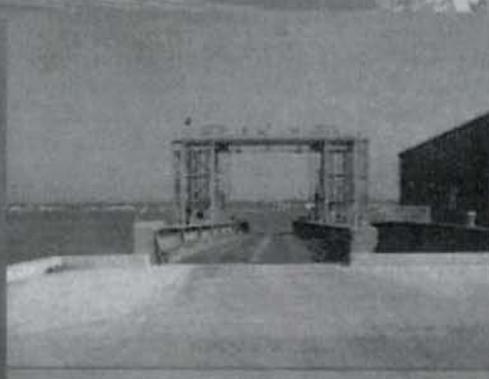


# NEW BEDFORD PORT INFRASTRUCTURE ASSETS



*Prepared For:*



*New Bedford Harbor Development Commission  
52 Fisherman's Wharf, New Bedford, MA 02740*

*Prepared By:*



*Apex Companies,  
1 Wamsutta Street, Suite 8, New Bedford, MA 02740*

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# READINESS PLAN FOR THE PORT OF NEW BEDFORD, NEW BEDFORD, MASSACHUSETTS

## EXECUTIVE SUMMARY

A new Marine Terminal is currently projected to be constructed at South Terminal in New Bedford, Massachusetts. The anticipated first function of this Marine Terminal will be to support an off-shore wind development. This Readiness Plan assesses how other facilities within New Bedford Harbor can support alternate staging and assembly operations in support of the off-shore wind development construction project. These alternate locations within New Bedford Harbor will utilize existing infrastructure within the Port of New Bedford, with minimal modifications.

Five separate locations within the Port were evaluated that would facilitate immediate or short timeframe support of the off-shore wind/alternative energy industry. Additional Lay-down/Storage Area could be made available at the Rail Yard in the City. A summary of the five locations is presented in the table below:

**Table 1.11: Summary of Analysis of Readiness Plan (From Section 1.11)**

Rank	Location	Improvements Necessary (Exclusive of Cranes)	Time to Implement
1	US EPA Facility/ Rail Site	Paving of Rail Yard lay-down area.	3-5 Months
2	New Bedford State Pier	Paving of Rail Yard lay-down area for additional storage.	2-4 Months
3	Packer Marine	Dredging to expand access. Paving of Rail Yard lay-down area.	6-10 Months
4	Bridge Terminal	Bulkhead rehabilitation. Paving of Rail Yard lay-down area.	8-12 Months
5	NSTAR Facility	Paving of area, dredging and bulkhead. Paving of Rail Yard lay-down area.	12-18 Months
6	Mar-Lees	Dredging and bulkhead. Paving of Rail Yard lay-down area.	12-18 Months
7	Revere Copper	Dredging and bulkhead. Paving of Rail Yard lay-down area.	12-18 Months
8	Wamsutta Mills	Paving of Rail Yard lay-down area.	2-4 Months
9	Kilburn Street	Dredging and bulkhead. Paving of Rail Yard lay-down area.	12-18 Months

**READINESS PLAN  
FOR  
THE PORT OF NEW BEDFORD,  
NEW BEDFORD, MASSACHUSETTS**

**Port of New Bedford: One of the most important commercial ports on the East Coast**

Port of New Bedford is a deepwater commercial Port with easy access to the maritime corridor from the Massachusetts coast, located at a key juncture of Short Sea and International Shipping Routes.

As a 350 year old “Working Port”, New Bedford is home to over 200 Maritime businesses, including an active cargo shipping industry, a cruising industry, bulk and break-bulk cargo facilities, numerous shipyards and vessel repair facilities as well as significant fishing and ferrying operations.



The Port of New Bedford is currently completing a more than \$200 million commercial make-over” deepening channels and berths and repairing and enlarging Marine Terminals and Wharfs to accommodate the needs of the growing shipping industry.

With excellent road, rail, and vessel connections to anywhere your business takes you, New Bedford is poised to become a leading Intermodal Port into the 21<sup>st</sup> Century and beyond.

**New South Terminal Development**

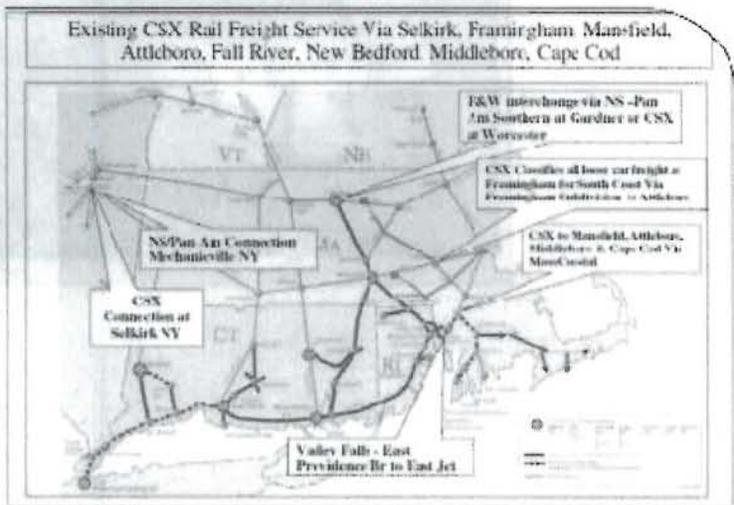
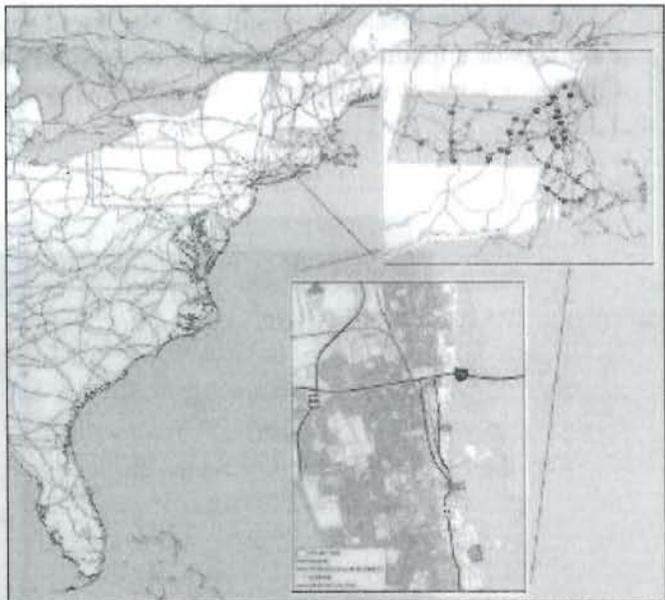
A new Marine Terminal is currently projected to be constructed at South Terminal in New Bedford, Massachusetts. The anticipated first function of this Marine Terminal will be to support an off-shore wind development. This Readiness Plan assesses how other facilities within New Bedford Harbor can support staging and assembly operations in support of the off-shore wind development construction project. These ancillary locations will utilize existing infrastructure within the Port of New Bedford, with minimal modifications.

Five separate locations within the Port were evaluated that would facilitate immediate or short timeframe support of the off-shore wind/alternative energy industry and are presented in Section 1.11.

