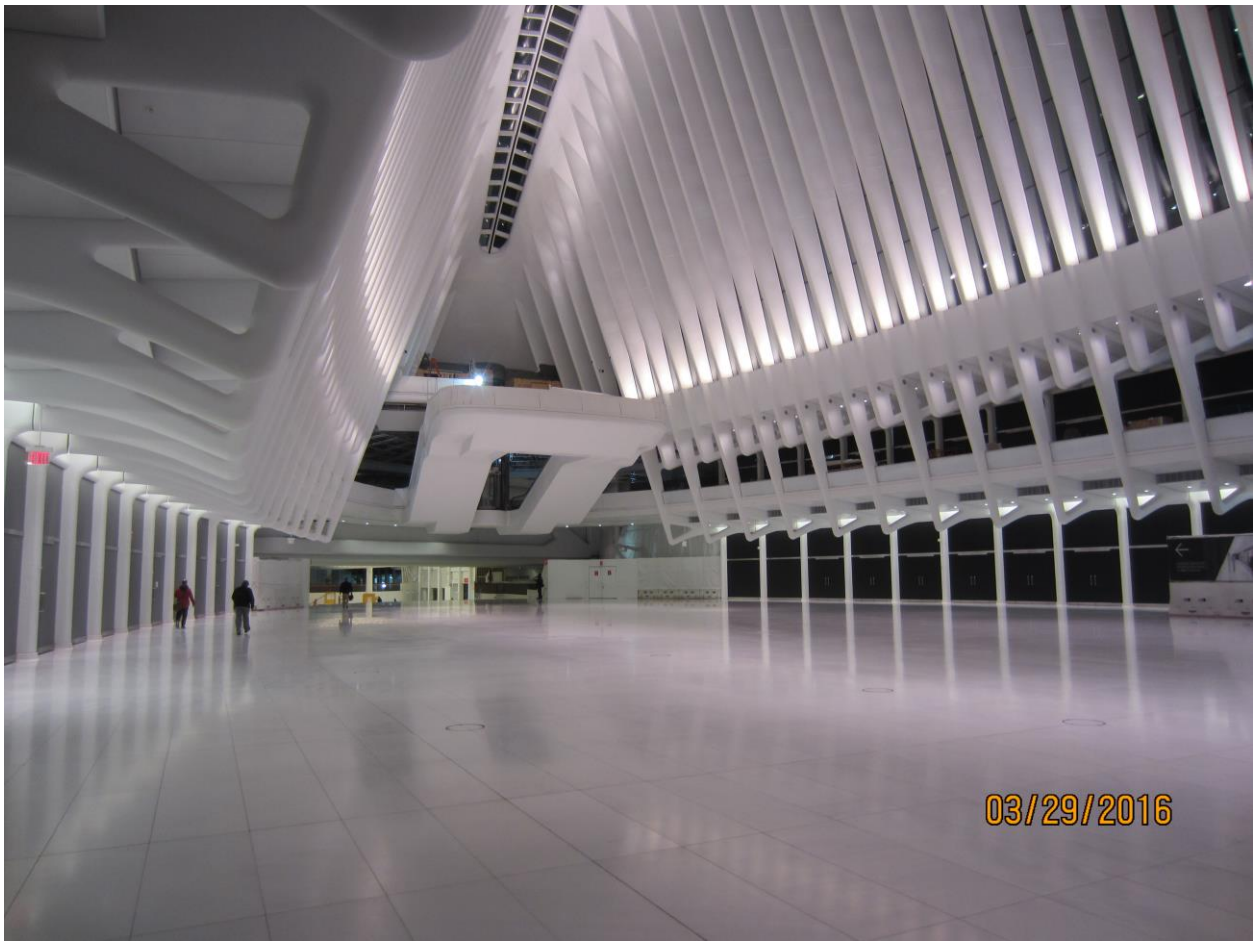
MONTHLY MONITORING REPORT

World Trade Center Port Authority Trans-Hudson Terminal
PORT AUTHORITY OF NEW YORK AND NEW JERSEY
New York, New York

March 2016



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Cover: *A portion of the main floor of the Transit Hall was opened to pedestrian traffic on March 3, 2016, providing riders of the PATH system with a new access route to the WTC Station.*

DISCLAIMER

This report and all subsidiary reports are prepared solely for the Federal Transit Administration (FTA). This report should not be relied upon by any party, except the FTA or the project sponsor, in accordance with the purposes as described below.

