

ATLANTIC CITY, NEW JERSEY

STORM DAMAGE MITIGATION PROJECT

SUPERSTORM SANDY OCTOBER 29th, 2012



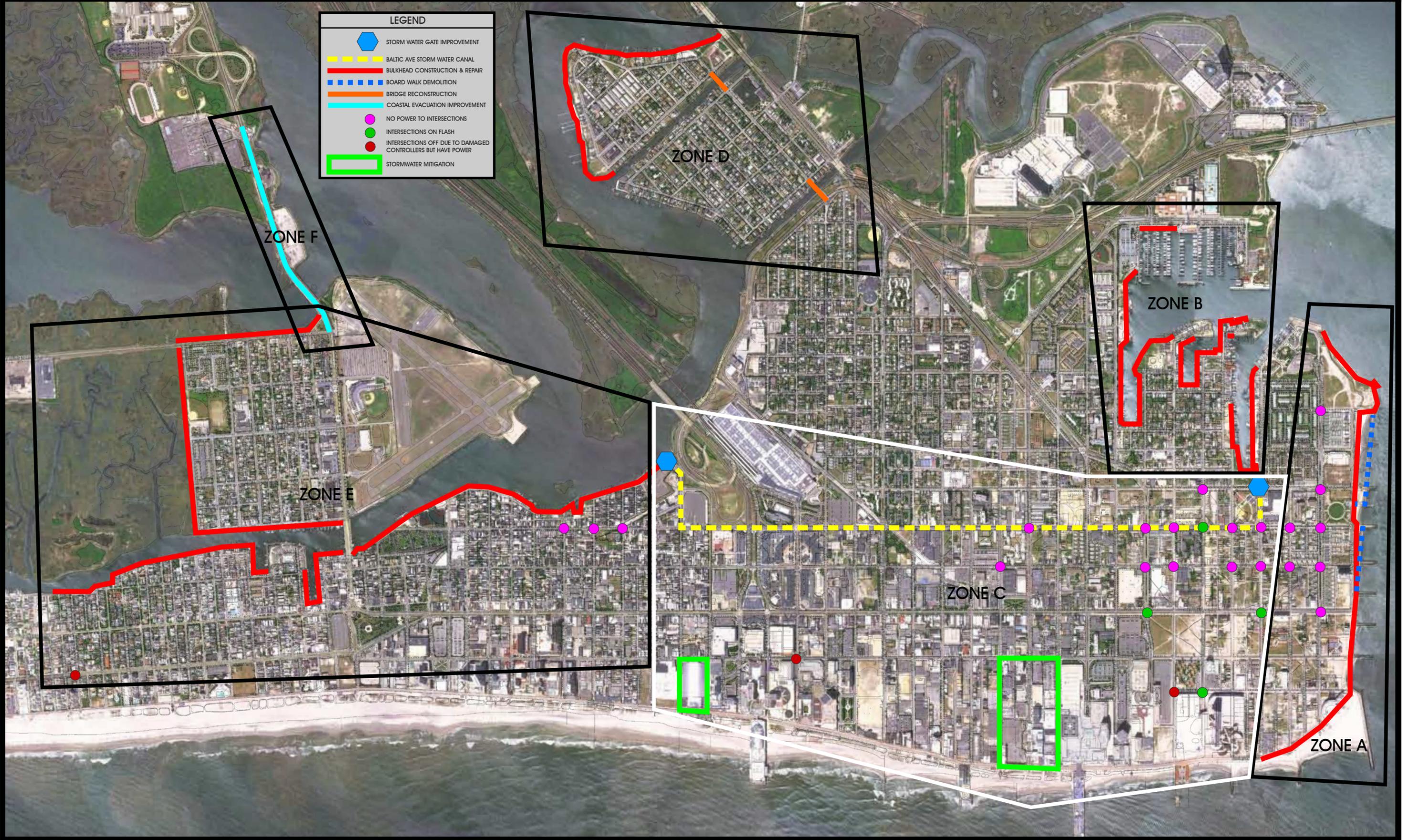
November 21st, 2012



ATLANTIC CITY, NEW JERSEY - STORM DAMAGE MITIGATION PROJECT

LEGEND

- STORM WATER GATE IMPROVEMENT
- BALTIC AVE STORM WATER CANAL
- BULKHEAD CONSTRUCTION & REPAIR
- BOARD WALK DEMOLITION
- BRIDGE RECONSTRUCTION
- COASTAL EVACUATION IMPROVEMENT
- NO POWER TO INTERSECTIONS
- INTERSECTIONS ON FLASH
- INTERSECTIONS OFF DUE TO DAMAGED CONTROLLERS BUT HAVE POWER
- STORMWATER MITIGATION



EXECUTIVE SUMMARY

SANDY STORM DAMAGE:

CRDA and Atlantic City (in conjunction with other county, state and federal agencies) have prepared the following damage estimates from Superstorm Sandy including:

1. Beach and dune replenishment:	\$10 million
2. Housing impacts:	
Repairs:	\$24 million
3. Loss of convention business revenue:	\$31 million
4. Repairs to Farley State Marina:	\$0.2 million
3. Damages to public buildings:	\$10 million
SUB-TOTAL:	\$75.2 million

PROPOSED STORM MITIGATION PROJECTS:

The following storm mitigation and flood protection projects have been identified in the balance of this report:

1. Coastal evacuation route improvements	
West-End / R. 40:	\$105 million
2. Inlet reconstruction:	\$44.3395 million
3. Balance of Atlantic City mitigation:	\$88.190 million
SUB-TOTAL:	\$237.5295 million
TOTAL REQUEST:	\$312.7295 million

The geography of the City of Atlantic City creates the potential for catastrophic flooding. Along the southern border, the Atlantic Ocean meets the Boardwalk. Along this boundary the recently completed federal and state beach replenishment and dune enhancement project created an effective barrier during superstorm Sandy.

As Sandy slammed the east coast, water rose along the inlet and back-bays of Atlantic City. Exposed, unprotected shoreline along the inlet became free flowing waterways that allowed significant amounts of water, sand and debris to flood this area unchecked by any bulkheads or seawalls.

In 2012-2013, a seawall, designed by the Army Corps in coordination with the City of Atlantic City, will be constructed from Oriental Ave to Atlantic Ave, and possibly to the next jetty north of Atlantic. Bids will be opened soon with construction slated for 2013. A second Corps seawall is proposed (but not fully designed or funded) along the Inlet between Madison and Melrose Avenues. This section has no storm protection structure and presents an opening for tidal inundation of the city.

At the northeast corner of Atlantic City, along the inlet, is another unfortified area from Caspian Avenue to Gardner’s Basin. This area is the missing link, as much of the inlet up to this point and beyond Gardner’s Basin has bulkhead and/or seawalls. This is the final section to be constructed, but it is not yet designed or fully funded.

The back-bay area is the most vulnerable. Consisting of low lying areas of the City and a shoreline littered with old and dilapidated or missing bulkhead, this area allows high tides and wind setup to flood significant portions of the City. An extensive system of new bulkhead along the perimeter of this area (from Gardner’s Basin to the City of Ventnor, including sections of Venice Park and Chelsea Heights) would create a “wall” around the City and significantly mitigate the potential for severe flooding, storm surge, and loss of property.

An additional proposed component of the flood mitigation program is the existing Baltic Avenue Canal control structures. The City has been in the process of designing and securing funding for the control structure at Fisherman’s Park (near Melrose Avenue) and also the control structure at Atlantis Avenue. This Canal is currently an open channel with inoperable flood gates. The storm surge from Sandy caused this channel to backflow storm water into the heart of the City through the storm drains connected to it, causing extreme flooding damage, and impassible roadways.

Additional flood mitigation projects listed in this report include:

- Storm water improvements to the Madison Avenue drainage area (including Resorts and Taj Mahal casinos).
- Reconstruction of the 2 Ohio Avenue bridges in Venice Park.
- Storm water improvements for Boardwalk Hall.
- West-End / Albany Avenue (Route 40) intersection improvements (this flood-prone intersection is a key impediment for coastal evacuation for the western portion of Atlantic City, Ventnor and Margate).

Overall, the completion of these stormwater control and mitigation projects will significantly reduce the potential for catastrophic flooding in the City by effectively creating a wall around the City.

The following Remington and Vernick budget summary identifies \$237,529,500 of city-wide mitigation projects, of which \$18,350,000 are already funded. Those projects with existing funding commitments include the seawall from Oriental to Atlantic (\$10 million from the Corps of Engineers, NJDEP and CRDA), Caspian to Melrose Boardwalk demolition (\$0.65 million from CRDA), the new bulkhead from Caspian Avenue to Gardner’s Basin (\$3.7 from NJDEP) and the Baltic Avenue Canal flood gate at Fisherman’s Park (\$3 million from FEMA and \$1 million from Atlantic City).

