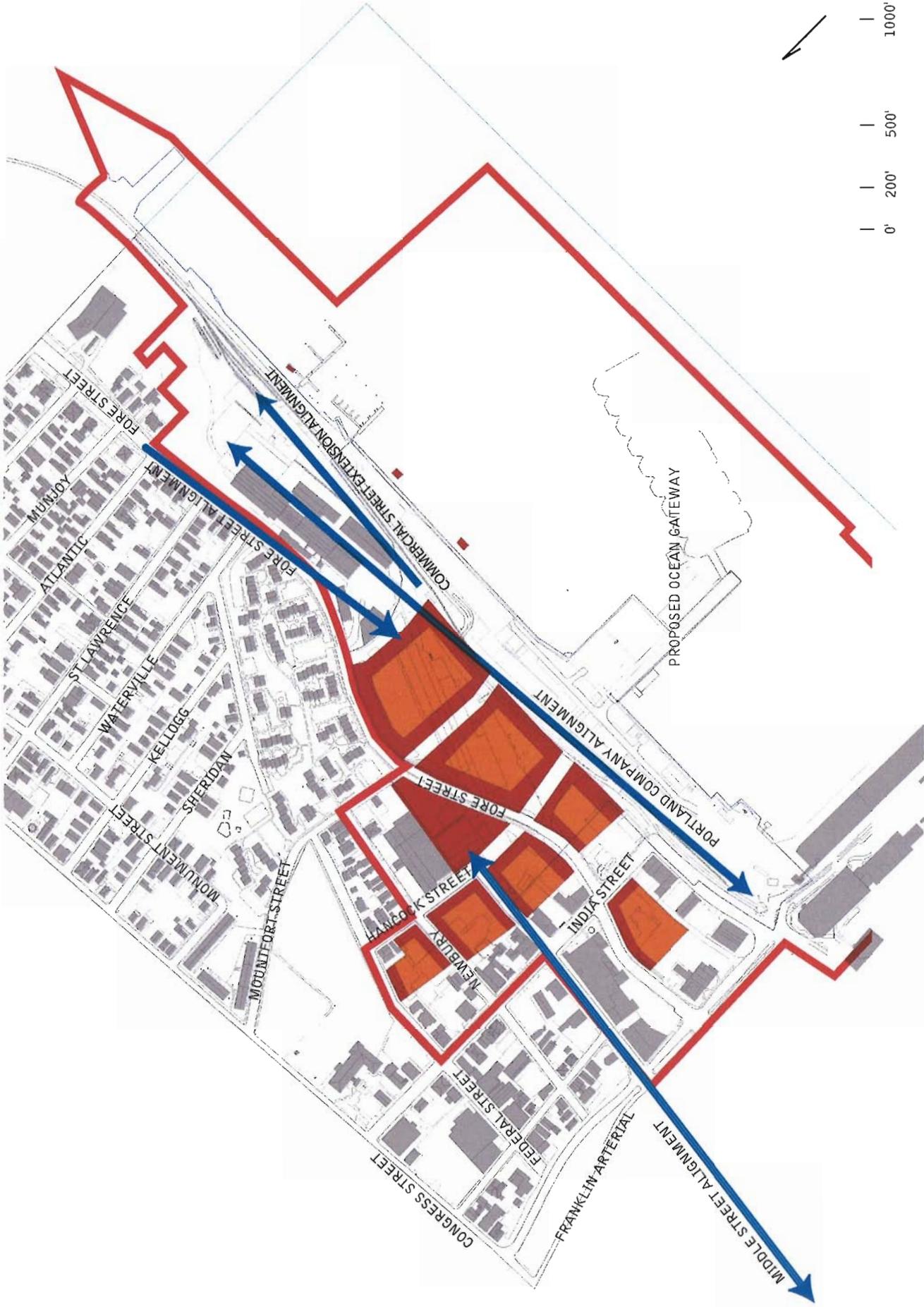


ILLUSTRATION 15: EAST / WEST SIGHT LINES & ALIGNMENTS W/ EXISTING MASTER PLAN
 Eastern Waterfront Building Height Study
 Portland, Maine



ILLUSTRATION 16: REVISED MASTER PLAN W/ NORTH / SOUTH VIEWS & ALIGNMENTS
 Eastern Waterfront Building Height Study
 Portland, Maine

