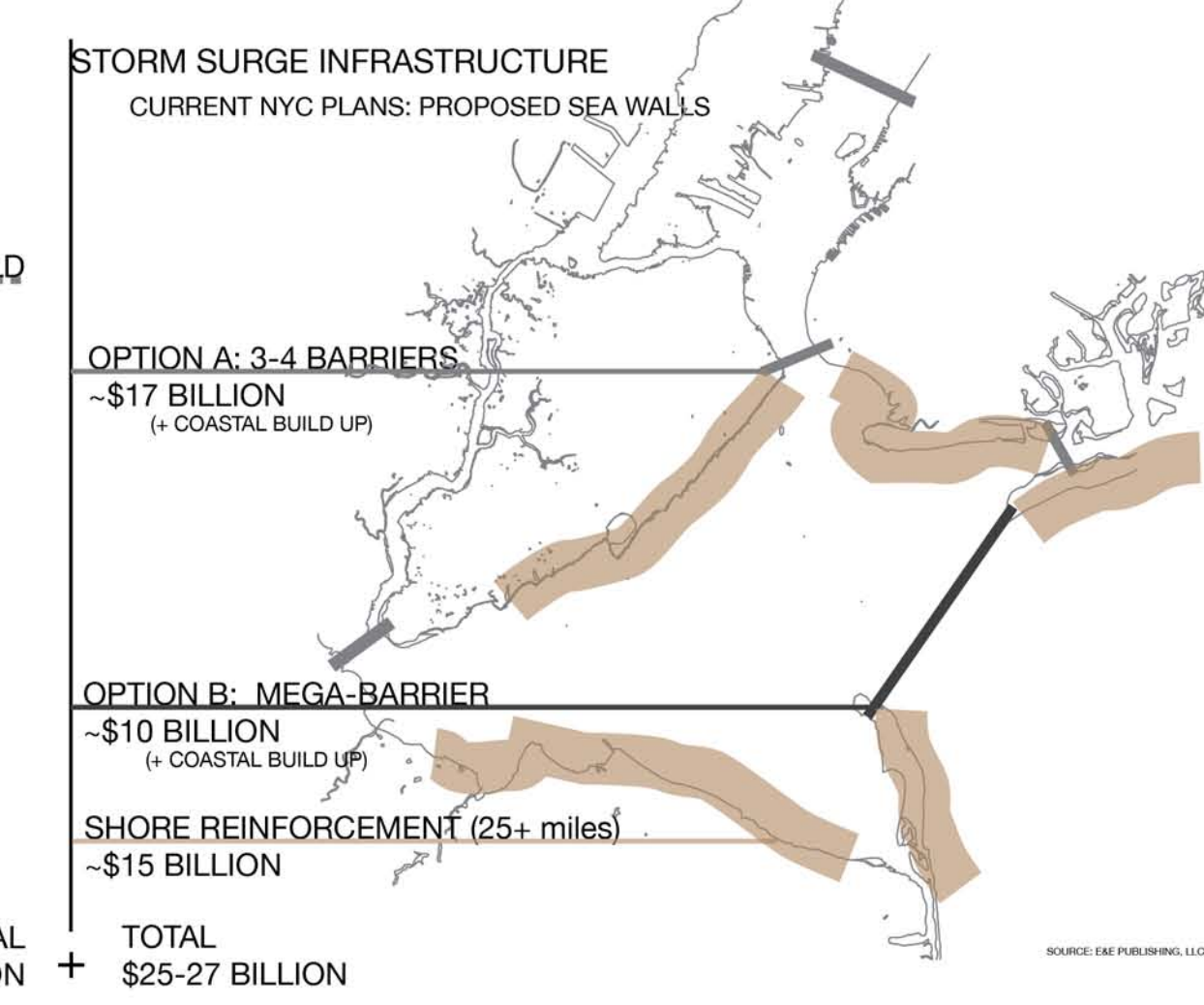
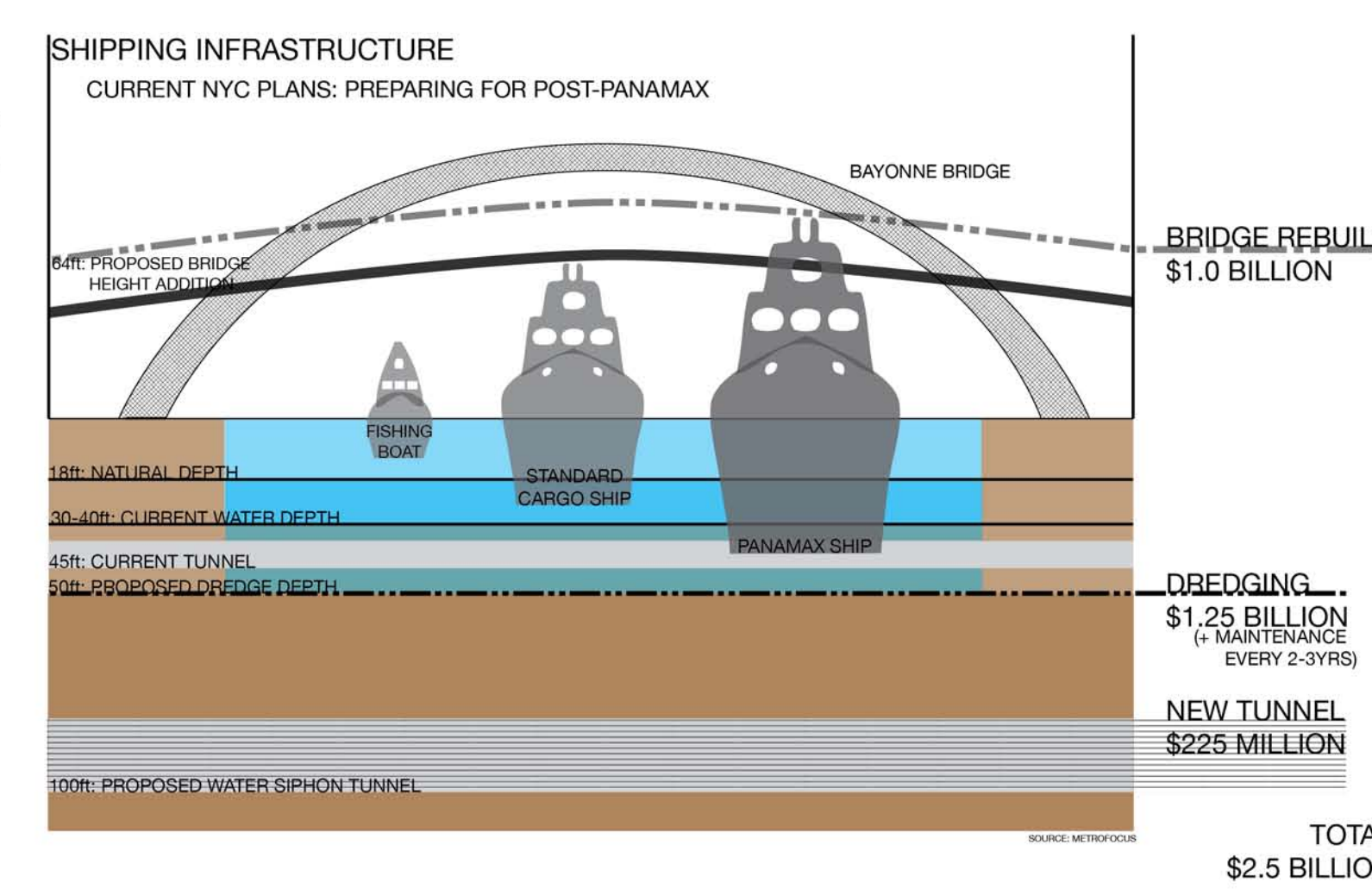


A WORKING WATERFRONT FOR NY HARBOR: USING SHIPPING INFRASTRUCTURE AS COASTAL DEFENSE

This proposal aims to change the model of the container port as a way to reinvigorate the coastline of NY Harbor while addressing the rising waters of SLR and storm surge. Currently, significant infrastructure investments are being implemented to accommodate Post-Panamax shipping at Elizabethport. Cost estimates made after Hurricane Sandy illustrate that even greater investments would be required to construct storm surge barriers. The idea is to combine the way we think of these large-scale systems.

Today, there are 6 container terminals that handle 55 million tons of incoming goods to NY. The majority of these goods are dropped off at the 3 terminals at Elizabethport, adjacent to Newark Airport and connecting to I-95. However, 80 million consumers live within a 24-hr reach of these terminals, and 75% of these imported goods remain in the NY-NJ area. Therefore, water can act as a medium on which to distribute these goods locally, reducing the volume of highway truck traffic. With the expansion of the Panama Canal complete 2014, there will be larger container ships able to access the East Coast. To stay active as the prominent port on the East Coast, NY will have to handle this greater influx of goods. By using a range of barge types, greater volumes of goods can be delivered with each vessel. Therefore, this regional strategy outlines 2 potential scenarios. With high levels of investment (similar to early estimates for storm surge barriers, a large breakbulk port could be built at the mouth of the harbor, doubling as storm surge protection. With lower and/or status quo investments, Elizabethport could remain as the major breakbulk facility. In both cases, fleet of smaller barges could distribute goods around NY Harbor.