Absecon Inlet Waterfront Improvements					
ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
INLET ESTIMATE #1 - STEEL SHEET PILE BULKHEAD - ATLANTIC AVENUE TO MADISON AVENUE, ±1,100 LF					
1	Steel Cantilever Sheet Pile Bulkhead	LF	1,100	\$ 1,500.00	\$ 1,650,000.00
INLET ESTIMATE #2 - STEEL SHEET PILE BULKHEAD - MADISON AVENUE TO MELROSE AVENUE, ±900 LF					
1	Steel Cantilever Sheet Pile Bulkhead	LF	900	\$ 1,500.00	\$ 1,350,000.00
INLET ESTIMATE #3 - STEEL SHEET PILE BULKHEAD - FROM MELROSE AVENUE TO CASPIAN AVENUE, ±1,500 LF					
1	Steel Cantilever Sheet Pile Bulkhead	LF	1,500	\$ 1,500.00	\$ 2,250,000.00
TOTAL ESTIMATED SUBPROJECT COST (INLET ESTIMATE):					\$ 5,250,000.00

Gardner's Basin Bulkhead Waterfront Improvements					
ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
GARDNER'S BASIN ESTIMATE #1 - STEEL SHEET PILE BULKHEAD - RHODE ISLAND AVENUE TO MELROSE AVENUE (±1,750 LF)					
1	Steel Cantilever Sheet Pile Bulkhead	LF	1,750	\$ 1,500.00	\$ 2,625,000.00
GARDNER'S BASIN ESTIMATE #2 - STEEL SHEET PILE BULKHEAD - MASSACHUSETTS AVENUE TO MELROSE AVENUE (±1,700 LF)					
1	Steel Cantilever Sheet Pile Bulkhead	LF	1,700	\$ 1,500.00	\$ 2,550,000.00
GARDNER'S BASIN ESTIMATE #3 - STEEL SHEET PILE BULKHEAD - CARSON AVENUE (±110 LF)					
1	Steel Cantilever Sheet Pile Bulkhead	LF	110	\$ 1,500.00	\$ 165,000.00
GARDNER'S BASIN ESTIMATE #4 - STEEL SHEET PILE BULKHEAD - CARSON AVENUE EAST TO CARSON AVENUE WEST (±3,000 LF)					
1	Steel Cantilever Sheet Pile Bulkhead	LF	3,000	\$ 1,500.00	\$ 4,500,000.00
GARDNER'S BASIN ESTIMATE #5 - STEEL SHEET PILE BULKHEAD - NEW JERSEY AVENUE TO GOLDEN NUGGET MARINA (±4,200 LF)					
1	Steel Cantilever Sheet Pile Bulkhead	LF	4,200	\$ 1,500.00	\$ 6,300,000.00
GARDNER'S BASIN ESTIMATE #6 - STEEL SHEET PILE BULKHEAD - FARLEY MARINA SECTION (±520 LF)					
1	Steel Cantilever Sheet Pile Bulkhead	LF	520	\$ 1,500.00	\$ 780,000.00
TOTAL ESTIMATED SUBPROJECT COST (GARDNER'S BASIN ESTIMATE):					\$ 16,920,000.00

Venice Park Bulkhead Waterfront Improvements					
ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
VENICE PARK ESTIMATE #1 - STEEL SHEET PILE BULKHEAD - WEST RIVERSIDE & MURRAY INTERSECTION TO U.S. ROUTE 30 (±4,800 LF)					
1	Steel Cantilever Sheet Pile Bulkhead	LF	4,800	\$ 1,500.00	\$ 7,200,000.00
TOTAL ESTIMATED SUBPROJECT COST (VENICE PARK ESTIMATE):					\$ 7,200,000.00

Chelsea Heights Waterfront Improvements					
ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
CHELSEA HEIGHTS ESTIMATE #1 - STEEL SHEET PILE BULKHEAD - US ROUTE 322/40 TO NORTH RALEIGH AVENUE, ±2,200 LF					
1	Steel Cantilever Sheet Pile Bulkhead	LF	2,200	\$ 1,500.00	\$ 3,300,000.00
CHELSEA HEIGHTS ESTIMATE #2 - STEEL SHEET PILE BULKHEAD - WEST END AVENUE TO US ROUTE 322/40, ±4,550 LF					
1	Steel Cantilever Sheet Pile Bulkhead	LF	4,550	\$ 1,500.00	\$ 6,825,000.00
TOTAL ESTIMATED SUBPROJECT COST (CHELSEA HEIGHTS ESTIMATE):					\$ 10,125,000.00

Mansion Avenue Drainage Improvements					
ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
MANSION AVENUE DRAINAGE IMPROVEMENTS					
1	Various Drainage Improvements	LS	1	\$ 7,735,000.00	\$ 7,735,000.00
TOTAL ESTIMATED SUBPROJECT COST (MANSION AVENUE DRAINAGE ESTIMATE):					\$ 7,735,000.00

Coastal Evacuation Route Improvements - West-End/Route 40					
ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
Coastal Evacuation Route Improvements - West-End/Route 40					
1	Various Improvements	LF	1	\$ 105,000,000.00	\$ 105,000,000.00
TOTAL ESTIMATED SUBPROJECT COST (COASTAL EVACUATION ROUTE ESTIMATE):					\$ 105,000,000.00

Back Bay Waterfront Improvements					
ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
BACK BAY ESTIMATE #1 - STEEL SHEET PILE BULKHEAD - JACKSON AVENUE TO N. DOVER AVENUE, ±3,700 LF					
1	Steel Cantilever Sheet Pile Bulkhead	LF	3,700	\$ 1,500.00	\$ 5,550,000.00
BACK BAY ESTIMATE #2 - STEEL SHEET PILE BULKHEAD - PHYLLIS AVENUE TO US ROUTE 322/40, ±1,700 LF					
1	Steel Cantilever Sheet Pile Bulkhead	LF	1,700	\$ 1,500.00	\$ 2,550,000.00
BACK BAY ESTIMATE #3 - STEEL SHEET PILE BULKHEAD - US ROUTE 322/40 TO ATLANTIS AVENUE, ±5,300 LF					
1	Steel Cantilever Sheet Pile Bulkhead	LF	5,300	\$ 1,500.00	\$ 7,950,000.00
TOTAL ESTIMATED SUBPROJECT COST (BACK BAY ESTIMATE):					\$ 16,050,000.00

Venice Park Bridge Replacement					
ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
VENICE PARK BRIDGE #1 - OHIO AVENUE OVER PENROSE CANAL					
1	Complete Bridge Replacement	LS	1	\$ 2,500,000.00	\$ 2,500,000.00
VENICE PARK BRIDGE #2 - OHIO AVENUE OVER VENICE LAGOON					
1	Complete Bridge Replacement	LS	1	\$ 4,000,000.00	\$ 4,000,000.00
TOTAL ESTIMATED SUBPROJECT COST (VENICE PARK BRIDGE ESTIMATE):					\$ 6,500,000.00

Boardwalk Hall Drainage Improvements					
ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
BOARDWALK HALL DRAINAGE IMPROVEMENTS					
1	Various Drainage Improvements	LS	1	\$ 6,900,000.00	\$ 6,900,000.00
				CONSTRUCTION CONTINGENCIES (20%):	\$ 1,380,000.00
				ESTIMATED PROFESSIONAL SERVICES:	\$ 380,000.00
TOTAL ESTIMATED SUBPROJECT COST (BOARDWALK HALL DRAINAGE ESTIMATE):					\$ 8,660,000.00

Traffic Signal Upgrades					
ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
TRAFFIC SIGNAL UPGRADES TO TWENTY-SEVEN INTERSECTIONS					
1	Traffic Signal Upgrades(27 Intersections)	LS	1	\$ 1,500,000.00	\$ 1,500,000.00
				CONSTRUCTION CONTINGENCIES (20%):	\$ 300,000.00
				ESTIMATED PROFESSIONAL SERVICES:	\$ 200,000.00
TOTAL ESTIMATED SUBPROJECT COST (TRAFFIC SIGNALS ESTIMATE):					\$ 2,000,000.00

Baltic Avenue Stormwater Canal					
ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
BALTIC AVENUE STORMWATER CANAL SECTION #1 - ATLANTIS AVENUE SITE					
1	Various Drainage Improvements	LS	1	\$ 1,800,000.00	\$ 1,800,000.00
BALTIC AVENUE STORMWATER CANAL SECTION #2 - FISHERMAN'S PARK SITE					
1	Various Drainage Improvements	LS	1	\$ 4,300,000.00	\$ 4,300,000.00
				CONSTRUCTION CONTINGENCIES (20%):	\$ 1,220,000.00
				ESTIMATED PROFESSIONAL SERVICES:	\$ 430,000.00
TOTAL ESTIMATED SUBPROJECT COST (BALTIC CANAL ESTIMATE):					\$ 7,750,000.00

Total Cost of Above Referenced Projects	\$ 193,190,000.00	TOTAL PROJECT COSTS	
Inlet Mitigation Projects (Excluding Bulkhead)	\$ 44,339,500.00		\$ 312,729,500.00
Storm Damage Projects	\$ 75,200,000.00	Funded Amount:	\$ 18,350,000.00

SUPERSTORM SANDY:

Superstorm Sandy came ashore in Atlantic City on Monday October 29th and produced storm surge and wave erosion of historic proportions. This major coastline altering event is perhaps the most destructive storm in New Jersey history.

This preliminary report outlines the storm’s impact on Atlantic City and the subsequent need for infrastructure repairs as well as mitigation measures proposed to avoid or minimize damage from future storms. The findings and recommendations are the result of a collaborative effort between the Casino Reinvestment Development Authority (CRDA) and the City of Atlantic City. This effort has benefited from the input of numerous county, state and federal agencies.

Both CRDA and Atlantic City have an ongoing relationship on shore protection issues with the U.S. Army Corps of Engineers, the New Jersey Department of Environmental Protection (NJDEP) Bureau of Coastal Engineering, FEMA, US EDA and others. Several recent projects, including beach replenishment and shore protection structures are testimony to this relationship. However, the magnitude of this storm and the extent of impacts to the residents and businesses of Atlantic City highlight the need for a more comprehensive approach to storm protection and mitigation in addition to the concern for repairs to damage specific to this storm.