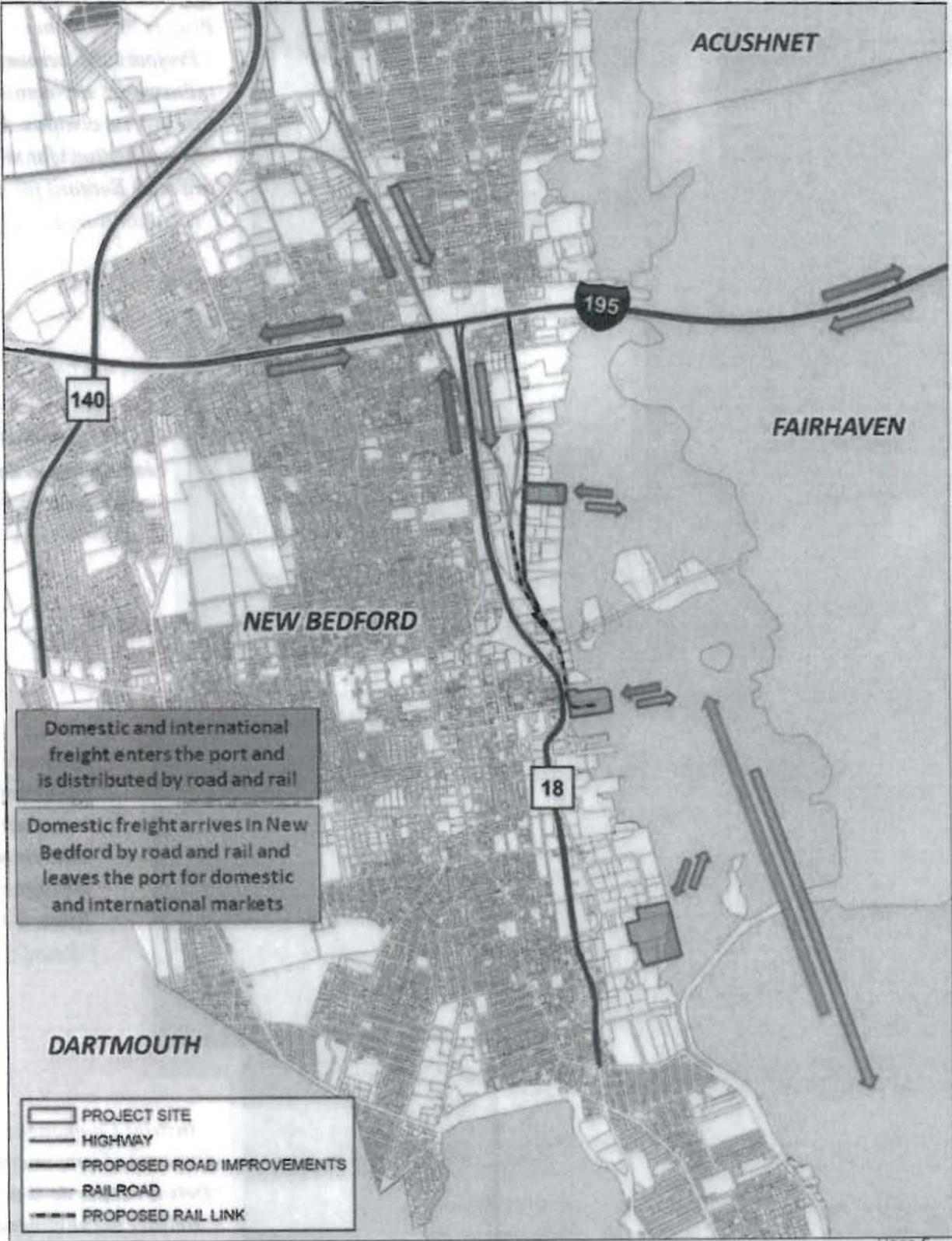


The Port of New Bedford is *strategically positioned* to serve as a vital hub in the emerging short sea network for a number of reasons. Assets unique to New Bedford are highlighted below:

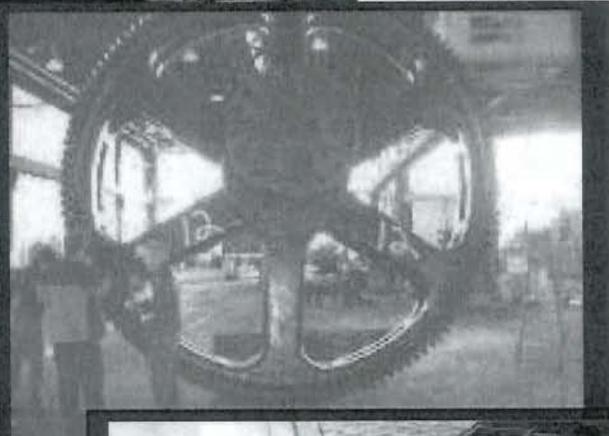
- New Bedford is an active commercial and industrial Port with a multi-faceted commercial shipping sector;
- New Bedford offers a readily accessible uncongested exit of the marine highway
- New Bedford is an intermodal port with excellent highway (I-95, I-93, Rte 128, Rte 140 and Rte 195, Rte 24), rail, and air connections (New Bedford Regional Airport);
- New Bedford stretches to New England markets and provides an alternative that avoids major bottlenecking intersections along the I-95 Corridor;
- New Bedford offers an affordable, diverse and strong labor force;
- New Bedford offers excellent distribution services including, local and regional distribution centers, shipping agencies, freight forwarding and stevedore services, and warehouse, cold storage capacity and truck-brokering facilities;
- The City of New Bedford is the grantee and holder of Foreign Trade Zone (FTZ) #28 offering a competitive advantage to foreign businesses looking to trade in US markets. The Port, Regional Airport, and adjacent areas form the New Bedford FTZ #28, which provides duty-free manufacturing opportunities for importers and exporters;
- New Bedford is the most protected Port on the Eastern Seaboard by a hurricane barrier (150 foot entrance) that is constructed across the Port entrance and is equipped with an opening that can be closed during hurricane conditions and severe coastal storms, but which can still accommodate vessels with beams up to 120 feet and with drafts up to 30 feet;
- In the post 9-11 environment, New Bedford has a rigorous security program: The USCG, State Police, and New Bedford Port Security Unit have a strong presence in the Port protecting the interests of maritime commerce;
- The Port of New Bedford is working with the EPA as the model Port for how to attain “Green Port” designation; Coastal shipping is an integral component of this initiative given the reduced pollution and carbon footprint benefits; and
- To support the development of the AMH, The Port of New Bedford actively participates in the American Association of Port Authorities, North Atlantic Ports



Association (NAPA), the I-95 Corridor Coalition, and the Coastal Coalition; The Port Director is Chair of NAPA's Short Sea Shipping Committee and Co-Chair the I-95 Corridor Coalition Short Sea Shipping Committee.



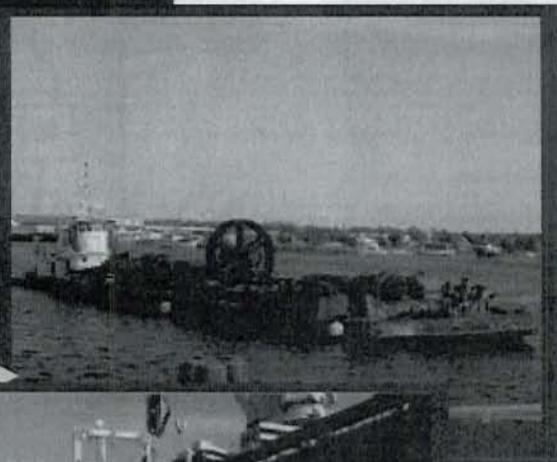
*REVERE COPPER:  
A CASE STUDY IN INTRA-PORT  
SHIPPING FACILITATION*



*Project Requirement:  
Transport 19<sup>th</sup> century iron  
industrial components from  
Site to Vessel within the Port  
of New Bedford for shipment  
to South Korea.*



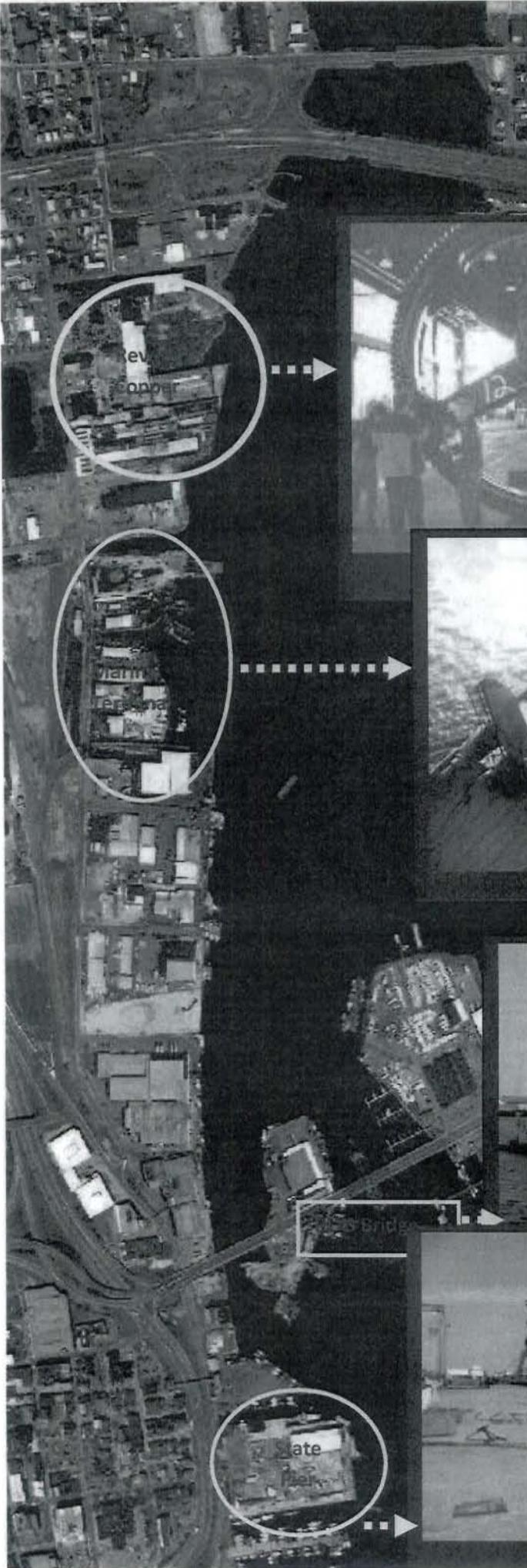
*Maritime International  
loaded the industrial  
components to barges at  
Parker Marine*



*Industrial  
components  
traversed a  
shallow water  
passage and  
Route 6 Bridge.*



*Industrial Components  
were loaded onto the  
"Delsol" at the deep water  
State Pier for shipment to  
South Korea.* Page 7



## 1.0 READINESS PLAN (EXISTING INFRASTRUCTURE CAPABILITIES) INTRODUCTION

The following sections provide an assessment of the Port's potential to support the alternative energy industry immediately. Assessment of all Port assets was undertaken, with the goal of identifying the range of potential options for supporting operations with a minimal start time (one year or less), and at minimal up-front cost. Each option considered is summarized in the sub-sections below with an accompanying summary table of positive attributes, issues, costs, and time to implement. The following sites were evaluated:

- USEPA Dewatering Facility/CSX Rail Site
- New Bedford State Pier
- Packer Marine
- Bridge Terminal
- NSTAR Facility
- Mar-Lees Facility
- Revere Copper Facility
- Wamsutta Mills Facility
- Kilburn Street Facility

### Evaluation Process Criteria

There are multiple factors that come into play in evaluating potential sites for the Readiness Plan logistics support:

- Depth of water at the facility bulkhead (is it sufficient to accommodate the types of vessels expected?);
- Bulkhead Capacity and load-bearing capacity and condition of the bulkhead and unloading areas;
- Amount of Lay-down Area (is it sufficient to allow for the stock associated with a reasonable number of units).
- Unloading Infrastructure (Cranes) – What types and number of cranes will be required in order to load and unload vessels/rail cars/trucks?
- Rail Access – Does the site have rail access? Can coordination with a site with rail access be accommodated?
- Truck Access – Can trucks easily access the facility? Are there sharp turns that will hinder access in and out of the site? Are there restrictions to travel, such as nearby bridges?
- Vessel Access – Can vessels of all length and draft access the site? Are there any restrictions to access the site due to natural or engineered obstructions?
- Logistics – Are there multiple users at the Site? Would users (such as fishing or cargo vessels) be displaced? Would timeshare options need to be negotiated?