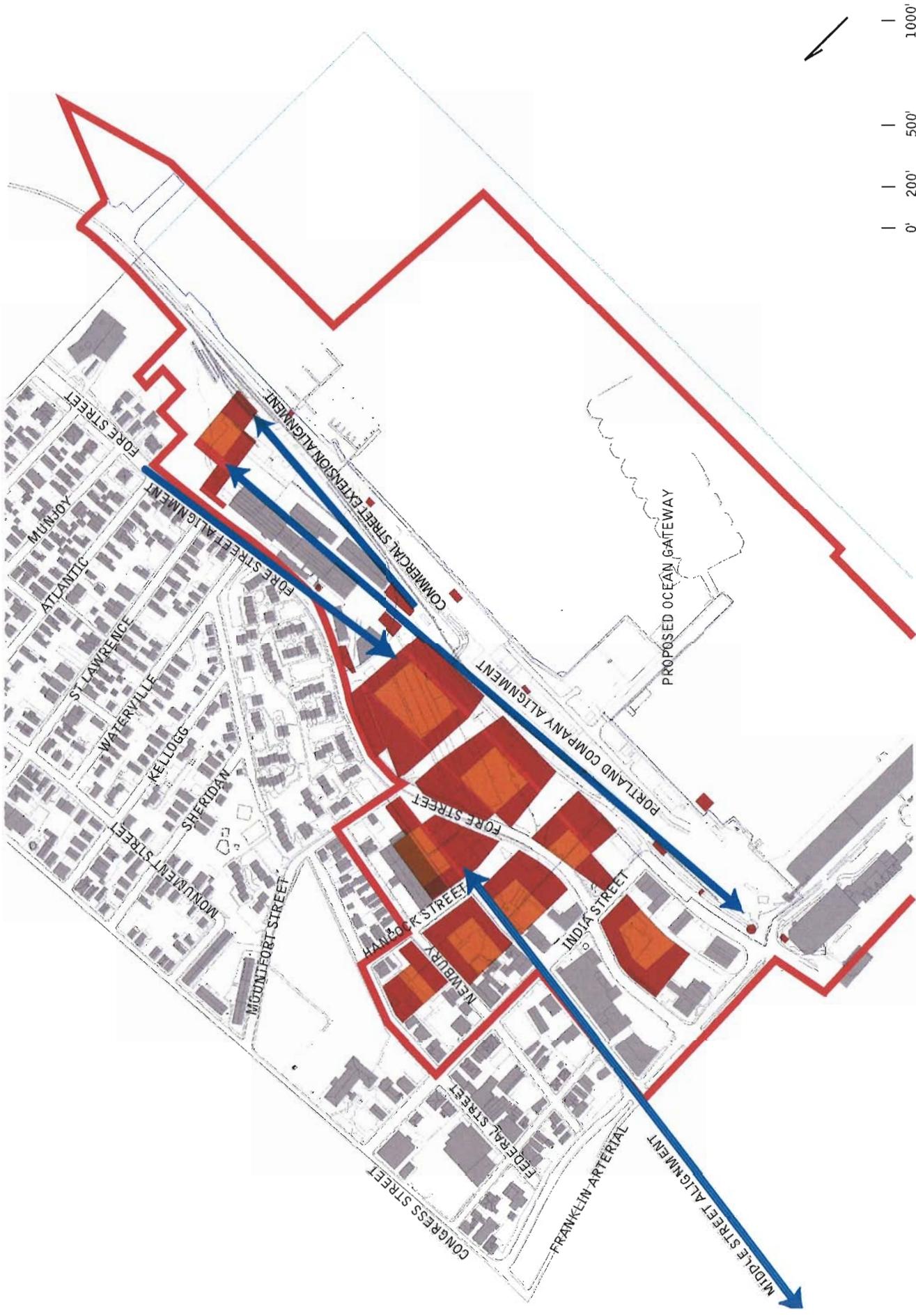


ILLUSTRATION 17: REVISED MASTER PLAN W/ EAST / WEST VIEWS & ALIGNMENTS
 Eastern Waterfront Building Height Study
 Portland, Maine



ILLUSTRATION 18: REVISED MASTER PLAN W/ SECTION CUTS
Eastern Waterfront Building Height Study
Portland, Maine

