

**DOWNTOWN RESTORATION PROGRAM – AUTHORIZATION OF ADDITIONAL
WORLD TRADE CENTER CONTRACT ACTIONS AND EXPENSES TO
SUPPORT POST-HURRICANE SANDY RECOVERY AND STORM
PREPAREDNESS WORK**

It was recommended that the Board authorize: (1) the expenditure of an additional estimated amount of approximately \$71 million for certain contract actions and expenses expected to be required through June 30, 2013 to effectuate ongoing repair and replacement of facilities and equipment at the World Trade Center (WTC) site that were damaged or destroyed as a result of Hurricane Sandy and its associated storm surge, resulting in a cumulative total authorization of approximately \$306 million for the response, recovery and restoration efforts at the WTC site; (2) the expenditure of an additional estimated amount of \$5.5 million for certain contract actions and expenditures for enhanced storm preparedness measures for the WTC site, that would be ready for installation by the upcoming 2013 hurricane season; and (3) the Executive Director to take all actions necessary to effectuate the foregoing, consistent with the terms outlined to the Board.

During the week of October 28, 2012, Hurricane Sandy and its associated storm surge caused significant flooding and devastating damage in Lower Manhattan and throughout the New York-New Jersey region. The storm resulted in severe flooding throughout the WTC site, particularly affecting the WTC Transportation Hub, Vehicular Security Center, WTC Memorial Museum, and One WTC, among other WTC projects in construction. Although the de-watering of the WTC site was substantially completed in early November, and pre-storm levels of construction activity resumed throughout the WTC site by the end of November 2012, Hurricane Sandy recovery activities are ongoing, to assess and evaluate damaged areas and equipment for future repair or replacement. Through separate actions at its meetings from February 6, 2013 through April 24, 2013, the Board, and the Committee on Operations, acting for and on behalf of the Board pursuant to the By-Laws, ratified and authorized certain actions required for Hurricane Sandy response, recovery and restoration work at the WTC site through May 31, 2013, in a total estimated amount of \$235.2 million.

Although comprehensive damage assessments and project impact evaluations related to Hurricane Sandy will be ongoing throughout 2013, staff is ordering various contractors to repair or replace damaged and destroyed equipment and infrastructure, including the purchase or repurchase of major long-lead items, such as electrical switchgear and substation equipment, vertical circulation equipment, and mechanical fans, air handling units and controls. Increases in contract amounts also are needed to provide for construction management, program management, design support, and other professional services to support the repair/replacement and re-installation work.

Consistent with previous discussions with the Board throughout 2013, as additional information is made available by contractors, further project evaluations and implementation decisions regarding Hurricane Sandy's impact are being made. It is anticipated that there will be further requests for increases to contract amounts for actions that will be attributable to Hurricane Sandy recovery, including further equipment replacement and installation costs, construction general conditions and potential acceleration costs, on an ongoing basis.

In conjunction with the project damage assessments, various measures for enhanced construction site protection in preparation for future severe weather events also are being evaluated. For the upcoming 2013 hurricane season, staff has identified certain contract actions and expenditures for enhanced storm preparedness measures at the WTC site, including, but not limited to, temporary water intrusion barriers, mechanical pumps, and emergency generators, all of which could be installed or deployed on an interim basis, if necessary.

Pursuant to the foregoing report, the Committee on Operations, acting for and on behalf of the Board pursuant to the By-Laws, adopted the following resolution, with Commissioners Lynford, Rubin, Samson and Schuber voting in favor. General Counsel confirmed that sufficient affirmative votes were cast for the action to be taken, a quorum of the Committee being present.

RESOLVED, that the expenditure of an additional estimated amount of approximately \$71 million for certain additional actions and expenses expected to be required through June 30, 2013, to effectuate the repair and replacement of facilities and equipment at the World Trade Center (WTC) site that were damaged or destroyed by Hurricane Sandy and its associated storm surge, be and it hereby is authorized, consistent with the terms outlined to the Board; and it is further

RESOLVED, that the expenditure of an additional estimated amount of \$5.5 million for certain contract actions and expenditures for enhanced storm preparedness measures at the WTC site, that would be ready for installation by the upcoming 2013 hurricane season, be and it hereby is authorized, consistent with the terms outlined to the Board; and it is further

RESOLVED, that the Executive Director be and he hereby is authorized, for and on behalf of the Port Authority, to take all actions necessary to facilitate the foregoing, consistent with the terms outlined to the Board; and it is further

RESOLVED, that the form of all contracts and agreements in connection with the foregoing shall be subject to the approval of General Counsel or his authorized representative.

**DOWNTOWN RESTORATION PROGRAM – AUTHORIZATION OF ADDITIONAL
WORLD TRADE CENTER CONTRACT ACTIONS AND EXPENSES TO SUPPORT
POST-HURRICANE SANDY RECOVERY AND MITIGATION WORK**

It was recommended that the Board authorize: (1) the expenditure of an additional estimated amount of approximately \$38.5 million for certain contract actions and expenses expected to be required through September 30, 2013 to effectuate ongoing repair and replacement of facilities and equipment at the World Trade Center (WTC) site that were damaged or destroyed as a result of Hurricane Sandy and its associated storm surge, and for related mitigation efforts, resulting in a cumulative total authorization of approximately \$397 million for the response, recovery and restoration efforts at the WTC site; and (2) the Executive Director to take all actions necessary to effectuate the foregoing, consistent with the terms outlined to the Board.