## 1.1 USEPA Dewatering Facility / CSX Rail Site

The North Terminal USEPA Dewatering Facility/CSX Rail Site can also be used immediately, with minimal investment.

### 1.1.A Existing Infrastructure

With the existing infrastructure, the following can be accomplished:

- The USEPA Facility Site includes approximately 0.6 hectares (1.5 acres) of open space that could be used as staging or lay-down areas.
- An additional 2.83 hectares (7 acres) is available at the Rail Yard site across the street for additional storage and lay-down.
- 91 meters (300 linear feet) of bulkhead is available.
- An existing draft of 4.57 meters (15 feet) is available for vessels at the bulkhead.
- The bulkhead capacity at the facility is sufficient to support loading and unloading of equipment.
- Truck access is good.
- Rail access is present at the facility – traversing all the way to the bulkhead at the waters edge, connecting directly to the Rail Yard across the street.
- Direct load-out rail to ship is possible at this facility.
- Vessel access is slightly restricted, due to potential vessel draft (4.57 meter/15 foot maximum), and due to a width restriction at the Route 6 bridge (maximum 27.4 meters/90 feet).
- Shipments could be unloaded directly onto rail cars, and transported to the storage area at the rail facility.
- For deeper draft vessel shipments and rail shipments, see “Intermodal Logistics” below.



### 1.1.B Intermodal Logistics

- The New Bedford Rail Yard (located across the street) can be utilized as a staging facility for wind parts received by rail, and also parts received by vessel delivery to North Terminal EPA Facility (and then transferred to the Rail Yard via the rail line between the two sites or by truck).
- Larger vessels can be unloaded at State Pier, with parts being transferred by barge to the North Terminal USEPA Facility, where they can be unloaded and stored or moved to the adjacent Rail Yard storage area.

**Table 1.1: USEPA Dewatering Facility/CSX Rail Site Rapid Response Attributes Summary**

<i>Attribute</i>	<i>Useable As Is</i>	<i>Issues</i>	<i>Comments/Benefits</i>
<b>Lay-down Area</b>	√		0.6 hectares available with additional 2.83 hectares across the street. Capacity sufficient for anticipated needs.
<b>Depth of Water</b>		Dredging required to meet deep-draft vessel depths.	Dredging can be completed quickly.
<b>Bulkhead Capacity</b>	√	Bulkhead is brand-new and is designed for 9.14 m draft vessel.	Crane use can be implemented to load/unload rail cars and/or trucks.
<b>Unloading Infrastructure</b>		Cranes necessary for loading/unloading.	Cranes necessary for all locations.
<b>Vessel Access</b>	√	Route 6 Bridge restricts vessel widths to 27.4 m.	4.57 m water depth at present, expandable to 9.14 m with dredging (can be conducted under SER). Good access to Federal Channel. 91 m berthing area.
<b>Truck Access</b>	√		Good access to Route 18 and Route 195.
<b>Rail Access</b>	√		Existing rail line services facility - in excellent condition.
<b>Logistics</b>		Existing user at Site (USEPA): negotiated use-sharing would be necessary.	North Terminal is HDC-owned.
<b>Financial Considerations:</b>			
1). Fixed crane or floating crane will need to be rented or purchased for offloading ship to shore.			
2). Mobile crane will need to be rented or purchased for movement of material around the site.			
<b>Logistical Considerations:</b>			
1). Multiple Users: USEPA utilizes facility, an agreement will need to be worked out for use of facility with USEPA.			
2). Heavy equipment would need to be moved from vessel to rail cars or trucks and transferred to the Rail Yard.			
<b>Summary:</b>			
1). USEPA dewatering facility requires dredging for full implementation. Crane acquisition will be necessary.			
2). Minor dredging investment necessary to make utility ideal.			
3). Timeframe: 3-5 Months to implement.			

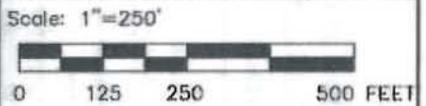


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DRAWING TITLE:  
 NORTH TERMINAL  
 MATERIAL LAY-DOWN  
 AREAS



## 1.2 New Bedford State Pier

The New Bedford State Pier Site can also be used immediately, with minimal investment.

### 1.2.A Existing Infrastructure

With the existing infrastructure, the following can be accomplished:

- Approximately 1.58 hectares (3.9 acres) of open space that can be used for staging and/or lay-down areas.
- Additional storage space is available at the 2.83 hectares (7 acres) Rail Yard site approximately 536 meters away.
- Can currently accommodate vessels with a draft of up to 9.14 meters/30 feet on both the south and east sides of the pier.
- The south side of State Pier has over 213 meters/700 feet of berthing space.
- The east side of State Pier has over 122 meters/400 feet of berthing.
- The existing apron of pile-supported concrete decks surrounds the outermost 12.2m/40-foot of the edge of the pier limits the ability of a mobile crane to assist in loading and unloading of wind turbine vessels, as the crane would need to be positioned adjacent to the vessel during unloading.
- However, the majority of State Pier is earthen-filled and can support the foundation required for a larger fixed crane. (the fixed crane would have to be of sufficient length to reach across the 12.2m/40-foot wide pile supported apron around the edge of the pier to unload vessels).
- A floating crane, secured to a barge, could also be utilized to unload vessels directly on to the central, filled portion of the pier for storage and transportation.

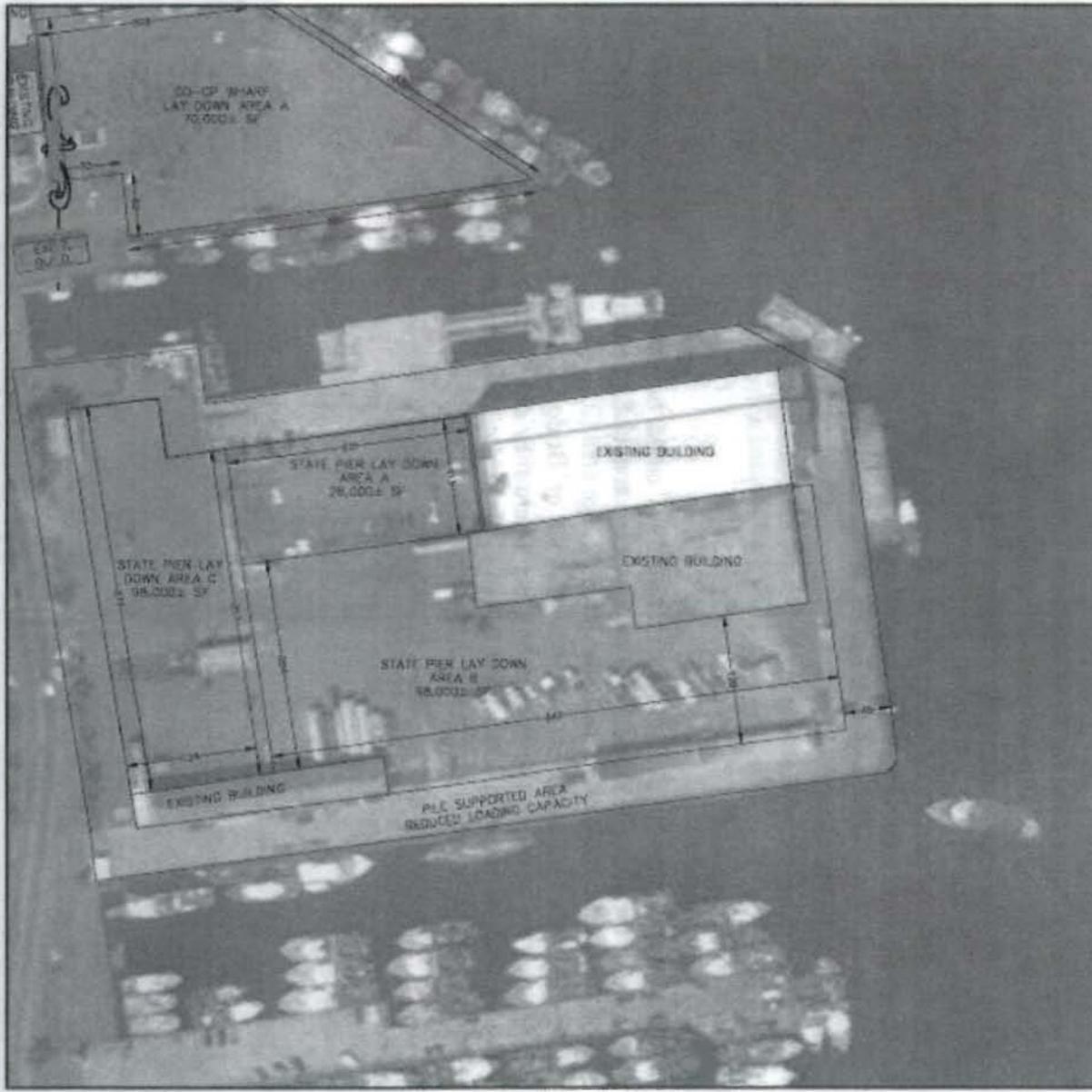


### 1.2.B Intermodal Logistics

- The New Bedford Rail Yard (536 meters to the north) can be utilized as a staging facility for wind parts received by rail, and can be transferred by truck (or rail if upgrade of the rail line is undertaken) to State Pier.