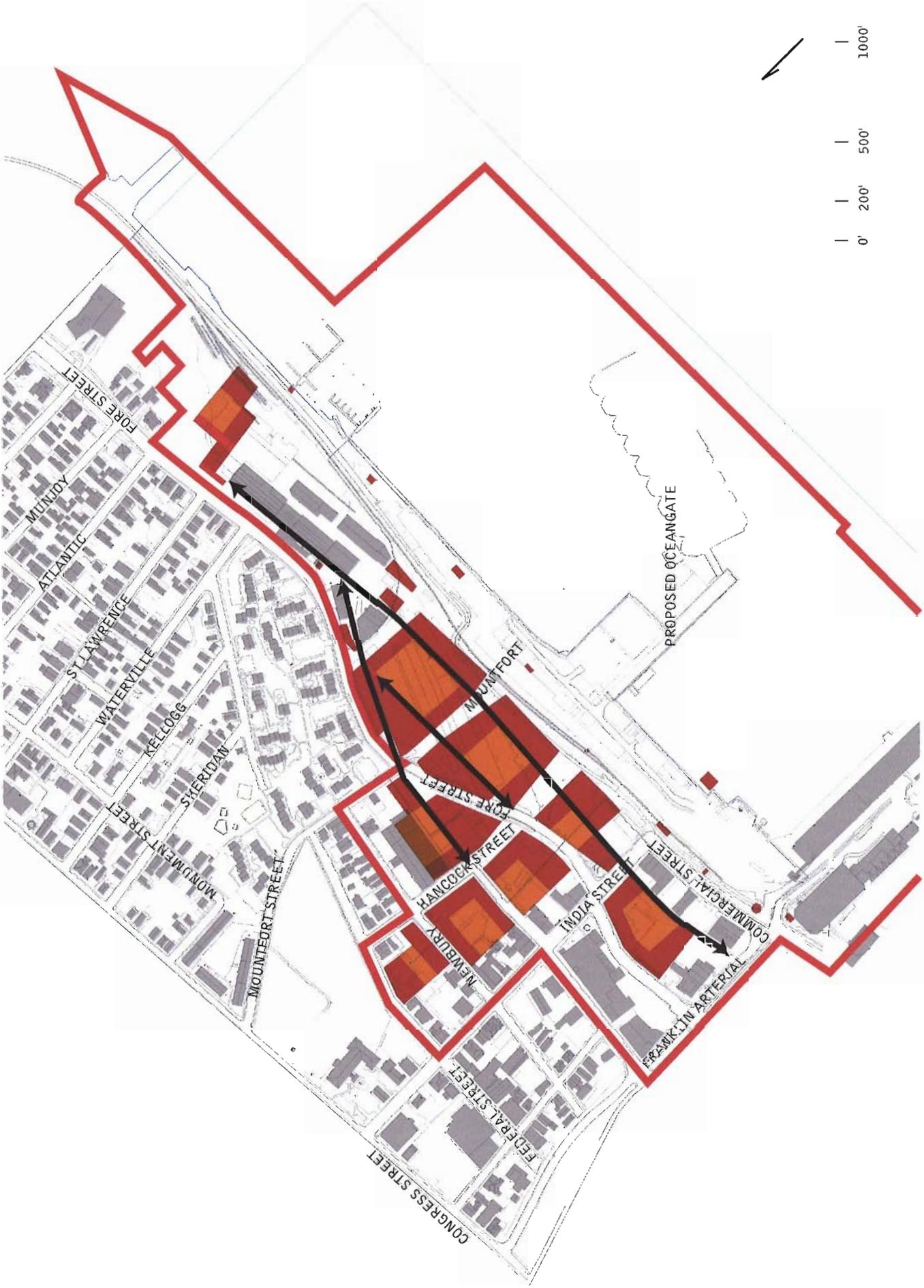


ILLUSTRATION 20: PEDESTRIAN / ALLEY "WHARF STREET" SYSTEM
 Eastern Waterfront Building Height Study
 Portland, Maine

-  STUDY AREA
-  CRITICAL ALIGNMENTS/SETBACKS
-  "WHARF STREET" ALLEY SYSTEM / MIN. 2 STORY OPENING
-  NO BUILD/STREETSCAPES