For projects funded through FTA's Lower Manhattan Recovery program, the FTA and its Project Management Oversight Contractor (PMOC) use a risk-based assessment process to review and validate a project sponsor's budget and schedule. This risk-based assessment process is a tool for analyzing project development and management. Moreover, the assessment process is iterative in nature; any results of an FTA or PMOC risk-based assessment represent a "snapshot in time" for a particular project under the conditions known at that same point in time. The status of any assessment may be altered at any time by new information, changes in circumstances, or further developments in the project, including any specific measures a sponsor may take to mitigate the risks to project costs, budget, and schedule, or the strategy a sponsor may develop for project execution.

Therefore, the information in the monthly reports may change from month to month, based on relevant factors for the month and/or previous months.

REPORT FORMAT AND FOCUS

This monthly report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract No. DTFT60-14-D-00010, Task Order No. 006. Its purpose is to provide information and data to assist the FTA in continually monitoring the grantee's technical capability and capacity to execute a project efficiently and effectively, and hence, whether or not the grantee continues to receive federal funds for project development.

This report covers the project management activities on the Permanent World Trade Center (WTC) Port Authority Trans-Hudson (PATH) Terminal (Hub) project, conducted by the Port Authority of New York and New Jersey (PANYNJ) as grantee and funded by the FTA's Lower Manhattan Recovery Office (LMRO).

EXECUTIVE SUMMARY

World Trade Center Construction (WTCC) successfully opened Phase I of the pedestrian route through the east bathtub on March 3, 2016. For riders exiting the PATH system, this route allows below-grade pedestrian egress from the PATH Hall mezzanine level, going east through the fare-control line and up to the main floor of the oculus before turning south into the southern leg of the North-South Concourse, then continuing south on either level of that concourse, and ultimately exiting the complex via either the Transportation Lobby located at grade level within the Tower 4 podium or the public side of the main lobby of Tower 4. Commuters can then proceed onto Liberty Street at either Church Street or Greenwich Street.

Also during March, progress was made toward achieving independence from use of the temporary emergency diesel generators located at the street level above the North Temporary Access (NTA); at month's end, only a few emergency electrical loads remained to be transferred to the new permanent Emergency Diesel Generator Plant located in the Tower 3 podium.

Project Description

The WTC PATH Hub serves the PATH electrified rail transit system in Lower Manhattan. The PATH Hub is an extensive underground complex of pedestrian corridors and train station facilities that will replace the original WTC PATH Terminal destroyed by terrorist attack on September 11, 2001.

Construction Agreement (CA)

(b) (4) [redacted]

Quarterly Progress Review Meeting (QPRM)

The QPRM for the *first quarter of 2016 has been scheduled for June 7, 2016*.

Design Activity

The designer continues to provide construction support services, including the review of contractor shop drawings and other submittals.

Procurement Activity

During *March*, WTCC reported the *solicitation of bids for work associated with constructing a free connection between the New York City Transit's R Line station and their adjacent E Line station by using a portion of the Tower 2 below-grade space to link the two facilities. This connection had been planned as part of the WTC reconstruction, although difficulties with funding and coordination have continued since the original plan was conceived. WTCC noted that the work would likely be managed by the Tower 2 building developer but would also be contingent upon the execution of an associated formal agreement between the PANYNJ and the Metropolitan Transportation Authority (MTA).*

Construction Activity

During *March, as it had done during February*, WTCC deployed *a large contingent of* available project resources to making ready *the next phase* of the pedestrian route through the east bathtub. *Phase II will link the main floor of the Transit Hall to the Dey Street Underpass and its connection to MTA's Fulton Center and multiple NYCT subway lines*.

Also during *March*, WTCC *continued its two-shift effort constructing new Platforms C and D and the mezzanine above those platforms. At the end of month, installation of both the stone floor on the mezzanine level and portions of the metal panel coverings on the longitudinal smoke purge ducts above Tracks 4 and 5 had begun. Another primary activity during the month was the installation of vertical circulation elements for both platforms*.

