

## **INTRODUCTION**

This report on Historic Resources for the World Trade Center Memorial and Redevelopment Plan (Approved Plan) is prepared pursuant to the Programmatic Agreement among the Advisory Council on Historic Preservation (ACHP), the New York State Historic Preservation Officer (SHPO), and Lower Manhattan Development Corporation (LMDC), as a recipient of community development block grant assistance from the U.S. Department of Housing and Urban Development (HUD), which was signed on April 22, 2004, and stipulated that LMDC would provide semi-annual reports to SHPO and ACHP to summarize measures it has taken to comply with the terms of the Programmatic Agreement. This report covers the second half of 2010.

The organization of this report generally follows the stipulations of the Programmatic Agreement and includes the following sections:

1. Project Site Documentation
2. Adherence to Treatment Plans
3. Design and Construction of the Memorial
4. Artifact Review Process
5. Consideration of Impacts to Additional Remnants of the WTC
6. Treatment of Archeological Resources
7. Treatment of Unanticipated Adverse Effects Or Unknown Historic Resources Or Properties
8. On-Going Communications

## **1. PROJECT SITE DOCUMENTATION**

As previously reported The Port Authority of New York and New Jersey (Port Authority) completed the program of HABS/HAER (Historic American Building Survey / Historic American Engineering Record) documentation of the WTC Site and submitted the documentation to SHPO in 2005. The Port Authority completed the Phase IB Archaeological Investigation for the East Bathtub and the report was accepted by SHPO in 2006.

## **2. ADHERENCE TO TREATMENT PLANS**

As previously reported, SHPO approved the Construction Protection Plan in connection with the demolition of 130 Liberty Street in 2006, SHPO found the WTC Memorial Construction Protection Plan to be appropriate provided that (1) the surviving slabs designated for preservation be retained and incorporated as appropriate; (2) if changes are necessary, SHPO shall be given the opportunity to comment; and (3) if excavation encounters unclassified obstructions, SHPO shall be notified and provided the opportunity to comment.

The Port Authority developed Resource Protection Plans (RPP) to protect historic resources at the WTC Site and Construction Protection Plans (CPP) for historic resources within 90 feet of its Project Sites. The CPP and the RPP for WTC Transportation Hub Project (not part of the Approved Plan, but located within the WTC Site) were completed in 2005 and the CPP and RPP for the WTC Vehicle Security Center

(VSC, part of the Approved Plan and partly funded by Federal Transit Administration) were posted for Consulting Party comment in 2007. The RPPs specify requirements for inspecting and reporting procedures, construction monitoring and methods and materials to be used for any repairs. The CPPs cover the following historic resources: 90 West Street, 140 West Street, 90 Church Street, 30 Vesey Street, 26 Cortlandt Street, 125 Cedar Street, 114-118 Liberty Street, and St. Paul's Chapel and Graveyard. Vibration monitoring equipment has been installed by the WTC Transportation Hub project at key locations to provide data for compliance with vibration limits.

Bovis Lend Lease (Bovis) is the construction manager for the National September 11 Memorial and Museum at the World Trade Center Foundation, Inc. (Foundation, previously known as The World Trade Center Memorial Foundation, Inc.), which is LMDC's subrecipient of federal funds for the design, construction, and operation of the WTC Memorial and Memorial Museum. Bovis has created a construction protection plan for the historic resources which include the existing box-beam column bases and portions of the slurry wall. In addition, all efforts are being made to preserve select areas of the existing concrete foundations (existing concrete slab on grade). Construction personnel from the Foundation oversee the Bovis contract and complete daily inspections of the site. The scope of the protection plan includes the following:

- Strict compliance with the Davis Brody Bond LLC Drawings and Specifications as required to assure compliance of the work with SHPO.
- Recognition that all work conform with prior approvals from SHPO and that the contractor schedule any site inspections and related discussions with SHPO, as requested.
- Monitoring of all work by the Foundation construction personnel, the architect, the Engineers of Record, and various inspections agencies.

