Addendum to the CPIP

Brooklyn Waterfront Projects

1 Introduction

This Addendum assesses the impact of three proposed Brooklyn waterfront projects on the CPIP. The assessment concentrates on the effects of reducing land area available for CPIP related cargo handling terminals. The addendum does not address the impacts of the projects in their own right, which has been considered elsewhere by the Project Sponsors.

2 Brooklyn Waterfront Projects

2.1 Background

New York City Economic Development Corporation (NYCEDC) has created three projects as part of an economic development initiative for the Brooklyn waterfront, specifically to maximize Brooklyn's capture of new maritime development opportunities while also balancing economic development with environmental sustainability. The three Brooklyn Waterfront Projects are:

- Development of a cruise terminal and maritime industrial zone at North Brooklyn
- Construction of a recycling plant at South Brooklyn
- Development of an auto/general cargo terminal at South Brooklyn

These projects were not included as part of the CPIP baseline, because they did not meet the criteria for inclusion in the baseline, i.e. they were not programmed for construction and not funded at the time of the CPIP baseline development.

The projects were developed independently of the CPIP process and did not use the CPIP methodology. The projects were developed to maximize Brooklyn's capture of new maritime development opportunities, while meeting near term needs with respect

to cruise terminal capacity and a New York City Department of Sanitation (DSNY) requirement to stabilize the costs of its metal, glass and plastic recycling program.

2.2 Description of Projects

2.2.1 *Cruise terminal & maritime industrial zone at North Brooklyn*

The extent of this project is shown in the figure 'Proposed Piers 7-12 development program' included in Appendix A. The existing layout and land use at North Brooklyn is shown in Figure 8.1 of the Toolkit.

The proposed cruise terminal will utilise Piers 11 and 12, and forms part of a larger 'Cruise Zone' which includes Pier 10 and land to the north, currently part of Red Hook Container Terminal. The proposals also include a maritime industrial zone over Piers 7, 8, 9A and 9B, which are currently general cargo terminals.

The two zones are divided by the Hamilton Avenue mixing zone and there is a transition area behind the maritime industrial zone alongside Columbia Street. These areas will assist in the management of vehicular access to the cruise and industrial areas.

The Maritime Industrial Zone has an area of 58 acres and has been considered to be a general cargo area in the analysis that follows.

2.2.2 *Recycling plant at South Brooklyn*

The extent of this project is shown in the figure 'South Brooklyn Marine Terminal' included in Appendix A. The existing layout at South Brooklyn is shown in Figure 9.1 of the CPIP Toolkit.

The proposed recycling plant is located at the north end of the South Brooklyn marine terminal site, and is approximately 10 acres in total. This area will not therefore be available for CPIP related cargo handling use.

2.2.3 *Auto and breakbulk terminal at South Brooklyn*

The extent of this project is also shown in the figure 'South Brooklyn Marine Terminal' included in Appendix A. The existing layout at South Brooklyn is shown in Figure 9.1 of the Toolkit.

The proposed auto and breakbulk cargo terminal will be located over the majority of the existing South Brooklyn marine terminal site, and is approximately 70 acres in total. The split of area between the two cargos has been estimated as 60 acres to auto and 10 acres to breakbulk.

There is a rail car loading terminal in the project along with improved rail access along First Avenue to the 65th Street Float Facility.

2.2.4 *Cargo handling acreage in Brooklyn Waterfront Projects*

The area available for handling cargo in the Brooklyn Waterfront Projects is summarized in the table below.

Project Description	Acreage
Maritime Industrial Zone – general cargo Piers 7 to 9	58
South Brooklyn Marine Terminal - Autos	60
South Brooklyn Marine Terminal – Breakbulk (general cargo)	10
Total	128

Table 2.1 Cargo acreages in Brooklyn Waterfront Projects

2.3 Effect of Brooklyn Waterfront Projects on CPIP Scenarios

2.3.1 *Acreage Comparison*

The effect of the NYCEDC's Brooklyn projects on the CPIP Scenarios was considered by comparing the terminal acreage in the Brooklyn Waterfront Projects with that at South and North Brooklyn in the Orange, Red Yellow and Blue Scenarios, see Table 2.2. For example, NYCEDC's Brooklyn projects provide 52 fewer acres than the CPIP Brooklyn terminal options in the Orange and Red Scenarios and 82 fewer acres than the CPIP options in the Yellow Scenario.

This shortfall can be accommodated in CPIP planning by using spare capacity and acreage elsewhere in the Scenarios.

Scenario	Terminal acreage in CPIP Options at Brooklyn	Terminal acreage in EDC projects at Brooklyn	Difference (acres)
Orange	180	128	52
Red	180	128	52
Yellow	210	128	82
Blue	260	128	132

Table 2.2 - Difference in terminal acreage

2.3.2 *Spare capacity and acreage*

On a global level, each of the Scenarios has spare capacity or acreage, due to land allocation in excess of forecast demand requirements. The 'spare' acreage in each of the Scenarios is shown in Table 2.3.