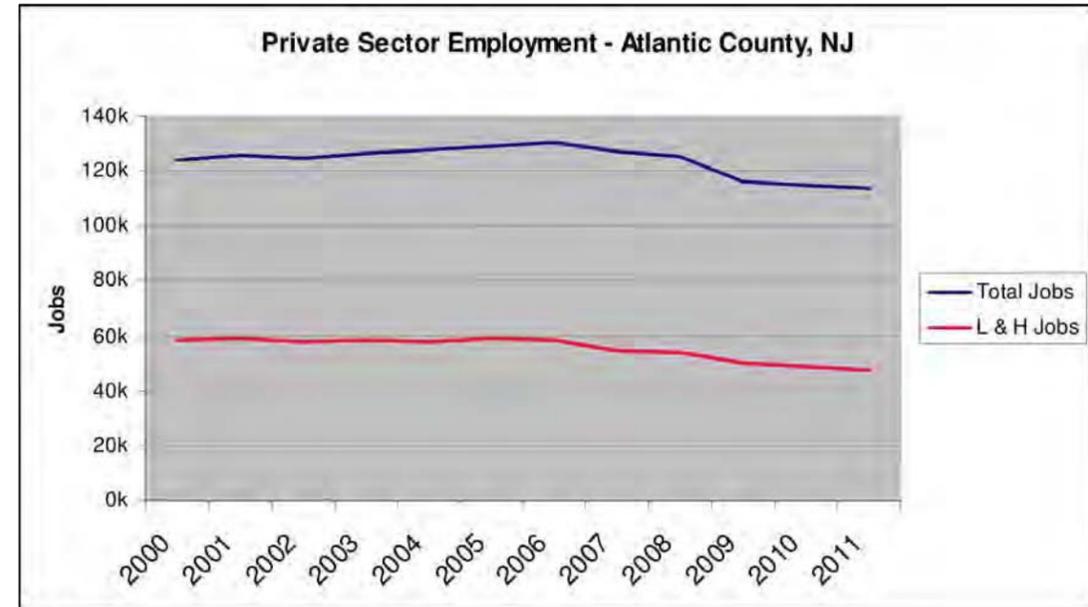
Many of the impacted areas and structures in Atlantic City are economically distressed as the photographs in this report indicate. At the same time the city’s economic contribution to the State of New Jersey’s tourism industry is critical. This storm comes at a time when the Governor has focused considerable attention and resources on stabilizing and building upon Atlantic City’s role within the state economy.

ATLANTIC CITY BACKGROUND:

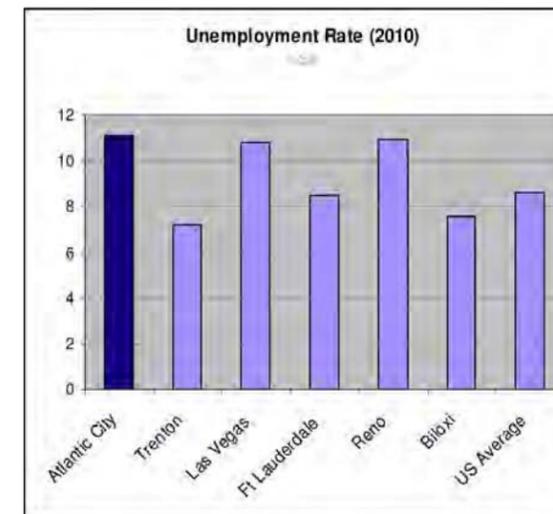
Amongst those actions has been the 2011 expansion by the State legislature of the role and powers of the CRDA regarding the Atlantic City Tourism District. The most recent comprehensive assessment of the needs of the city in regards to the tourism industry has been the CRDA “Tourism District Master Plan” (2012). This Master Plan examined the economic and social condition of the city and reached the following findings:

A. Socio-Economic Profile:

“Private sector employment has fallen substantially since 2006, with the majority of the jobs lost from the Leisure & Hospitality industry. The ratio of Leisure & Hospitality jobs to other jobs fell from 48% in 2000 to 42% in 2011.”



“The unemployment rate in Atlantic City exceeds that of nearly all comparable cities and is approximately 2.5% greater than the national average. Violent crime in Atlantic City far exceeds that national average.”



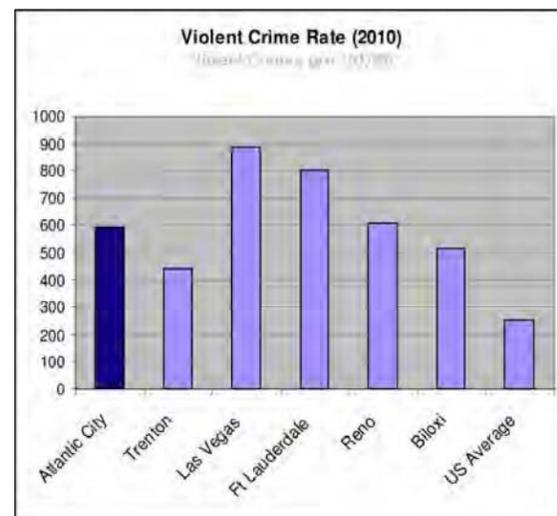
The city has lost thousands of jobs and millions of dollars in tax ratable in the last decade.

Unemployment in Atlantic City as of May 2012 remained high at 16.2%, as compared to the state unemployment rate of 9.1% and the national rate of 8.2% according to the US Bureau of Labor Statistics.

The 2010 census documents that 25.3% of the residents of Atlantic City live below the poverty level as compared to 9.1% Statewide. Per Capita income in Atlantic City is also much lower than the County, State and Nation according to the US Census Bureau. In 2010 the per capita income in Atlantic City was \$20,013, as compared to \$27,247 for the County and \$34,858 for the State.

The economic downturn in Atlantic City has claimed over 15,000 jobs in Atlantic City's casino industry. The number of people employed has dropped from 45,501 in 2004 to 34,145 in 2010 according to records maintained by the Casino Control Commission. There has also been a reduction in jobs in the business that serve the casino industry and the public sector.

The following table from the Master Plan compares Atlantic City 2010 violent crime data with Trenton, New Jersey, the U.S. Average and other selected gaming and tourist communities.



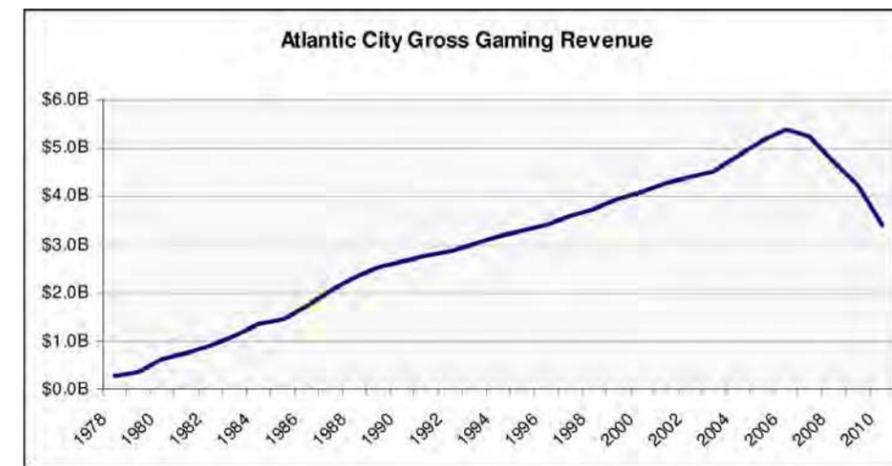
B. The Atlantic City Gaming and Hospitality Economy:

The Master Plan provides the following analysis of the critical status of this key element of the City's and State's economy:

“Casino gaming represents one of New Jersey's largest industries, accounting for nearly \$1 billion in state and local taxes (state taxes are constitutionally dedicated to programs for seniors and the disabled) and more than \$2 billion in revenues spread across more than 2,000 businesses. Employment in Atlantic City has slipped from 50,000 jobs to 38,000 and all other market indicators are trending negatively. The downturn in Atlantic City can be partially attributed to the emergence of newer, more convenient gaming options in neighboring states, including Pennsylvania and New York.”

“Economic indicators in Atlantic City, such as job growth and population growth, are trending more negatively than the State of New Jersey or the United States as a whole. This is due in part to physical distress, resulting from decades-old construction in a windblown location. Buildings constructed in the

late 1970's are in need of renovation.”



C. Real Estate Market:

The Master Plan makes the following observations about the distressed nature of the Atlantic City real estate market:

“The Atlantic City real estate market has been in steady decline since 2006 and continues to struggle. While the national and global economic recession contributed to this decline, the severity is likely due to certain characteristics unique to Atlantic City, including:

- The large swaths of urban blight surrounding the tourist area.*
- A declining tax base (approximately \$175 million/year in property taxes).*
- Inadequate infrastructure, particularly roads and highways, which make travel in and around Atlantic City difficult.*
- Failure to effectively attract convention business to Atlantic City and to integrate such business with the existing destination resort hotels.*

As a result of these factors, real estate market conditions in Atlantic City are highly distressed. Despite a strong commercial base of the \$3+ billion gambling industry and irreplaceable natural assets such as the ocean, Beach and significant infrastructures assets like the Boardwalk, Boardwalk Hall, South Inlet, Gardner's Basin and the Convention Center, the problems are severe and require immediate action. The State of New Jersey has acknowledged this, as evidenced by its creation of the Tourism District.”