**Table 1.2: New Bedford State Pier Rapid Response Attributes Summary**

<i>Attribute</i>	<i>Useable As Is</i>	<i>Issues</i>	<i>Comments/Benefits</i>
<b>Lay-down Area</b>	√		1.58 hectares available.
<b>Depth of Water</b>	√		Can accommodate 9.14 m draft vessel.
<b>Bulkhead Capacity</b>	√	Apron around outside of pier cannot support heavy loads.	Crane can load/unload over pile supported sides of pier.
<b>Unloading Infrastructure</b>		Cranes necessary for loading/unloading.	Cranes necessary for all locations.
<b>Vessel Access</b>	√		Excellent access to Federal Channel. No bridges. Long berthing area.
<b>Truck Access</b>	√		Good access to Route 18 and Route 195.
<b>Rail Access</b>		Rail line is in degraded condition; however, only minor effort needed to rehabilitate.	Existing rail line services facility.
<b>Logistics</b>		Existing users at Site (various): negotiated use-sharing would be necessary.	
<b>Financial Considerations:</b>			
1). Fixed crane or floating crane will need to be rented or purchased for offloading ship to shore.			
2). Mobile crane will need to be rented or purchased for movement of material around the site.			
<b>Logistical Considerations:</b>			
1). Multiple Users: Other users of State Pier could be accommodated at other locations within New Bedford Harbor.			
2). Heavy equipment would need to be moved from vessel directly to filled portion of pier.			
<b>Summary:</b>			
1). New Bedford State Pier is in ready-to-use condition for the primary attributes considered. Crane acquisition will be necessary. Rehabilitation of rail would increase flexibility of the use of the facility.			
2). Small investment needed for immediate implementation (plus the cost of cranes). Additional investment (rail) for full utility.			
3). Bulkhead rehabilitation would be ideal, but not necessary for use of the facility.			
4). Timeframe: 2-4 Months to implement.			

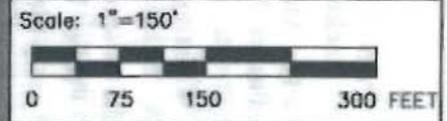


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STATE PIER  
MATERIAL LAY-DOWN  
AREAS



### 1.3 Packer Marine

The Packer Marine Terminal in New Bedford can also be used immediately, with minimal investment.

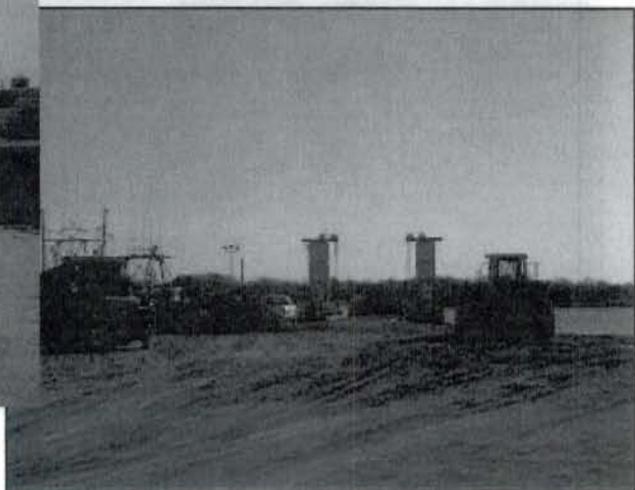
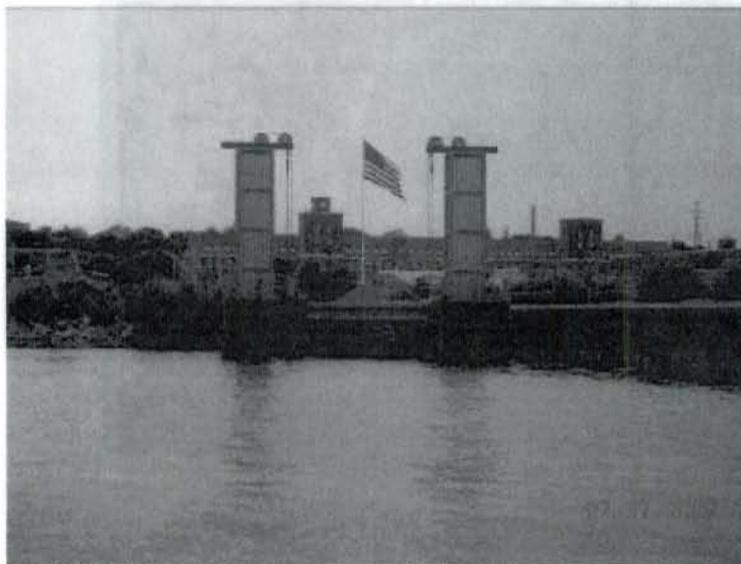
#### 1.3.A Existing Infrastructure

With the existing infrastructure, the following can be accomplished:

- Packer Marine is located to the north of the USEPA dewatering facility and is across from the Rail Yard.
- The facility has approximately 0.8 hectares (2 acres) of open space that could be used as staging or lay-down areas for wind turbine shipments.
- Packer Marine can accommodate vessels with a draft of up to 5.5 m/18 feet.
- The facility has approximately 61m/200 feet of berthing space along the east face of the property.
- The waters-edge portion of the property is a rip-rap slope – offloading would require a long-reach crane unless a new bulkhead were installed.
- The property is currently unpaved; paving would be required to make this site functional.
- An existing Ro/Ro ramp could be utilized.
- Additional storage is available at the Rail Yard located across the street from the facility.

#### 1.3.B Intermodal Logistics

- If additional space is required, trucks or barges could be used to transport materials received at the Packer Marine to the large storage area (2.83 hectares/7 acres) at the New Bedford Rail Yard located across the street.
- Larger vessels can be unloaded at State Pier or Bridge Terminal, with parts being transferred by barge to the Packer Marine, where they can be unloaded and stored or moved by truck (or rail if a spur is installed) to the nearby Rail Yard storage area.



**Table 1.3: Packer Marine Facility Rapid Response Attributes Summary**

<i>Attribute</i>	<i>Useable As Is</i>	<i>Issues</i>	<i>Comments/Benefits</i>
<b>Lay-down Area</b>	√		0.8 hectares available with 2.83 hectares available at Rail Yard.
<b>Depth of Water</b>		Dredging required to meet ideal depths.	Current depth is only 5.5 m. Dredging could be accomplished under the SER.
<b>Bulkhead Capacity</b>		Bulkhead would need to be installed. Improvements to surface necessary.	Crane use can be implemented to load/unload barges.
<b>Unloading Infrastructure</b>		Cranes necessary for loading/unloading.	Cranes necessary for all locations.
<b>Vessel Access</b>	√	Dredging required to meet desired depths.	Federal Channel access requires passage through the Rt. 6 Bridge.
<b>Truck Access</b>	√		Good access to Route 18 and Route 195. Ro/Ro ramp useable.
<b>Rail Access</b>			Rail access could be made available if a spur from the adjacent Rail Yard were extended to the site.
<b>Logistics</b>		Existing user at Site (Packer Marine): negotiated use-sharing would be necessary.	
<b>Financial Considerations:</b>			
1). Long-reach fixed crane or floating crane will need to be rented or purchased for offloading ship to shore.			
2). Mobile crane will need to be rented or purchased for movement of material around the site.			
3). Bulkhead will need to be installed to make site ideal. Dredging should be completed. Paving of site required.			
<b>Logistical Considerations:</b>			
1). Existing shipping facility already exists at the Site. Improvements for bulkhead repair will not require extensive permitting.			
<b>Summary:</b>			
1). Packer Facility is useable as is, but will require significant investment to be ideal, and has less-than-ideal lay-down area, requiring storage at adjacent Rail Yard.			
2). Timeframe: 6-10 Months to implement.			



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DRAWING TITLE:

PACKER MARINE  
 MATERIAL LAY-DOWN  
 AREAS

Scale: 1"=250'



0 125 250 500 FEET

## 1.4 Bridge Terminal

The Bridge Terminal on Fish Island in New Bedford can also be used immediately, with minimal investment.

### 1.4.A Existing Infrastructure

With the existing infrastructure, the following can be accomplished:

- Bridge Terminal is located on the north side of Fish Island, immediately north of the Route 6 Bridge.
- The facility has approximately 0.5 hectares (1.3 acres) of open space that could be used as staging or lay-down areas for wind turbine shipments.
- The north side of the facility has approximately 76.2 m/250 linear feet of berthing space.
- Vessel draft of 7 m/23 feet can be accommodated.
- To utilize this facility, vessels would need to pass through the Route 6 Bridge, which has a width restriction of approximately 27.4 m/90 feet.
- Rail does not service this property and truck access must be via the Route 6 Bridge.
- The Bridge Terminal is owned and operated by a private entity, and use of the facility would require negotiation and time-sharing.