Scenario	Total acreage allocated to CPIP terminals *(container allocation)*[1]	Total acreage required to meet 2060 forecast demand *(container requirement)*	Spare total terminal acreage (*spare container area)*
Orange	2,509 *(1,574)*	2,138 *(1,329)*	371 *(245)*
Red	2,488 *(1,658)*	2,138 *(1,329)*	350 *(329)*
Yellow	2,349 *(1,433)*	2,138 *(1,329)*	211*(104)*
Blue	2,439 *(1,513)*	2,138 *(1,329)*	301*(184)*

Table 2.3 - Spare acreage in each Scenario

By inspection, each of the Scenarios has enough spare capacity that could be used to accommodate a reduction in terminal area provided in Brooklyn. In the Orange, Yellow and Blue Scenarios the bulk of the spare capacity is split between container terminals and auto terminals. However, in the Red Scenario most of the spare capacity is in the container terminals.

[1] See tables in Section 12 of the Toolkit. Areas exclude road, rail and warehousing & terminal support industries area.

Selection of particular reductions to compensate for the loss of area at Brooklyn requires more detailed consideration, and is discussed below.

2.3.3 *Reduction of spare capacity within a Scenario*

To accommodate the NYCEDC projects, some spare capacity within each Scenario needs to be reduced. There are many arrangements that could accommodate the reduction, and some may involve a change of cargo type at a particular site. The selection of the most suitable set of adjustments needs detailed consideration, taking account of:-

- the spare capacity of each cargo in the Scenario;
- the site attributes and considerations set out in Chapter 7 of the CPIP
- the berth requirements of Options, in relation to available wharf space

One solution, in the form of a new 'Addendum Scenario' has been prepared, and is presented below.

3 New Addendum Scenario

3.1 ***Description***

The Brooklyn Waterfront Projects are included in the Addendum Scenario by provision of the following new Options:-

- G5, a 58 acre General Cargo terminal at North Brooklyn corresponding to the Maritime Industrial Zone;
- G6, a 10 acre General Cargo terminal at South Brooklyn corresponding to the breakbulk terminal;

- A16, a 60 acre Auto terminal at South Brooklyn corresponding to an auto terminal.

The Addendum Scenario has been prepared using the CPIP Red Scenario as a starting point. Red was used because all of the spare acreage was in container terminals and very little area available in the auto, dry and liquid terminals. In these circumstances the land allocation planning process was the most challenging. The Addendum Scenario is presented in Appendix A, together with a table of land allocation.

To accommodate the Brooklyn projects, the following set of adjustments were made to the Red Scenario in the CPIP:-

- Dry bulk facilities originally at SB were re-provided by extension at PNN (D1, 87 acres), which reduced the auto terminal area, to new auto Option (A18, 198 acres).

- Additional general cargo terminal acreage was required to meet forecast demand, and was provided at PNS (G7, 60acres), selected due to the availability of wharf space. This reduced the area for autos at PNS (new 275 acre terminal, A17)

- The reduction in Auto terminal acreage was compensated by converting the container terminal at Bayonne into an auto facility (A9).

As demonstrated in the Land Allocation table in Appendix A, the Addendum Scenario meets the 2060 demand forecast requirements.

3.2 Effects on Port Connector Roads

It was concluded in the CPIP that, with few exceptions, there is only a minor difference in levels of congestion between the original Scenarios and between mode split options on the port connector roadways[2]. The cargo handling terminals in the Brooklyn Waterfront Projects do not bring about an increase in the total port wide cargo demand and port related truck numbers.

[2] CPIP Volume1 September 2005 section 9.5.4

Analysis on the Brooklyn area roadways shows that improvements will be necessary if the Blue Scenario is realized. The CPIP Blue scenario requires minor improvements in the year 2020 (with the addition of a turning lane in the port area) and more extensive improvements will be required in 2060 (with the widening of the intersection of 2nd Avenue and 39th Street. In the Red Scenario, minor improvements would be required in the long term (an addition of a turning lane from the Gowanus Expressway).

Minor changes in port truck movements would be expected as a result of the Brooklyn Waterfront projects; however none of these projects are expected to increase traffic to the point that additional improvements would be required. An implementation of the Brooklyn Waterfront projects would result in a reduction in the acreage available for the accommodation of general cargo terminals (as foreseen in the CPIP Scenarios), reducing the potential truck trips generated by these terminals. This reduction surpasses the potential number of truck trips generated by the addition of an auto terminal at the same site. As a result, the amended uses are expected to generate fewer trucks than the Red scenario and far fewer than the Blue, and thus additional highway improvements beyond those identified in the CPIP Plan and Toolkit are not expected to be necessary as a result of the Brooklyn Waterfront projects.