Based on existing hydrological systems and currents, in addition to future water levels, any further development in the area should be able to adapt to a way of life with and on the water. Instead of placing vulnerable residences and weak, corporate waterfront developments - or even fancy parks intended for the occupants of such buildings - this suggests a working waterfront for New York, a return to what lead the city to greatness in the first place, just in an ecologically-minded approach.

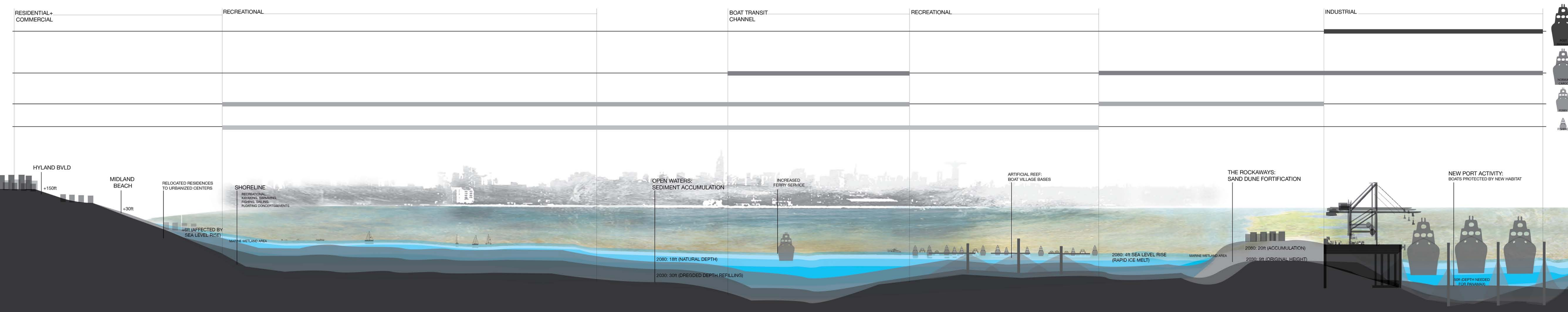


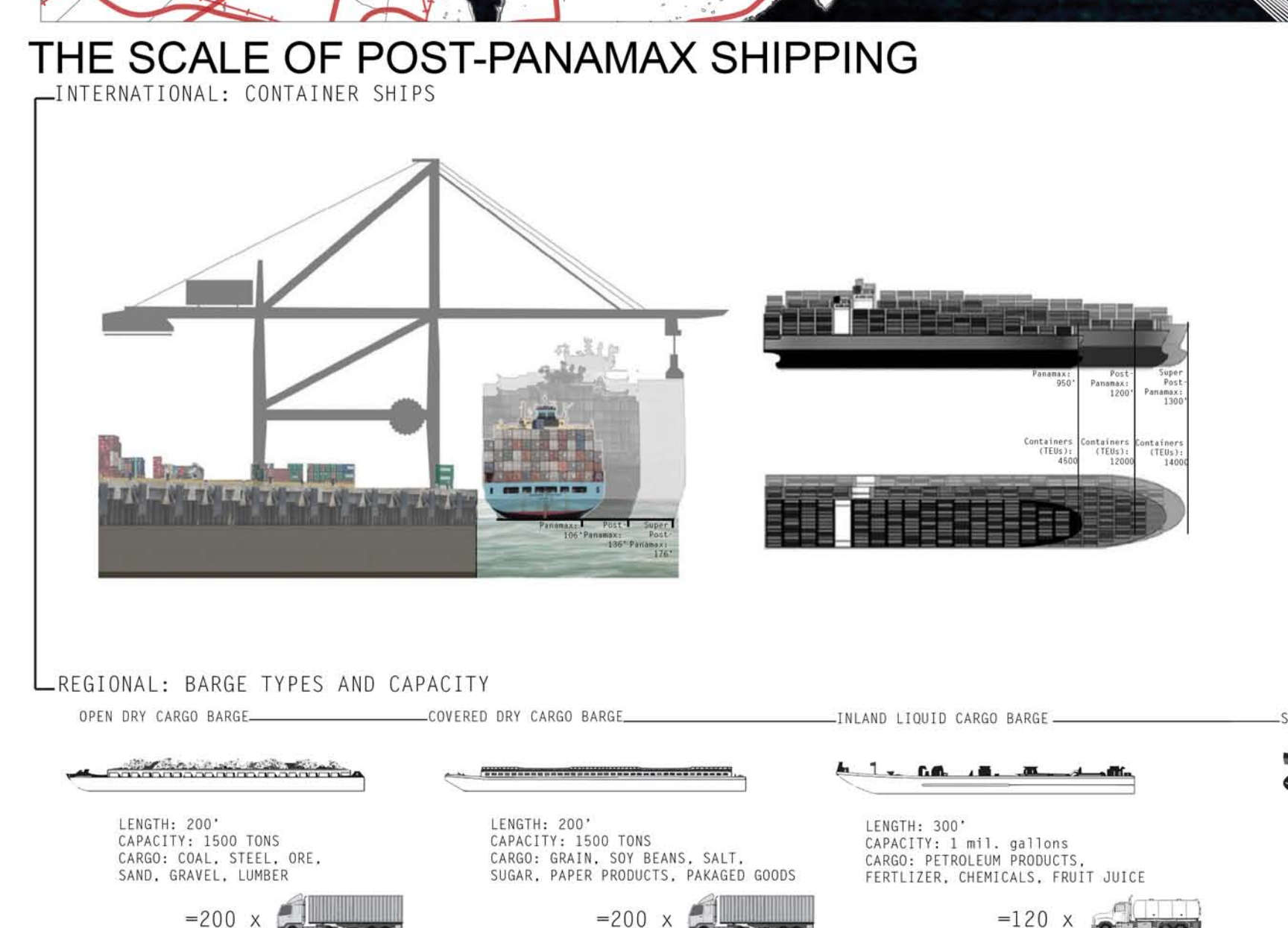
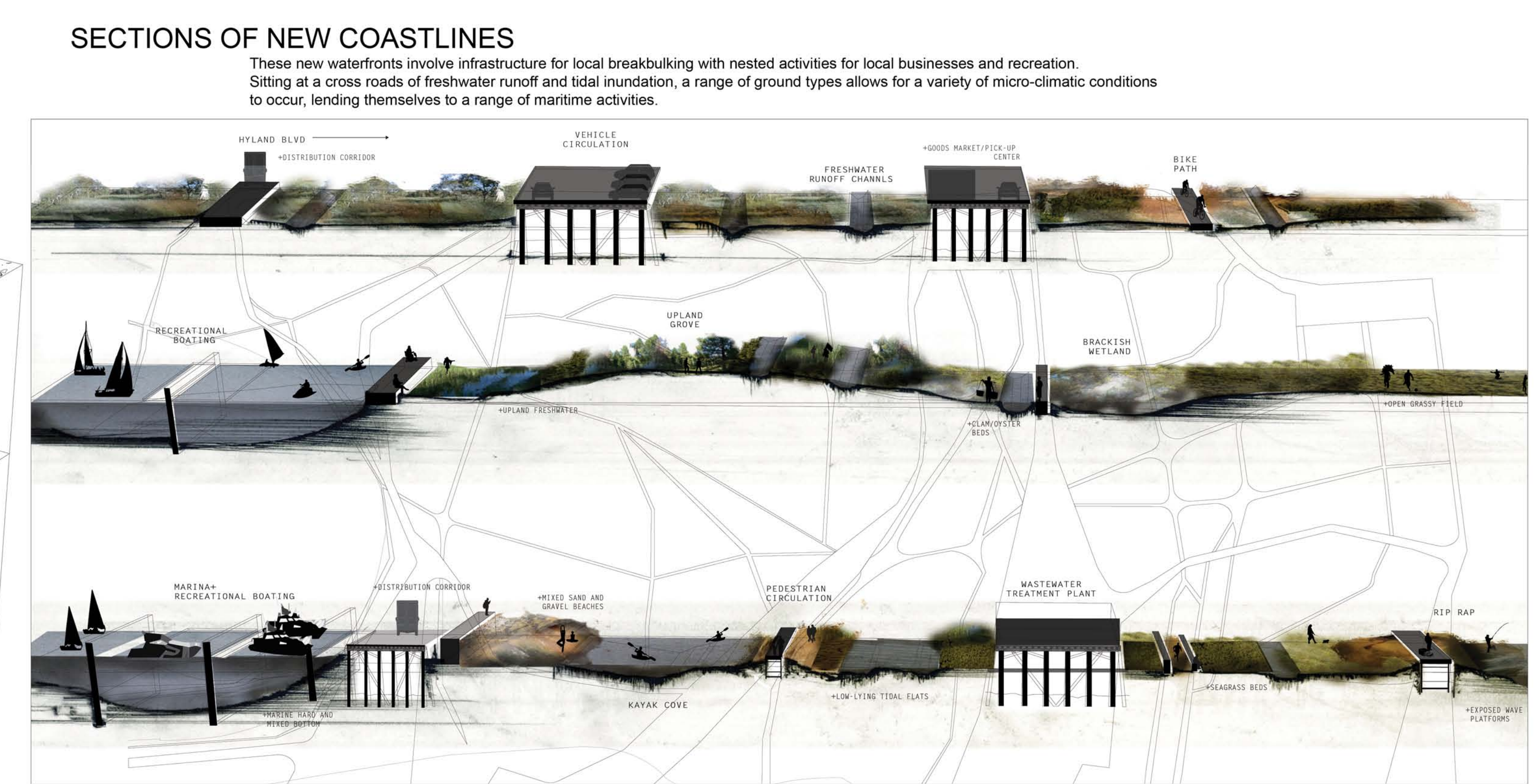
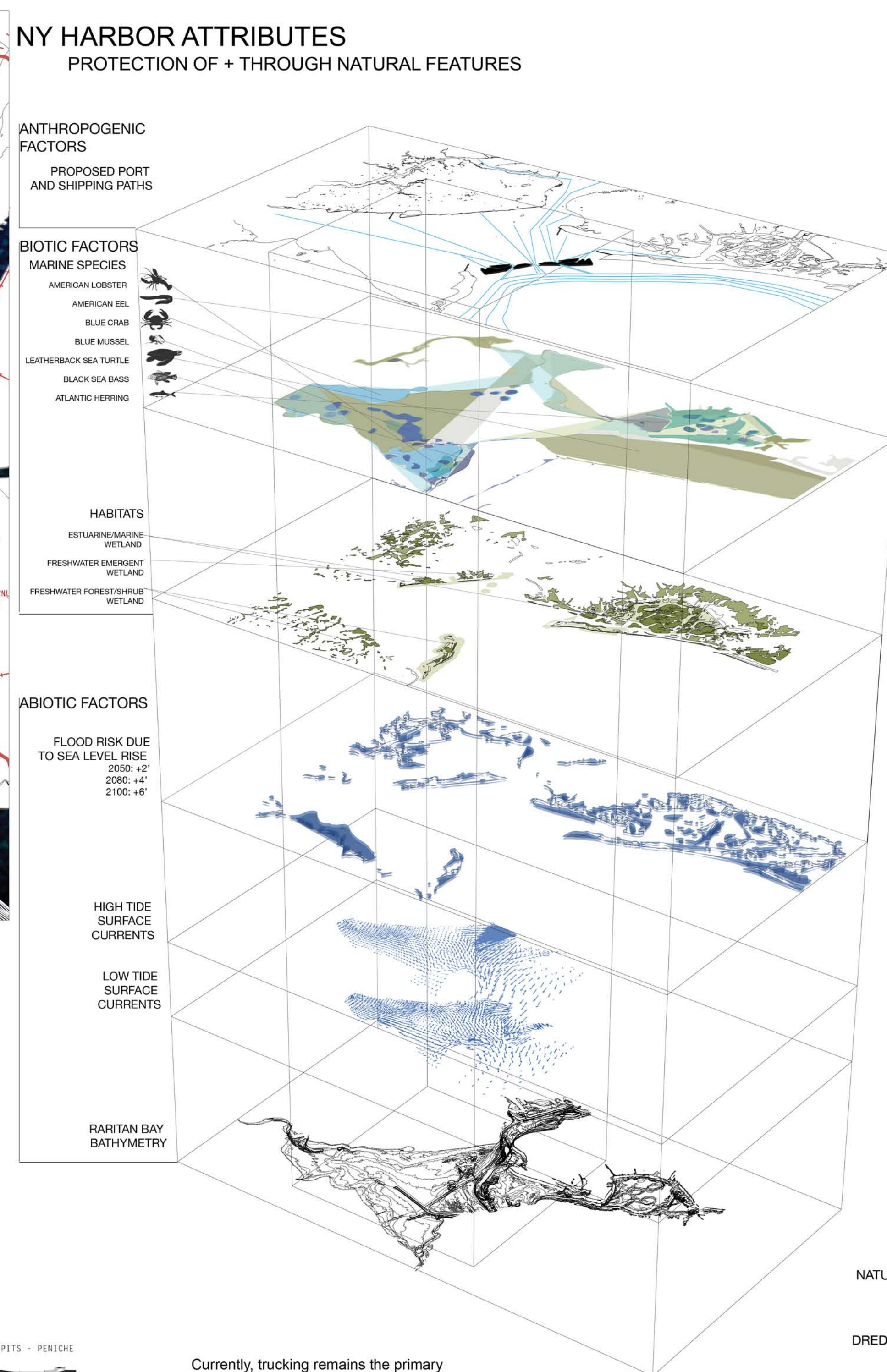
THE COSTS OF DREDGED SHIPPING CHANNELS:
 Reasons to move the largest channels outside of NY Harbor's recreational interior areas

- RESURFACED & RELEASED TOXINS:** HEAVY METALS, PCBs, PESTICIDES, PHOSPHORUS, OIL AND GREASE ACCUMULATE IN NY HARBOR FROM UPSTREAM SOURCES. LINKED TO CANCER IN HUMANS & MARINE LIFE POPULATIONS.