### **3. DESIGN AND CONSTRUCTION OF THE MEMORIAL**

As previously reported, LMDC is working with the Port Authority and the designers of the WTC Memorial and the Memorial Museum to preserve and provide for reasonable access to portions of the western slurry wall and to the truncated box beam column bases on the WTC Site.

LMDC, the Foundation and the Civic Alliance to Rebuild Downtown New York (Civic Alliance) held workshops in 2005 on preliminary programming concepts for the Museum. In 2006, progress on the design was presented and LMDC received comments from the consulting parties and the public.

In 2007, the consulting parties were informed that based on constructability and visitor experience a new liner wall would be constructed west of the existing wall and a 60 foot section of the slurry wall would be exposed for public viewing inside the Museum. This construction work has been completed as planned. To reinforce the exposed section of the original wall, a second slurry wall has been built 40 feet behind the artifact.

The Foundation's 9/11 Memorial Preview Site opened in August 2009 and provides the public with the opportunity to learn about the Memorial and Museum, view real-time images of the construction progress, and participate in the creation of the Museum content by sharing their stories. Visitors are able to see models and rendering of the Memorial and Museum that illustrate what the WTC Site will look like when the project is completed, along with an historic timeline.

#### **Box Beams**

The following photo of the box beam column in the north tower was taken in December 2010.



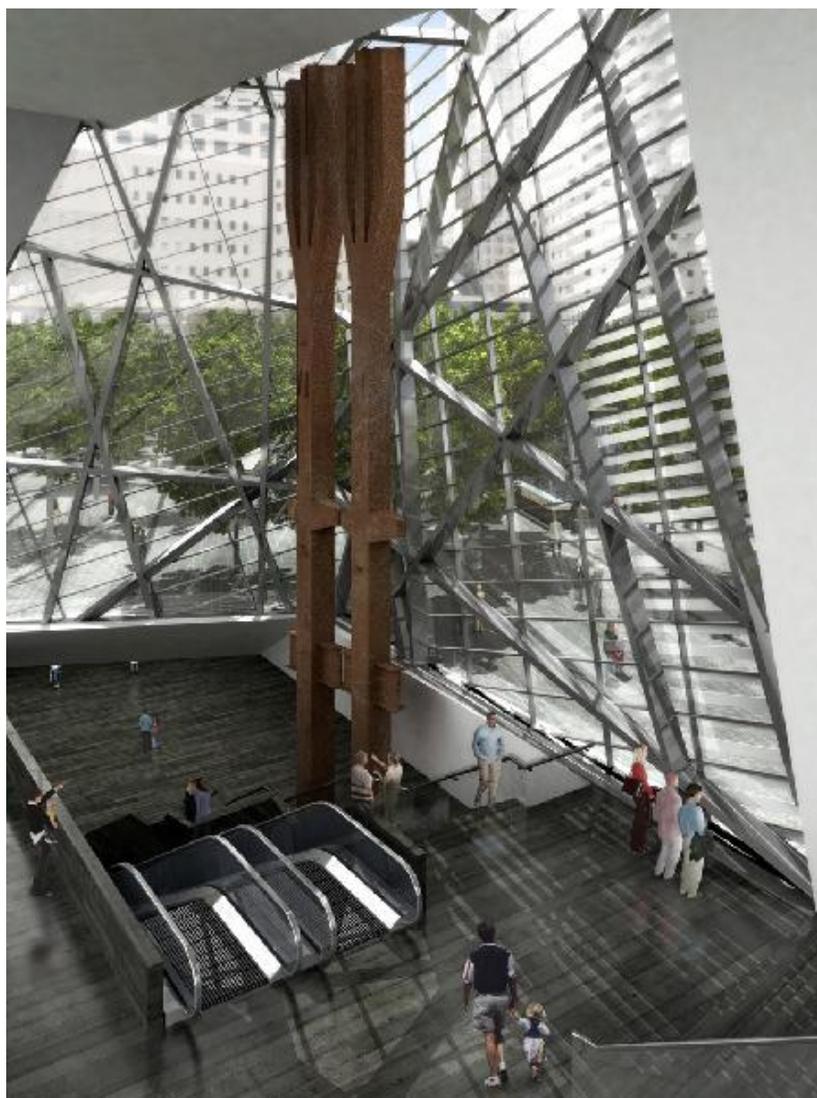
### Tridents

In September 2010, the Foundation installed two historic Twin Tower “tridents” into their permanent location at the 9/11 Memorial Museum. These seven-story steel structures were part of the façade of the Twin Towers at the WTC Site and had been stored at Hangar 17 by the Port Authority.