3.3 Points to note

a) Three new terminal Options G5, G6, and A16 were created, for the Brooklyn Projects. Three further new Options (A17, A18 and G7) and two existing Options (D1 and A9) were required to complete the Scenario. No detailed assessment or evaluation of the new Options has been undertaken.

b) The conversion of Bayonne from Container to Auto terminal is in line with the Option evaluation results (Toolkit, page 6.3), and also reduces the overall container capacity of the Scenario from 14.1m TEU to 12.8m TEU, compared to a demand of 11.3mTEU. However, using the Red Scenario as a starting point there is only one container terminal along the Port Jersey Channel. This situation could be amended by splitting the larger Port Jersey container terminal into two units as was proposed in the original Orange Scenario.

c) General Cargo terminals are now provided on both sides of the Hudson River.

d) The costs of the each of the new Options, and overall Scenario cost, have not been calculated. Evaluation of the Addendum Scenario against the CPIP Scenarios has not been undertaken.

4 Conclusion

This Addendum sets out details of three Brooklyn Waterfront Projects, and assesses the impacts of these projects on the Scenarios contained in the CPIP.

The projects comprise a cruise terminal & maritime industrial zone at North Brooklyn, and a recycling facility, and auto & general cargo terminals at South Brooklyn.

The projects were developed independently of the CPIP process, and were not included as part of the CPIP baseline, because they did not meet the criteria for inclusion in the baseline.

In general terms, each of the CPIP Scenarios has sufficient spare capacity to accommodate the Brooklyn Waterfront Projects and still exceed the 2060 Forecast Demand requirements.

Inclusion of the Brooklyn Waterfront Projects into a particular scenario requires consideration of which spare capacity is utilized, and the subsequent effects of this. Many different arrangements could be prepared to accommodate the Brooklyn Waterfront Projects.

A new Addendum Scenario has been prepared to demonstrate one set of adjustments that could be made. A total of 6 new Options were created in this scenario. The new scenario has not been evaluated against the existing CPIP Scenarios.

The Brooklyn Waterfront Projects can be developed within the CPIP planning parameters.