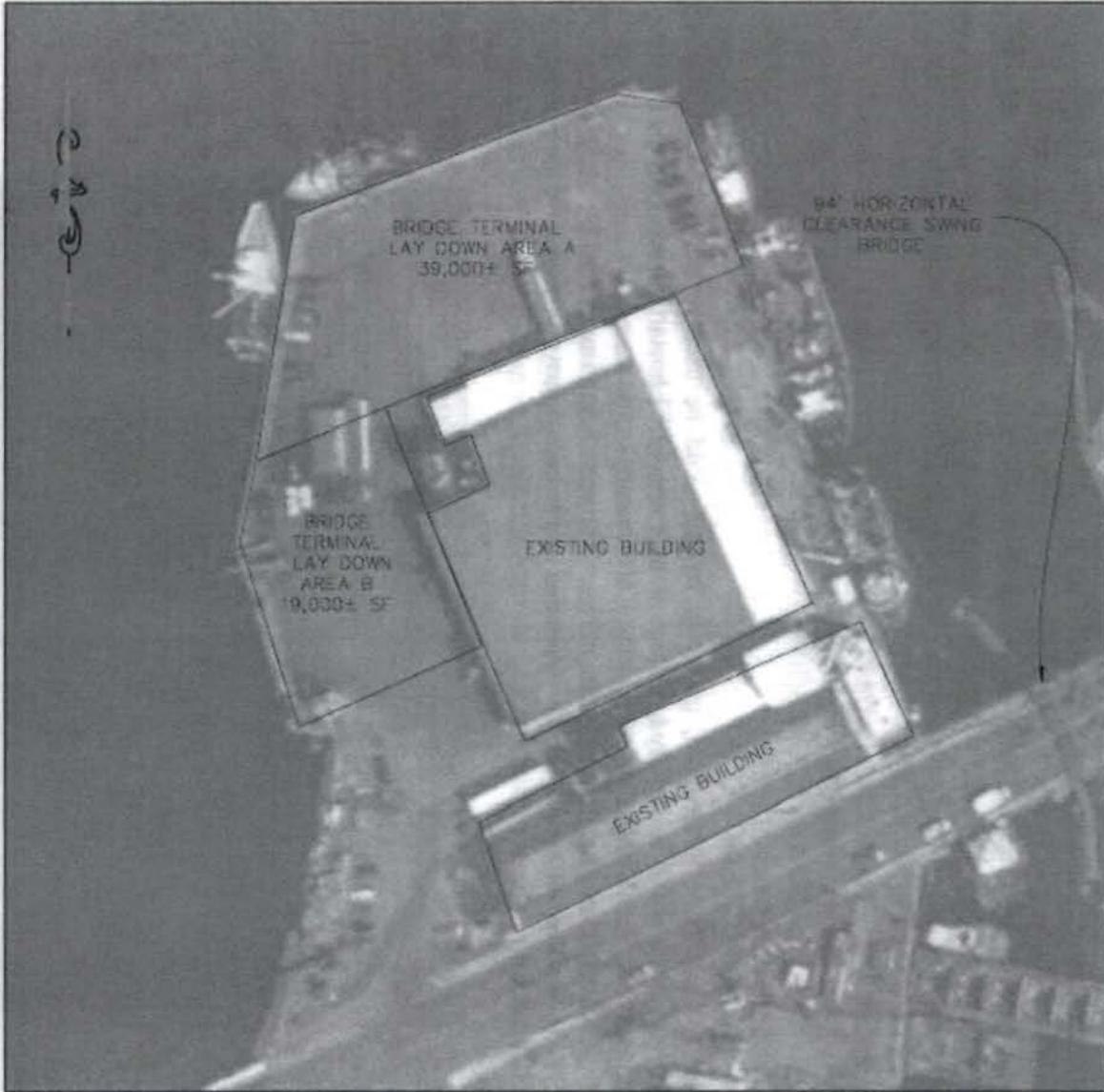


### 1.4.B Intermodal Logistics

- If additional space is required, trucks or barges could be used to transport materials received at the Bridge Terminal to a large storage area (2.83 hectares/7 acres) at the New Bedford Rail Yard located approximately 500 meters away.
- Larger vessels can be unloaded at State Pier, with parts being transferred by barge to the Bridge Terminal, where they can be unloaded and stored or moved by truck to the nearby Rail Yard storage area.

**Table 1.4: Bridge Terminal Rapid Response Attributes Summary**

<i>Attribute</i>	<i>Useable As Is</i>	<i>Issues</i>	<i>Comments</i>
<b>Lay-down Area</b>		Only 0.5 hectares available.	Minimal on-site storage area available – components would need to be unloaded and trucked to other areas in Port for storage.
<b>Depth of Water</b>	√		Capacity sufficient for anticipated needs.
<b>Bulkhead Capacity</b>	√	North face of bulkhead useable, east face damaged and in need of repair.	Crane use can be implemented.
<b>Unloading Infrastructure</b>		Cranes rental/purchase necessary for loading/unloading.	Cranes necessary for all locations.
<b>Vessel Access</b>	√	Rt. 6 Swing Bridge limits vessel width. Short berthing area.	Access to Federal Channel through swing bridge between facility and Federal Channel.
<b>Truck Access</b>	√	Trucks must pass over portions of the Rt. 6 Bridge – access can be limited when Bridge is open.	Access to Route 18 and Route 195.
<b>Rail Access</b>		No rail access possible.	Island location – no rail access to island.
<b>Logistics</b>		Existing users at Site (Maritime Int./Norpel): negotiated use-sharing would be necessary.	
<b>Financial Considerations:</b> 1). Fixed crane or floating crane will need to be rented or purchased for offloading ship to shore. 2). Components would need to be moved by road to other location in the Port for storage until needed. South Terminal is potential storage area. 3) No costs for immediate utility.			
<b>Logistical Considerations:</b> 1). Multiple Users: Coordination with existing user would be necessary. Sporadic nature of current shipments through this facility could accommodate schedule interface. 2). Truck access to facility is less than optimal. All materials received at this location would need to be trans-shipped to another location in the Port for storage. South Terminal is a possible temporary storage area.			
<b>Summary:</b> 1). Bridge Terminal is in ready-to-use condition for the primary attributes considered, however it has limited lay-down area which would require trans-shipment to other areas of the Port for storage of components and truck traffic logistical issues are less-than-ideal. Crane acquisition will be necessary. 2). Costs for trans-shipment of components would need to be included in operational costs – other costs for immediate implementation include paving of Rail Yard storage area. 3). Bulkhead rehabilitation would be necessary (east face) if use of the full facility is desired. 4). Timeframe: 8-18 Months to implement.			



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DRAWING TITLE:

BRIDGE TERMINAL  
 MATERIAL LAY-DOWN  
 AREAS

Scale: 1"=100'



0 50 100 200 FEET

## 1.5 NSTAR Facility

The NSTAR Facility on New Bedford's waterfront can also be used in a short timeframe, with minimal investment.

### 1.5.A Existing Infrastructure

With the existing infrastructure, the following can be accomplished:

- The NSTAR facility is located immediately north of South Terminal in New Bedford Harbor.
- The facility currently has a 1 hectare (2.5 acre) filled pier that extends eastward into New Bedford Harbor.
- The filled pier can be finished with an asphalt or concrete coat and will provide a staging or lay-down area for wind turbine shipments.
- A rehabilitation of the bulkhead can be accomplished through the installation of new bulkhead sheeting on the north shore of the facility, which can extend for approximately 120.4 m/395 linear feet.
- Dredging can be completed in front of the (rehabilitated) bulkhead to accommodate vessels that can draft up to 9.14 m/30 feet.

### 1.5.B Intermodal Logistics

- If additional space is required, trucks or barges could be used to transport materials received at the NSTAR Facility to a large storage area (2.83 hectares/7 acres) at the New Bedford Rail Yard located approximately 1,500 meters/1 mile away.
- Larger vessels can be unloaded at State Pier, with parts being transferred by barge to the NSTAR Facility, where they can be unloaded and stored or moved by truck to the nearby Rail Yard storage area.



**Table 1.5: NSTAR Facility Rapid Response Attributes Summary**

<i>Attribute</i>	<i>Useable As Is</i>	<i>Issues</i>	<i>Comments/Benefits</i>
<b>Lay-down Area</b>			1 hectare available with 2.83 hectares available at railyard. Capacity insufficient for anticipated needs.
<b>Depth of Water</b>		Dredging required to meet minimum depths.	
<b>Bulkhead Capacity</b>		Bulkhead would need to be installed. Improvements to surface necessary.	Crane use can be implemented to load/unload rail cars.
<b>Unloading Infrastructure</b>		Cranes necessary for loading/unloading.	Cranes necessary for all locations.
<b>Vessel Access</b>	√	Dredging required to meet minimum depths.	Excellent access to Federal Channel. Long berthing area.
<b>Truck Access</b>	√		Good access to Route 18 and Route 195.
<b>Rail Access</b>			No rail access.
<b>Logistics</b>		Existing users at Site (NSTAR/Sprague Energy): negotiated use-sharing would be necessary.	
<b>Financial Considerations:</b>			
1). Fixed crane or floating crane will need to be rented or purchased for offloading ship to shore.			
2). Mobile crane will need to be rented or purchased for movement of material around the site.			
3). Bulkhead will need to be installed. Dredging completed. Paving of site required.			
<b>Logistical Considerations:</b>			
1). Existing filled pier is already in existence. Improvements for pier will not require extensive permitting.			
<b>Summary:</b>			
1). NSTAR facility requires significant investment to be ideal. Movement of materials to the Rail Yard for storage is likely, as the facility would likely not provide sufficient lay-down area for full implementation.			
2). Timeframe: 12-18 Months to implement.			