During the week of October 28, 2012, Hurricane Sandy and its associated storm surge caused significant flooding and devastating damage in Lower Manhattan and throughout the New York-New Jersey region. The storm resulted in severe flooding throughout the WTC site, particularly affecting the WTC Transportation Hub, Vehicular Security Center, WTC Memorial Museum, and One WTC, among other WTC projects in construction. Although the de-watering of the WTC site was substantially completed in early November, and pre-storm levels of construction activity resumed throughout the WTC site by the end of November 2012, Hurricane Sandy recovery activities are ongoing, to assess and evaluate damaged areas and equipment for future repair or replacement, including efforts to mitigate the impacts of future storms. Through separate actions at its meetings from February 6, 2013 through June 26, 2013, the Board, and the Committee on Operations, acting for and on behalf of the Board pursuant to the By-Laws, ratified and authorized certain actions required for Hurricane Sandy response, recovery and restoration work at the WTC site through July 31, 2013, in a total estimated amount of \$359 million.

Although comprehensive damage assessments and project impact evaluations related to Hurricane Sandy will be ongoing throughout 2013, staff is ordering various contractors to repair or replace damaged and destroyed equipment and infrastructure, including the purchase or repurchase of major long-lead items, such as electrical switchgear and substation equipment; vertical circulation equipment; and mechanical fans, air handling units and controls. Increases in contract amounts also are needed to provide for construction management, program management, design support, and other professional services to support the repair/replacement, re-installation work and mitigation efforts.

Consistent with previous discussions with the Board throughout 2013, as additional information is made available by contractors, further project evaluations and implementation decisions regarding Hurricane Sandy's impact and the potential for including additional mitigation efforts to deliver a more resilient site are being made. It is anticipated that there will be further requests for increases to contract amounts for actions that will be attributable to Hurricane Sandy recovery, including further equipment replacement and installation costs, construction general conditions costs and potential mitigation costs, on an ongoing basis.

Pursuant to the foregoing report, the Board adopted the following resolution, with Commissioners Lipper, Lynford, Paterson, Pocino, Rosado, Schuber and Steiner voting in favor; Commissioners Moerdler, Rechler, Samson and Sartor recused and did not participate in the consideration of, or vote on, this item. General Counsel confirmed that sufficient affirmative votes were cast for the action to be taken, a quorum of the Board being present.

RESOLVED, that the expenditure of an additional estimated amount of approximately \$38.5 million for certain additional actions and expenses expected to be required through September 30, 2013, to effectuate the repair and replacement of facilities and equipment at the World Trade Center site that were damaged or destroyed by Hurricane Sandy and its associated storm surge, and for related mitigation efforts, be and it hereby is authorized, consistent with the terms outlined to the Board; and it is further

RESOLVED, that the Executive Director be and he hereby is authorized, for and on behalf of the Port Authority, to take all actions necessary to facilitate the foregoing, consistent with the terms outlined to the Board; and it is further

RESOLVED, that the form of all contracts and agreements in connection with the foregoing shall be subject to the approval of General Counsel or his authorized representative.

WORLD TRADE CENTER SITE FLOOD RESILIENCY PROGRAMS – AUTHORIZATION OF CONTRACT ACTIONS FOR INITIAL PLANNING, DESIGN AND PROJECT MODIFICATIONS

It was recommended that the Board authorize: (1) contract actions for initial planning and design work to evaluate and develop long-term flood resiliency projects at the World Trade Center (WTC) site, including the award of contracts and supplemental agreements for planning, engineering, and technical services, in a total estimated amount of \$10 million, consistent with the terms outlined to the Board; and (2) increases to certain existing construction trade contracts for the One WTC and the WTC Vehicular Security Center and Tour Bus Parking Facility (WTC VSC) Projects, in a total estimated amount of \$21 million, for the installation of initial permanent flood mitigation measures, consistent with the terms outlined to the Board. These flood resiliency programs would advance permanent improvements to the overall WTC site and within the major WTC site projects under construction, in order to enhance future resiliency and mitigate facility impact from anticipated future severe weather events.

Following the devastating impacts of Hurricane Sandy and its associated storm surge on the WTC site, the Board has authorized immediate actions to provide for site restoration, as well as certain preparedness work in advance of the 2013 hurricane season. In conjunction with WTC project damage assessments, staff also has advanced initial planning analysis and evaluation of potential risks to the long-term operation of the WTC site, due to anticipated future severe weather events.

In early 2013, Michael Baker Engineering Corporation (Baker) was retained to identify site-wide flooding risks, based on completed site conditions. Baker has identified vulnerabilities for water intrusion at street level, and provided certain recommendations for potential mitigation measures, including a site-wide base elevation to maintain flood protection. It is anticipated that Baker would perform further work in connection with the design of site-wide mitigation projects at grade.