Addendum Appendix

Proposed Piers 7 – 12 Development Program

South Brooklyn Marine Terminal

Addendum Scenario

Addendum Scenario Land Allocation Table

Proposed Piers 7-12 development program

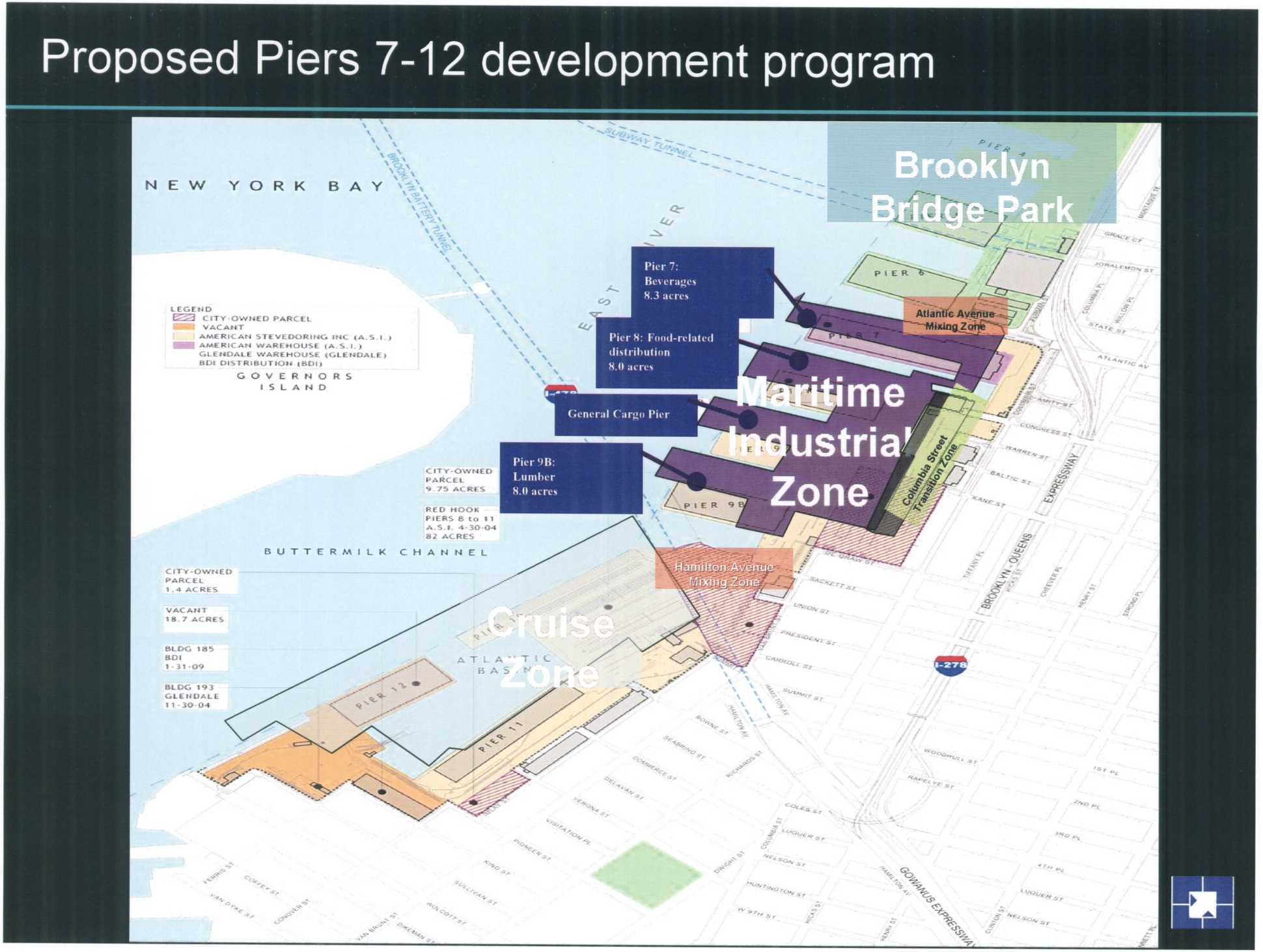


Figure A1□