The structural steel tridents formed the perimeter structure of the lower floors of the Twin Towers. The tridents rose from the base of the towers branching from one column into three at the sixth floor. The three columns then ascended to the top of the Twin Towers, 1,100 feet above. The two tridents were originally located next to each other on the eastern façade of the North Tower.

The tridents will be visible from the Memorial Plaza through the Museum’s glass atrium. The image on the following page is a rendering of the tridents inside the Pavilion.

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#### **4. ARTIFACT REVIEW PROCESS**

LMDC has previously provided the Consulting Parties an opportunity to comment on the artifacts to be displayed at the Memorial Museum. A two-volume inventory entitled *WTC Archive: Artifacts Inventory Report* was prepared and completed in 2006. The inventory catalogues the more than 800 objects that are stored in John F. Kennedy International Airport's Hangar 17.

Additional artifacts identified for the archive were also catalogued, and the inventory is updated periodically. In 2009, the National Institute of Standards and Technology ("NIST") returned approximately 230 items that it had collected and used in its study of the WTC buildings. These items are now being stored at Hangar 17. Although a substantial portion of the existing inventory will be utilized at the WTC Memorial Museum, final disposition of the remaining artifacts is to be determined. This may include transfer of ownership to other museum facilities and/or public organizations.

The Preview Site displays selected artifacts from the Museum's growing permanent collection. Currently on display is a replica Statue of Liberty that was recovered in the aftermath of the attacks. Also on display is a Harley Davidson motorcycle that was transformed as a tribute by the family of James Cartier, an electrical worker at the World Trade Center, who was killed on September 11, 2001.

#### **5. CONSIDERATION OF IMPACTS TO ADDITIONAL REMNANTS OF THE WTC**

LMDC and the Port Authority have worked to minimize impacts to certain additional remnants on the WTC Site including the following artifacts identified in the Programmatic Agreement:

- a. Slab and column remnants of below grade parking garage at northwest corner of WTC Site with smoke scars of other visible evidence of the September 11 attacks.
- b. Portions of former stairway and escalator support at Greenwich and Vesey Streets.
- c. Steel column and crossbeam mounted on a concrete pedestal.

##### a. Slab and Column Remnants

In 2005, the Port Authority removed elements from the former parking garage structure under 6 WTC to Hangar 17. These elements could potentially be exhibited at the Memorial Museum. Also as previously reported, the Port Authority submitted HABS/HAER documentation of the WTC Site to SHPO.

##### b. Vesey Street Stairway Remnant

As previously reported, alternative treatments of the Vesey Street stair remnant (Vesey Stairway) were the subject of meetings with the Consulting Parties in 2006 and 2007. After reviewing comments from the Consulting Parties, LMDC, working in conjunction with the National September 11 Memorial and Museum, developed a proposal which provided for permanent display of the Vesey Stairway in a prominent location within the Memorial Museum. The final plan as posted on LMDC's web site is as follows:

*LMDC shall facilitate and ensure that the Port Authority and the Foundation will cooperate and engage appropriate consultants to: (1) extract intact and move the entire run of stairs and the "connector plate" at the top of the stairs;(2) store these elements on or in the immediate vicinity of the WTC Site until such time as they can be installed in their permanent locations, if such storage is feasible, and if such storage of any of these elements is not feasible, store those elements at Hangar 17; (3) return and install intact*

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*the full run of stairs and a portion of the “connector plate” in the Museum in a central location between the grand staircase and escalator system leading down to bedrock, in a manner that ensures that visitors will be able to view the staircase as they descend down the grand staircase or escalator; (4) provide for meaningful incorporation of the story and significance of the staircase, and, if feasible, including part of the “connector plate,” within the “primary narrative” of the Memorial; (5) return a portion of the “connector plate” to the at-grade Memorial Plaza along with interpretive signage in an area dedicated to survivors in proximity to the “Surviving Tree,” if feasible; and (6) maintain archival black and white photographic documentation of the staircase and additional photographic and video documentation of the staircase.*

