

## **PMOC MONTHLY REPORT**

### **East Side Access (MTACC-ESA) Project**

Metropolitan Transportation Authority

New York, New York

Report Period January 1 to 31, 2015



PMOC Contract No. DTFT60-09-D-00007

Task Order No. 7, Project No. DC-27-5235, Work Order No. 2

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Length of time on project: Six years on project for Urban Engineers

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## **THIRD PARTY DISCLAIMER**

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## **REPORT FORMAT AND FOCUS**

This report is submitted in compliance with the terms of the Federal Transit Administration (FTA) Contract No. DTFT60-09-D-00007, Task Order No. 007. Its purpose is to provide information and data to assist the FTA as it continually monitors the grantee's technical capability and capacity to execute a project efficiently and effectively, and hence, whether the grantee continues to be ready to receive federal funds for further project development.

This report covers the project management activities on the East Side Access (ESA) Mega-Project managed by MTA Capital Construction (MTACC) with MTA as the grantee and financed by the FTA FFGA.

## **MONITORING REPORT**

### **1.0 PROJECT STATUS**

#### **a. Design**

As of the end of December 2014, MTACC reported that the overall Engineering effort was 98.3% complete, based on Earned Value for Design Deliverables, the same as the previous four months. Their Cost Report shows 87.6% of the overall EIS & Engineering category as invoiced and 87.6% of the budgeted section titled "Design" (including Design Settlement) as having been invoiced.

MTACC continued to investigate the potential scope transfer of the Manhattan Cavern south back of house via a change order from the CM007 package to the CM005 Contract, but negotiations failed to produce an agreed upon price for the work. As a result, the scope remains in CM007, and the design documents for this work went out in the RFP package that was advertised in December 2014.

A Preliminary Change Order (PCO) request was issued to the GEC to develop a new, stand-alone package CH061A (Queens Tunnel 'A' and 'D' Construction). The GEC continues to await authorization from MTACC to proceed with producing the package.

MTACC met with the owners of 415 Madison Avenue in December 2014 to discuss the design and construction responsibilities, as well as the schedule, for ESA's 48<sup>th</sup> Street entrance construction within the building for the CM015 Package. The owners will provide structural loads for the future development of their site. MTACC shall review and incorporate the structural loads into the ESA's 48<sup>th</sup> Street entrance design, and bid CM015 incorporating these future loads.

Anticipated advertise date for the CH057 package was previously forecast for July 2014 with NTP forecast for September 2014. The forecast advertise date was not met. The PMT is still in the process of repackaging the work and is now forecasting the completion of the bid package to be ready in early February 2015.

CH058 is being repackaged and the bid advertisement date has not been determined. The East Bound Re-route tunnel construction method is being revised from a top down to a traditional cut and cover method and ESA is considering splitting the package into two separate Contracts: CH058A will contain the East Bound Re-route; CH058B will contain the loop box.

The west end of the mid-day storage yard (CQ033) needs resolution as to what work is to be performed by Amtrak (track and signals) to tie into the ERT (East River Tunnels) and what work will be performed by LIRR (track) to tie into the Arch Street shop. ESA is now looking at structuring the CQ033 package with five options; and is also looking at splitting out the procurement of the CILs into a separate package. This packaging change would have to be approved by the CCC.

ESA continues to experience slippage in design completion and advertise dates across a number of packages.

#### **b. Procurement**

As of the end of December 2014, the Cost Report showed total procurement activity on the project as 64.7% complete, with \$6.580 billion in contracts awarded out of the \$10.178 billion current reported budget.

For CM014B, the PMT submitted a recommendation to the MTA Board for award of the contract in January 2015. Notice of Award and Notice to Proceed are pending and are expected in early February 2015.

The CM007 package was advertised on December 23, 2014. Contract documents were made available for proposers on January 13, 2015, with proposals due in May 2015.

The PMT remains undecided as to how to procure the signal installation work currently in a stand-alone package, CS086.

#### **c. Construction**

The PMT reported in its December 2014 Quarterly Progress Report that the total construction progress reached 54.3% complete vs. 54.3% planned; the PMOC calculations based on data in the ESA Cost Report agree with the ESA completed percentage completed of 54.3%. Details for active construction contracts are provided below.

**CM004 – 44th Street Building Demolition and Fan Plant Structure; 245 Park Avenue Entrance:** As previously reported by the PMOC, MTACC has issued a retroactive substantial completion letter for September 9, 2014. As of their October – December Quarterly Report,

MTACC is no longer reporting on the CM004 contract. Accordingly, as of the date of this report, the PMOC will no longer report on updates for CM004.

**CM005- Manhattan South Structures:** The Estimate at Completion for CM005 decreased slightly to \$239,090,133 during December 2014 due to a re-forecast of future contract modifications. The MTACC forecast for Substantial Completion remained at February 6, 2016. Actual construction progress was 5.3% versus 5.4% planned for January 2015. Cumulative progress was 68.5% actual versus 63.3% planned.

Construction Progress: During January 2015, the Contractor continued to pour concrete for the intermediate level exterior walls in the GCT 1&2 East Wye and continued to place re-bar for the intermediate level exterior walls in the GCT 1&2 West Wye, continued to pour the intermediate level concrete slab and form upper level rooms at the 38<sup>th</sup> St. Vent structure, continued to form and pour concrete between the raised bore shafts and the Air Wye, and placed shotcrete at various cross-passageways between the main caverns and 38<sup>th</sup> St.

Vent Plant: The CM005 Contractor continues to maintain the MPT on E. 44<sup>th</sup> St. and controls security and all program related access to the site. Going forward, at a date to be determined, the 44<sup>th</sup> St. Vent Plant building will be turned over to the CM014-B contractor to complete fit-out and all remaining work.