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DRAWING TITLE:

N-STAR FACILITY  
MATERIAL LAY-DOWN  
AREAS

Scale: 1"=150'



## **1.6 Mar-Lees Facility**

The Mar-Lees Facility on New Bedford's waterfront can also be used in a short timeframe, with minimal investment.

### **1.6.A Existing Infrastructure**

With the existing infrastructure, the following can be accomplished:

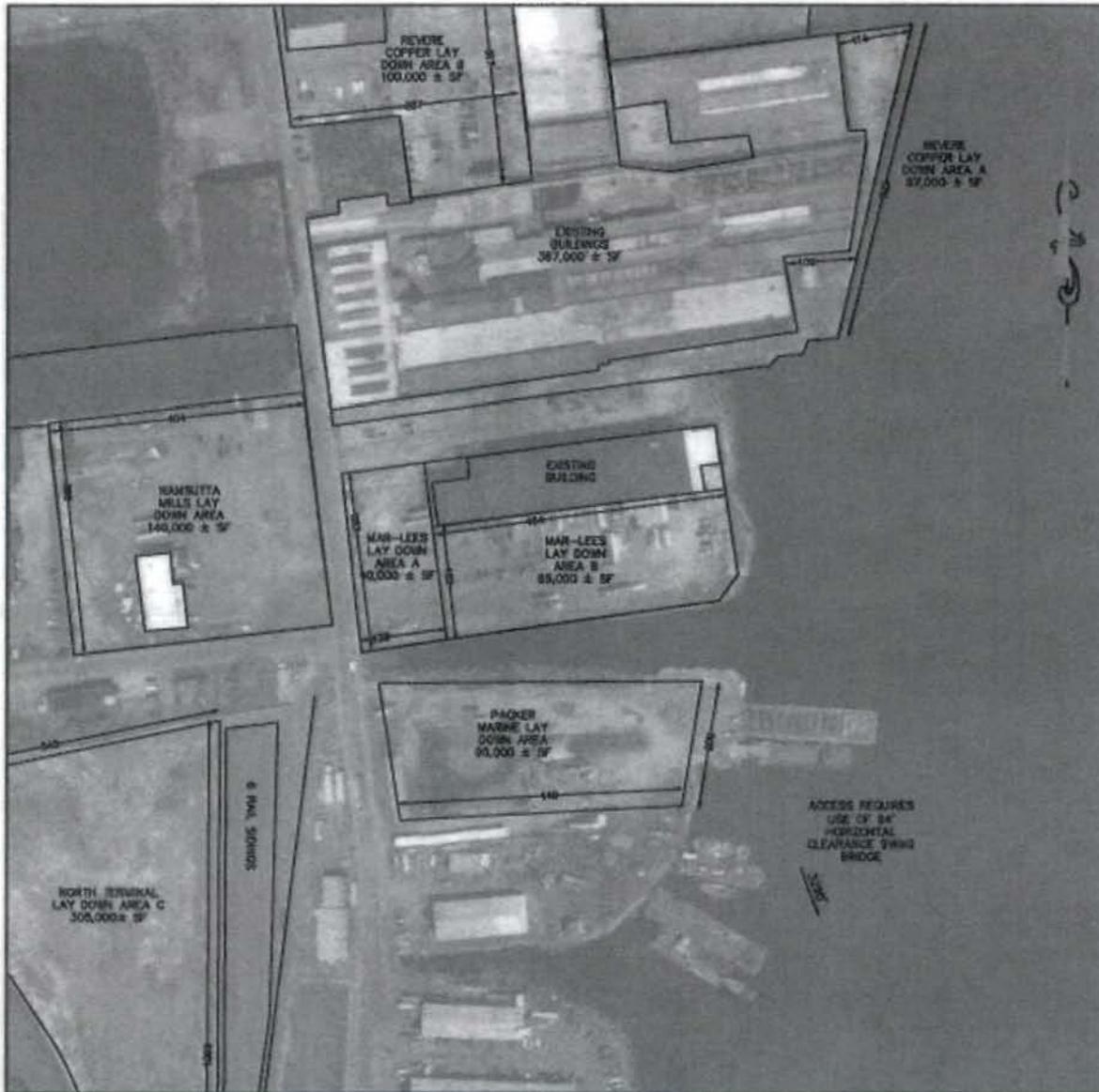
- The Mar-Lees facility is located immediately north of Packer Marine in New Bedford Harbor.
- The facility currently has 1.16 hectare (2.87 acre) parking lot and loading area that can be used as a lay-down area.
- There is an existing rail spur that accesses the property.
- An existing rip-rap covered slope accesses the Harbor. Water depths are relatively shallow adjacent to the slope.
- A rehabilitation of the bulkhead can be accomplished through the installation of new bulkhead sheeting on the east side of the facility, which can extend for approximately 80.2 m/263 linear feet.
- Dredging can be completed in front of the (rehabilitated) bulkhead to accommodate vessels that can draft up to 6 m/20 feet, if necessary (dredging can also be completed to 9.14m/30 feet, if necessary, however, it will demand additional dredging of the state channel to the Federal Channel).
- Dredging can be completed out to the existing channel to allow access to the facility.

### **1.6.B Intermodal Logistics**

- If additional space is required, rail, trucks or barges could be used to transport materials received at the Mar-Lees Facility to a large storage area (2.83 hectares/7 acres) at the New Bedford Rail Yard located across the street.
- Larger vessels can be unloaded at State Pier, with parts being transferred by barge to the Mar-Lees Facility, where they can be unloaded and stored or moved by truck to the nearby Rail Yard storage area.

**Table 1.6: Mar-Lees Facility Rapid Response Attributes Summary**

<i>Attribute</i>	<i>Useable As Is</i>	<i>Issues</i>	<i>Comments/Benefits</i>
<b>Lay-down Area</b>			1.16 hectare available with 2.83 hectares available at railyard. Capacity insufficient for anticipated needs.
<b>Depth of Water</b>		Dredging required to meet minimum depths.	
<b>Bulkhead Capacity</b>		Bulkhead would need to be installed. Improvements to surface necessary.	Crane use can be implemented to load/unload rail cars.
<b>Unloading Infrastructure</b>		Cranes necessary for loading/unloading.	Cranes necessary for all locations.
<b>Vessel Access</b>	√	Dredging required to meet minimum depths.	Excellent access to Federal Channel. Long berthing area.
<b>Truck Access</b>	√		Good access to Route 18 and Route 195.
<b>Rail Access</b>	√	Rail Access At Site.	
<b>Logistics</b>		Existing users at Site (Mar-Lees Seafood): negotiated use-sharing would be necessary.	
<b>Financial Considerations:</b>			
<ol style="list-style-type: none"> <li>1). Fixed crane or floating crane will need to be rented or purchased for offloading ship to shore.</li> <li>2). Mobile crane will need to be rented or purchased for movement of material around the site.</li> <li>3). Bulkhead will need to be installed. Dredging completed. Paving of site required.</li> </ol>			
<b>Logistical Considerations:</b>			
<ol style="list-style-type: none"> <li>1). Existing facility is already in existence. Improvements will not require extensive permitting.</li> </ol>			
<b>Summary:</b>			
<ol style="list-style-type: none"> <li>1). Mar-Lees facility requires significant investment to be ideal. Movement of materials to the Rail Yard for storage is likely, as the facility would likely not provide sufficient lay-down area for full implementation.</li> <li>2). Timeframe: 12-18 Months to implement.</li> </ol>			

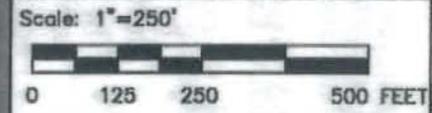


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DRAWING TITLE:  
 MAR-LEES  
 MATERIAL LAY-DOWN  
 AREAS



## **1.7 Revere Copper**

The Revere Copper Facility on New Bedford's waterfront can also be used in a short timeframe, with minimal investment.