In addition to the retention of Baker to support this effort, each of the following existing WTC project design consultants would be utilized, to identify specific systems and critical infrastructure that may be vulnerable to flooding damage in the below-grade levels, and provide recommendations for permanent resiliency improvements to mitigate against water damage:

Firm	Nature of Services
Downtown Design Partnership	WTC Transportation Hub
Liberty Security Partners	Vehicular Security Center
WSP Cantor Seinuk	West Bath tub Vehicular Access
WM Group, Inc. /AKF Group, LLC	Central Chiller Plant
Downtown Streetscape Partners	WTC Streets and Utilities
Jaros Baum & Boles	One WTC - Mechanical, Electrical and Plumbing
Skidmore Owings Merrill	One WTC - Architectural
Meuser Rutledge	One WTC - Geotechnical
WSP Cantor Seinuk	One WTC - Structural

Firm	Nature of Services
Leslie E. Robertson Associates	One WTC - Structural
Pentagram	One WTC - Signage
Louis Berger Group	WTC Site-Wide - Program Management
STV, Inc.	One WTC & Memorial - Project Management

The consultants' scope of work under this authorization would include: (1) review and identification of the project's critical spaces and equipment to be protected from flooding; and (2) recommendation of specific measures for the protection of spaces and equipment, including water-tight hardening, relocation, or redundancy.

Following planning analysis, proposed resiliency projects would be prioritized and coordinated, as part of an overall WTC site resiliency program, which would be subject to further Board authorization. Specific resiliency projects would be advanced for preliminary engineering design work under the currently proposed authorization, such as preparation of design drawings, cost estimates, schedules, and associated documentation. Additional technical consultants may be retained, as needed, to provide environmental review documentation or other expertise, if required.

Design consultants for the One WTC and the WTC VSC Projects have identified certain flood mitigation measures that should be performed immediately, such as the installation of permanent barriers and waterproofing to prevent water intrusion, as well as the relocation and protection of critical systems and equipment. These initial modifications, which would be performed through existing construction trade contracts, may be supplemented by additional hazard mitigation projects in the future.

The planning, design and construction work proposed under this authorization would be implemented through the use of existing design consultants and construction trade contractors that are thoroughly familiar with the WTC site's existing project design and construction details.

Pursuant to the foregoing report, the Board adopted the following resolution, with Commissioners Bagger, Lipper, Lynford, Paterson Pocino, Rosado, Schuber and Steiner voting in favor; Commissioners Moerdler, Rechler, Samson and Sartor recused and did not participate in the consideration of, or vote on, this item. General Counsel confirmed that sufficient affirmative votes were cast for the action to be taken, a quorum of the Board being present.

RESOLVED, that certain contract actions for initial planning and design work to evaluate and develop long-term flood resiliency projects at the World Trade Center (WTC) site, in a total estimated amount of \$10 million, be and they hereby are authorized, consistent with the terms outlined to the Board; and it is further

RESOLVED, that increases to certain existing construction trade contracts for the One WTC and the WTC Vehicular Security Center and Tour Bus Parking Facility Projects, in a total estimated amount of \$21 million, for the installation of initial permanent flood mitigation measures, be and they hereby are authorized, consistent with the terms outlined to the Board; and it is further

RESOLVED, that the Executive Director be and he hereby is authorized, for and on behalf of the Port Authority, to enter into contracts and supplemental agreements with design consultants performing work at the WTC site under existing services contracts, in connection with the foregoing planning and design work, consistent with the terms outlined to the Board; and it is further

RESOLVED, that the Executive Director be and he hereby is authorized, for and on behalf of the Port Authority, to take action with respect to construction contracts, contracts for professional and advisory services and such other contracts and agreements as may be necessary to effectuate the foregoing planning, design and construction work, pursuant to authority granted in the By-Laws or other resolution adopted by the Board; and it is further

RESOLVED, that the form of all contracts and agreements in connection with the foregoing shall be subject to the approval of General Counsel or his authorized representative.

(May 29, 2013)

ADDENDUM

The following contracts and agreements were authorized today:

AWARDEE*	DESCRIPTION
Multiple Contractors	Multiple Port Authority Facilities – Contracting Services to Support Hurricane Mitigation Work
Halmar International, LLC	PATH – Construction Management and General Contracting Services to Support Hurricane Mitigation Work

*Authorization to enter into contracts or agreements does not necessarily mean that a fully agreed upon binding agreement will in fact be entered into with the recommended awardee. As contracts are awarded they are posted on the Port Authority’s website at www.panynj.info.

Failure to include a particular item on this list does not affect the validity of any action taken by the Port Authority, or its related entities.