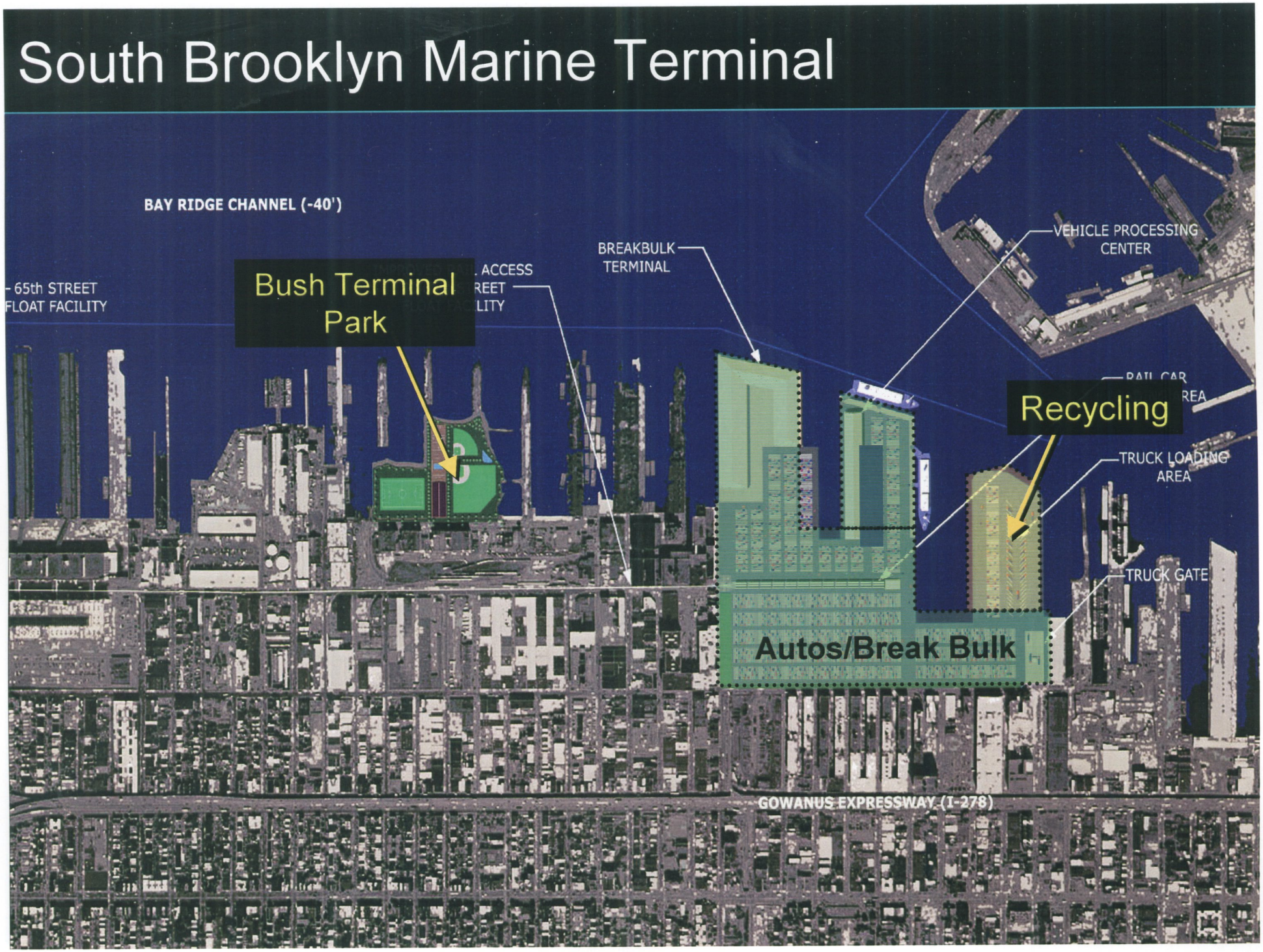
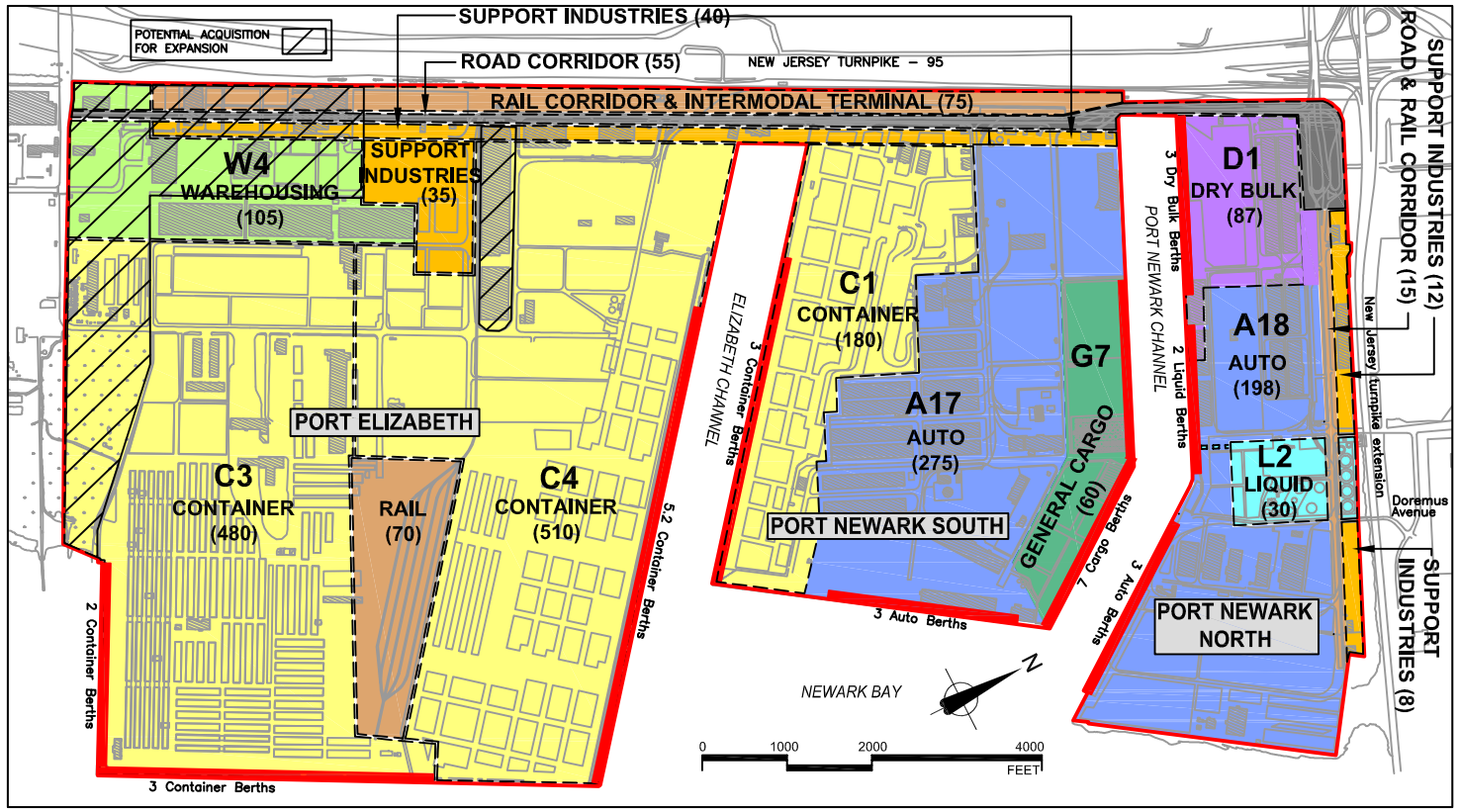
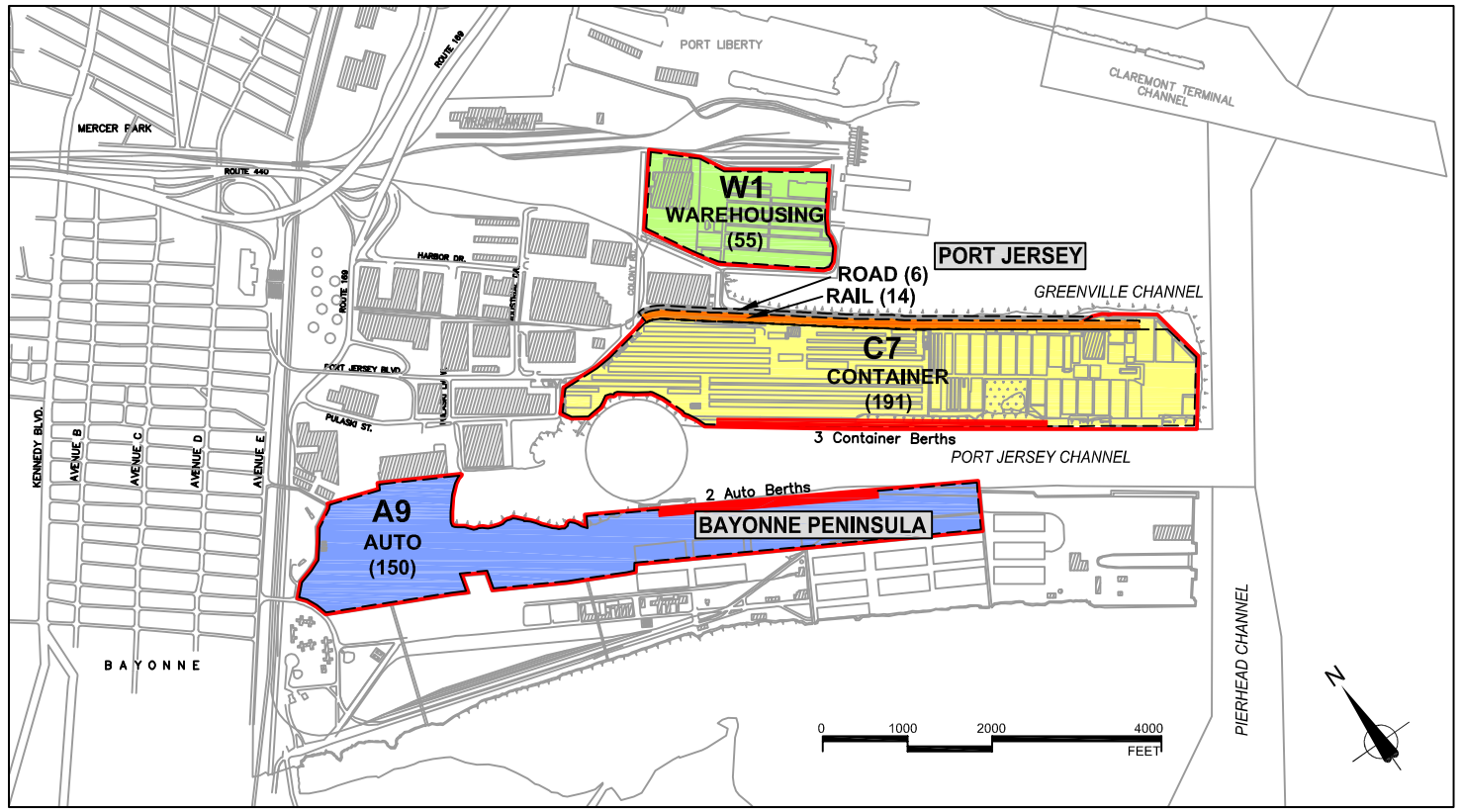