“The total assessed valuation in 2008 (2007 values) was approximately \$20 billion. It is currently approximately \$13 billion. We understand that reductions have been filed in the magnitude of +/- \$6 billion. While assessments have started to be reduced, the tax rate has climbed 14% from \$1.71 in 2009 to \$1.95 in 2011 and could reach \$2.50 in a few years. Atlantic City ranks 19th of the 566 municipalities in New Jersey in the amount that assessed values exceed actual market values. The level of difference

between assessed vs. actual values for New Jersey is roughly 85% of actual value equaling assessed values, on average. The state calculates that Atlantic City, by contrast, is roughly 109% of actual value equaling assessed value. This would suggest a tax burden that is out of line with the majority of municipalities in the state.

Under the Boardwalk and Beach section of the Tourism District Master Plan the CRDA and their consultant team concluded:

“The Master Plan views the beach and Boardwalk as a powerful and important corridor that will help re-activate the entire Tourism District.”

The Master Plan also notes that:

“The relationship between the beach, Boardwalk and casino properties creates one of the most fascinating destinations found in the world. The beach itself seems to be well maintained relative to erosion and use, and the Boardwalk surface itself is in good repair.”

“This process will enable the Boardwalk to maintain its rightful position as National Geographic’s #1 Boardwalk in America.”

“It is no accident that New Jersey’s cities and towns are among the most attractive places in which to live and work in the 21st century. By applying new design criteria, waterfront areas, corridors, neighborhoods and gateways are improved with each new development, brownfield’s redevelopment, and infrastructure project, thereby creating memorable vistas and focal points.”

The proposed storm mitigation program in the Inlet portion of Atlantic City is consistent with this “urban design” objective of The State Plan by proposing an innovative project design in a key waterfront location within the Atlantic City Tourism District, which, through its design combines enhanced storm protection with public access (pedestrian and bicycle) to this waterfront.

MITIGATION PROJECTS

ATLANTIC CITY, NEW JERSEY
STORM DAMAGE MITIGATION PROJECT
ZONE A

LEGEND

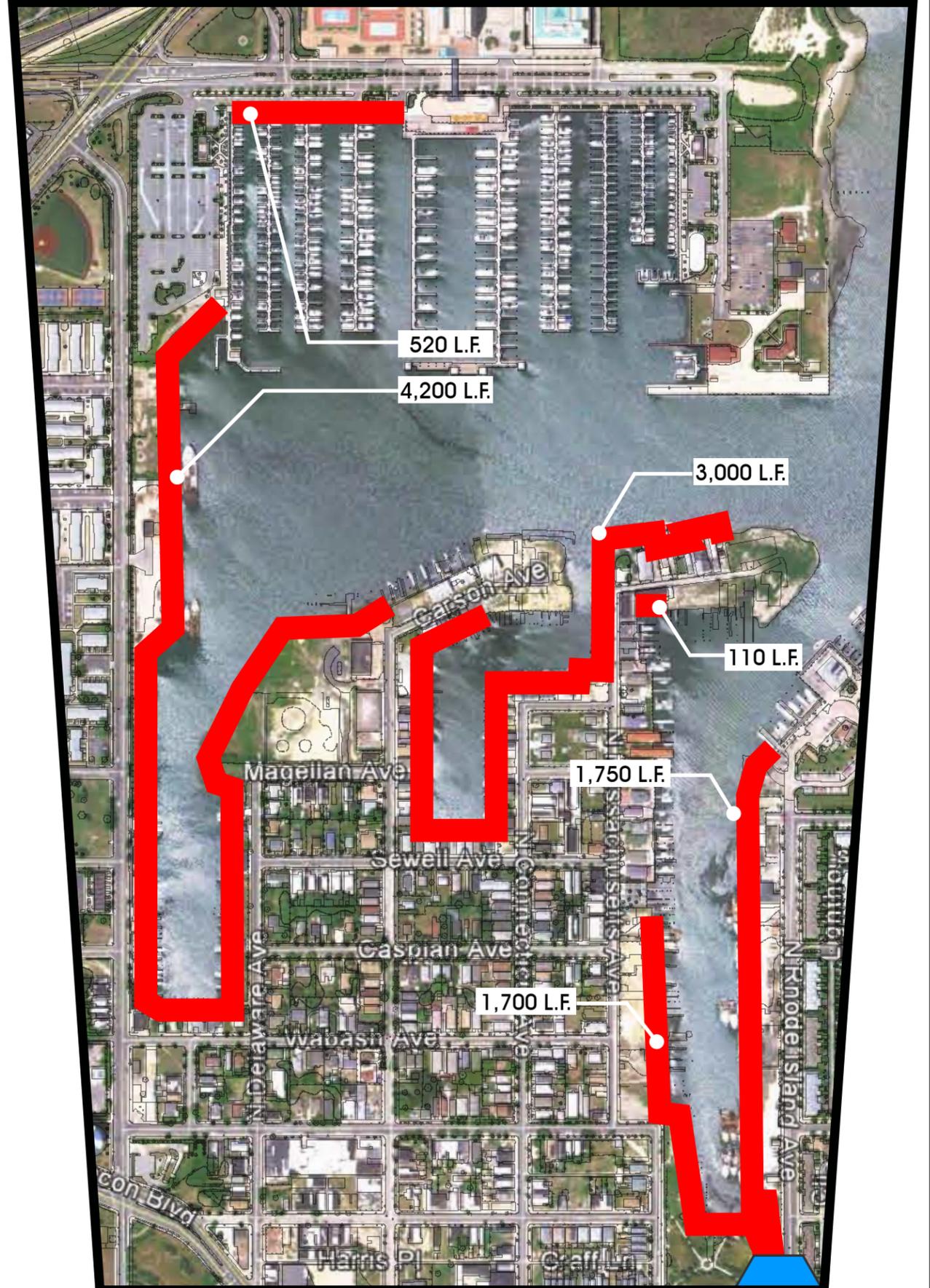
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ATLANTIC CITY, NEW JERSEY
STORM DAMAGE MITIGATION PROJECT
ZONE B

LEGEND

-  STORM WATER GATE IMPROVEMENT
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CASPIAN TO GARDNER'S BASIN



CASPIAN TO GARDNER'S BASIN:
CONSTRUCTION OF NEW BULKHEAD AND PEDESTRIAN
PROMENADE.

BUDGET: \$5.7 MILLION
(\$2 MILLION UNFUNDED)

MELROSE TO CASPIAN



MELROSE TO CASPIAN:
DEMOLITION OF BOARDWALK AND CONSTRUCTION OF
PEDESTRIAN PROMENADE LANDWARD OF THE BULKHEAD.
BUDGET: \$3.805 MILLION
(\$3.155 MILLION UNFUNDED)

MADISON TO MELROSE



MADISON TO MELROSE:

THIS SECTION IS PHASE II OF THE CORPS OF ENGINEERS SEAWALL PROJECT, INCLUDING DEMOLITION OF BOARDWALK AND CONSTRUCTION OF NEW SEAWALL.

BUDGET: \$5.918 MILLION
(UNFUNDED)

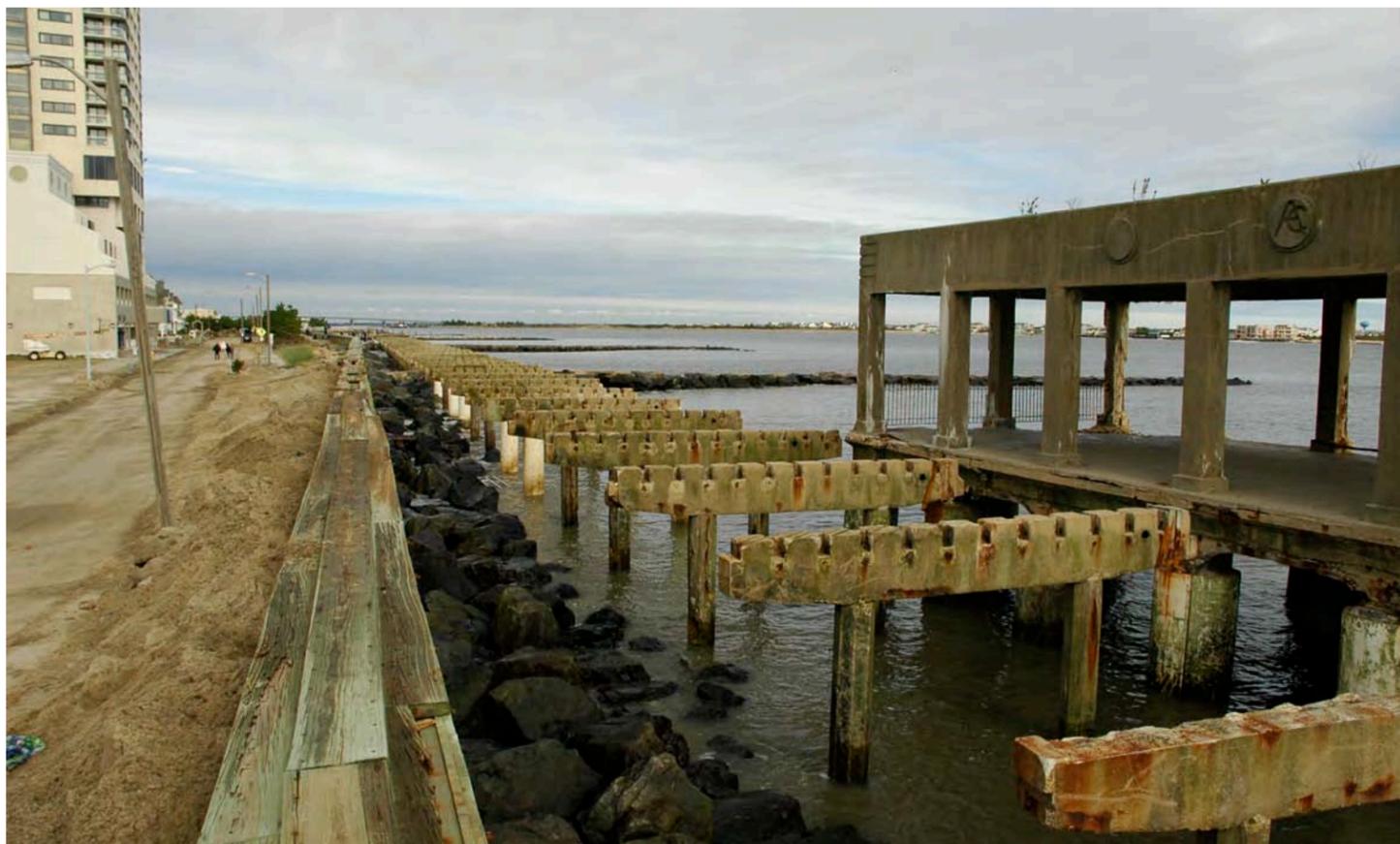
NEW SHEET PILE IN FRONT OF EXISTING BOARDWALK
\$1.350 MILLION
(UNFUNDED)