Schedule

On March 1, 2016, WTCC released Integrated Master Schedule (IMS) 84 (with a data date of February 1, 2016), (b) (4) [redacted]

Cost Data

WTCC submitted its monthly cost model revision *for both the January 2016 and the February 2016 data on March 28, 2016.* (b) (4) [redacted]

Risk Management

As of *March* 2016, the Project Management Oversight Contractor (PMOC) *still* considers the following issues to be among the top risks to the PATH Hub project construction:

- Site-wide systems integration, testing, and commissioning.
- Completion of PATH Hub support rooms/facilities/elements.
- Remaining work to be performed by the low-voltage contractors.
- Performance of PATH Hub project work by other WTC stakeholders.

Technical Capacity and Capability Review (TCCR)

The TCCR will be updated as necessary in conjunction with the update of the Project Execution Plan (PEP). The FTA uses the PEP to measure WTCC's technical capacity and capability. In *March* 2016, the PMOC *drafted a spot report recommending* release of $37 million from the remaining risk retainage, primarily because of favorable progress associated with the Platform C Utility Tunnel and Mezzanine Structural Steel. *The FTA provided its comments on that spot report at the end of the month.* It should be noted, however, that the ongoing piecemeal openings of portions of the project to the public continue to present challenges for WTCC to complete the project in accordance with the requirements of the RRCA.

Project Management Plan (PMP)

During February, WTCC provided *an updated version of its Construction Phase Force Account Plan and Justification that* extended *the* covered *period through the end of September 2016. At the end of* March, *the PMOC* furnished to WTCC a copy of its draft spot report on the updated version of the plan, following an initial review of the spot report by the FTA. The PMOC included a request to WTCC that it address the recommendations and suggestions contained in the spot report, and then resubmit the Force Account Plan document for further review.

Project Quality Assurance

During *March* 2016, WTCC Quality Assurance (QA) completed *six* oversight audits that included reviewing the Construction Manager (CM) QA's field audits, *completing its fourth quarter 2015 audit of the CM QA's implementation of the CM's Quality Plan*, and performing its own field construction audits *of oculus glazing activities*. The *March* 2016 audit total reflects the *six* WTCC QA audit reports that were issued and received at the time this monthly report was drafted. No quality issues were identified for corrective action.

Site Safety

The WTC PATH Hub project has established its own project safety performance goals for Total Case Incident Rate (TCIR) and Lost-Time Incident Rate (LTIR) of less than 5.0 and less than 2.0, respectively. In *February* 2016, the project had *one* recordable incident and one lost-time incident, resulting in a monthly TCIR of *1.73* and an LTIR of *1.73*, based on *115,846.5* hours worked. Safety initiatives that took place in *February* are discussed in the project monitoring section of this report. The *March* 2016 safety data for the project was not fully available when this report was drafted but is expected to be available after mid-*April* 2016.

Issues/Problems/Suggestions

During *March*, WTCC *successfully opened Phase I of the east bathtub pedestrian route, providing PATH commuters with an egress path between the WTC PATH Station and the street level at the northern side of Liberty Street, between Church and Greenwich Streets, via the southern leg of the North-South Concourse. All of the other existing egress paths were maintained as well, thus easing some of the rush hour pedestrian congestion at the WTC PATH Station egress points and the adjacent streets and sidewalks.*

However, also during March, WTCC continued its recently resumed efforts to turn over more of the PATH Hub support spaces located in the south mezzanine, which was initially occupied in 2012. In addition, it is noted that active construction is currently underway at the upper level of the East-West Connector, and WTCC intends to resume the work at the northern end of Platform B once Platforms C and D become operational. The East-West Connector and Platform B were opened for public use in 2013 and 2015, respectively. This return to working in areas of the project that have already been placed into public use but are still in need of a significant amount of construction, testing, and commissioning is necessary; however, it highlights a continuing issue for the PATH Hub project: the difference between opening project areas for public use in a limited fashion before their completion, and fully completing those project areas in compliance with all of the requirements of the design and the CA between the grantee and the FTA before placing portions of them in public use.

Consideration should be given to allowing additional time to more fully complete the work in each of the major areas of the project designated for public use, in order to bring those areas to a more complete state and reduce the amount of work that will need to be done after public usage has begun.