**CM006 – Manhattan North Structures:** The Estimate at Completion for CM006 increased to \$319,795,750 during December 2014 due to a re-forecast of future contract modifications. The MTACC forecast for Substantial Completion remained at November 30, 2016. Actual construction progress was 7.2% (PMOC estimate due to incomplete monthly Progress Curve data supplied by MTACC) versus 4.1% planned for January 2015. Cumulative progress was 13.0% actual versus 23.5% planned.

Construction Progress: During January 2015, the Contractor continued to pour concrete sidewalls and place archway re-bar in the GCT 5 West Wye Cavern, placed the intermediate level slab over the westbound tunnel and began to place re-bar for the exterior intermediate walls of the 55<sup>th</sup> St. Vent Facility, began to place archway re-bar and shotcrete in the GCT4 West Wye Cavern, and continued to pour invert concrete in the westbound tunnels between 50<sup>th</sup> St. and GCT 5 West Wye.

**CM013A – 55th Street Vent Facility:** MTACC reports that through December 2014 the EAC remains at \$57.29 million. Forecast Substantial Completion has been extended to May 4, 2015 from the previous April 5, 2015. Cumulative progress was 80.00% planned vs. 78.17% actual.

Plenum: Concrete lining of the east & west walls is ongoing. Concrete placement of the Plenum Roof continues. Installation of 3 sewer manholes will begin the week of February 1, 2015.

Cavern: The Cavern Structure is complete. Lining of the shaft walls continued using a moving work deck. Personnel access to the work areas utilizes a crane operated personnel cage. Welding and erection of the permanent precast stairs is ongoing where space allows at the upper levels and shaft. Completed Pneumatically Applied Concrete (PAC) final lining of the Cavern Arch. Painting of the cavern rooms continues.

**CM014A– Concourse and Facilities Fit-Out:** MTACC reports that through December 31, 2014, the EAC increased to \$57.18M from the previous \$56.65M. This increase is due to the ongoing closeout of outstanding change orders. MTACC Forecast Substantial Completion date

has been extended to July 2, 2015 from the previous March 31, 2015. This extension reflects the MTACC forecast for Con Ed work to energize the system and the following commissioning. As of December 31, 2014, MTACC reported that the actual percent complete was 85.61% vs. 98.92% planned. This spread continues to be due to a lack of manpower and the Contractor's slow progress in executing the work, delivery and installation of SCADA equipment and the resultant delay impacts to the forecast for testing and Con Ed energizing the system for final testing and commissioning.

Construction Progress: The SCADA panels have finally been delivered to the site and are being installed. Surveying and layout is ongoing. CMU erection is near complete. Installation of fire stopping continues and painting is ongoing. Installation of hydronic piping in Shaft #2 is continuing. Ductwork and piping installation continues in Zones #1 & #2. Sprinkler and fire standpipe installation nears completion in Zones #4 & #5. Branch feeder and conduit installation is ongoing throughout. Installation of the 600V cable continues. Sealing of concrete floors began.

The PMOC has previously reported on the existing utilities that are obstructing construction of the new ramp, stairs & escalators connecting the existing GCT Dining Concourse to the new LIRR ESA Concourse. Through January 31, 2015, MNR began the work to abandon inactive lines and relocate the active lines. The pre-work, and asbestos abatement, has been completed.

The new CM014B Project Office has advised the PMOC that the GEC is conducting a site survey and preparing a drawing (s) that will show the existing lines and a footprint of the required construction zone. MNR will use this document as a guide to relocate the live utility lines out of the construction area. It is expected that this location document will be complete approximately 30 days from the date of this report.

### **CS179 – Systems Package 1:**

MTACC awarded this Contract in March 2014. As of December 2014, the Estimate at Completion for CS179 is \$551,899,740. The MTACC forecast for Substantial Completion is November 25, 2019.

Construction Progress: The Contractor re-submitted its baseline schedule on *December 31, 2014*, with the baseline narrative following on *January 16, 2015*. These submittals are under review by MTACC. The Contractor needs MTACC direction/permission to excavate test pits for a 10" discharge line at 2<sup>nd</sup> Avenue. The Contractor is continuing to coordinate with adjacent contractors to shut down jet fans at 2<sup>nd</sup> avenue to support LIRR shaft work. Moving fans to another location is under consideration. MTACC has received LIRR concurrence for the changes in the design of the Backbone Communications System (BCS) and the Voice over Internet Protocol (VoIP) telephone designs. Formal direction for the Contractor to proceed will be issued. However, since it has not had an acceptable baseline schedule for 10 months, there is no formal manner to determine if work is progressing at an adequate rate.

### **CS084 – Traction Power Substations:**

MTACC awarded this contract in October 2014. As of December 2014, the Estimate at Completion for CS084 is \$78,373,788. The MTACC forecast for Substantial Completion is December 3, 2019.

Construction Progress: Contract is in early mobilization stage. As of the end of December 2014, the contractor has not submitted project schedule documents.

### **Queens Contracts:**

**CQ032 – Plaza Substation and Queens Structures:** The Estimate at Completion for CQ032 increased to \$247,310,773 during December 2014 due to contract modifications for additional construction in the Yard Lead Tunnel and the Bellmouth. The MTACC forecast for Substantial Completion was shortened by one week to February 16, 2016. Actual construction progress for December 2014 was 1.9% versus 4.2% planned. Cumulative progress was 72.1% actual versus 76.3% planned.

Construction Progress: During January 2015, the Contractor continued to excavate and install piles for the Yard Service Building (YSB), continued structural steel and re-bar installation for the Air Intake/Exhaust facility adjacent to the YSB, continued to install communications and signal conduit in Tunnels B/C and D, and continued to form and pour concrete benchwalls in the 63<sup>rd</sup> St. Tunnel.