In 2008, the full run of stairs, along with its supportive bracing, was moved to its permanent location within the Memorial Museum site. On October 15, 2009, the National Trust for Historic Preservation presented the Federal Transit Administration, LMDC, Port Authority, and the Foundation with the National Trust/Advisory Council on Historic Preservation Award for Federal Partnerships in Historic Preservation for the preservation of the Vesey Stairway. The National Trust was also honored the as co-recipient.? John L. Nau, III, Chairman of the Advisory Council on Historic Preservation said “working through the Section 106 process, the FTA and its partners solved a complicated challenge that saved the Vesey Stairway for the benefit of the nation.

The Stairway remains in place, covered with neoprene and protective plywood, as shown in the following photo taken in December 2010.



c. Steel Column

The so-called Last Column is a steel column that was returned to the WTC Site on August 24, 2009. This steel column is 36-feet tall and weighs approximately 58 tons. It was covered in tributes by members of the construction trades, rescue personnel, and family members before being removed from the site in May 2002, marking the end of the nine-month recovery effort at Ground Zero.

Before its return to the WTC Site, the Port Authority made extensive efforts to preserve the Last Column. It was stored in a climate-controlled chamber at Hangar 17, monitored by and maintained by an art preservation services team. Beginning in 2004, each piece of duct-taped ephemera was catalogued, detached, and adhered to magnetic sheets. In order to prepare the Column for transfer, conservators detached 82 loose memorial items from its surface for temporary storage. In December 2009, the Foundation announced that it received a \$200,000 Save America's Treasure grant that will enable the Museum and its team of project conservators to advance the restoration work, which will include continual physical care, condition assessment, and environmental monitoring within a custom-designed, climate-controlled enclosure that will protect it as architectural construction and space fit-out proceed.

The Last Column is set in front of a displayed portion of the original slurry wall. Visitors will be able to explore the multiple remembrances affixed to and inscribed on every area of the Column through a dynamic, electronic interface. The Museum is currently conducting an oral history project with the goal of recording memories shared by those who left tributes and inscriptions on the Column. The Column was the first artifact to be moved from conservation at Hangar 17 to the Museum.