McCLINTON PARK



McCLINTON PARK:
THIS SECTION OF THE INLET WATERFRONT (SEAWALL AND PROMENADE) SURVIVED ESSENTIALLY UNDAMAGED.
NO IMPROVEMENTS PROPOSED.

MADISON TO ATLANTIC



MADISON TO ATLANTIC:

A. ATLANTIC TO FIRST GROIN NORTH:

CONTINUATION OF SEAWALL
(AN AD-ALTERNATE IN THE CORPS BID)

BUDGET: \$3.336 MILLION
(UNFUNDED).

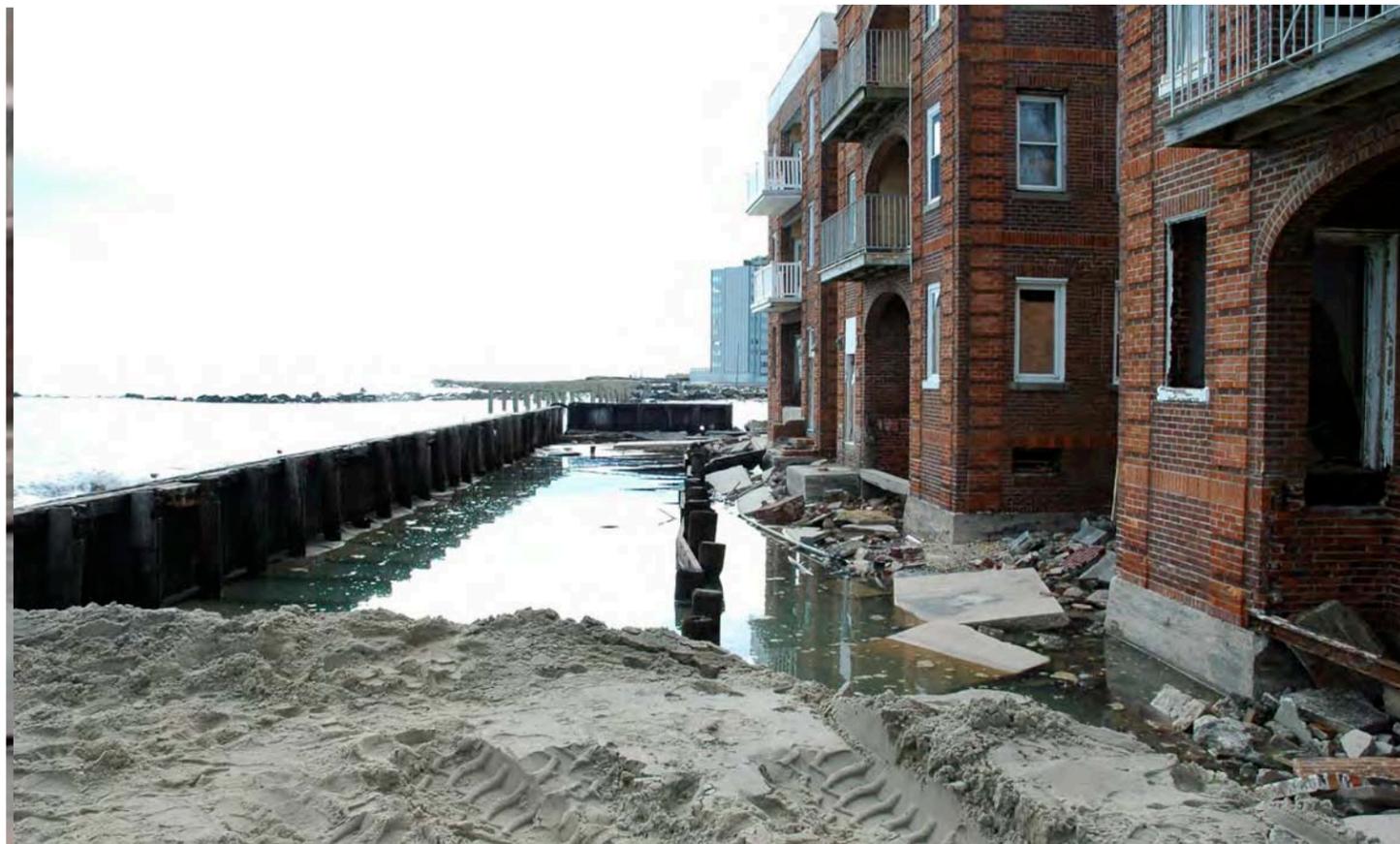
B. BOARDWALK DEMOLITION & PROMENADE CONSTRUCTION:

BUDGET: \$3.469 MILLION
(UNFUNDED).

MADISON TO ATLANTIC



ORIENTAL TO ATLANTIC



ORIENTAL TO ATLANTIC:

THIS SECTION HAS BEEN DESIGNED AND HAS PERMITS. INVOLVES DEMOLITION AND CONSTRUCTION OF A SEAWALL WITH PROMENADE ON TOP. BIDS HAVE BEEN RECEIVED BY THE CORPS OF ENGINEERS.

BUDGET: \$10,787,500

CORPS SHARE: \$6.5 MILLION

NJDEP SHARE: \$2.625 MILLION

LOCAL MATCH (CRDA): \$0.875 MILLION

UNFUNDED PORTION: \$0.787 MILLION
(RAILINGS, DRAINAGE & LIGHTING)

ORIENTAL TO ATLANTIC



RHODE ISLAND TO ORIENTAL



RHODE ISLAND TO ORIENTAL AVENUE:
THIS SECTION OF THE BOARDWALK REQUIRES DEMOLITION
AND RECONSTRUCTION.
\$15,345,000 (UNFUNDED).