MONITORING REPORT

A. Project Description

The PATH Hub facility is an intermodal terminal serving the PATH electrified heavy rail transit system, which has a total of 13 stations in New York and New Jersey. When completed, the WTC PATH Hub will connect to 11 NYCT subway lines in Lower Manhattan. The PATH Hub will include a platform level, associated mezzanine and concourse levels called the PATH Hall, and a terminal building called the Transit Hall, or oculus, with north-south and east-west pedestrian connections to the NYCT subways, the World Financial Center, and WTC above-grade site development. It will be a permanent replacement of the original WTC PATH Terminal complex destroyed by the terrorist attack on September 11, 2001.

B. Project Status

Construction Agreement

The CA was signed on April 25, 2006. An RRCA was executed on September 18, 2012. (b)(4) [redacted]

Quarterly Progress Review Meeting

The QPRM for the *first* quarter of *2016 has been scheduled for June 7, 2016*.

WTC Site Master Plan

WTCC's latest site master plan is Master Plan Version 11, dated October 10, 2013.

Environmental Compliance

(Reported on separately by FTA's LMRO.)

Design Support During Construction

The designer continued providing post-award design support services for the PATH Hub construction during *March*, including responding to contractor Requests for Information (RFIs), reviewing contractor submittals, and providing design certifications for completed elements of construction. Through the end of *February 2016*, WTCC reports that the designer has issued a total of *53* design certification letters for the PATH Hub project. The designer's RFI log for the fourth quarter of 2015 indicated that a total of 162 RFIs were submitted during the quarter, with

24 remaining open at the end of the quarter. *The PMOC anticipates receiving updated RFI log data from WTCC following the end of the first quarter of 2016.*

Construction Status

Phased Opening of Pedestrian Route Through the East Bathtub: *WTCC successfully opened Phase I of the pedestrian route through the east bathtub on March 3, 2016. For riders exiting the PATH system, this route allows below-grade pedestrian egress from the PATH Hall mezzanine level, going east through the fare-control line and up to the main floor of the oculus, south into the southern leg of the North-South Concourse, then continuing south on either level of that concourse, and ultimately exiting the complex via either the transportation lobby located at grade level within the Tower 4 podium or the public side of the main lobby of Tower 4. Commuters can then proceed onto Liberty Street at either Church Street or Greenwich Street. Phase I did not include provisions for Americans With Disabilities Act (ADA) access, although one elevator from the upper level of the North-South Concourse to the Tower 4 main lobby is included in the route. The NTA remains the only option for ADA access to the WTC PATH Station. Phase II of the pedestrian route through the east bathtub will add egress paths from the oculus main floor up and into the Dey Street Underpass, which is located at elevation 284 on the eastern end of the oculus. WTCC currently forecasts that Phase II of the pedestrian route will open in May 2016. Improved pedestrian flow was observed during March following the addition of the Phase I egress path.*

Oculus Painting: Exterior painting work did not occur during *March*; however, the prime painting contractor continued working on the interior of the oculus *in those portions that remained behind the construction barricades and that were not opened to the public as part of Phase I of the pedestrian route through the east bathtub.* Exterior painting *of the oculus structure, which was suspended in December 2015, is forecast to resume with the return of warmer temperatures in April 2016. This exterior painting work will require close coordination with the work of the other contractors that will be working either at or from the oculus plaza level, including the oculus curtain wall contractor and the oculus plaza contractor.*

Oculus Curtain Wall: During *March*, the curtain wall contractor *completed the installation of the* glass panel portion of the curtain wall system in the southwest quadrant of the oculus, *including the* caulking of the metal panel joints. *Field Water Spray Testing (Hose-testing), in accordance with American Architectural Manufacturers Association (AAMA) Standard 501.2,* of the finished system still needs to be performed *on some portions of the curtain wall system and is expected to resume with the onset of warmer weather in the spring of 2016.*

Oculus Skylight: During *March*, the contractor completed the replacement of the skylight ridge gasket system, after it had been observed that the previously installed ridge gasket material had torn and was dislodged at multiple locations. The causes of the gasket failure remained under review at the end of the month, *and a report that details these causes is expected from WTCC QA during April 2016*. Additionally, *programming and initial deployment* of the laser-based skylight sensor system, which is intended to automatically trigger minor positioning changes in the skylight panels as the oculus structure moves under varying environmental conditions, was performed during *March.* Installation of the catwalk, *fall-protection system, and bird screen elements at the* WT-3 metal sections *continued* during *March,* and was approaching *completion by the end of* the month. The remaining *portions of these systems* are expected to be *fully*

installed by the end of April 2016. The same prime contractor holds both the curtain wall and the skylight contracts.