### **1.7.A Existing Infrastructure**

With the existing infrastructure, the following can be accomplished:

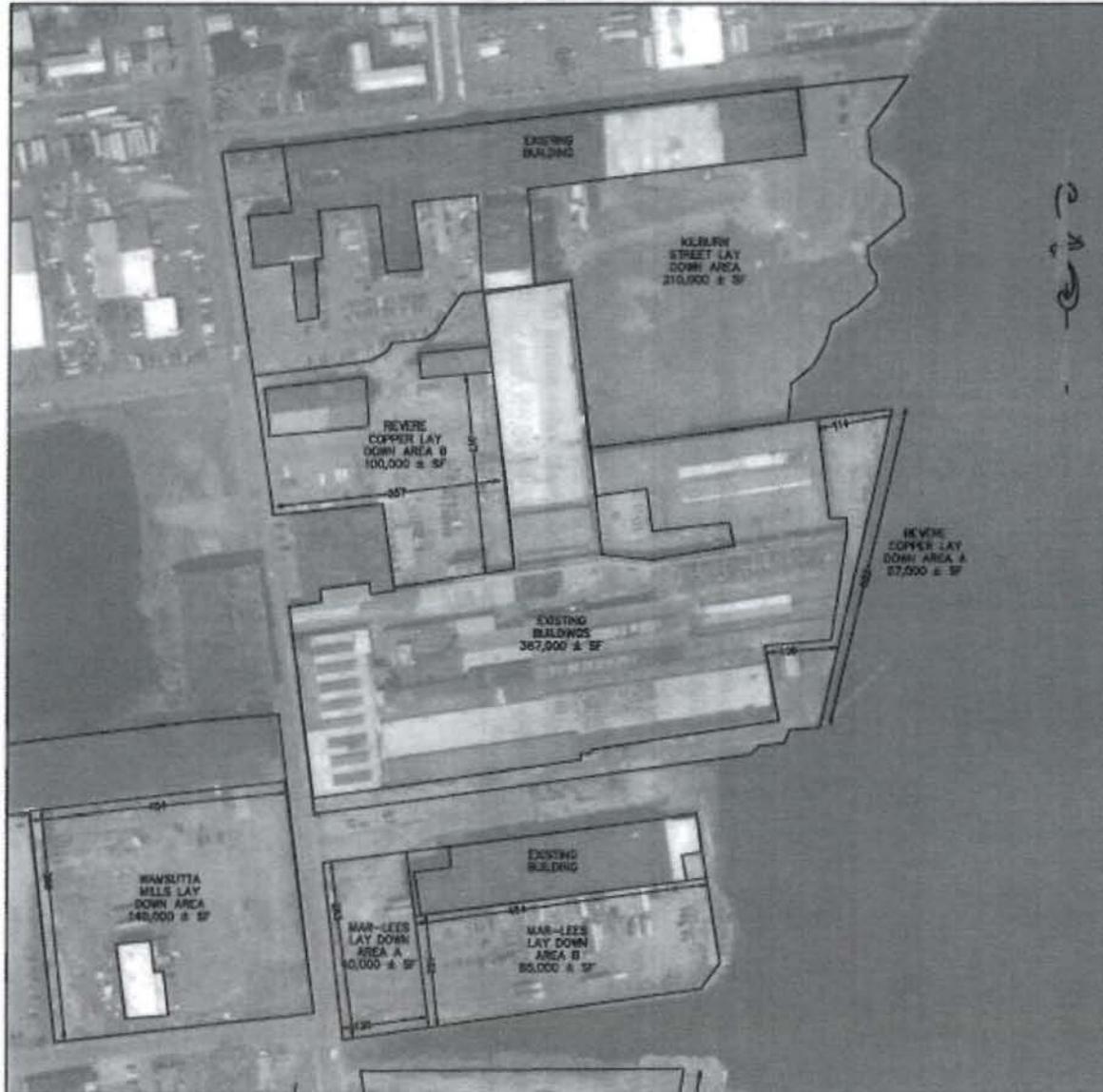
- The Revere Copper facility is located immediately north of Mar-Lees in New Bedford Harbor.
- The facility currently has a 0.53 hectare (1.3 acre) loading area adjacent to the harbor, approximately 3.6 hectares (8.9 acres) of existing buildings and a 0.93 hectare (2.3 acre) parking lot and loading area.
- An existing degraded bulkhead accesses the Harbor. Water depths are relatively shallow adjacent to the bulkhead.
- A rehabilitation of the bulkhead can be accomplished through the installation of new bulkhead sheeting on the east side of the facility, which can extend for approximately 158 m/520 linear feet.
- Dredging can be completed in front of the (rehabilitated) bulkhead to accommodate vessels that can draft up to 6 m/20 feet, if necessary (dredging can also be completed to 9.14m/30 feet, if necessary, however, it will demand additional dredging of the State Channel to the Federal Channel).
- Dredging can be completed out to the existing channel to allow access to the facility.

### **1.7.B Intermodal Logistics**

- If additional space is required, trucks or barges could be used to transport materials received at the Revere Copper Facility to a large storage area (2.83 hectares/7 acres) at the New Bedford Rail Yard located across the street.
- Larger vessels can be unloaded at State Pier, with parts being transferred by barge to the Revere Copper Facility, where they can be unloaded and stored or moved by truck to the nearby Rail Yard storage area.

**Table 1.7: Revere Copper Facility Rapid Response Attributes Summary**

<i>Attribute</i>	<i>Useable As Is</i>	<i>Issues</i>	<i>Comments/Benefits</i>
<b>Lay-down Area</b>		Buildings cover much of the site.	1.4 hectare available with 2.83 hectares available at railyard. Capacity insufficient for anticipated needs.
<b>Depth of Water</b>		Dredging required to meet minimum depths.	
<b>Bulkhead Capacity</b>		Bulkhead would need to be installed. Improvements to surface necessary.	Crane use can be implemented to load/unload rail cars.
<b>Unloading Infrastructure</b>		Cranes necessary for loading/unloading.	Cranes necessary for all locations.
<b>Vessel Access</b>	√	Dredging required to meet minimum depths.	Excellent access to Federal Channel. Long berthing area.
<b>Truck Access</b>	√		Good access to Route 18 and Route 195.
<b>Rail Access</b>			No Rail Access At Site.
<b>Logistics</b>	√		Facility is currently unused.
<b>Financial Considerations:</b>			
<ol style="list-style-type: none"> <li>1). Fixed crane or floating crane will need to be rented or purchased for offloading ship to shore.</li> <li>2). Mobile crane will need to be rented or purchased for movement of material around the site.</li> <li>3). Bulkhead will need to be installed. Dredging completed. Paving of site required.</li> </ol>			
<b>Logistical Considerations:</b>			
<ol style="list-style-type: none"> <li>1). Existing buildings may prove a hindrance. Improvements will not require extensive permitting.</li> </ol>			
<b>Summary:</b>			
<ol style="list-style-type: none"> <li>1). Revere Copper facility requires significant investment to be ideal. Movement of materials to the Rail Yard for storage is likely, as the facility would likely not provide sufficient lay-down area for full implementation.</li> <li>2). Timeframe: 12-18 Months to implement.</li> </ol>			



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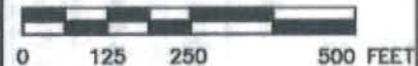
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NEW BEDFORD, MA  
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DRAWING TITLE:

REVERE COPPER  
MATERIAL LAY-DOWN  
AREAS

Scale: 1"=250'



## **1.8 Wamsutta Mills**

The Wamsutta Mills is located across Herman Melville Avenue from properties that abut New Bedford's waterfront. This property can also be used in a short timeframe, with minimal investment.

### **1.8.A Existing Infrastructure**

With the existing infrastructure, the following can be accomplished:

- The Wamsutta Mills facility is located immediately west of Mar-Lees in New Bedford Harbor.
- The facility currently has a 1.3 hectare (3.2 acre) lay-down area.
- This facility is not adjacent to the harbor, and would need to be utilized in conjunction with another facility that has access to the harbor.

### **1.8.B Intermodal Logistics**

- If additional space is required, trucks could be used to transport materials to a large storage area (2.83 hectares/7 acres) at the New Bedford Rail Yard located immediately to the south of Wamsutta Mills.

**Table 1.8: Wamsutta Mills Facility Rapid Response Attributes Summary**

<i>Attribute</i>	<i>Useable As Is</i>	<i>Issues</i>	<i>Comments/Benefits</i>
<b>Lay-down Area</b>	√	Buildings cover much of the site.	1.3 hectare available with 2.83 hectares available at railyard. Capacity insufficient for anticipated needs.
<b>Depth of Water</b>		No harbor access.	
<b>Bulkhead Capacity</b>		No harbor access.	
<b>Unloading Infrastructure</b>		No harbor access.	
<b>Vessel Access</b>		No harbor access.	
<b>Truck Access</b>	√		Good access to Route 18 and Route 195.
<b>Rail Access</b>			No Rail Access At Site.
<b>Logistics</b>	√		Facility is currently unused.
<b>Financial Considerations:</b>			
<b>Logistical Considerations:</b>			
1). Existing buildings may prove a hindrance. Improvements will not require extensive permitting.			
<b>Summary:</b>			
2). Timeframe: 2-4 Months to implement.			

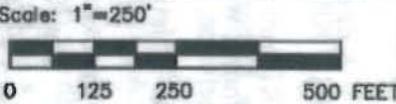


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WAMSUTTA MILLS  
MATERIAL LAY-DOWN  
AREAS



## **1.9 Kilburn Street**

The Kilburn Street Facility on New Bedford's waterfront can also be used in a short timeframe, with minimal investment.

### **1.9.A Existing Infrastructure**

With the existing infrastructure, the following can be accomplished:

- The Kilburn Street facility is located immediately north of Revere Copper in New Bedford Harbor.
- The facility currently has a 1.95 hectare (4.8 acre) staging area adjacent to the harbor.
- A rip-rap slope accesses the Harbor. Water depths are relatively shallow adjacent to the slope.
- A rehabilitation of the slope can be accomplished through the installation of new bulkhead sheeting on the east side of the facility, which can extend for approximately 168m/550 linear feet.
- Dredging can be completed in front of the (rehabilitated) bulkhead to accommodate vessels that can draft up to 6 m/20 feet, if necessary (dredging can also be completed to 9.14m/30 feet, if necessary, however, it will demand additional dredging of the State Channel to the Federal Channel).
- Dredging can be completed out to the existing channel to allow access to the facility.