### **Harold Interlocking:**

**CH053 Contract – Harold Structures Part 1 and G.0.2 Substation:** The Estimate at Completion for CH053 decreased slightly to \$297,411,878 during December 2014 due to MTACC re-forecast of existing contract modifications. The MTACC forecast for Substantial Completion was extended by one week to May 16, 2015. Actual construction progress was 0.9% versus 0.0% planned (contract was supposed to be complete). Cumulative progress was 93.1% actual versus 100.0% planned.

Construction Progress: During January 2015, the contractor completed work to place the S3 12 kV cable between Sub 44 and the Sunnyside Yard Frequency Converter in service, continued to install and splice utility and communications cables in Run 1-4 conduits to the new G02 substation, and continued to abate lead on several catenary poles throughout Harold Interlocking that it will remove in the future.

**CH054A – Harold Structures Part 2A:** The Estimate for Completion for CH054A increased slightly during December 2014 to \$56,824,016 due to MTACC re-forecast of existing contract modifications. The MTACC forecast for Substantial Completion remained at April 29, 2015. Actual construction progress was 0.9% versus 0.0% planned (contract was supposed to be complete). Cumulative progress was 91.5% actual versus 100.0% planned.

Construction Progress: During January 2015, the Contractor continued to install the 48” storm sewer between Thomson Avenue and Queens Blvd., continued to pull and splice 12kV cables between the East River Tunnel portals and Sub 44, and continued to pull and splice utility, signal, and communications cables through micro-tunnel Run #13 west of Thomson Avenue.

**CH057A – Part 3 Westbound Bypass:** The Estimate at Completion for CH057A decreased slightly to \$105,663,688 during December 2014. The MTACC forecast for Substantial Completion was extended by 3 days to August 11, 2016. Actual construction progress was 0.5% versus 0.7% planned (PMOC estimates – data supplied by MTACC incomplete). Cumulative progress was 13.6% actual versus 32.6% planned.

Construction Progress: During January 2015, the Contractor installed 28 soldier piles for the West Approach Structure of the Westbound Bypass. Through January, the contractor has

installed 131 soldier piles of a total of 229 required for the contract. The contractor also continued to construct a working platform for installation of piles in the East Approach Structure and continued construction of a de-watering system throughout the project limits.

### **Railroad Force Account:**

**FHA01 – Harold Stage 1 Amtrak:** The Estimate at Completion for FHA01 increased to \$18,824,861 during December 2014, although the MTACC did not provide a reason for the increase. The MTACC forecast for Substantial completion was extended by 3 weeks to March 8, 2016. Actual construction progress was 0.1% versus 0.1% planned. Cumulative progress was 97.5% actual versus 99.0% planned.

Construction Progress: During January 2015, the Electric Traction Department continued to make limited Stage 1 catenary and signal wire transfers between Thomson Avenue and Sub 44 and provide indirect support for contractors.

**FHA02 – Harold Stage 2 Amtrak:** The Estimate at Completion for FHA02 remained at \$49,381,321 during December 2014. The MTACC forecast for Substantial Completion was extended by 2 weeks to December 28, 2017. Actual construction progress was 1.0% versus 1.6% planned. Cumulative progress was 84.0% actual versus 92.3% planned.

Construction Progress: During January 2015, the Electric Traction Department continued to make limited Stage 2 catenary and signal wire transfers between Thomson Avenue and Sub 44 and the C&S Department continued to make revisions for the re-location of the 6EA and 6EB signal cases which need to be moved to progress CH057A construction.

**FQA65 – Loop Interlocking Amtrak:** The Estimate at Completion for FQA65 remained at \$29,663,652 during December 2014. The MTACC forecast for Substantial Completion was extended by 2 weeks to November 9, 2019. Actual construction progress was 0.7% versus 4.5% planned. Cumulative progress through was 7.9% actual versus 22.9% planned.

Construction Progress: During January 2015, C&S personnel continued limited installation of signal trough, conduit, and the retaining wall along Loop 2 Track in future “T” Interlocking.

**FHL01 – Harold Stage 1 LIRR:** The Estimate at Completion for FHL01 remained at \$23,603,130 during December 2014. The MTACC forecast for Substantial Completion remained at September 18, 2015. Actual construction progress for December 2014 was 0.1% versus 0.8% planned. Cumulative progress through December 31, 2014, was 99.3% actual versus 96.9% planned.

Construction Progress: No significant FHL01 construction occurred during January 2015.

**FHL02 – Harold Stage 2 LIRR:** The Estimate at Completion for FHL02 remained at \$83,544,021 during December 2014. The MTACC forecast for Substantial Completion was extended by 1 week to January 10, 2018. Actual construction progress was 3.9% versus 1.0% planned. Cumulative progress was 63.6% actual versus 70.7% planned.

Construction Progress: During January 2015, LIRR C&S personnel continued to install, test and do post-installation circuit adjustments for the cutover of the “H4” CIL in Harold Interlocking. Signal personnel also continued to install signal trough and conduit between the “H5” and “H6” locations in Harold and communications personnel continued to relocate aerial cables between



48<sup>th</sup> St. and Location 30 in Woodside Interlocking. LIRR Electric Traction personnel continued to install 3<sup>rd</sup> rail apparatus at new turnouts that LIRR had installed earlier in the year.

#### **d. Quality Assurance and Quality Control (QA/QC)**

**CM013A:** On January 15, 2015, a 16 inch long crack was discovered at the top of West Plenum North Branch column. A nonconformance report was generated. The crack was a maximum of 0.75 inch deep and did not expose the rebar. An approved standard repair procedure will be followed to chip out the defective area to sound concrete and install a patch with a specified material. This column is not exposed to the public and will not receive an architectural finish. It was determined that there are no structural issues.