Platforms C and D: WTCC continued to execute the work at Platforms C and D on a two-shift basis during *March*. Stone installation on the wall to the west of Platform D, and at the mezzanine above, was advanced to approximately *80* percent completion. *Installation of the stone floor began at the mezzanine level above Platform C near the end of the month. An additional set of* escalator trusses were delivered and set for *the fourth* of the seven escalators, and the *vertical mullions for* the four elevators were set into position at *both the mezzanine and platform levels. At the north end of the work area, the contractor was placing the reinforced concrete floor and walls of the north collector duct, and by the end of the month, only the top slab remained to be placed. The first portion of major finish work undertaken at the platform level, installation of the metal panel covers on the longitudinal smoke purge ducts above Tracks 4 and 5, progressed during the month. The running rails for Tracks 4 and 5 were restored to a continuous state during March, although signalization and third rail remained absent for most of the track lengths.*

East-West Connector: Above the north end of the mezzanine level of the PATH Hall, at elevation 284, *there was limited progress during March on the* work on the previously omitted portion of the upper level of the East-West Connector. *The work that was done primarily focused on* welding the joints of the steel ribs that line this corridor. The length of the corridor that remains to be completed is approximately 150 feet. WTCC *forecasts* that work on this project element will continue into the third quarter of 2016, with completion intended to correspond with the completion of Platforms C and D.

East Bathtub Mechanical, Electrical, Plumbing (MEP), and Fire Protection Work: During *March, following the opening of Phase I of the pedestrian route through the east bathtub*, the east bathtub MEP contractors focused on bringing the necessary public and support spaces to the level of operation needed to allow the opening of *Phase II* of the pedestrian route through the east bathtub, which *is the next priority*. Areas being *addressed* by these trades included ventilation work, power supply including emergency backup power, and hot water and chilled water distribution work, along with associated testing and commissioning of these elements. In addition to the pedestrian route activities, work at the fresh air supply fans and fresh air shaft in the Tower 3 podium *continued* during *March. At the top of the fresh air shaft, the contractor continued to install the boundary walls that will horizontally connect the vertical shaft to the outside air supply source on the north face of the Tower 3 podium.* WTCC *continues to forecast* that the activation of the fresh air shaft and supply fans will occur in the second quarter of 2016.

East Bathtub Finish Work: During *March, following the opening of* Phase I of the pedestrian route through the east bathtub, the finish contractors *transitioned to completing* the areas that comprise *Phase II* of the route. The stone contractor, carpentry contractor, ornamental metals contractor, and interior glass and storefront contractor were all actively engaged in completing the elements of work under their respective contract scopes that are necessary for the utilization of the *eastern portion of the main floor of the oculus, including the east grand stairs and the landing at elevation 284 that leads into the Dey Street Underpass. In addition, the same group of contractors was working to complete their contract work at the elevations above the Phase II spaces at the eastern end of the oculus in order to eliminate the need to erect temporary*

protection over the Phase II spaces when they open. WTCC is coordinating the completion of the work at the interface into the Dey Street Underpass with the MTA and recently has agreed to install a portion of the floor finishes on the MTA side of the interface line that had not yet been completed because of the security barrier between the two properties.