RHODE ISLAND TO ORIENTAL





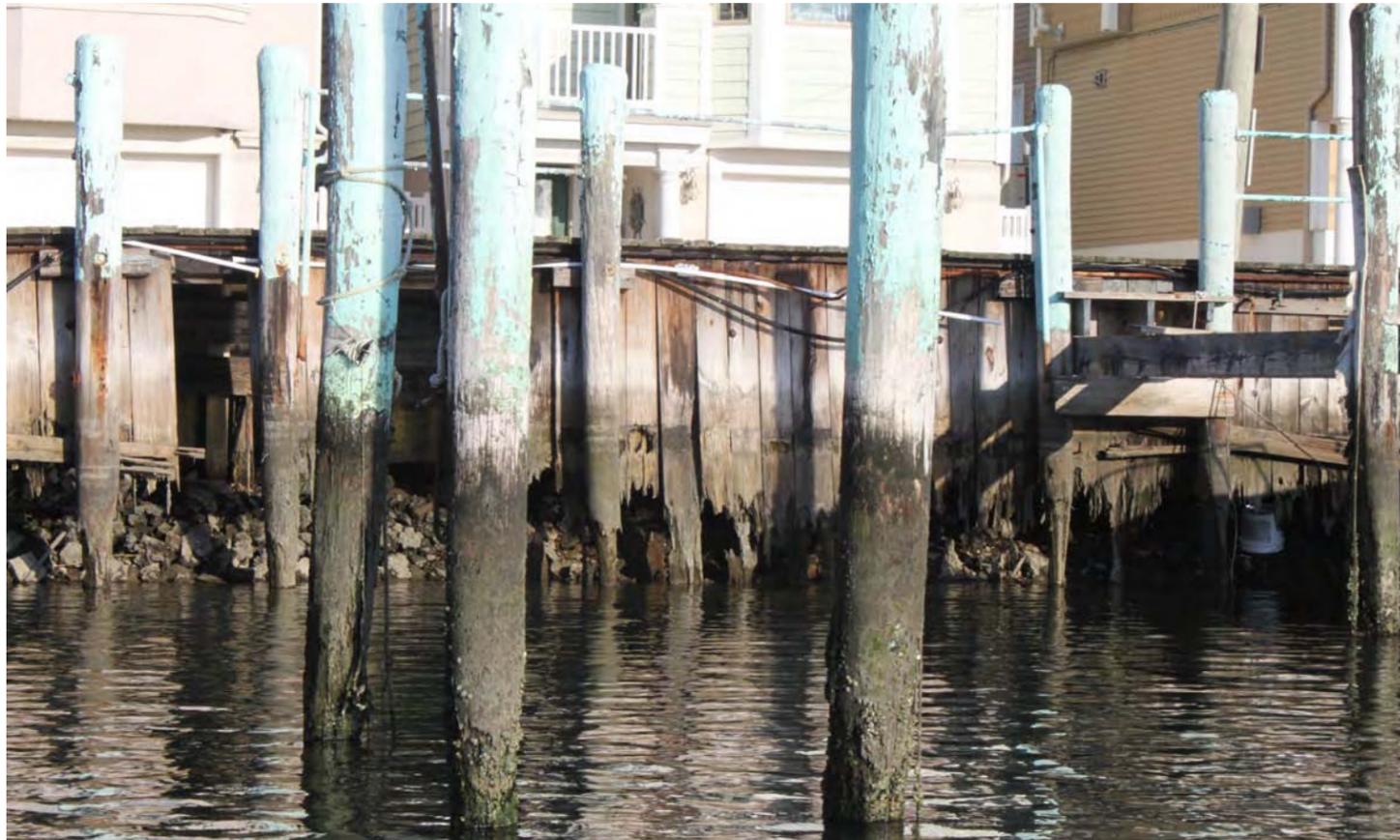
Reconstruction Plan For Inlet Pedestrian & Bicycle Promenade

NORTH INLET BAY-FRONT



SIGNIFICANT SECTIONS OF THE NORTH INLET (THE BUNGALOW PARK AND WESTSIDE DISTRICTS) REQUIRE NEW BULKHEAD AND BULKHEAD REPAIRS. THIS MITIGATION WORK IS NOT DESIGNED, PERMITTED OR FUNDED.

NORTH INLET BAY-FRONT



FARLEY STATE MARINA



SECTIONS OF DOCKS AND PUBLIC WALKWAYS WITHIN THIS STATE MARINA EXPERIENCED DAMAGE ESTIMATED AT \$200,000. THIS PROJECT IS UNFUNDED.

BALTIC AVENUE CANAL - FISHERMAN'S PARK FLOOD GATES



REPLACEMENT OF FISHERMAN'S PARK FLOOD GATE.
THIS PROJECT HAS BEEN DESIGNED.
NJDEP PERMIT HAS BEEN ISSUED. CORPS PERMIT PENDING.
A \$3 MILLION FEMA GRANT HAS BEEN APPROVED.

BALTIC AVENUE CANAL - ATLANTIS AVENUE FLOOD GATE



RECONSTRUCTION OF NON-FUNCTIONING FLOOD GATE.
THIS PROJECT HAS BEEN DESIGNED.
NJDEP PERMIT RECEIVED. CORPS OF ENGINEERS PERMIT PENDING.
UNFUNDED.

BOARDWALK HALL STORMWATER IMPROVEMENTS



BOARDWALK HALL (ON THE STATE AND FEDERAL REGISTER OF HISTORIC BUILDINGS) HAS A BASEMENT GARAGE WHICH FLOODS DURING STORM EVENTS AND REQUIRES DEWATERING. PROPOSED STORMWATER IMPROVEMENTS HAVE NOT YET BEEN DESIGNED, PERMITTED OR FUNDED.

RESORTS /TAJ MAHAL STORMWATER IMPROVEMENTS



**ENGINEER'S COST ESTIMATE
MANSION AVENUE DRAINAGE AREA IMPROVEMENTS
VIRGINIA TO SOUTH CAROLINA AVENUE & PACIFIC AVENUE TO BOARDWALK
ATLANTIC CITY ATLANTIC COUNTY NEW JERSEY
13-Nov-12**

Item	Quantity	Unit	Unit Cost	Total
Construct New Storm Main Along Boardwalk	1600	LF	\$1,000.00	\$1,600,000.00
Construct New Control Structures/Lift Stations	5	Each	\$250,000.00	\$1,250,000.00
Construct New Storm Main to Replace Mansion Ave System	1000	LF	\$1,000.00	\$1,000,000.00
Construct New 48" Outfall	700	LF	\$3,000.00	\$2,100,000.00
Subtotal				\$5,950,000.00
Permitting / Design/General Conditions	20%			\$1,190,000.00
Contingency	10%			\$595,000.00
Total				\$7,735,000.00

N. CAROLINA & RESORTS CASINO FLOOR FLOODING FROM AUGUST 17TH 2010 STORM



OHIO AVENUE /PENROSE CANAL BRIDGE RECONSTRUCTION



THIS STRUCTURE HAS BEEN CONSIDERED STRUCTURALLY DEFICIENT AND REQUIRES DEMOLITION AND REPLACEMENT. A BUDGET ESTIMATE OF \$2.5 MILLION HAS BEEN PREPARED. THIS PROJECT IS UNFUNDED.

OHIO AVENUE/ VENICE LAGOON BRIDGE RECONSTRUCTION



THIS BRIDGE HAS BEEN DECLARED STRUCTURALLY DEFICIENT AND HAS BEEN RECOMMENDED FOR DEMOLITION AND REPLACEMENT. A BUDGET OF \$4 MILLION HAS BEEN PREPARED. THIS PROJECT IS UNFUNDED.

VENICE PARK BULKHEADING PROJECT

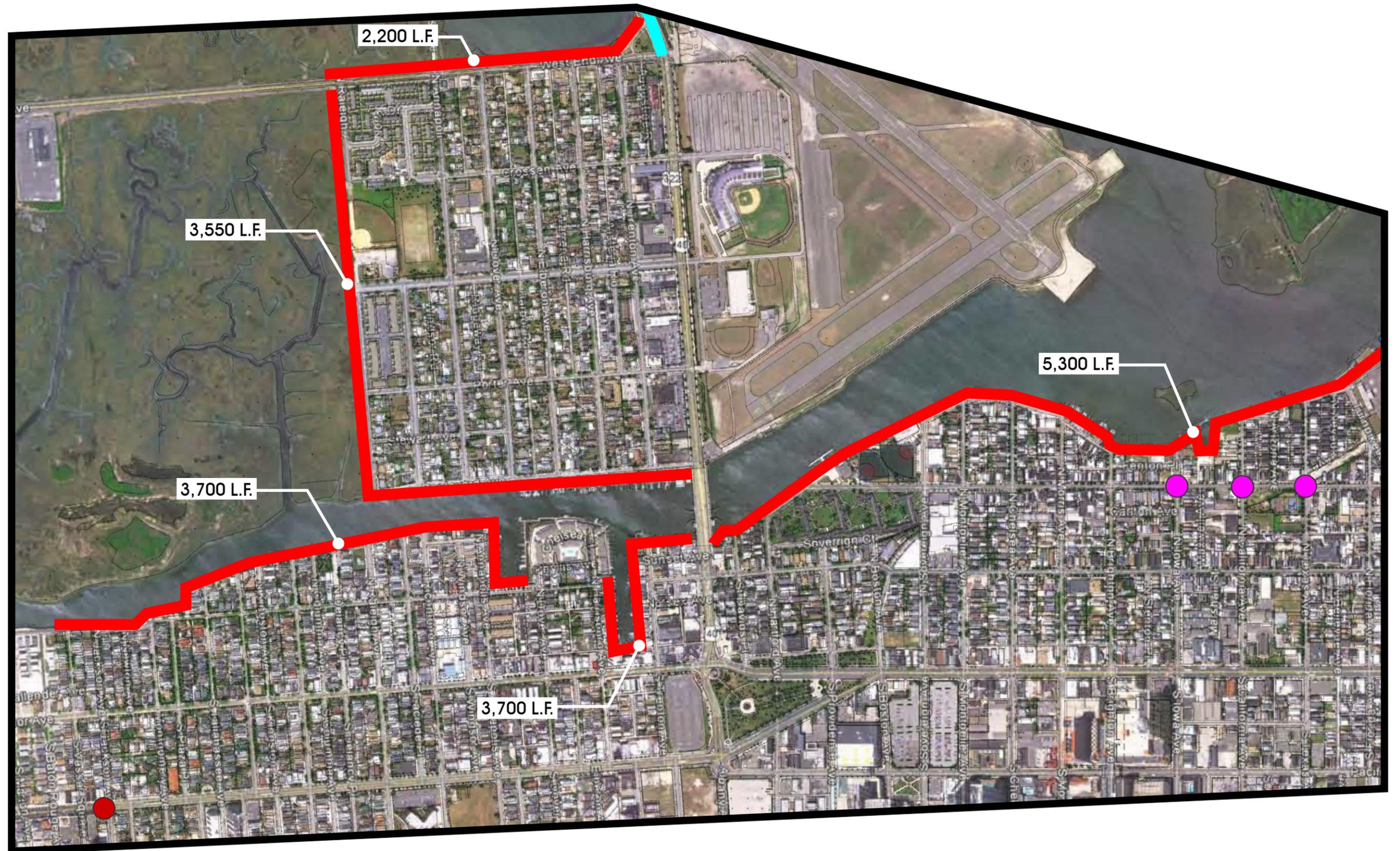


THIS PROJECT INCLUDES BULKHEADING FOR SIGNIFICANT SECTIONS OF THE VENICE PARK / LAGOON ISLAND WATERFRONT WHERE NO STORM PROTECTION STRUCTURES EXIST.
THIS PROJECT IS NOT DESIGNED PERMITTED OR FUNDED.