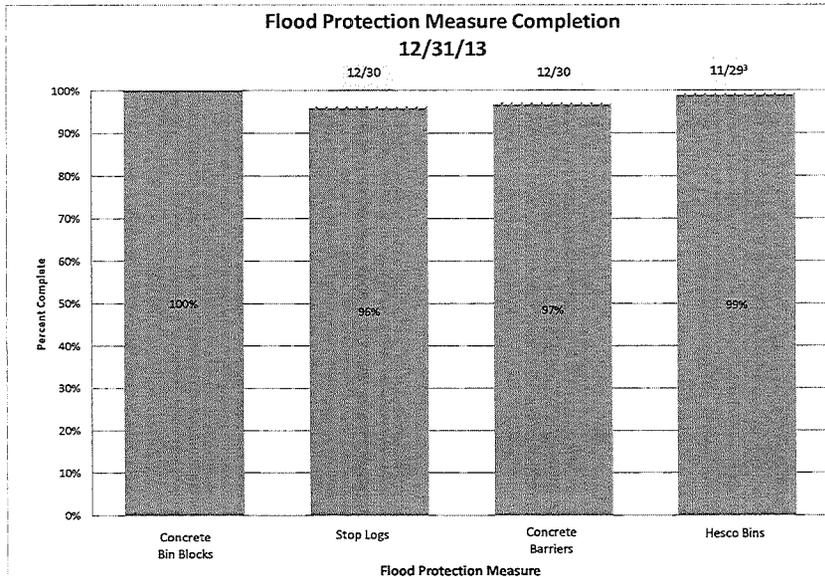
Flood Protection Measure Quantities (Linear Feet)														
Line Department	Facility	(1) Concrete Bin Blocks			(2) Flood Barrier Logs (Stop Logs)			(3) Concrete Barriers			(4) Sand Filled Bins (Hesco)			
		Planned	Completed	Last Date	Planned	Completed	Last Date	Planned	Completed	Last Date	Planned	Completed	Last Date	
Port Commerce	NJMT				870	677	12/30	355	273	12/30				
	NYMT				235	235								
TB&T	Holland				1738	1701	12/18	660	660					
	Lincoln				550	550								
Aviation	Teterboro	800	800											
PATH	Harrison Car Maintenance Facility	1750	1750		0 ²						2400	2352	11/29 ³	
	Harrison Station				338	338				900	900			
	Harrison, NJ ¹									400	400			
	Kearney, NJ ¹									650	650			
	Hoboken Station				342	340	12/1							
	Newport Station incl. Caissons 1 & 3				1565	1565								
	Exchange Place				408	408								
	Grove Street				12	12								
Morton Street				288	288									
WTC	WTC										6400	6400		
Teleport														
	Total	2550	2550	100%	6346	6114	96%	2965	2883	97%	8800	8752	99%	
	Miles	0.5	0.5		1.2	1.2		0.6	0.5		1.7	1.7		

Notes:

¹ indicates substitution

² Stop logs at HCMF reclassified as long term - quantity removed from chart

³ Recently changed scope- substantial completion met

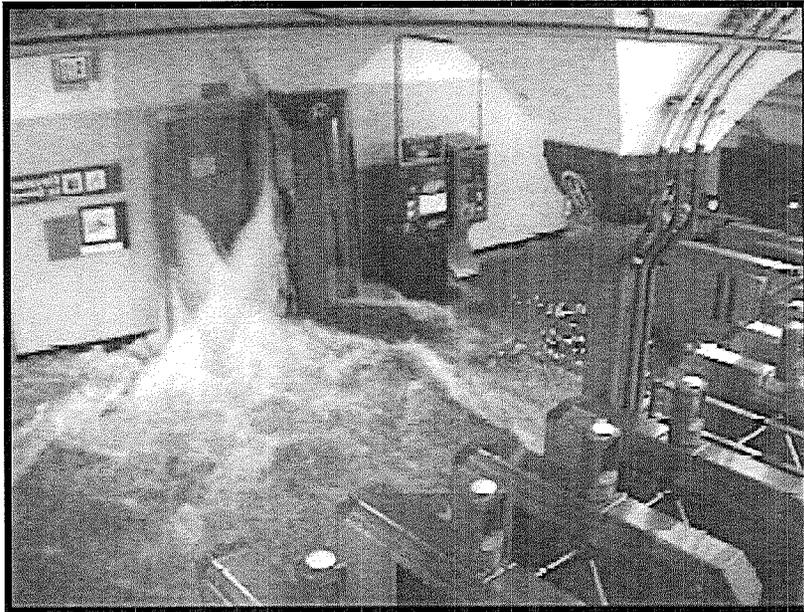


indicates last week's progress

Hurricane Preparedness: 2013 Protective Measures

Public Session
May 29, 2013

Impact of Superstorm Sandy



Critical Immediate Repairs



Lessons Learned

- Coastal facilities vulnerable to increased storm surges
- Flooding of electrical infrastructure slowed recovery capabilities
- Regional network outages complicated recovery
- Spare parts and emergency materials quickly depleted
- Impacts to mass transit hampered recovery

Port Authority 2013 Protective Measures

- Continue to quickly repair, rehabilitate and harden select infrastructure
- Ensure flood protection through installation of metal panels to protect doorways, concrete barriers and water filled barriers
- Ensure operational continuity by procurement of additional generators and mobile pumps