South Brooklyn Marine Terminal
BAY RIDGE CHANNEL (-40')
- 65th STREET
FLOAT FACILITY
Bush Terminal Park
ACCESS
REET
LITY
BREAKBULK TERMINAL
VEHICLE PROCESSING CENTER
RAIL CAR
REA
Recycling
TRUCK LOADING AREA
TRUCK GATE
Autos/Break Bulk
GOWANUS EXPRESSWAY (I-278)

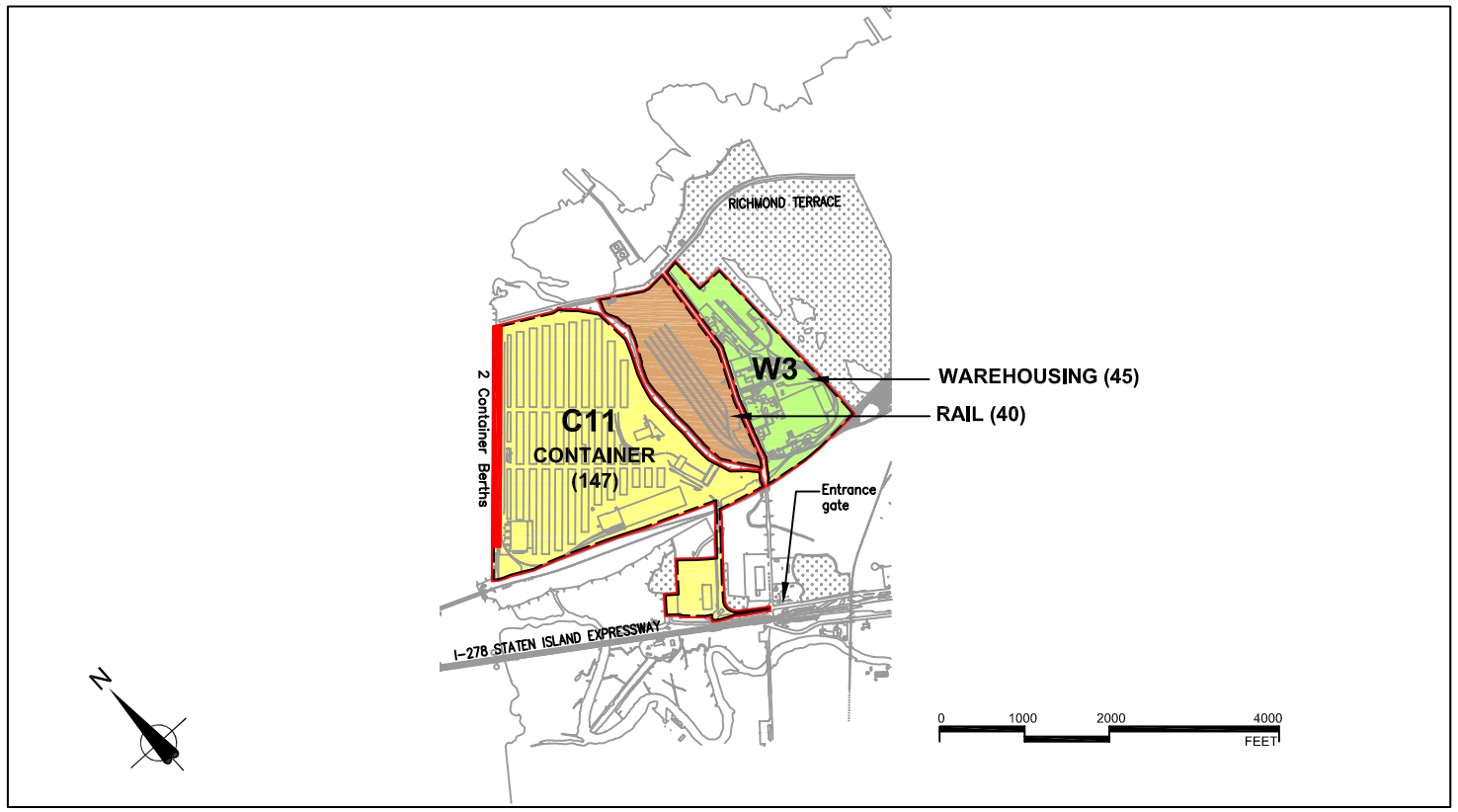
Figure A2



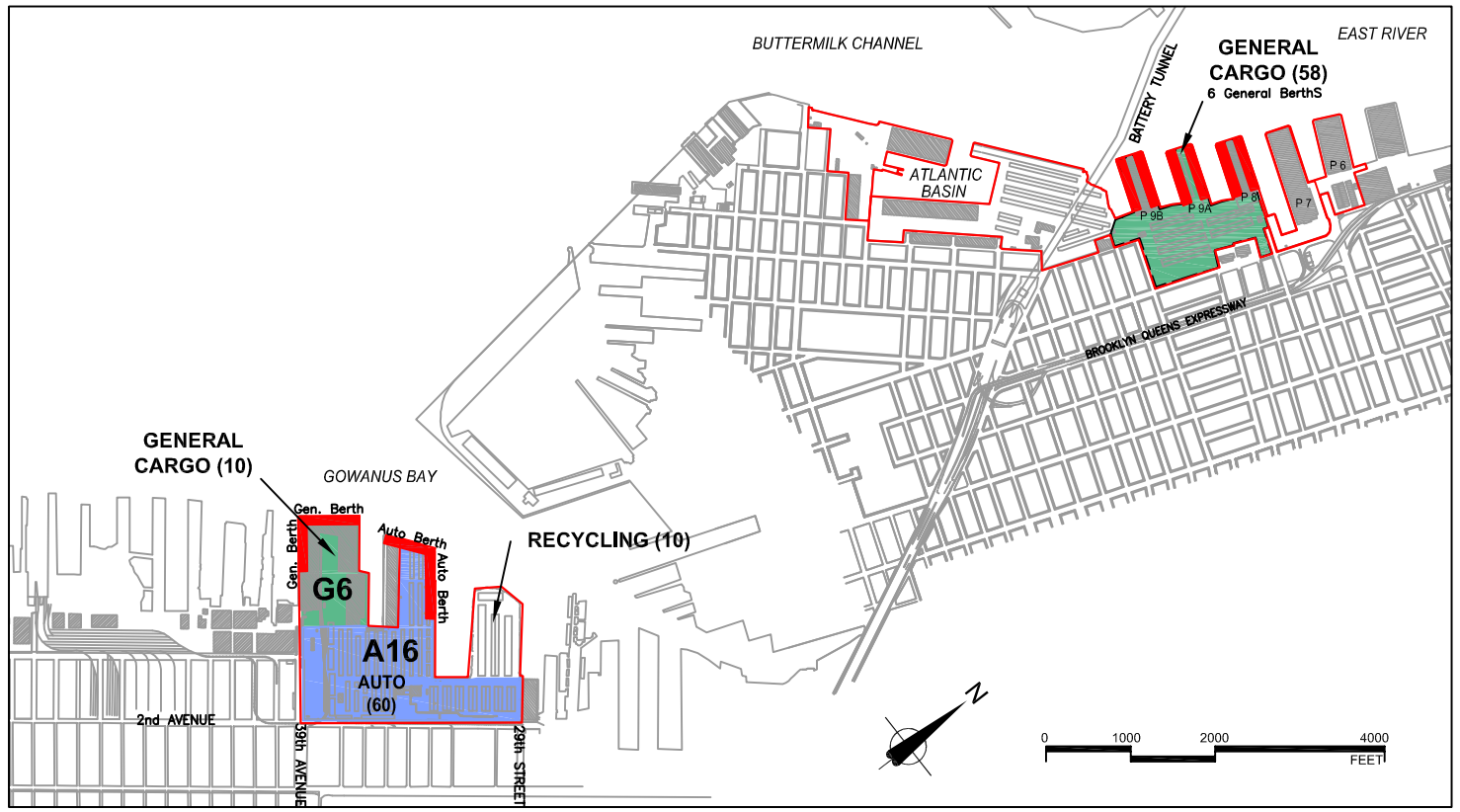
PORT NEWARK/ ELIZABETH



PORT JERSEY & BAYONNE PENINSULA



HOWLAND HOOK



NORTH & SOUTH BROOKLYN

Notes/ Legend:
Areas shown in parentheses are in acres & approximate

LAND & BERTH ALLOCATION - SUMMARY

ADDENDUM SCENARIO

1. Area Required

	Containers [1]	Autos	General Cargo	Dry Bulk Cargo	Liquid Bulk Cargo
2060 Forecast Demand	11,300,000 TEU/yr	1,100,000 units/yr	2,528,000 tons/yr	6,170,000 tons/yr	5,086,000 tons/yr
Productivity	5,000 lifts/acre / yr	1,900 units/acre / yr	20,100 tons/acre /yr	71,500 lifts/acre / yr	285,000 lifts/acre / yr
Area requirement (Acres)	**1,329**	**579**	**126**	**86**	**18**

1: Based on 1.7 TEU per lift

2. Area Allocation (Acres)

Addendum Scenario	Containers		Autos		General Cargo		Dry Bulk Cargo		Liquid Bulk		Road & Rail	Warehousing & Terminal Support	Total Area	Area Made up from		
	Option	Area	Option	Area	Option	Area	Option	Area	Option	Area				Existing	Waterfront Fill	Acquired
Port Newark North			A18	198			D1	87	L2	30	45	20	**380**	380	0	0