**As-Built Process Audit:** The ESA Quality Manager reviewed the As-Built Process on contracts CH057A and CM006 in January 2015. CH057A was acceptable but CM006 is behind schedule. A follow-up review of CM006 will be conducted in February 2015. Contracts CH053, CH054A, CQ032, CM004, CM014A, CM005, CM013, and CM013A were audited in 2014. Follow up audits with the CM office and GEC will be performed in February and March 2015 to ascertain/identify any inconsistencies in the submittal process and implementation of any as-built information received by the GEC, including whether the GEC is actually reporting back to the CM.

**CS179 (Systems Package 1 – Base Contract):** The ESA Quality Manager requested that the CS179 contractor prepare seven nonconformance reports. These will be issued in February 2015. The contractor was urged to resolve internal issues with one of their subcontractors and to officially assign a previously identified individual to the position of System Manager.

**Procedure Compliance Audits:** During 3Q2014, MTACC Quality conducted Procedure Compliance Audits on Contracts CM005, CM013, CM013A, CH057A, and CQ032. The major finding in most of the audits was that the field engineers need to be trained in completing the daily construction reports. The auditors also recommended that columns providing additional information pertaining to RFIs need to be added to the RFI logs. Since there were similar findings and recommendations for other contracts, the ESA Heavy Civil Project Executive prepared a response to the auditors. MTACC Quality agreed with most of the response and is still working with the ESA staff to resolve the remaining issues.

**Quality Training:** The ESA Quality Manager will conduct training on close-out procedures, as well as on nonconformance reports and as-builts for several contracts on February 19, 2015. A Quality Kickoff meeting and Quality Training are scheduled on February 17, 2015 for the CS179 contractor. A Quality Kickoff Meeting for the new CS084 contractor will be held in late February or early March 2015.

## **2.0 SCHEDULE DATA**

ESA submitted its IPS #65 data date January 1, 2014 and its variance report. The variance report states that “The current working IPS reflects an early Revenue Service Date (RSD) of March 25, 2020, a target RSD of February 12, 2021, inclusive of 324 days of IST contingency and a new late RSD of December 13, 2022, inclusive of 324 days of IST contingency and 669 days of program-level contingency.”

The Critical Path has changed again in this month’s IPS. The current IPS shows that the critical path goes through the procurement of Contract CM007 and then to the building the Structure

within the GCT Caverns and cavern structures. The path then shifts to CS179 work within the Train Operations Center (TOC) through Integrated Systems Test.

Additionally, ESA variance report has stated that “An executive decision has been made to reduce CM014B durations between NTP and Milestones, such that follow-on contracts are not impacted, until negotiations on CM014B have concluded, and show the results of the negotiations provide an impact.” There is no supporting document about the basis of this decision. This package had duration of 54 months in the baseline IPS of July 2014, and this has been reduced to 43 months. This duration was inclusive of one year of support to Contract CS179 during IST. In the meantime, the baseline schedule from CS179 contractor has not been accepted yet either.

The CQ032 Contractor has submitted a recovery schedule which is being closely monitored by ESA. The Contractor has critical issues pertaining to slurry wall chopping at the 23<sup>rd</sup> street vent plant, duct bench pull boxes, and resolution of Notice of Direction (NOD) 40 and 41 threaten to impact the schedule. The common denominator in all the above issues is that all three contracts: CQ032, CM006, and CS179 have the same Contractor. It should also be noted that in both Contract CM006 and CS179, the Contractor is obligated to submit a master integrated schedule for all three contracts. Not being able to produce proper schedule for each Contract, obviously, will jeopardize the creation of an integrated schedule, and could cause difficulty later on with interface coordination on the CM007 Contract.

Active Harold Contracts CH053 and CH054A are both forecasting Substantial Completion by 3rd Quarter of 2015, and CH057A is forecasting Substantial Completion during the 3rd Quarter of 2016. A Change Proposal Request (CPR) for deletion of the remaining Tunnel A Reception Pit and Track A Approach work from CH053 was issued to the Contractor in December 2014 where MTACC will achieve an earlier Substantial Completion that will reduce the Program’s exposure to added impact costs. This work will be transferred to CH057A and CH061A. The 100% design of these two packages has been postponed for three months, however.

The following table shows most important 90 day look-ahead milestones for the project. The important issue is that some milestones have negative float and that ESA has decided to change the base duration of these activities to address the issue of lengthy procurement duration.

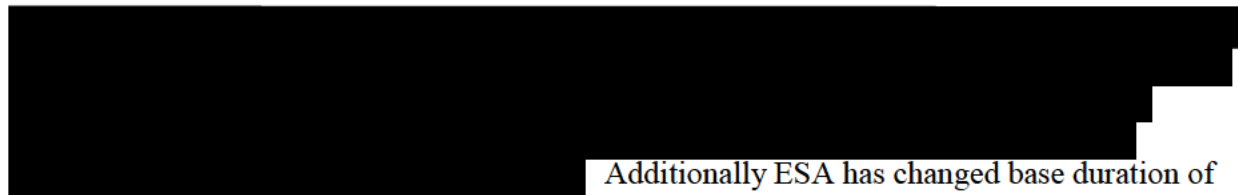
**Table 2-1: Critical Milestones 90 Day Look Ahead**