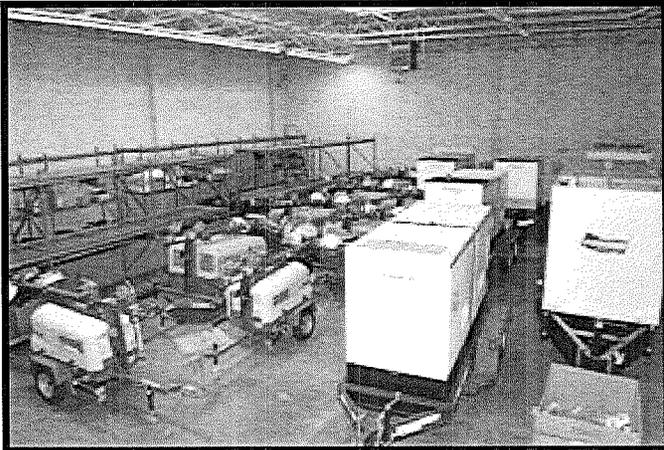
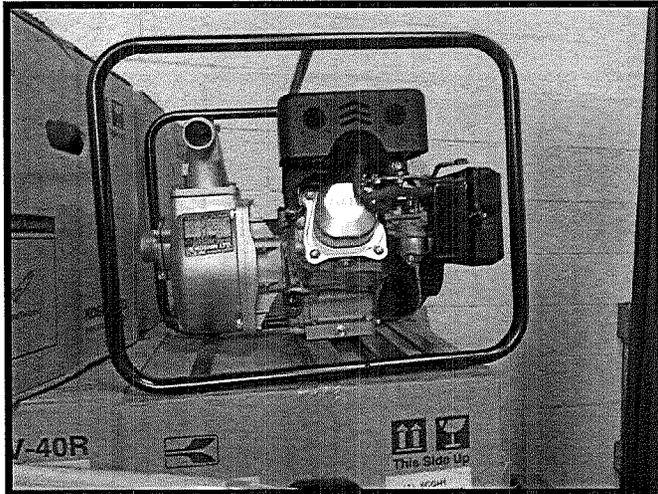
Port Authority Storm Preparedness

In preparation for all major events:

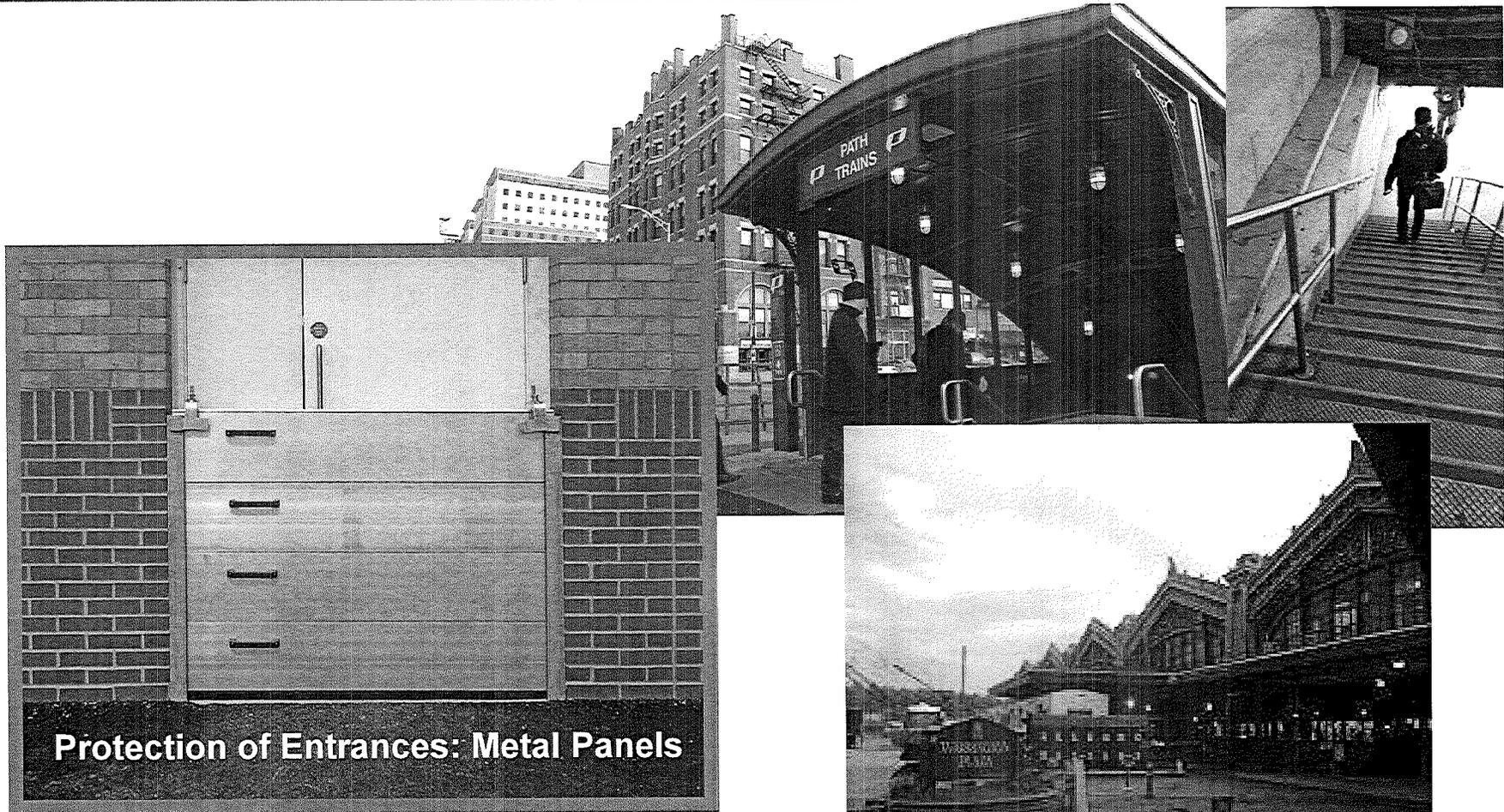
- All Port Authority facilities have emergency plans that address hurricanes and business continuity
- The agency conducts numerous tabletop and Full Scale Exercises
- In preparation for Super Storm Sandy, in particular, the agency pre-purchased supplemental resources including generators, sand bags, and flood barriers