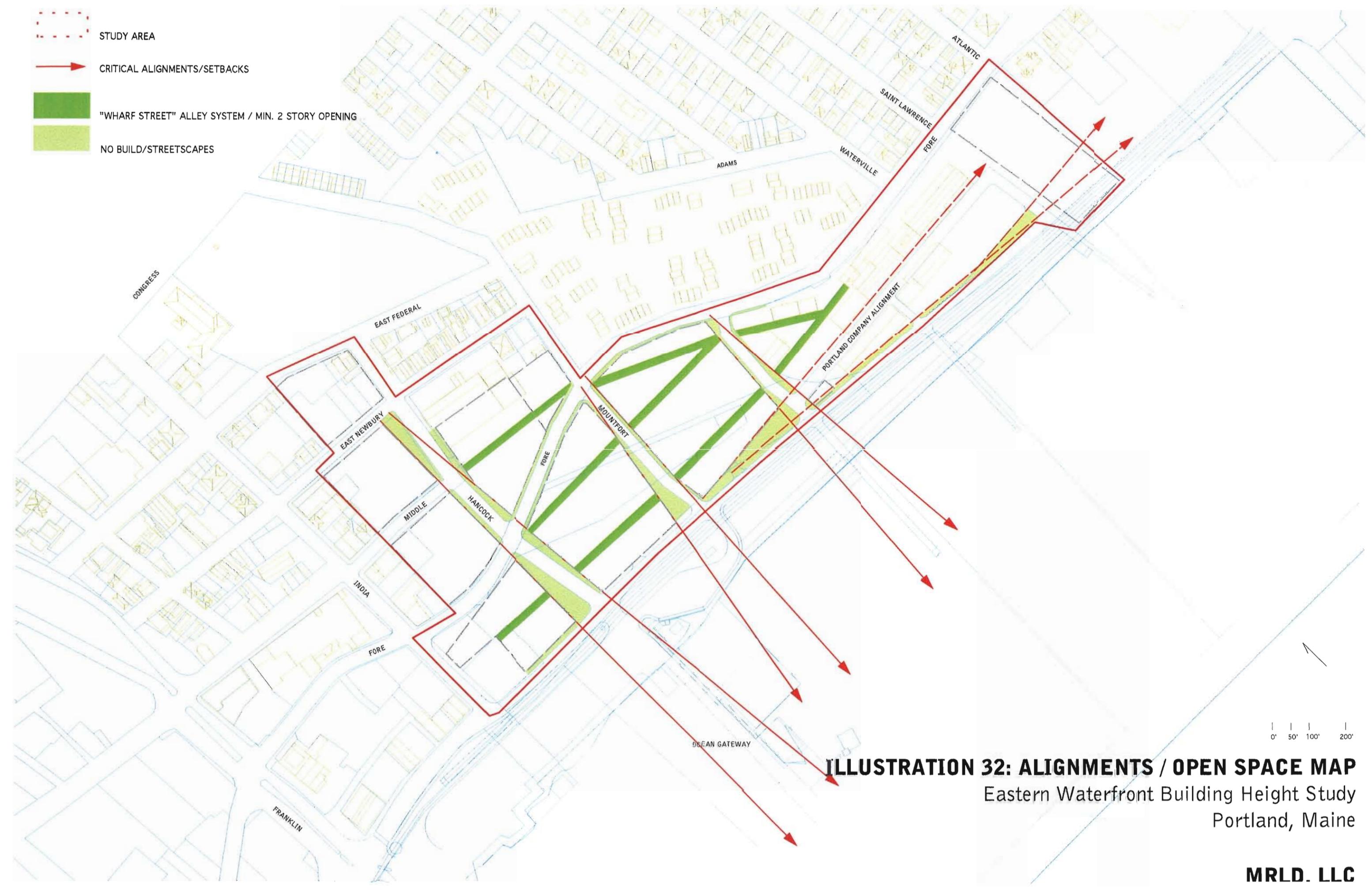


ILLUSTRATION 32: ALIGNMENTS / OPEN SPACE MAP
 Eastern Waterfront Building Height Study
 Portland, Maine

-  STUDY AREA (3 STORY MINIMUM)
-  KEY BUILDING ENVELOPES BY HEIGHT
-  NO BUILD ABOVE RELATIVE FORE STREET ELEVATION

- GENERAL NOTES:
1. FOR BUILDINGS EAST OF HANCOCK STREET OR ITS EXTENSION, NO BUILDING MASS ABOVE 4 FLOORS (45 FEET ABOVE THE AVERAGE GRADE) SHALL BE WIDER THAN 70 FEET PARALLEL WITH THE WATERFRONT NOR LONGER THAN 140 FEET PERPENDICULAR WITH THE WATERFRONT.
 2. THE 70' WIDE TOWERS, AS DEFINED ABOVE, MUST BE AT LEAST 140 FEET APART, MEASURED PERPENDICULAR WITH THE WATERFRONT.
 3. NO BUILD FLOATING ZONES ARE VIEW CORRIDORS WITH NO BUILDING ABOVE THE CORRESPONDING FORE STREET ELEVATION.
 4. NO BUILDINGS SHALL BE LOCATED OUTSIDE OF THE KEY BUILDING ENVELOPES.