Activity ID	Activity Name	Start	Finish	Total Float	IPS-CONTRACT
CM006-3250	CM005 Release West Cavern		01-Jan-15*	18	CM006
CH053-1020	Milestone #1A - Harold Access Bridge Surrounding		1-Jan-15	35	CH053
CH053-2030	MILESTONE 1A Harold Access Bridge Balance of Work		1-Jan-15	35	CH053
CH054A-2080	Complete MicroTunnel 13		2-Jan-15	-22	CH054A
CH053-2050	43rd to 48th Street ROW Grading (Stage 1)	2-Jan-15		34	CH053
CS081V3210	Axial Fan Vendor NTP	5-Jan-15		16	CS179
FHL01-1100	CH053 Complete Grading East of 43rd Street (Northside) (WBY)		14-Jan-15	47	FHL01
FHL01-1110	CH053 Complete Grading (Northside) (Track A Approach Structure)		14-Jan-15	67	FHL01
FHL02.HT.57770	Complete Cable Pulls from HP1 to "C" Cases		16-Jan-15	43	FHL02
CH057A-1010	FHA02 - Remove 6EA Signal Case (Temp Work Around)		22-Jan-15	21	CH057A
CH054A-2180	Complete Storm Sewer		29-Jan-15	-81	CH054A
FHL02332045	CH053 Complete Grading West of H3-CIL		30-Jan-15	43	FHL02
CM014B-1270	NTP CM014B GCT Concourse	02-Feb-15		-17	CM014B
CM014B-1280	CM014B - Notice of Award		2-Feb-15	-17	CM014B
CM014B-1330	(with Shared Access) Start Shared Access @ 50th Street Vent Facility	3-Feb-15		56	CM014B
CM014B-1340	(Shared Access with CM006) CM014B AR - Access to 50th Street Vent Facility (concurrent shared access with CM006)	3-Feb-15		78	CM014B
CM04-C0940	CM004 Contractual Final Completion (ML#2 Date 820 CDs from NTP)		09-Feb-15*	-220	CM004
FHL01-1140	Complete Trough H1 to H2 (WBY)		11-Feb-15	47	FHL01
CM005-1010	Milestone 1 Escalator/Cavern Connections - Complete Wellways 1 thru 4 - MS30 (September 9, 2014)		13-Feb-15*	-157	CM005

FHL02.SI.325	Complete Trough (West of H3-CIL)		13-Feb-15	43	FHL02
CH054A-2110	Cut-Over 12KV		15-Feb-15	-156	CH054A
CH054A-2070	Complete 12KV Ductbank		16-Feb-15	-53	CH054A
FHA02-1030	CH054A - Complete 12KV Cutover		16-Feb-15	-32	FHA02.2
FHL01-1120	CH053 Complete Grading (Northside) (Drainage)		16-Feb-15	100	FHL01
CQ032-MS02	MILESTONE #2 - COMPLETE & TURNOVER FOR BENEFICIAL OCCUPANCY OF YL TRK ENVELOPE		24-Feb-15*	-36	CQ032
CH057A-6460	Access Restraint #3 - Demo Signal Cases 6EA/6EB & Access to WBY 50+50 to 52+00		02-Mar-15*	20	CH057A
CM007-0130	CM007 Pre-bid Conference		5-Mar-15	-1	CM007
CH053-2090	Cutover 12KV Ductbank		20-Mar-15	-52	CH053
FHA01-1120	Complete Catenary Wire - 821 & 823 Switches		22-Mar-15	54	FHA01
FHL01.SI.00175	FHL01 - Cutover 821/ 823 Crossover		22-Mar-15	54	FHL01
CS078-T1300	Completion of 1st Concrete Slab (Invert) Ready for Trackwork @ Yard Lead		24-Mar-15	-64	T40
CH061A-2060	90% Design Submission - Contract CH061A		30-Mar-15*	0	CH061A

**Project Critical Path:**

See previous section.



Additionally ESA has changed base duration of contract CM014B without any further explanation. The PMOC still maintains its opinion that ESA should develop its schedule contingency drawdown plan as required in the ELPEP agreement.

**3.0 COST DATA**

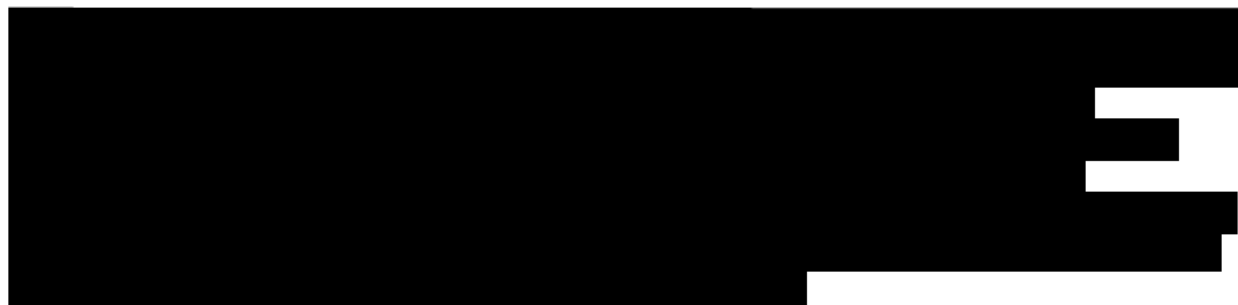
**Funding:** The MTA funding request for the 2015-2019 Capital Program was submitted to the NYS Capital Program Review Board (CPRB) in September 2014. ESA will need to obtain funding from this Program to award all the options in the CS179, CM007, CQ033, and CH058 Contracts. The new \$10.178B (not including the \$463 Rolling Stock Reserve) budget presented to CPOC in June 2014 will make the need for additional funding even greater. The CPOC figure represented an increase of \$484M from the Re-Plan Budget presented in January 2014, and is

\$1,932M greater than the 2012 Re-baseline Budget. In addition, the 2012 re-baseline budget included more than \$700M of un-funded scope that was to be addressed in the 2015-2019 MTA Capital Program. Until new funding is provided, the project has a funding shortfall of approximately \$2.6B, and is part of the un-Funded MTA Budget.