Stockpile of Ready Materials and Equipment

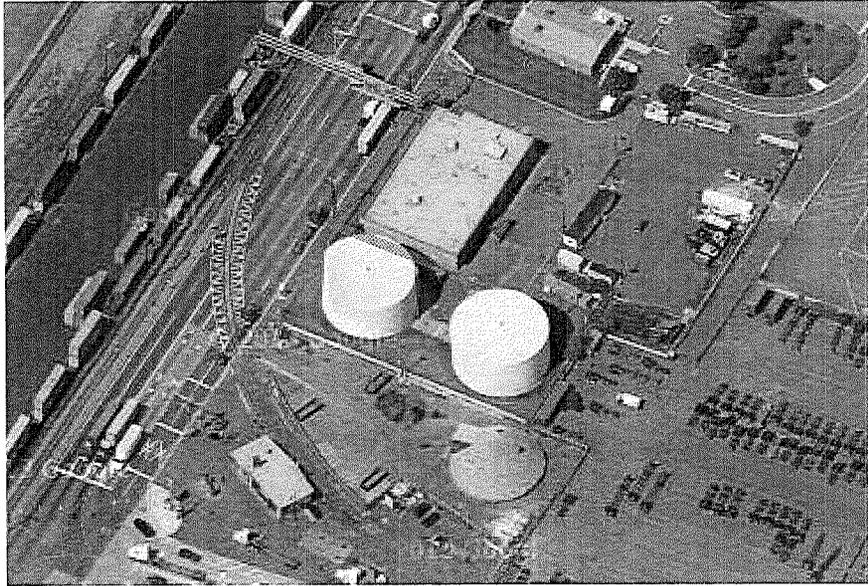


PATH: Example of Flood Barriers at Certain Hoboken Station Entrances

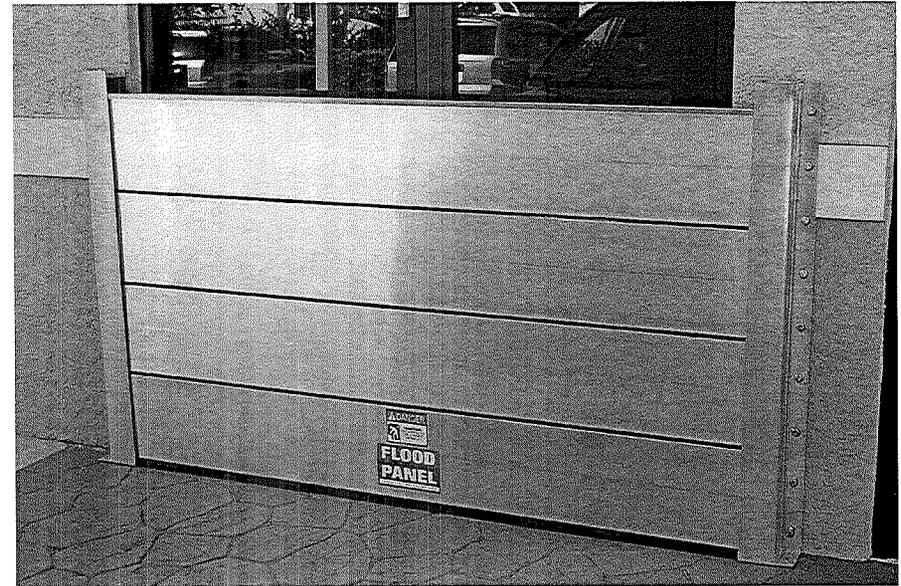


Protection of Entrances: Metal Panels