Vertical Circulation: During *March*, the vertical circulation contractor focused its resources on the elevator and escalator work at Platforms C and D, as well as the vertical circulation work along *Phase II* of the *east bathtub pedestrian route*. The contractor also made some progress on the scenic elevator (elevator *18*) located at the *eastern* end of the Transit Hall. At Platforms C and D, *trusses for one additional escalator were set in place, bringing the total quantity set to four.* Three other escalators remained off-site at the end of the month. For elevators 1, 2, 3, and 4, *vertical mullions* were set in position, *and hydraulic lines from the mezzanine-level elevator machine room were being installed*. Also during March, the escalators along Phase I of the route through the east bathtub *were placed in service*. A total of six escalators *are handling* the initial influx of pedestrians, with four of these escalators serving the levels between elevations 274 and 296, and two others serving the levels between elevation 296 and the street level. The status of elevators (and material lifts) and escalators through the end of *March* is summarized in the following table:

Item	In Service Last Month	In Service This Month	Onsite/Under Construction Last Month	Onsite/Under Construction This Month	Not Yet Onsite	Total
Escalators	14	*20*	*30*	*24*	3	47
Elevators	*8*	*8*	*13*	*13*	0	21

Commissioning: During *March*, testing and commissioning activities *focused on two primary areas: (1) the portions of the south mezzanine that are undergoing re-testing as part of the ongoing effort to turn over more of those spaces to PATH Operations and the Property Management entity; and (2) the vertical circulation elements associated with Phase II of the pedestrian route through the east bathtub, particularly escalators 31, 32, 33, and 34, and elevators 16 and 17*.

Radio System: During *March*, WTCC *continued to focus* the attention of the site-wide radio system contractor on the system's first of two head-ends being installed in room TH-015 in the basement of the Tower 2 podium. Interim radio coverage is being maintained using temporary head-end equipment housed in room MZ-194 at the south mezzanine. It is forecasted that this new permanent head-end will not replace the interim head-end until the end of 2016. A second permanent head-end is slated to be installed in place of the temporary head-end once the transfers to the first permanent head-end are implemented. *Work in room TH-015 is being performed on an extended work-day basis as of the end of March 2016, and will likely continue on that basis in April. Once this permanent head-end is fully built, an extended test period* of 160 days is being projected as part of the transfer *from the temporary head-end*.

Telecommunications and Security Systems: During *March*, WTCC *advised the security system contractor to submit an updated schedule for the remaining security system Factory Acceptance Tests (FATs), System Integration Tests (SITs), and Site Acceptance Tests (SATs).* Also during

March, the contractor *continued to install security cameras and started preliminary testing of the access control devices in various locations*.

Building Automation and Temperature Control (BATC) System: During March, the BATC system contractor was attempting to complete the transition from its former electrical subcontractor to its replacement electrical subcontractor, with the goal of completing this transition by early April. Also during the month, the BATC system contractor was deploying its limited workforce in the areas needed to support WTCC's objective of opening portions of the east bathtub for pedestrian use. This priority work, combined with the effort to replace the electrical subcontractor, necessarily slowed progress on the BATC system in other areas of the project. Project elements needed for Phase II of the pedestrian route through the east bathtub where the contractor was working included the control system embedments in the east end of the oculus main floor; elevator pit monitors at elevators 16 and 17, which are located at the east end of the oculus; and back-of-house rooms that support the Phase II opening and where the BATC contractor needs to complete installation of control valves and sensors reporting to the BATC system servers. It is noted that the work being performed in support of the Phase II opening consists of interim controls following interim operational sequences in portions of the Phase II area.

Central Fan Plant: During *March, the BATC system contractor delivered the server to the Engineer's office in the Central Fan Plant as the first in a series of steps necessary to enable control and monitoring capability of the Central Fan Plant equipment to that position. Installation of utilities in the utility tunnel also advanced during the month with the installation of insulation on the recently completed 20-inch supply and return chilled water lines, and the installation of several banks of various size conduits on a trapeze system running through the tunnel. The air handlers that are currently being run in the Central Fan Plant will continue to depend on fresh air supply from the spill air shaft in the Tower 2 basement until the permanent fresh air shaft and supply fans in the Tower 3 podium are completed and placed in service.*

Construction Logistics

The WTCC Office of Program Logistics (OPL) continues to facilitate construction progress and the sharing of access, egress, and work zones among all contractors onsite. During *March,* OPL continued discussions with the MTA concerning the planned opening of the interconnection between elevation 284 of the Transit Hall and the Dey Street Underpass at the boundary between those two properties. WTCC is projecting that this interconnection will open during *May* 2016.