**Budget/Cost:** The ESA December 2014 Progress Report shows the total project progress was 54.3% vs. 54.3% planned against the Current Baseline Budget (CBB) of \$10,178B, and the construction progress as 54.3% vs. 54.3% planned, based on invoiced amount (details of project budget and expenditures are shown in Tables 2 and 3 in the appendix). The PMOC's review of the Cost Report supports the ESA reported % of Invoiced work although the PMOC calculates that the Planned % overall should have been 54.7%. Although ESA had submitted a Cash Flow chart (Table 6 of the Appendix) to demonstrate the amount of planned expenditures in each month, ESA had then submitted a revised chart and up until this Report it was unclear which of the charts is to be used, however ESA recently confirmed the November 2014 submission is to be used (it is reflected in Table 5 of the Appendix).

The current \$10.178B budget follows the procedure of assigning a series of separate small contingencies which are not easily distinguishable. This already entails an excess number of budget adjustments to date and in the future, which appears to be operationally complex and often serves to mask the expected and current status of the Project and packages.

ESA informed the PMOC that it had reassigned values to each of the SCCs as part of their re-plan (Table 6 of the Appendix) but they have not yet demonstrated how the values were determined or that the structural problems in the SCC have been addressed. ESA still does not provide proper SCC assignment of Contingencies. As a result, approximately \$360M of Allocated Contingency is not assigned. ESA moves this into and out of various non-awarded states whereby the SCC mix gets continually changed, most specifically as funds are churned into and out of the Assigned for MODs category.



As part of the re-plan, ESA has begun use of an 'Allowed for MODs category', which represents funds moved out of Contingency equal to the value of the Pending and Potential MODs. Funds for potential MODs that are not realized are then moved back into Contingency. The PMOC believes that this method of tracking will make it difficult for the ESA Project Control Group to accurately track remaining contingency at any given point in time.

Since the values ESA carries for these categories are often very far off of the Actual executed values, the cost projections continue to be inadequate. In many other projects where the value of Anticipated MODs/Change Orders is seen solely as an exposure, by continually making these budget moves in and out, the effect of variance from the projected is much greater and more

disruptive to the budget process. There has not been any indication from ESA that they are addressing the poor forecasting of costs for MODs with the Contract Construction Managers.

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]				
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]				
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]

The PMOC asked ESA to explain why there would be changes in Contingency when scope is transferred directly from one package to another, and the explanation is that the Pre-Bid Contingency on un-Awarded scope is moved into Allowed for MODs (non-Contingency) when it is moved to an Awarded Contract.

**Change Orders/Budget Adjustments:** The PMT reported that over the last month, three (3) Construction change orders and one GEC change order over \$100K were executed for a total of approximately \$1.65M.

**4.0 RISK MANAGEMENT**

ESA had resumed its monthly risk meetings and has submitted an updated risk register. ESA held a risk meeting in January 2015; however one was not scheduled in December 2014.

MTACC intends to perform a package level risk assessment for CM007. Although the CM007 package was advertised on December 23, 2014, a risk workshop has not been scheduled as of the end of January 2015. The ESA Risk Manager stated at the November 2014 monthly risk meeting that the CM007 Risk assessment will most likely not take place until early 2015. Short term funding constraints now constitute a significant risk to awarding this package, and ESA noted at the January 2015 monthly risk meeting that this constraint may force a base and option approach to awarding the Contract, similar to what was done with CS 179. This is complicated by the fact that the package has already been advertised.

ESA also noted at the January 2015 risk meeting that due to the delay in awarding the CM014B package, a schedule compression would be needed to hold the forecast RSD.

Continuing issues with the level of Amtrak force account support, currently at about 30-35% of what is required to maintain the current schedule, would be significant and could delay completion of the Harold Interlocking work another three years until 2022 under the worst-case trending scenario. MTACC has sent a letter to the Amtrak Chief Engineer requesting a support commitment sufficient to complete the Harold work by 2019. The PMOC is not aware of a response to this letter as of this report.

## 5.0 ELPEP COMPLIANCE SUMMARY

The current status of each of the remaining main ELPEP components is summarized as follows:

- **Technical Capacity and Capability (TCC):** The FTA requested MTACC to update its TCC Plan in response to the FTA/PMOC comments that were generated in November 2013 as a result of significant changes in key ESA upper management level positions. At the December 11, 2014, ELPEP Quarterly Review Meeting, MTACC reiterated that the TCC Plan revisions are not yet completed pending finalization of the role, responsibilities and level of authority of the ESA Change Control Committee. As of January 31, 2015, the revised TCC Plan has not been submitted.
- **Continuing ELPEP Compliance:** The following ELPEP components continue to need improvement or are deficient: Management Decision; Design Development; Change Control Committee (CCC) Process and Results; Stakeholder Management; Issues Management; Procurement; Timely Decision Making; Risk-Informed Decision Making.
- **Project Management Plan:** MTACC submitted PMP Rev. 10 to the FTA and PMOC on July 18, 2014. This revision incorporates changes stemming from FTA/PMOC comments on PMP Rev (9.0) provided in December 2013, as well as changes that resulted from the MTACC's Candidate Revision process. Based on working meetings, dialogue, and additional clarifying review comments from the PMOC; MTACC made additional changes to the PMP and submitted an updated Rev. 10 on September 18, 2014. The PMOC completed its review and evaluation of MTACC's revisions and responses and submitted its findings to FTA-RII in 4Q2014.

The PMOC notes that since June 2013, the ESA project has continued to be non-compliant with ELPEP, and is not meeting some of the more important requirements of the SMP and CMP sub-plans to the PMP. The PMOC's opinion is that this continues to be a serious deficiency and needs to be resolved immediately. The PMOC's major areas of concern include:

- **Cost/Schedule Contingency:** In November 2014 ESA has submitted its initial cost and schedule contingency utilization curves for the new baseline budget and schedule presented to CPOC in June 2014 in order to comply with ELPEP; however they then stated they would correct them to make the curves usable by ESA Project Controls staff and acceptable to the FTA/PMOC. The PMOC does note, however, that draft proposed cost and schedule contingency drawdown curves were presented by MTACC at the December 11, 2014 ELPEP Quarterly Review Meeting and are currently under review by the PMOC.