- CHEMICAL & GH IMBALANCES:** COMBINES SEVERE OVERFLOW CONTAINS NUTRIENTS AND OTHER PHARMACEUTICAL COMPOUNDS; INCREASED FERTILIZATION OF FISH HAS BEEN OBSERVED IN THE HARBOR.
- BIOSTIMULATION:** THE DISTURBANCE OF THE HARBOR FLOOR RELEASES AN INFUX OF NUTRIENTS AND SEDIMENT PARTICULATES INTO THE WATER. EVEN IF BENIGN, THIS ENCOURAGES ALGAL BLOOMS AND GENERALLY OVERTAKES THE OXYGEN SUPPLY IN WATER, CREATING UNFAVORABLE CONDITIONS FOR MARINE HABITATS.
- "DEAD" SHORES:** BARRIERS, HANDICAPPED, AND POLLUTED COASTAL EDGES DIMINISH MARINE BIODIVERSITY AND CREATE AN OVERALL UNPLEASANT AND UNATHESTIC WATERFRONT.
- HYDROPHOBIC RECREATION:** RESIDENTS AVOID LOCAL WATERFRONTS AS A PLACE FOR SWIMMING, FISHING, AND OTHER FORMS OF RECREATION. TURNING WETLAND TO MORE LAND-LOCKED AND ARTIFICIAL FORMS OF ENTERTAINMENT TAKING WATERFROE BEACH AS A FURTHER THE BEYOND URBAN EXTENTS.

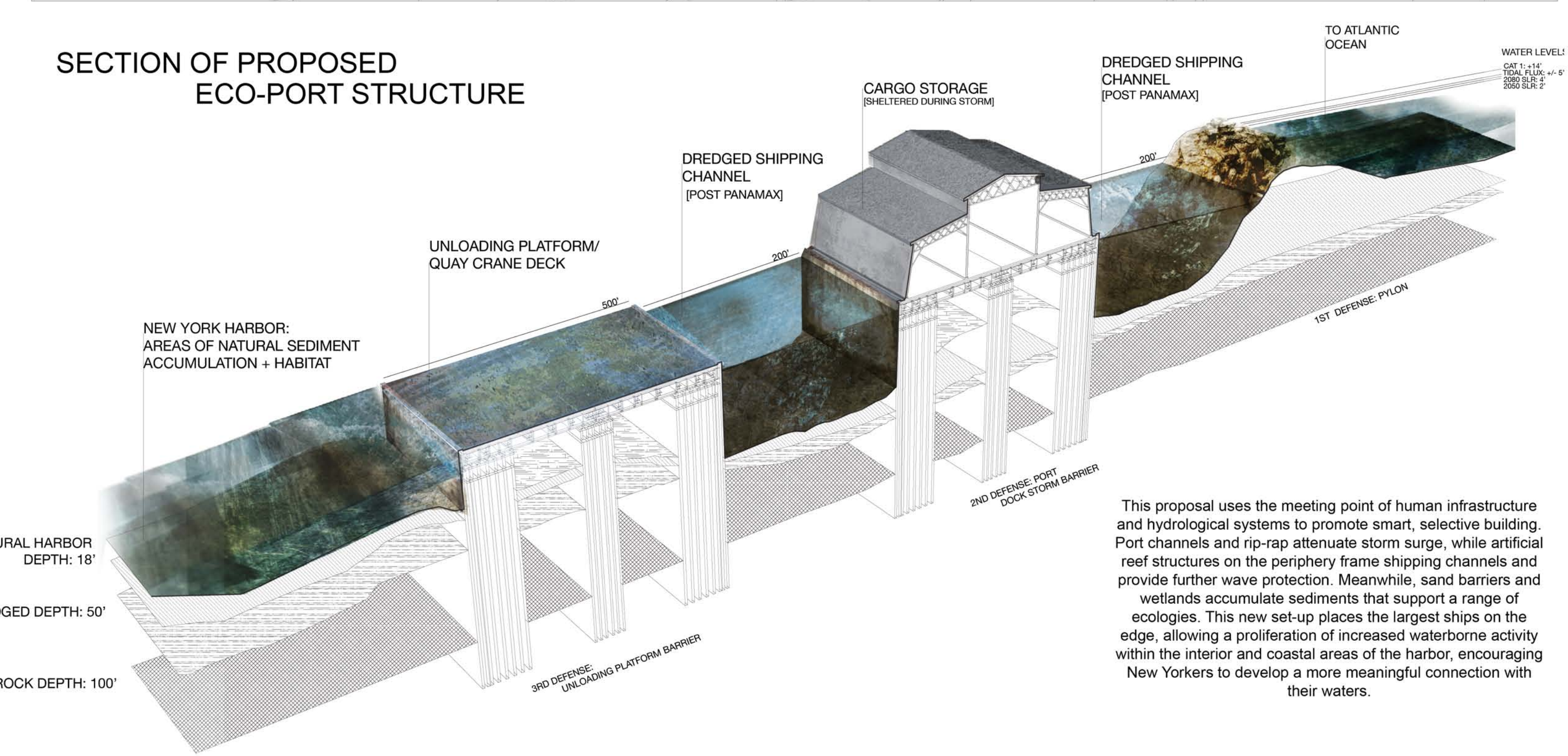
As long as Post-Panamax ships are allowed to cut through the harbor to Elizabethport and dredging increases, protective habitats and natural waterfront communities CANNOT thrive.