Interagency Coordination

During *March,* WTCC *confirmed the award of a contract valued at approximately $2 million for the restoration of the pre-September 11 connection between the WTC PATH Station and the NYCT E Line station at the northeast corner of the WTC site. This connection point between the two properties has been preserved as one of the historic elements at the site. The restoration work in this contract will enable the WTC side of the interface point to handle pedestrian traffic. The MTA side currently is in operation as part of the E Line station*.

Community Relations

OPL continued to distribute construction alerts, updates, and monthly construction progress newsletters to the community and stakeholders. Updates on the project are listed at the website wtcprogress.com and publicized on commonly used social media outlets, and specific presentations are periodically made to Manhattan's Community Board #1. *In* early March 2016, as the first phase of a three-phase sequence, *WTCC successfully opened an egress path between the WTC PATH Station and the street level at Liberty and Church Streets, thus relieving some of the rush hour pedestrian congestion on the sidewalks and street crossings near the existing station egress points. Additional benefits are expected upon the opening of Phase II of the pedestrian route through the east bathtub, which will allow direct below-grade access between the WTC PATH Station and the Dey Street Underpass, and thus subterranean pedestrian travel between the PATH Transit Hall and MTA's Fulton Center*.

C. Schedule

On March 1, 2016, WTCC released IMS 84 (with a data date of February 1, 2016), (b) (4) [redacted]

The following table summarizes the 90-day look-ahead for significant activities:

Significant Activity	**Action by**
Stone Floor Installation at Elevation 274	WTCC
Central Fan Plant Online	WTCC
Emergency Generator Plant Online	WTCC
Partial Opening of Transit Hall to Pedestrian Traffic *(Phases II and III)*	WTCC

The PMOC, independent of the grantee's schedule forecasts, has developed forecasts for various critical schedule milestones. The results of that effort identified the following forecast dates for the milestone events listed:

Schedule Tool Topic	PMOC Forecast
(b) (4)	

D. Cost Data

(b) (4)

reflects the updated engineer's estimates for all packages in the completed procurement plan and includes the PATH Hub project's share of the common infrastructure projects, such as Retail, the Central Chiller Plant, the Common Electrical System, and site-wide operational support elements. WTCC continues to update the cost allocations that are assigned to the PATH Hub project.

The following table summarizes the latest available EAC (WTCC's forecast) and expenditures as of *February 29, 2016*:

Description	EAC (WTCC's Forecast) (in millions)	Expenditures (in millions)
Construction	*$2,812*	*$2,548*
Program Management and Design	*724*	*713*
(b) (4)	(b)	(
(b)	(b) (4)	(b) (4)

WTCC submitted its monthly cost model revision *with both the January and February 2016 data on March 28, 2016. Both reports show* that WTCC's EAC for the federally funded PATH Hub project (b) (4)

(b) (4)
[redacted]

E. Risk Management

As of *March* 2016, the PMOC considers the following issues to be among the top risks to the PATH Hub project construction:

- Site-wide systems integration, testing, and commissioning.
- Completion of PATH Hub support rooms/facilities/elements.
- Remaining work to be performed by the low-voltage contractors.
- Performance of PATH Hub project work by other WTC stakeholders.

F. Technical Capacity and Capability Review

The FTA uses the PEP to measure WTCC's technical capacity and capability. In *March* 2016, the PMOC *drafted a spot report recommending* release of $37 million from the remaining risk retainage, primarily because of favorable progress associated with the Platform C Utility Tunnel and Mezzanine Structural Steel. *The FTA provided its comments on that spot report at the end of the month.* It should be noted, however, that the ongoing piecemeal openings of portions of the project continue to present challenges for WTCC to complete the project in accordance with the requirements of the RRCA.

Project Management Plan

During February, WTCC *provided* an updated version of its Construction Phase Force Account Plan and Justification that *extended* the *covered* period through the end of September 2016. At the end of *March*, the PMOC *furnished to WTCC a copy of its draft spot report on the updated version of the plan, following an initial review of the spot report by the FTA. The PMOC included a request to WTCC that it address the recommendations and suggestions contained in the spot report, and then resubmit the Force Account Plan document for further review.*

Project Quality Assurance

During *March* 2016, WTCC QA completed *six* oversight audits that included reviewing the CM QA's field audits, *completing its fourth quarter 2015 audit of the CM QA's implementation of the CM's Quality Plan*, and performing its own field construction audits *of oculus glazing activities*. The *March* audit total reflects the *six* WTCC QA audit reports that were issued and received at the time this monthly report was drafted. No quality issues were identified for corrective action.