- **Schedule Management Plan (SMP):** The ESA project remains non-compliant with requirements for IPS Updating, Forecasting, and Schedule Contingency Management against a current baseline schedule. Given that the new budget and schedule have been put in place, the PMOC had expected that MTACC would start to meet the requirements set forth in its SMP in the above referenced areas. This has not occurred as MTACC just completed, in December 2014, the latest Harold Re-Plan and has commenced incorporating the Re-Plan results into the Interlocking Project Schedule. As of January 31, 2015, incorporation of the Harold Re-Plan into the IPS has not been completed.
- **Cost Management Plan (CMP):** The ESA project remains non-compliant with requirements for Project Level EAC Forecasting, Project Level EAC Forecast Validation, and MTACC Cost Contingency Management and Secondary Mitigation. Given that the new budget and schedule were presented to the MTA CPOC in June 2014, these requirements should have been met by now but MTACC has made very little progress in this area. The PMOC notes that the current CMP has been accepted as being in conformance with ELPEP. The PMOC is concerned that the revised CMP, expected during 1Q2015, will be less rigorous in this respect reflecting MTACC's inability to adequately manage budget and cost issues in accordance with the ELPEP principles.

**Revisions to the ELPEP Document:** Although the 2014 Re-Plan budget number and Revenue Service Date were presented to CPOC on June 23, 2014, MTACC has not yet fully incorporated the schedule details into its regular monthly reporting. MTACC had previously committed to providing these details by about August 25, 2014. As of December 31, 2014, however, MTACC has not provided the complete schedule data that is the basis for the RSD presented to CPOC. MTACC has taken the position that the IPS will not be finalized and presented to FTA/PMOC until the current Harold Interlocking re-planning effort has been completed and to not expect a revision until December 2014. As of January 31, 2015, however, this has not yet been completed. The PMOC notes that this current Harold re-plan will supersede the earlier Harold Re-Plan that began in 4Q2013 and was completed in 1Q2014. Final revisions to the ELPEP Document cannot be completed until the IPS is finalized. The PMOC notes that MTACC completed the Harold Re-Plan December 2014 and has started incorporating the Re-Plan results into the IPS, but that this effort has not yet been completed. The PMOC has started an independent evaluation of the required cost and schedule contingencies going forward as part of the process of updating the ELPEP document.

The next ELPEP Quarterly Review Meeting with MTACC, FTA-RII, SAS and ESA projects and the PMOC has been scheduled for March 12, 2015.

**MTACC Project Procedures Audit Related to ELPEP:** MTACC performed a Quality Audit on the East Side Access (ESA) Project to assure compliance to ELPEP related MTACC Project Procedures. ESA Plans that were audited included: the Project Management Plan (PMP), Cost Management Plan (CMP), Schedule Management (SMP) and Risk Management Plan (RMP). There were 11 findings: 6 for the PMP, 2 for the CMP, 2 for the SMP, and 1 for the RMP. The PMOC received a copy of each finding and the proposed corrective actions. Although MTACC had closed this audit, the PMOC believed that 8 of the 11 findings required additional confirmation before the audit should have been closed. Details were provided to MTACC for each finding. After receiving additional information from MTACC, the PMOC now agrees that this audit should be closed.



## 6.0 SAFETY AND SECURITY

Project safety statistics for lost time accidents on active construction contracts continue to trend above the Bureau of Labor Statistics (BLS) national average at 2.18 vs. 1.70 lost time accidents (LTA) per 200,000 hours. This is slightly lower than last reporting period (2.20). The CM005 Contract has an average of 3.06 LTA, trending higher than the project average but decreasing (from 3.28 LTA) since the last reporting period. The Contractor has committed to actions to improve safety awareness among its supervisors and crews and is taking steps to improve the safety on site including: daily toolbox talks with crews where safe work plans for the work activity to be performed will be discussed; daily operations meetings to discuss and coordinate the planned work activities will be held; construction debris will be collected in an organized fashion and properly bagged and/or bundled for efficient removal; clear walking paths to all work areas will be provided and access/egress to the underground work area will be maintained at all times. The PMT did not report any significant security issues in its December 2014 Monthly Progress Report.

## 7.0 ISSUES AND RECOMMENDATIONS

**Design:** The PMT design management team needs to focus on achieving intermediate milestones in a timely fashion and work closely with the GEC to help make this happen. The continuing shifting of scope has made finalizing design documents and drawings extremely difficult.

The PMOC maintains its long standing concern that a full constructability review was not conducted for the CM007 package. This is of particular concern given the number of interfaces with other contracts (CM006; CS179; CM014B; CS086). A very limited Constructability Review was conducted and a report issued in 4Q 2014, however the scope of the review was limited to only the addition of track work into the package and the constructability of the hybrid cast-in-place and pre-cast design.

**Procurement:** The lack of stability in the contracting strategy and Contract Packaging Plan remains a concern. The PMT continued to shift and split scope among different packages during 4Q2014, making it difficult to fully understand the impact of these changes to the overall ESA Project. An updated draft Contract Packaging Plan (revision 10.0) was submitted on March 28, 2014, and has not been finalized as of the end of January 2105. ESA should adhere to it without shifting scope for the remainder of the project.