REGIONAL HARBOR SECTION

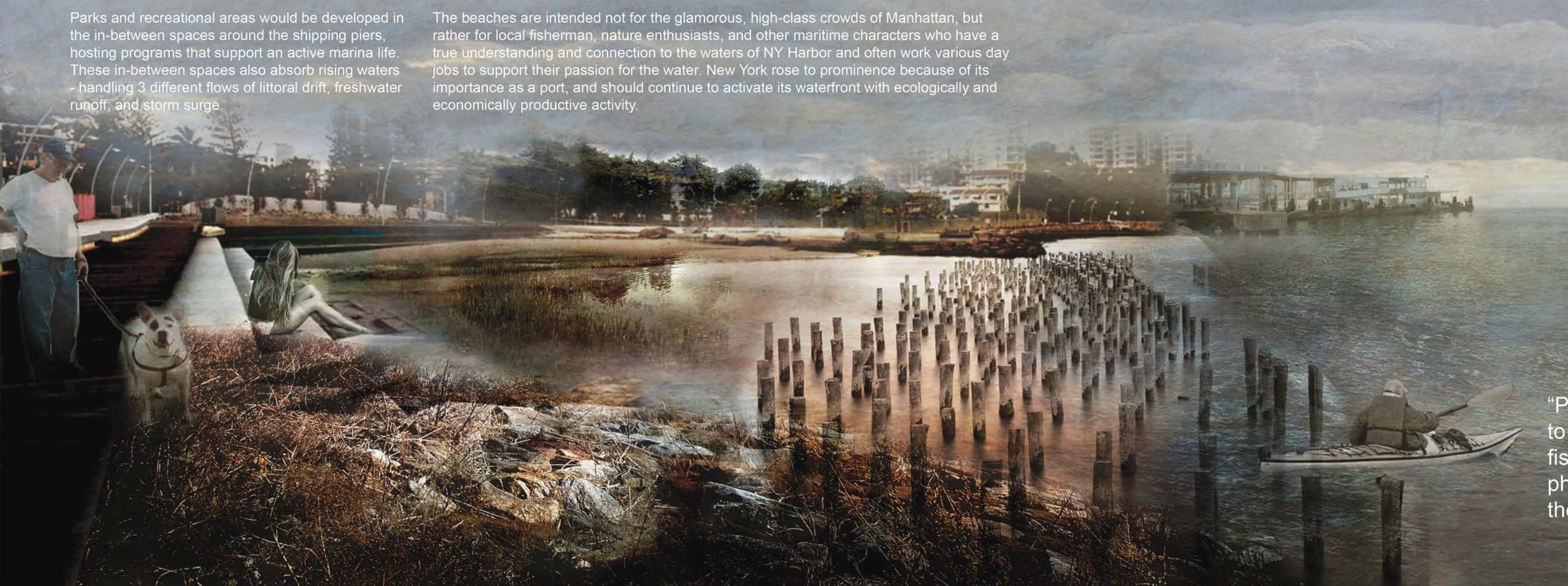




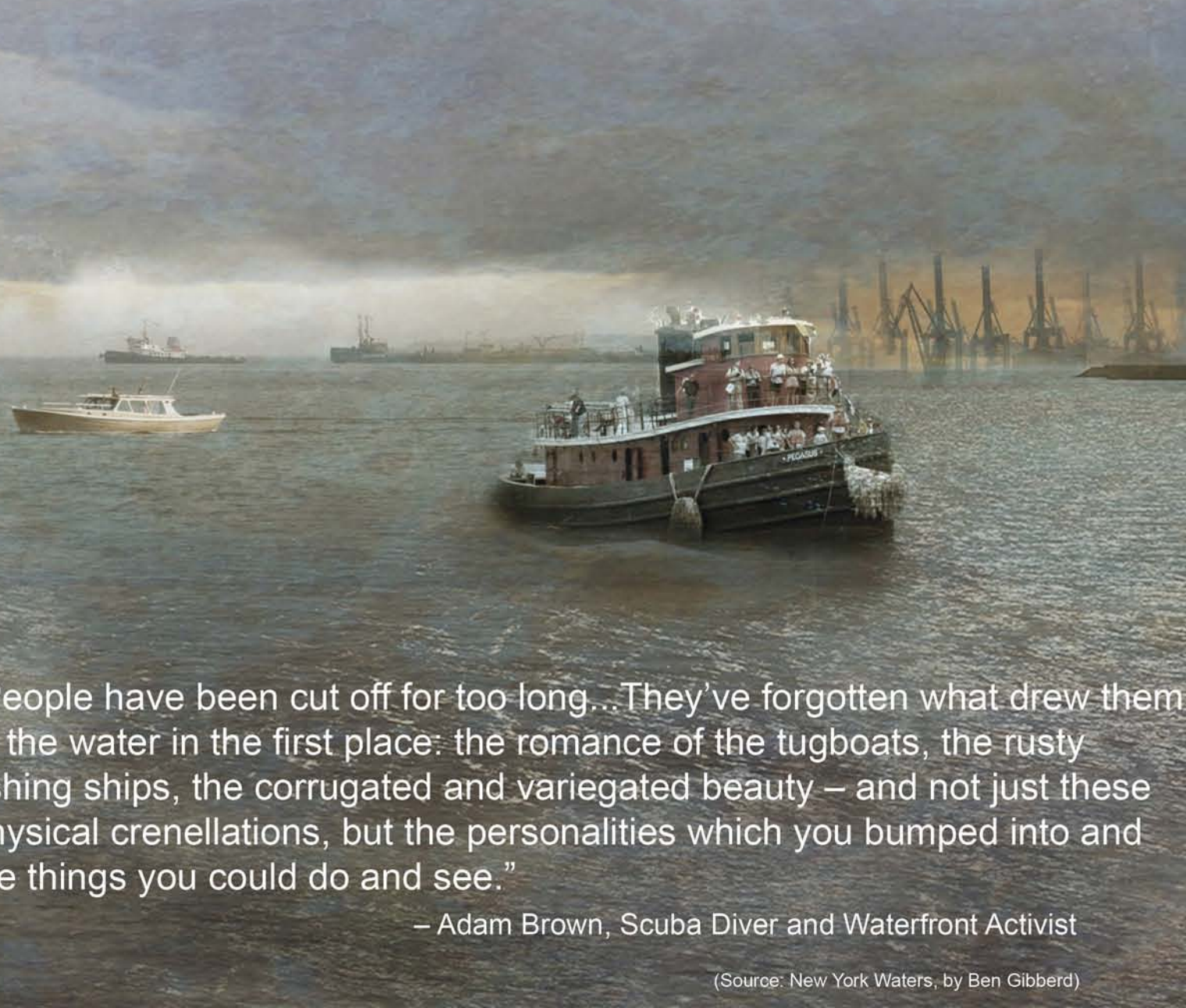
Currently, trucking remains the primary method of goods distribution. Waterborne distribution stands to take a greater share in this load, helping with traffic reduction, adherence to the Clean Air Act, and the economic activation of waterfronts, as outlined in NY's Vision 2020 plan.



WATERFRONT PERSPECTIVE



PORT PERSPECTIVE



PORT PERSPECTIVE