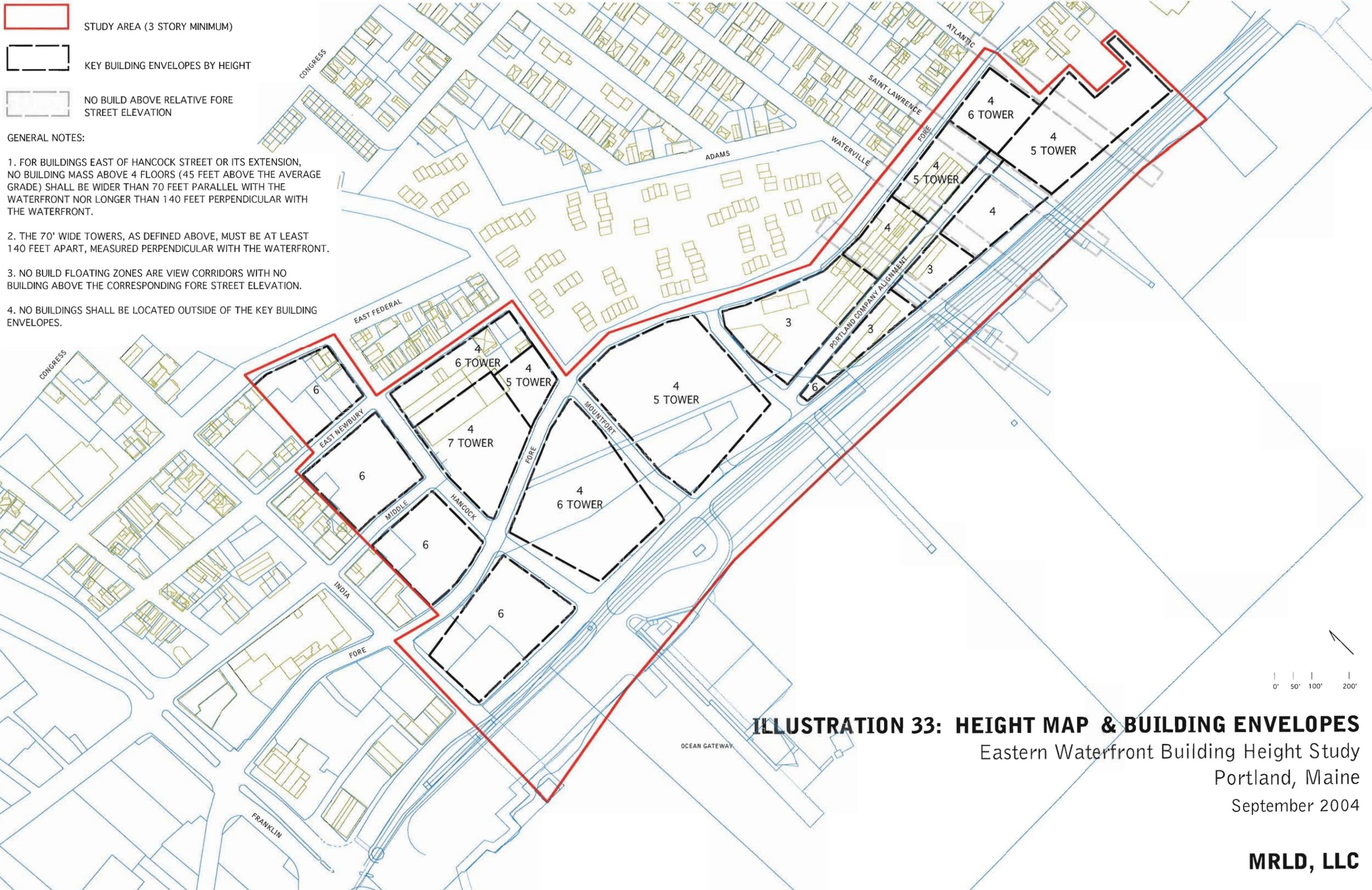
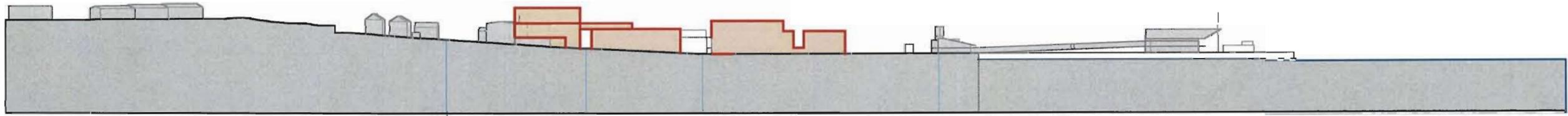