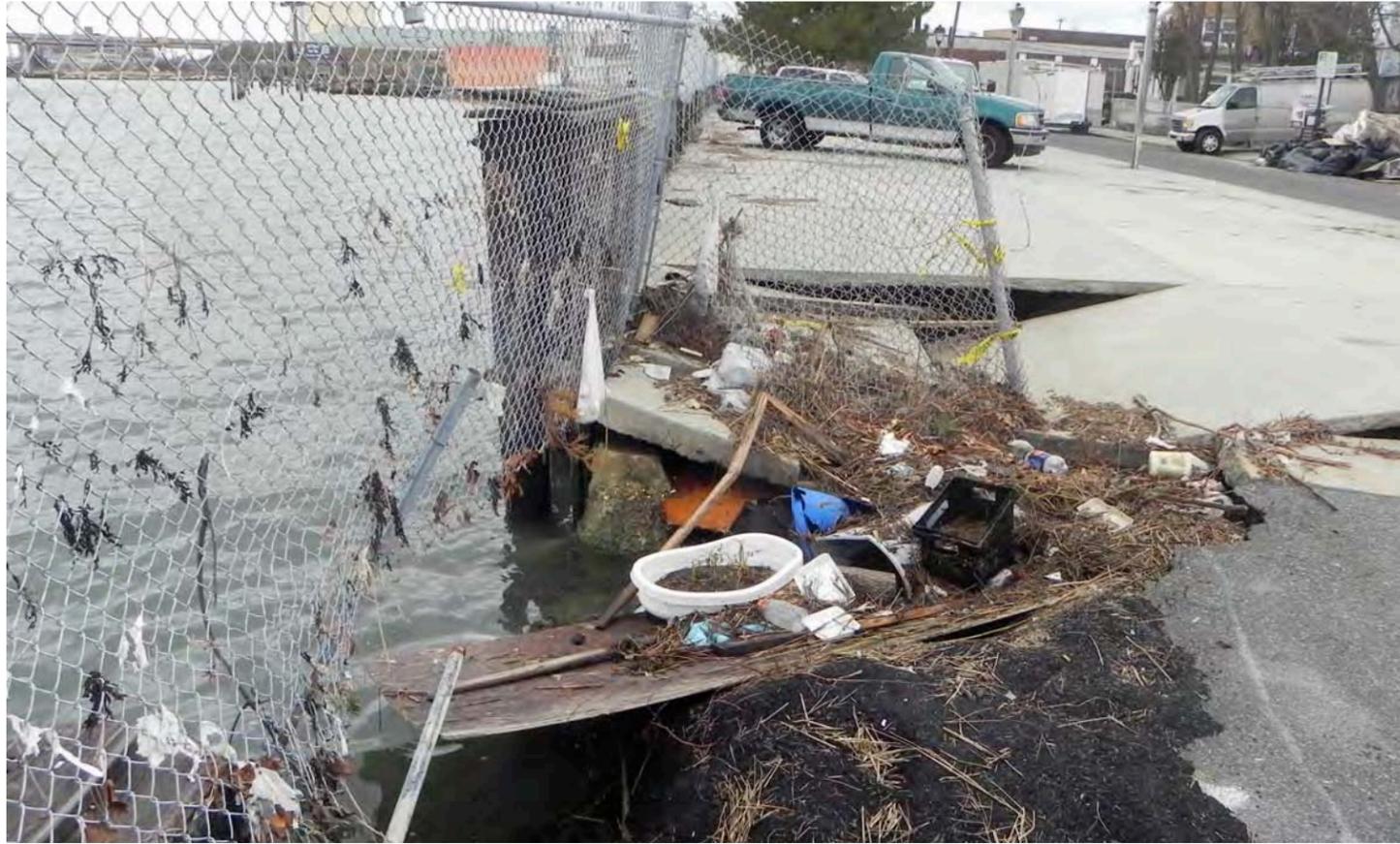
**ATLANTIC CITY, NEW JERSEY
STORM DAMAGE MITIGATION PROJECT
ZONE E**

LEGEND

-  STORM WATER GATE IMPROVEMENT
-  BALTIC AVE STORM WATER CANAL
-  BULKHEAD CONSTRUCTION & REPAIR
-  BOARD WALK DEMOLITION
-  BRIDGE RECONSTRUCTION
-  COASTAL EVACUATION IMPROVEMENT
-  NO POWER TO INTERSECTIONS
-  INTERSECTIONS ON FLASH
-  INTERSECTIONS OFF DUE TO DAMAGED CONTROLLERS BUT HAVE POWER
-  STORMWATER MITIGATION

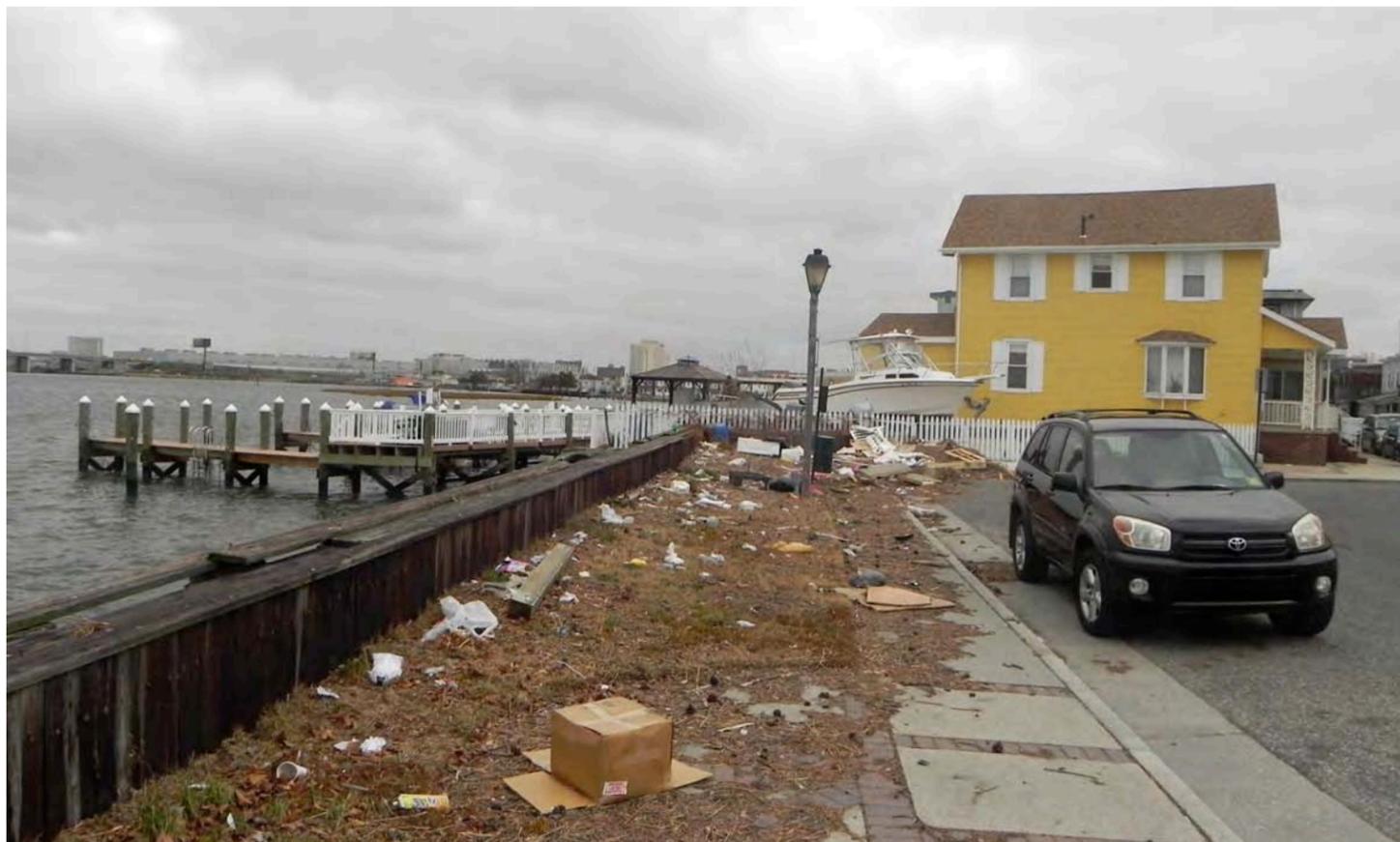


BACK-BAY (EXPRESSWAY TO ALBANY AVENUE)



THIS SECTION OF BACK-BAY WATERFRONT IN DUCK TOWN AND CHELSEA REQUIRES EXTENSIVE BULKHEAD REPAIR AND NEW BULKHEADING. LAND USES IN THIS SECTION ARE ALMOST EXCLUSIVELY LOW- TO MODERATE-INCOME RESIDENCES. THIS PROPOSED PROJECT HAS NOT BEEN DESIGNED PERMITTED OR FUNDED.