Port Newark South	C1	180	A17	275	G7	60					45	20	**580**	580	0	0
Port Elizabeth	C3	480									200	160	**1350**	1120	0	230
	C4	510														
Port Jersey	C7	191									20	55	**266**	246	20	0
Bayonne Peninsula			A9	150									**150**	150	0	0
Howland Hook	C11	147									40	45	**232**	147	0	85
North Brooklyn					G5	58							**58**	58	0	0
South Brooklyn			A16	60	G6	10							**70**	70	0	0
Total Area Allocated (Acres)		**1,508**		**683**		**128**		**87**		**30**	**350**	**300**	**3,086**	**2,751**	**20**	**315**

3. Overall Capacity (following land and berth allocation)

Addendum	Containers		Autos		General Cargo		Dry Bulk Cargo		Liquid Bulk	
	Option	Capacity (TEU/yr)	Option	Capacity (units/yr)	Option	Capacity (tons/yr)	Option	Capacity (tons/yr)	Option	Capacity (tons/yr)
Port Newark North			A18	376,200			D1	6,220,500	L2	6,494,000
Port Newark South	C1	1,530,000	A17	522,500	G7	1,206,000				
Port Elizabeth	C3	4,080,000								
	C4	4,335,000								
Port Jersey	C7	1,623,500								
Bayonne Peninsula			A9	285,000						
Howland Hook	C11	1,249,500								
North Brooklyn					G5	1,165,800				
South Brooklyn			A16	114,000	G6	201,000				
Total Capacity Provided		12,818,000		1,297,700		2,572,800		6,220,500		6,494,000
2060 Forecast Demand		11,300,000		1,100,000		2,528,000		6,170,000		5,086,000