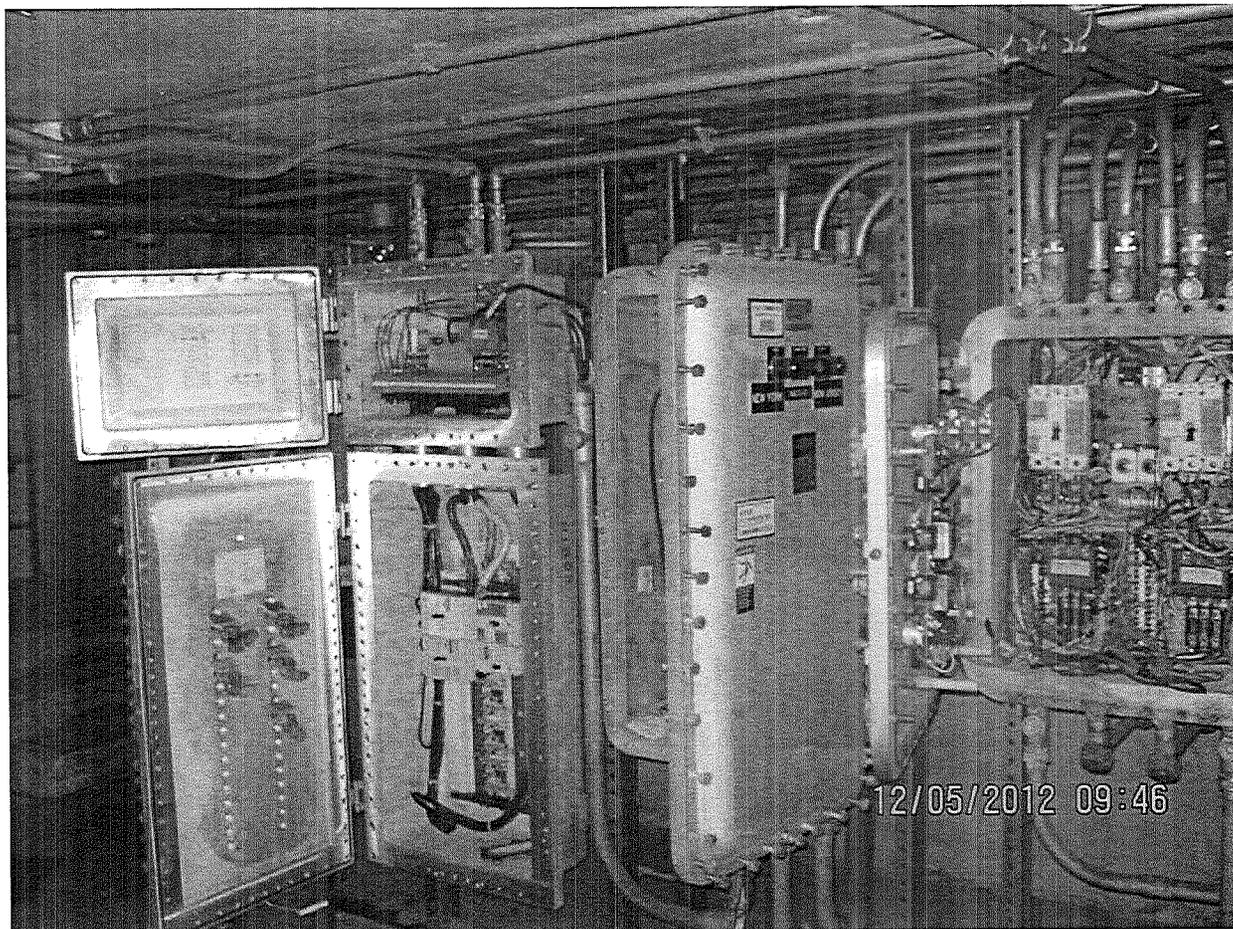
NJ Marine Terminal: Example of Flood Protection



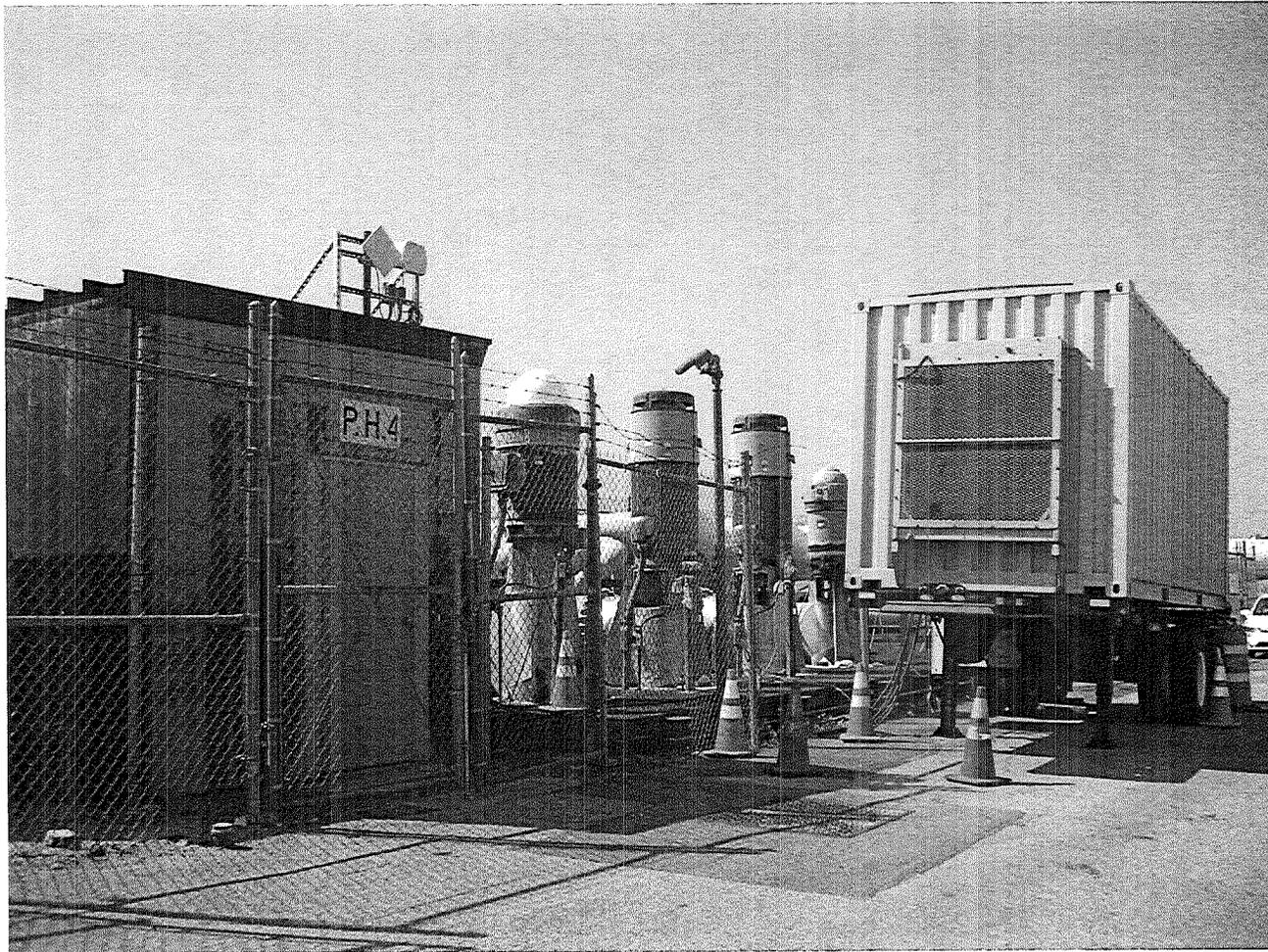
**NJMT Fire Pump Building:
Proposed Protection with
Metal Panels and Drain Stops**