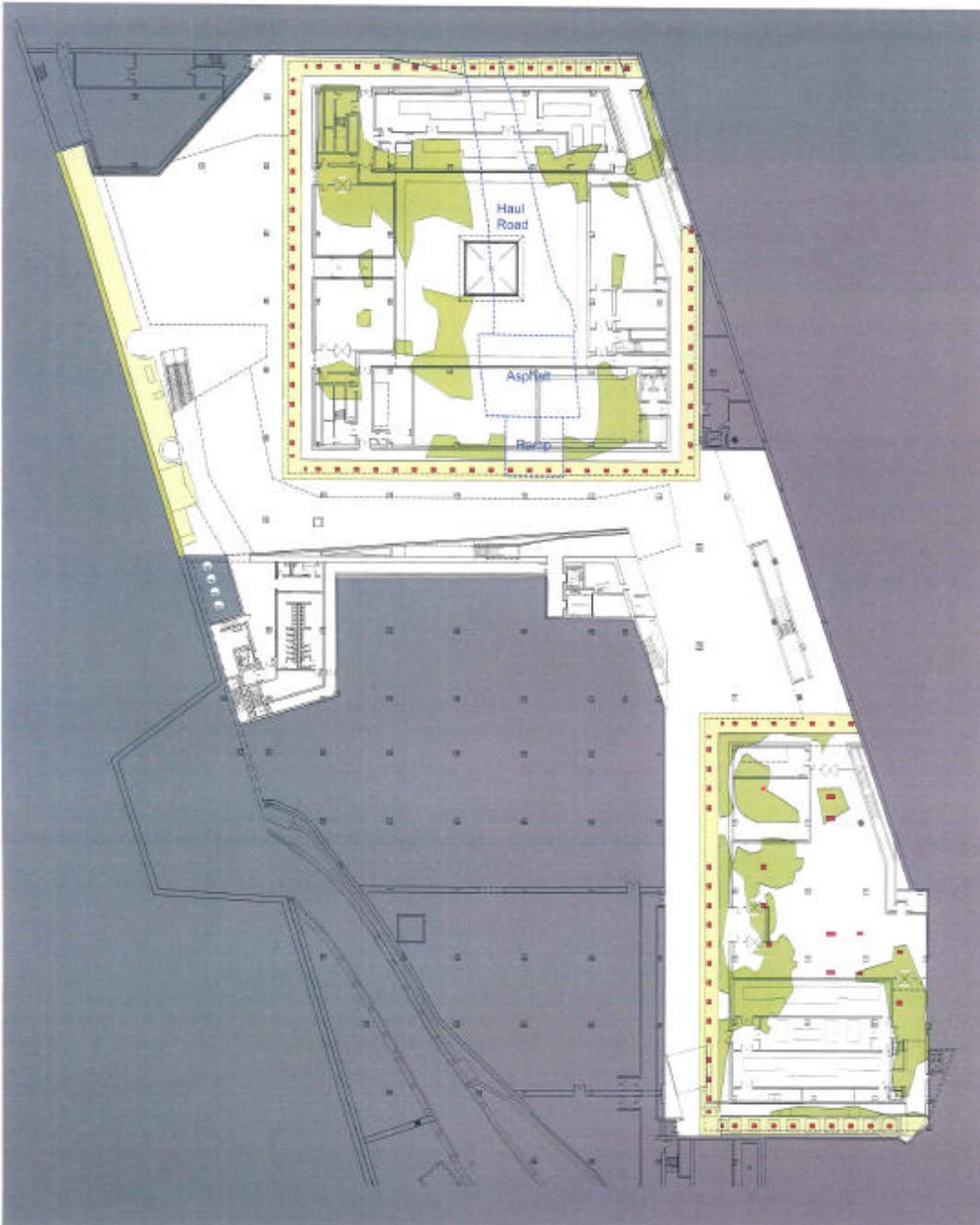
The Last Column remains protected in its climate controlled enclosure as shown in the photograph below, taken in December 2010. The exposed slurry wall can be seen in the background.



## 6. TREATMENT OF ARCHEOLOGICAL RESOURCES

Davis Brody Bond prepared historic preservation drawings dated February 13, 2006 which were provided to SHPO: (1) Protection Drawing North Tower, (2) Protection Drawing South Tower, and (3) Protection Drawing Buttress Slab.

The drawing shows the remaining original slab and the remaining column stubs per an April 14, 2006 construction survey.



- Remaining Original Slab per Intricate Construction Survey, 4/14/06
- Remaining Column Stubs
- Dirt or Gravel
- Vehicle Access Paving; Conditions Underneath Not Surveyed
- Unsurveyed

242 Level Existing Conditions Overlay

ASK060608.01

WORLD TRADE CENTER MEMORIAL MUSEUM

242 Level Slab LSP  
Juliana S. Perry  
10/14/06  
DWG: 060608

REV: 001  
ISSUE DATE: 8 June 2008  
Scale: 1" = 60'-0"

## **7. TREATMENT OF UNANTICIPATED ADVERSE EFFECTS OR UNKNOWN HISTORIC RESOURCES OR PROPERTIES**

If during project implementation, LMDC, the Port Authority, or any of their contractors discovers or identifies any historic resources with in the Project Site that may be adversely affected or should there be any unexpected adverse effects on any historic resources on or immediately adjacent to the Project Site, LMDC or the Port Authority shall promptly notify SHPO and ACHP and develop a treatment or mitigation plan in accordance with Stipulation 7.

Below is a description of the discovery of a ship remnant, water main, river water valve, concrete slab area, and corner box beam.