G. Site Safety

The WTC PATH Hub project has established safety performance goals for its TCIR and LTIR of less than 5.0 and less than 2.0, respectively. In *February* 2016, the project had *one* recordable incident and one lost-time incident, resulting in a TCIR of *1.73* and an LTIR of *1.73* for the month, based on *115,846.5* hours worked.

During *March*, WTCC Safety issued safety information for use by its site safety managers *that included the new NYC Crane Rule 3319-01, effective January 1, 2016, that applies to cranes, derricks, and dedicated pile drivers that operate within New York City. The new rule was issued in order to strengthen and modernize the Certificate of Approval process, and includes a new CD-1 form that is available electronically from the New York City Department of Buildings. With limited exceptions, all new makes and models of cranes, derricks, or dedicated pile drivers are required to obtain a Certificate of Approval. WTCC Safety also issued as handouts an OSHA Fact Sheet on the "Safe Use of Stepladders to Reduce Falls in Construction" and a news release from the U. S. Department of Labor on the impact of its new reporting requirements that were effective as of January 2015. The news release states that, because of these new reporting requirements, OSHA was able to respond to incidents by working with employers to identify and eliminate hazards, rather than by conducting worksite inspections.* Site safety managers were encouraged to discuss these topics at toolbox talks.

The *March* safety data for the project was not fully available at the time this report was drafted but is expected to be available after mid-*April* 2016.

H. Issues/Problems/Suggestions

During *March*, WTCC *successfully opened Phase I of the east bathtub pedestrian route, providing PATH commuters with an egress path between the WTC PATH Station and the street level at the northern side of Liberty Street, between Church and Greenwich Streets, via the southern leg of the North-South Concourse. All of the other existing egress paths were maintained as well, thus easing some of the rush hour pedestrian congestion at the WTC PATH Station egress points and the adjacent streets and sidewalks.*

However, also during March, WTCC continued its recently resumed efforts to turnover more of the Hub Support spaces located in the South Mezzanine, which was initially occupied in 2012. In addition, it is noted that active construction is currently underway at the upper level of the East-West Connector, and WTCC intends to resume the work at the northern end of Platform B once Platforms C and D become operational. The East-West Connector and Platform B were opened for public use in 2013 and 2015, respectively. This return to working in areas of the project that have already been placed into public use but are still in need of a significant amount of construction, testing, and commissioning is necessary; however, it highlights a continuing issue for the PATH Hub project: the difference between opening project areas for public use in a limited fashion before their completion, and fully completing those project areas in compliance with all of the requirements of the design and the CA between the grantee and the FTA before placing portions of them in public use.

Consideration should be given to allowing additional time to more fully complete the work in each of the major areas of the project designated for public use, in order to bring those areas to

a more complete state and reduce the amount of work that will need to be done after public usage has begun.

End of report. Appendices follow.

APPENDIX A – LIST OF ACRONYMS

ADA	Americans with Disabilities Act
BATC	Building Automation and Temperature Control
CA	Construction Agreement
CM	Construction Manager
EAC	Estimate at Completion
FAT	Factory Acceptance Testing
FTA	Federal Transit Administration
IMS	Integrated Master Schedule
LMRO	Lower Manhattan Recovery Office
LTIR	Lost-Time Incident Rate
MEP	Mechanical, Electrical, and Plumbing
MTA	Metropolitan Transportation Authority
NTA	North Temporary Access
NYCT	New York City Transit
OPL	Office of Program Logistics
PANYNJ	Port Authority of New York and New Jersey
PATH	Port Authority Trans-Hudson
PEP	Project Execution Plan
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
QA	Quality Assurance
QPRM	Quarterly Progress Review Meeting
SAT	Site Acceptance Test
SIT	System Integration Test
RCD	Required Completion Date
RFI	Request for Information
RRCA	Revised and Restated Construction Agreement
TCCR	Technical Capacity and Capability Review
TCIR	Total Case Incident Rate
WTC	World Trade Center
WTCC	World Trade Center Construction