### **1.9.B Intermodal Logistics**

- If additional space is required, trucks or barges could be used to transport materials received at the Kilburn Street Facility to a large storage area (2.83 hectares/7 acres) at the New Bedford Rail Yard located across the street.
- Larger vessels can be unloaded at State Pier, with parts being transferred by barge to the Kilburn Street Facility, where they can be unloaded and stored or moved by truck to the nearby Rail Yard storage area.

**Table 1.9: Kilburn Street Facility Rapid Response Attributes Summary**

<i>Attribute</i>	<i>Useable As Is</i>	<i>Issues</i>	<i>Comments/Benefits</i>
<b>Lay-down Area</b>		Buildings cover much of the site.	1.95 hectare available with 2.83 hectares available at railyard. Capacity insufficient for anticipated needs.
<b>Depth of Water</b>		Dredging required to meet minimum depths.	
<b>Bulkhead Capacity</b>		Bulkhead would need to be installed. Improvements to surface necessary.	Crane use can be implemented to load/unload rail cars.
<b>Unloading Infrastructure</b>		Cranes necessary for loading/unloading.	Cranes necessary for all locations.
<b>Vessel Access</b>	√	Dredging required to meet minimum depths.	Excellent access to Federal Channel. Long berthing area.
<b>Truck Access</b>	√		Good access to Route 18 and Route 195.
<b>Rail Access</b>			No Rail Access At Site.
<b>Logistics</b>	√		Facility is currently unused.
<b>Financial Considerations:</b>			
1). Fixed crane or floating crane will need to be rented or purchased for offloading ship to shore.			
2). Mobile crane will need to be rented or purchased for movement of material around the site.			
3). Bulkhead will need to be installed. Dredging completed. Paving of site required.			
<b>Logistical Considerations:</b>			
1). Existing buildings may prove a hindrance. Improvements will not require extensive permitting.			
<b>Summary:</b>			
1). Kilburn Street facility requires significant investment to be ideal. Movement of materials to the Rail Yard for storage is likely, as the facility would likely not provide sufficient lay-down area for full implementation.			
2). Timeframe: 12-18 Months to implement.			



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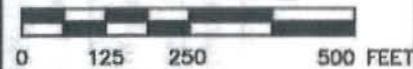
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DRAWING TITLE:

KILBURN STREET  
 MATERIAL LAY-DOWN  
 AREAS

Scale: 1"=250'

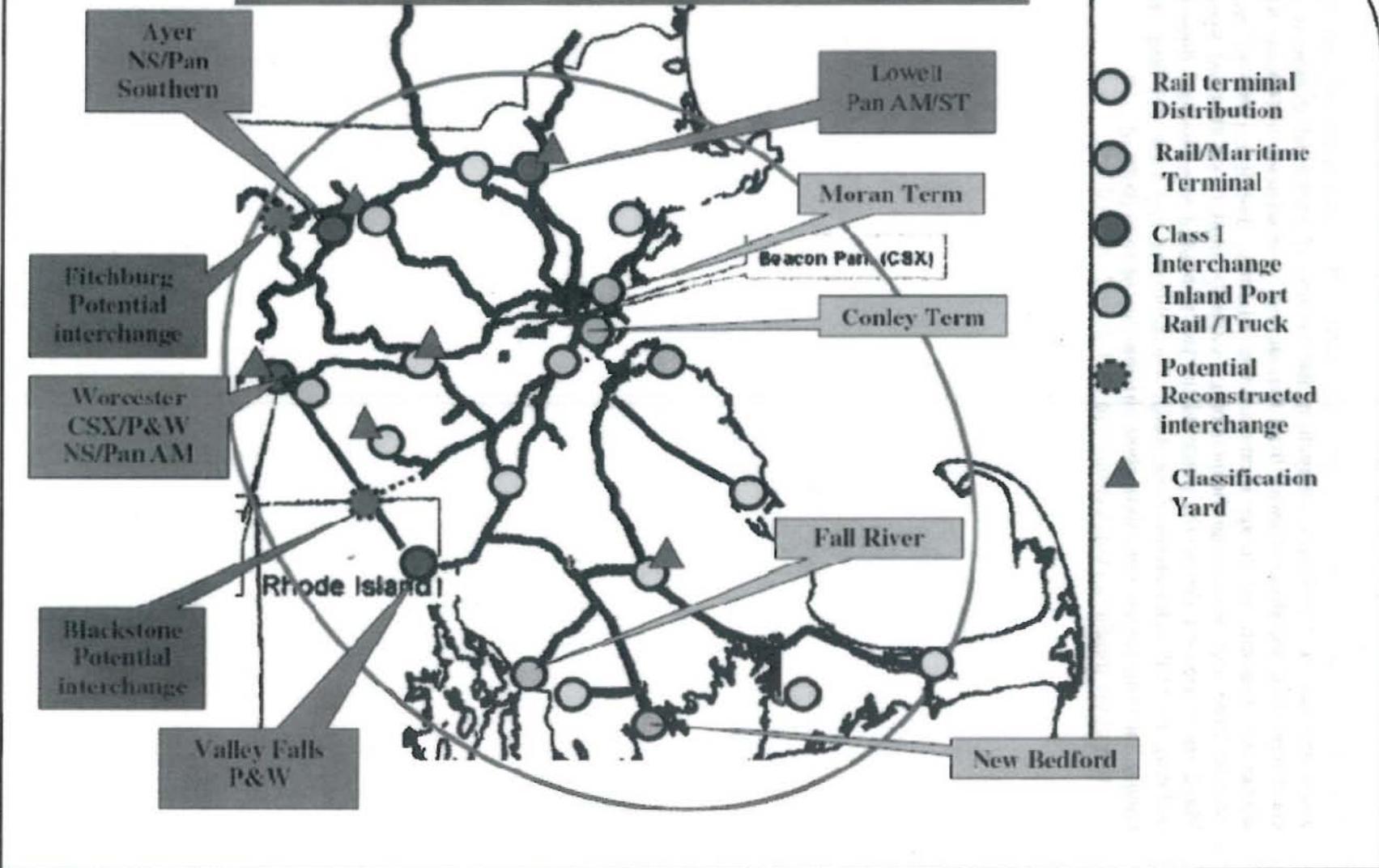


### 1.10 Rail Requirements

A site with rail access will allow shipping of parts to the location via rail, and will also allow materials to be shipped away from the facility, if additional storage is needed elsewhere. One additional storage location is the rail yard adjacent to Herman Melville Boulevard. The area has a significant storage capacity, and is capable of receiving material from one or more of the potential unloading areas (New Bedford State Pier, Mar-Lees, or USEPA Dewatering/CSX Rail). The following pages contain three figures outlining the rail connections throughout Massachusetts and New England, and the integration of the freight rail connections into the City of New Bedford.



# Eastern Massachusetts Freight Rail System



### 1.11 Comparative Analysis of Readiness Plan Options

The following is a summary table comparing the various Readiness Plan option locations.

Rank	Location	Attributes	Improvements Necessary (Exclusive of Cranes)	Time to Implement
1	US EPA Facility/ Rail Site	Bulkhead sufficient. Small lay-down area. Dredging needed for full use. Rail available. Access Rail Yard required.	Paving of Rail Yard lay-down area. Barge rental (3) for trans-shipment.	3-5 Months
2	New Bedford State Pier	Aprons not structurally sound. Water depth sufficient as is. Multiple high-value users would be displaced.	Paving of Rail Yard lay-down area for additional storage.	2-4 Months
3	Packer Marine	Bridge vessel restriction. Insufficient draft. Insufficient lay-down area. No rail.	Dredging to expand access. Paving of Rail Yard lay-down area. Barge rental (3) for trans-shipment.	6-10 Months
4	Bridge Terminal	Bridge vessel restriction. Poor condition of east bulkhead. Insufficient lay-down area. Poor truck access. No rail.	Bulkhead rehabilitation. Paving of Rail Yard lay-down area. Barge rental (3) for trans-shipment.	8-18 months
5	NSTAR Facility	Open area sufficient for 1.5 acres of lay-down area available (less optimal). Paving of lay-down area required. Bulkhead improvement and dredging required. No rail.	Paving of area, dredging and bulkhead. Paving of Rail Yard lay-down area. Barge rental (3) for trans-shipment.	12-18 Months
6	Mar-Lees	Open area sufficient for 2.87 acres of lay-down area available. Bulkhead improvement and dredging required. Rail spur present.	Dredging and bulkhead. Paving of Rail Yard lay-down area. Barge rental (3) for trans-shipment.	12-18 Months
7	Revere Copper	Open area sufficient for 3.6 acres of lay-down area available. Bulkhead improvement and dredging required.	Dredging and bulkhead. Paving of Rail Yard lay-down area. Barge rental (3) for trans-shipment.	12-18 Months
8	Wamsutta Mills	Open area sufficient for 3.2 acres of lay-down area available.	Paving of Rail Yard lay-down area.	2-4 Months

9	Kilburn Street	Open area sufficient for 4.8 acres of lay-down area available. Bulkhead improvement and dredging required.	Dredging and bulkhead. Barge rental (3) for trans-shipment. Rail yard paving.	12-18 Months
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**Table 1.11: Summary of Analysis of Readiness Plan**