### Ship Remnant

On July 13, 2010 while workers were excavating the southern portion of the WTC site, on-site archaeologists uncovered the remnant of an 18th century merchant sailing ship (WTC Ship Remnant). Following the discovery, LMDC worked with a range of parties to develop an Emergency Mitigation Plan to preserve the WTC Ship Remnant. Consistent with the Programmatic Agreement, LMDC consulted with the New York State Historic Preservation Office (SHPO) and the Advisory Council on Historic Preservation as well as the official group of Consulting Parties identified consistent with Section 106 of the National Historic Preservation Act.

The WTC Ship Remnant consists of the bow of the lower hull and measures approximately 32-feet long by 15-feet wide and 4-feet high. Archaeologists protected the artifact from the elements while LMDC engaged the Consulting Parties and finalized an Emergency Mitigation Plan. Consistent with the Emergency Mitigation Plan, LMDC consultants at AKRF and the University of Maine worked to document, excavate, disassemble, and preserve the remnant.

On-site work under the Emergency Mitigation Plan included the following tasks:

- Protection, including shielding the Ship Remnant from the elements and keeping it wet so the primarily wood elements did not dry out.
- Recording and excavating the different ship layers, including the ceiling, frames, and outer planking that make up the hull. This also included soil sampling and water screening of the soils.
- Disassembly of the Ship Remnant.
- Wrapping and packaging of the individual elements, including evaluation by on-site conservators and controlled temporary storage in containers at the site.

On August 2, 2010, the artifacts were transported to the Maryland Archaeological Conservation (MAC) Laboratory. At the laboratory, the elements were unwrapped and cleaned, and the archeologists began their analysis and documentation. LMDC is awaiting completion of an interim report by consultants regarding the WTC Ship Remnant.

The following photo of the remnant was taken in July 2010 at the World Trade Center site.



#### Water Main

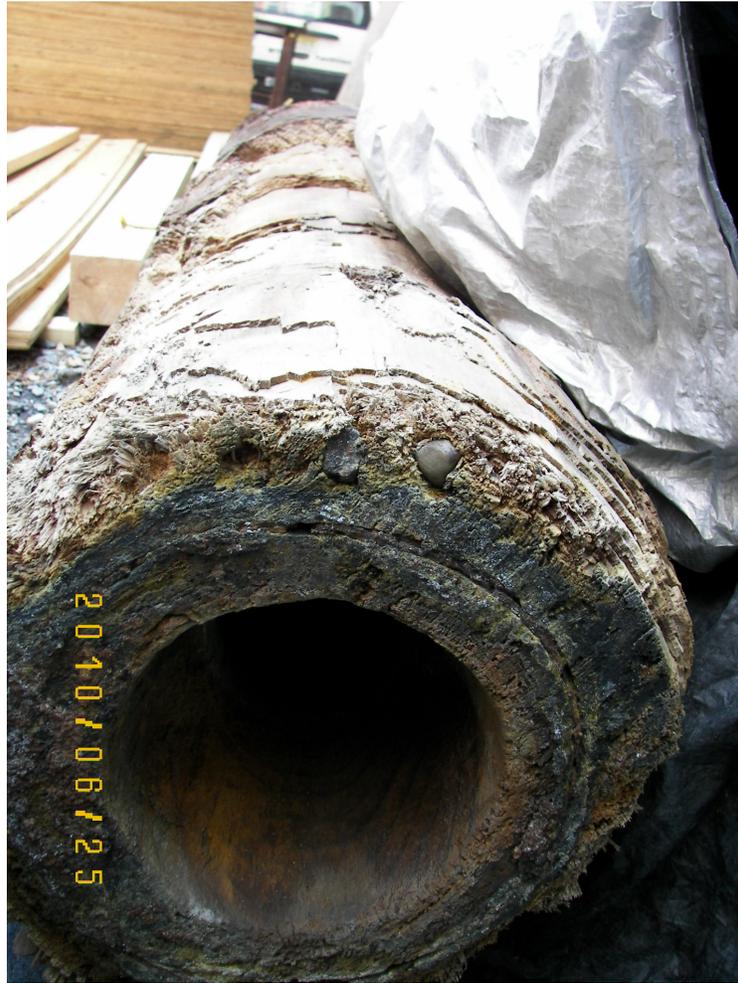
On May 20, 2010, in connection with archaeological monitoring of excavation work for the Vehicular Security Center on the 140 Liberty Street parcel, a 13-foot-long wood water pipe, believed to date from the early 19th century was recovered. The pipe was removed from the site under the supervision of an archaeologist, and was placed in a PANYNJ facility for storage.