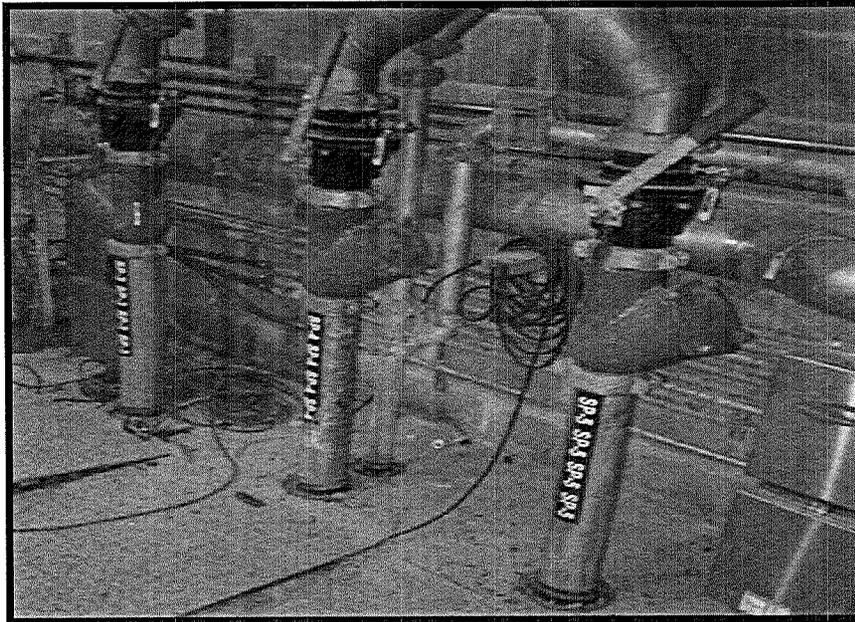
Holland Tunnel: New Pump Control Cabinets



LaGuardia Airport : Generator for Pump House 4



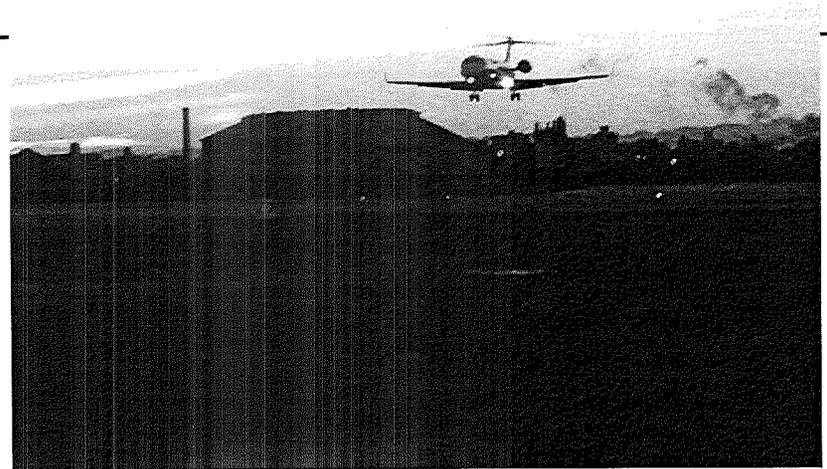
World Trade Center Preparedness



Augment existing sump systems



Pumps and pipe on-site



THE PORT AUTHORITY OF NY & NJ