ILLUSTRATION 33: HEIGHT MAP & BUILDING ENVELOPES
 Eastern Waterfront Building Height Study
 Portland, Maine
 September 2004



SECTION A EXISTING - HANCOCK EXTENSION



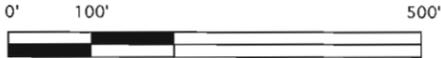
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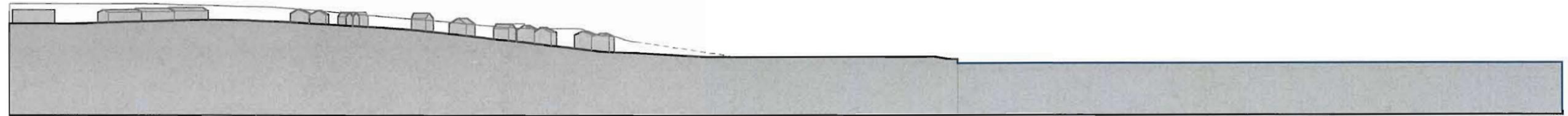
EASTERN WATERFRONT HEIGHT STUDY

Portland, Maine

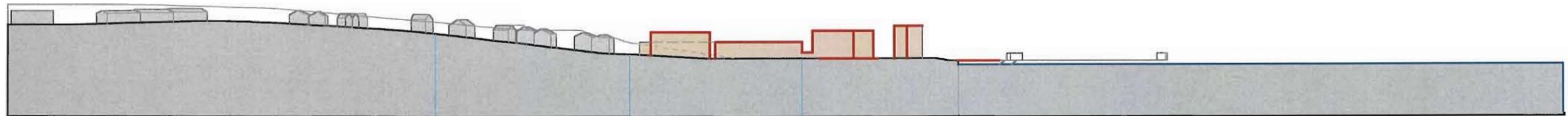
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SECTION B EXISTING - MOUNTFORT EXTENSION



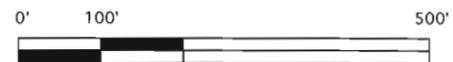
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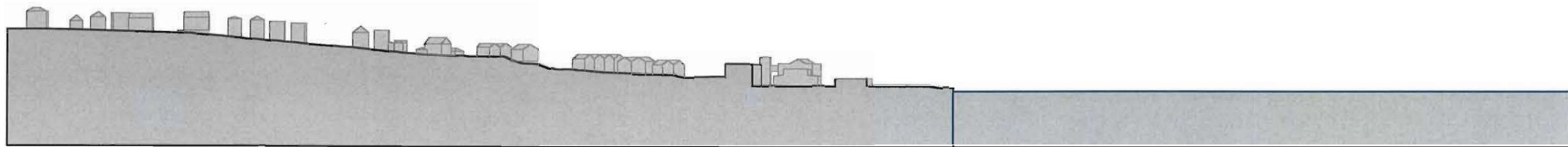
EASTERN WATERFRONT HEIGHT STUDY

Portland, Maine

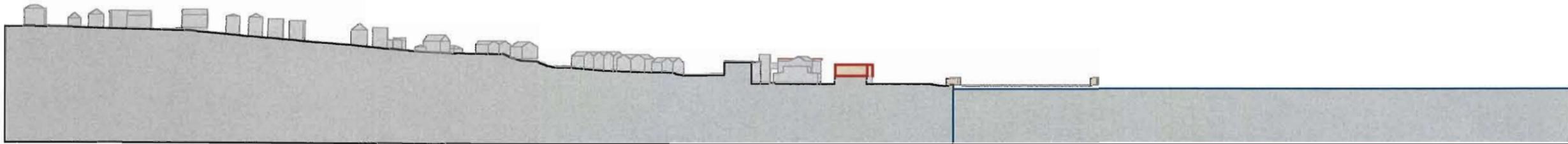
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SECTION C EXISTING - KELLOGG