BACK-BAY (EXPRESSWAY TO ALBANY AVENUE)



CHELSEA HEIGHTS BULKHEAD IMPROVEMENTS



EXTENSIVE SECTIONS OF CHELSEA HEIGHTS WATERFRONT DO NOT HAVE STORM PROTECTION STRUCTURES EXPOSING THIS RESIDENTIAL AREA TO FREQUENT FLOODING. WEST-END AVENUE, WHICH PROVIDES THE NORTHERN BOUNDARY OF CHELSEA HEIGHTS IS A DESIGNATED COASTAL EVACUATION ROUTE FOR THIS PORTION OF ATLANTIC CITY AS WELL AS THE CITIES OF VENTNOR AND MARGATE STORM PROTECTION STRUCTURES HAVE NOT BEEN DESIGNED, PERMITTED OR FUNDED.

CHELSEA HEIGHTS BULKHEAD IMPROVEMENTS



ATLANTIC CITY, NEW JERSEY
STORM DAMAGE MITIGATION PROJECT
ZONE F

LEGEND

-  STORM WATER GATE IMPROVEMENT
-  BAL TIC AVE STORM WATER CANAL
-  BULKHEAD CONSTRUCTION & REPAIR
-  BOARD WALK DEMOLITION
-  BRIDGE RECONSTRUCTION
-  COASTAL EVACUATION IMPROVEMENT
-  NO POWER TO INTERSECTIONS
-  INTERSECTIONS ON FLASH
-  INTERSECTIONS OFF DUE TO DAMAGED CONTROLLERS BUT HAVE POWER
-  STORMWATER MITIGATION



WEST END / ALBANY AVE - COASTAL EVACUATION MITIGATION



THIS INTERSECTION IS PART OF THE ABSECON ISLAND COASTAL EVACUATION ROUTE (FOR ATLANTIC CITY, VENTNOR AND MARGATE), YET IS PRONE TO FREQUENT FLOODING. A RECENT CRDA REGIONAL TRANSPORTATION STUDY RECOMMENDED THIS INTERSECTION AND BRIDGE FOR RECONSTRUCTION IN PART TO ELEVATE THIS INTERSECTION AND MITIGATE AGAINST FUTURE FLOODING POTENTIAL. CONCEPT DESIGNS HAVE BEEN PREPARED BUT THIS PROJECT IS UNFUNDED. ROUTE 40 IS AN NJDOT ROADWAY AND WEST-END AVENUE IS OWNED BY ATLANTIC COUNTY.

Project 18: Albany Avenue Corridor Improvements

Background

The US 40/322 (Albany Avenue) corridor currently experiences significant traffic congestion at the West End Avenue and Winchester Avenue intersections during peak hours. The width of the existing bridge across the Inside Thorofare presents a significant capacity constraint. With anticipated growth, this congestion will increase, and mainline congestion also will be an issue for the section from West End Avenue to the interchange with the Atlantic City Expressway (ACE) (Exit 2). Also, this corridor experiences occasional flooding, especially in the area near West End Avenue.

Strategy

Increase the capacity of the Albany Avenue corridor approaching the city from the west. Improvements include expanded crossing of the Inside Thorofare, grade separating the intersection with West End Avenue, widening the road from four to six lanes to Exit 2, and expanding Exit 2. These improvements include the following elements:

- Build a new crossing of the Inside Thorofare at a location between North Hartford Avenue and North Chelsea Avenue (via a replacement fixed-span bridge, a new complementary fixed-span or drawbridge, a tunnel, or some combination of these).
- Create a one-way pair of crossings, with traffic entering the island on the Albany Avenue Bridge and leaving via the new crossing. The new

crossing would connect to Bader Field and then rejoin Albany Avenue either before or at West End Avenue. This paired system would improve circulation and provide additional capacity for emergency evacuation.

- Convert existing Albany Avenue section from West End Avenue to Pacific Avenue from a two-way operation to one-way operation in southbound direction with 3 travel lanes.
- Provide grade separation of West End Avenue at Albany Avenue to facilitate the movement of traffic heading to Chelsea Heights, Ventnor and points west on Absecon Island; proceeding south into Atlantic City, or turning east into Bader Field.
- Add one lane in each direction from West End Avenue to Exit 2; this lane addition would continue the lane capacity addition provided by the one-way pair Inside Thorofare crossings and will likely require additional bridge modifications along structures in this section.
- Reconfigure and/or expand the ACE Exit 2 Ramps at Routes 40/322 to facilitate the anticipated increased traffic flows to/from the ACE.

This project will improve auto access to western Atlantic City, Ventnor, Margate and Longport; complement transit access improvements; improve local circulation; provide connectivity to Bader Field; address flooding issues; and provide improved evacuation alternatives for emergency needs.

Key Planning Issues

- Determine bridge location, type, and design. Type options include a replacement fixed-span



ATLANTIC CITY REGIONAL
TRANSPORTATION PLAN

Volume II – Implementation Program

bridge, a new complementary fixed-span or drawbridge, a tunnel, or some combination of these.

- Plan and design a connection between the new bridge, Bader Field, and the surrounding roadway network.
- Design to minimize environmental impacts.
- Design to minimize impacts upon and preserve connectivity for existing neighborhoods, including Chelsea Heights.
- Design grade separation of West End Avenue at Albany Avenue.
- Design roadway widening from West End Avenue to Exit 2; will likely require additional bridge modifications along structures in this section.
- Design the ACE Exit 2 Ramps at Routes 40/322. Coordinate with the Pleasantville Gateway development.

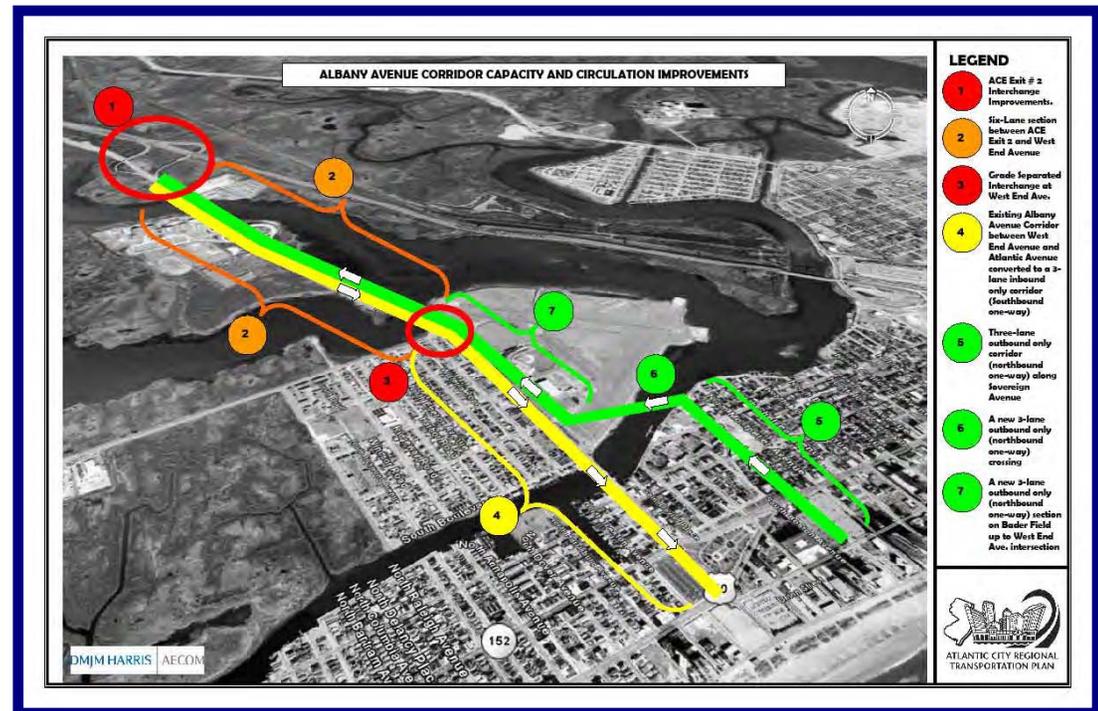
Time Frame / Staging / Cost Estimate

**TOTAL PROJECT COST ESTIMATE:
\$ 175 million (2008 Dollars)**

2009	Feasibility Assessment	\$ 2.0 million
2010	Environmental Assessment	\$ 1.5 million
2011	Preliminary Engineering	\$ 4.3 million
2012	Final Design	\$ 8.0 million
2013	Right-of-way Acquisition, except bridge	\$ 21.0 million
2014	Right-of-way Acquisition, bridge	\$ 14.0 million
2014	Construction, except bridge	\$ 74.5 million
2016	Construction, bridge	\$ 49.7 million



**Volume II –
Implementation
Program**



HOUSING IMPACTS



AS OF THE DATE OF THIS REPORT APPROXIMATELY 800 HOMES HAVE FILED DAMAGE CLAIMS WITH FEMA AS A RESULT OF SUPERSTORM SANDY. APPROXIMATELY 600 OF THESE ARE UNINHABITABLE. CRDA AND THE CITY OF ATLANTIC CITY (IN CONJUNCTION WITH OTHER INVOLVED AGENCIES) ARE ATTEMPTING TO DEVELOP A BUDGET AND STRATEGY FOR:

DAMAGE REPAIRS	= \$24 MILLION
RELOCATION	= \$TBD
DEMOLITION	= \$TBD
REPLACEMENT	= \$TBD