The wood water pipe was likely originally installed beneath Liberty Street between the 1790s and the 1820s by the Manhattan Water Company. The pipe consists of a hollowed round log with no bark, approximately 12 inches in diameter. The hollow core of the pipe is approximately 7 inches wide on one end, and 4 inches wide on the other. Several small round holes are located on the side of the pipe, likely where stop-cock valves once fitted.

AKRF, the consultants monitoring the archaeology, conducted preliminary consultation and coordination, determined that the wood water pipe is a historic resource, and identified a potential repository for this artifact.

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This photo of the pipe was taken on June 25<sup>th</sup>.



### River Water Valve

During World Trade Center construction, a 21,000 pound river water valve (five feet in diameter) was uncovered. This artifact is now a part of the Memorial's collection. It is currently stored at Hangar 17 and pictured below.

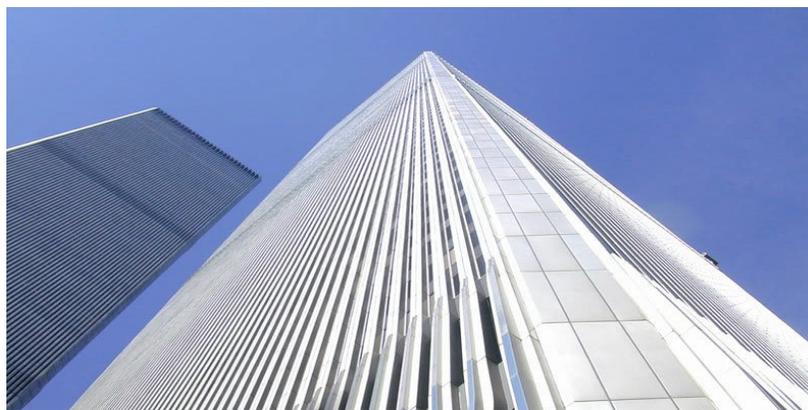


### Concrete Slab Area

Original concrete slab areas have been permanently exposed in the exhibition areas of the south and north footprint. The slabs were at the basement levels of the WTC towers where mechanical equipment was stored. Concrete slabs that will not be exposed are protected with neoprene before new concrete slabs are poured; this covering could allow the slabs to be revealed in the future.

### Corner Box Beam

A piece of the tower's corner box beam has been exposed in the *south side of the south tower*. It will be cleaned and highlighted in the museum's exhibition area. The corner was chamfered as shown in the following photo of the WTC tower. The memorial pool has been designed with a similar corner.



## **8. ON-GOING MEETINGS AND OTHER COMMUNICATIONS WITH CONSULTING PARTIES**

### Meetings with Consulting Parties

In July 2010, LMDC circulated to the consulting parties a draft Short-Term Emergency Mitigation Plan for the remnants of the 18<sup>th</sup> century ship. On July 23, 2010 a meeting of the consulting parties was held via conference call to discuss the proposed plan. Nine consulting parties participated and two parties submitted written comments. A Short-Term Emergency Mitigation Plan for the artifact was subsequently approved and implemented. That final plan was and remains posted on LMDC's web site at [http://www.renewnyc.com/plan\\_des\\_dev/wtc\\_ship\\_remnant.asp](http://www.renewnyc.com/plan_des_dev/wtc_ship_remnant.asp)

### Port Authority Section 106 Posting

The Port Authority issues reports on its progress pursuant to the stipulations contained in the two Section 106 Memoranda of Agreement executed by the Port Authority, Federal Transit Administration, ACHP, and SHPO for the WTC Transportation Hub project and for the WTC Vehicular Security Center and Tour Bus Parking Facility. See <http://www.panynj.gov/wtcprogress/section-106-trans-hub.html> for more information.

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