SECTION C PROPOSED - KELLOGG

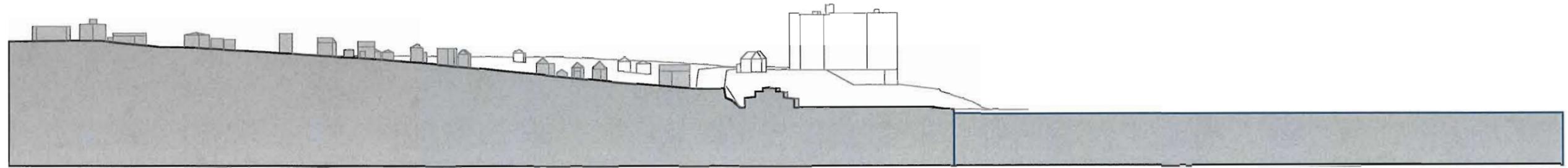
EASTERN WATERFRONT HEIGHT STUDY

Portland, Maine

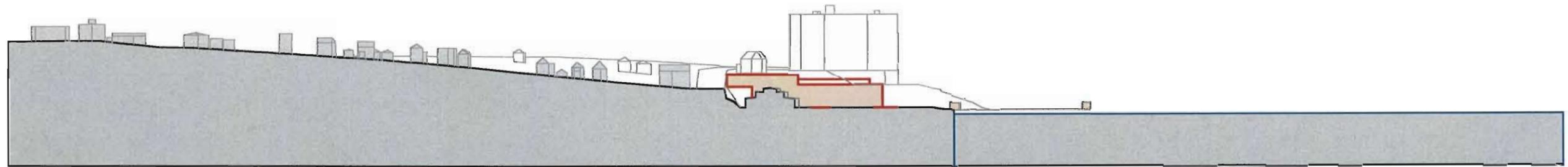
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SECTION D EXISTING - MID ST. LAWRENCE / ATLANTIC



SECTION D PROPOSED - MID ST. LAWRENCE / ATLANTIC

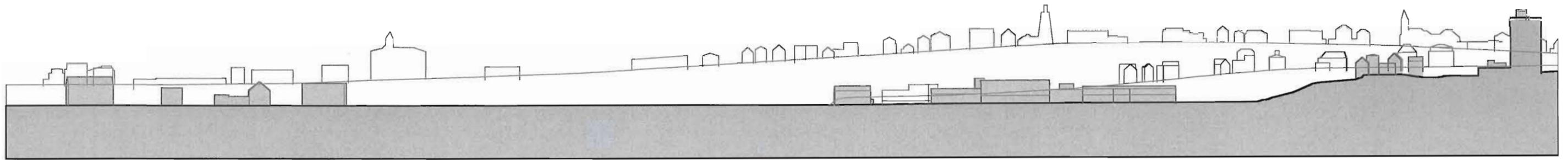
EASTERN WATERFRONT HEIGHT STUDY

Portland, Maine

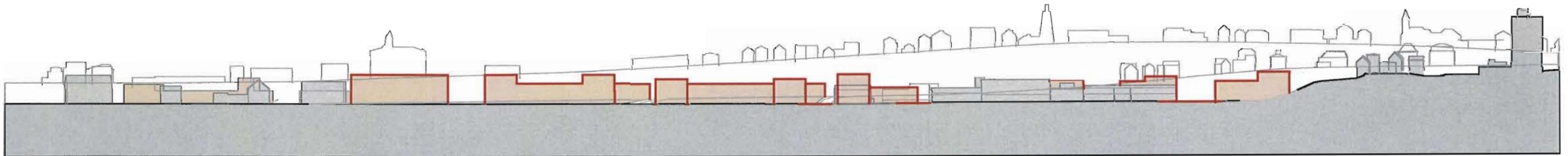
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SECTION E EXISTING - EAST / WEST (with Congress Street and Fore Street Elevations)



SECTION E PROPOSED - EAST / WEST (with Congress Street and Fore Street Elevations)

EASTERN WATERFRONT HEIGHT STUDY

Portland, Maine

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