The PMOC remains concerned about the continuing scope shift among existing and future Contract packages. The latest shifts under consideration include moving scope from CH053 into the new CH061A (Harold Structures-Tunnel A) to mitigate some of the delay in CH053. Additionally, the East Bound Re-route tunnel construction method is being revised from a top down to a traditional cut and cover method and the package is being split into two separate Contracts. CH058A will contain the East Bound Re-route; CH058B will contain the loop box. These continuing moves represent an ad hoc approach to risk mitigation

**Contract CS179:** The PMOC believes that the Contractor's inability to produce an acceptable schedule ten months into the Contract is problematic. The CS179 Contract has numerous interfaces and access restraints that must be accurately characterized in the project baseline schedule. Contract mobilization activities related to key submittals, are incurring delays, which is reducing time to design, fabricate, and install equipment. Additionally, it was decided to

change the design of the backbone communication system (BCS) and the telephone system (from conventional to VoIP) which could further delay completion of design activities for the Contract.

**Contracts CH053/54A:** The PMOC remains concerned that the CH053/CH054A Contracts continue to have delays, with a potential for additional construction delays and increased cost due to their high degree of dependence upon the railroads' Force Account support, which has been historically inconsistent. Although the Contractor continues to progress its construction as rapidly as possible, important tasks continue to be postponed due to lack of proper Force Account protection. The ESA PMT is responsible for allocating a fixed amount of railroad personnel to the various Contracts, but continues to place lower priority on CH053/CH054A tasks than for other Harold work. To avoid further schedule slippage, the PMOC recommends that the ESA PMT place a greater priority on the CH053/CH054A work tasks.

**Contract CH057A:** The PMOC is concerned that the CH057A contractor is dependent upon railroad Force Account support in the same manner that the CH053/CH054A contractor is. As a result, CH057A progress has been negatively affected because all three contracts must use the same limited Force Account personnel (which the MTACC is responsible to allocate). The PMOC believes that MTACC should have applied "lessons learned" from previous contracts CQ031 and CQ039 and waited until CH053 and CH054A were much closer to actual Substantial Completion before advertising CH057. The PMOC recommends that the MTACC do everything possible to expedite SC for contracts CH053 and CH054A so that CH057A has a much clearer path for the remainder of its construction.

**Project Funding/Budget:** As stated in the Risk Management Section, the PMOC believes that the timing and availability of funding presents a significant schedule risk to the project. The timing of funding has impacted the CS179 package (restructured with options due to funding availability) and the CM007 procurement (moved out to the 4<sup>th</sup> Quarter of 2015 for full Award). The PMOC has also heard that ESA does not have adequate funding at this time to Award the entire CM014B package due to the significant cost overrun and it will be given in stages. The PMOC has recommended to the ESA Project Controls Group that a cash flow projection be developed along with a funding availability projection to assess the risks to the project should funding not be available in the necessary time frame; only the cash flow has been provided.

The PMOC is also concerned about the amount of time it is taking to develop and implement its new cost reporting system. This effort began almost one and a half years ago and, as of the end of December 2014, ESA has decided not to create the integrated database and management/reporting system in Unifier but to separately use Expedition. The PMOC had recommended at the July 2014 cost review meeting that the Project Controls Group develop a set of target interim milestones for completing the system, but that was never provided and at this point the effort has been dropped. In December, ESA finally demonstrated the Unifier system to the PMOC. It was clear that very little data had been entered and that the Access Rights were very limited.

**Project Schedule:** One of the major concerns about the revised baseline schedule presented to the MTA CPOC in June 2014 is that ESA has been unable to produce/provide a basis of schedule for its new baseline, despite several requests from the PMOC at monthly schedule review meetings. As mentioned above, the PMOC is also concerned about the inability of the CS179 Contractor to produce a viable schedule ten months into the Contract. This is a key remaining Contract and is one of the most complex. The CM006 Contract has experienced significant

delays and ESA has requested a recovery schedule from the Contractor. Additionally, as noted below, the procurement schedules for the CM014B and CM007 Contract packages have slipped substantially.

**Risk Management:** In the PMOC's opinion, funding availability continues to be a significant risk on the ESA project. Funding uncertainty has resulted in: the PMT's delay of CM007 Contract award until 2015 due to budget constraints; and the restructuring of the CS179 Contract by splitting it into a base contract with seven options, based predominately on access restraints imposed by the CM005; CM006; CM007; and CM014B packages, which will significantly increase the interface risks. This segmentation of construction packages has resulted in multiple inter-contract interfaces and milestones. The probability of successfully achieving all of them is minimal in the PMOC's opinion, and leads to the possibility of a ripple effect of delays and coordination difficulties between contracts. There is very limited opportunity for the contractors to make up time lost to interface delays. Managing inter-contract handoffs and interfaces will be challenging. Schedule risks will be exacerbated if funding is not in place to award the options in the CS179 Contract Package as planned. Access Restraints in the CS179 Contract are correlated to the options in the Contract; and the CS179 Contract will also have multiple interfaces to the CM007 and CM014B Contracts. Given that this work is on the project critical path, delays in awarding the options will result in the use of Program schedule contingency.

The PMOC remains concerned about the coordination risk retained by MTACC on the completion of the work in Manhattan, especially with regard to the construction and testing interface management for the systems work. When combined with the extensive scoping re-configuration changes associated with the Harold Interlocking work, the PMOC believes that this may create significant changes to the overall project risk profile. Preliminary indications from ESA are that the Harold work could extend as far out as April 2022 given current production trends coupled with delays due to changes in cutover sequencing; delays to current work (e.g., 12KV relocation); and design changes necessitated by Civil Speed Enforcement requirements mandated by the MTA.

## **APPENDIX A -- ACRONYMS**

AFI	Allowance for Indeterminates
ARRA	American Recovery and Reinvestment Act
BA	Budget Adjustment
BCS	Backbone Communication System
C&S	Communication and Signals
CCC	Change Control Committee
CCM	Consultant Construction Manager
CCU	Code Compliance Unit
CM	ESA Construction Manager assigned to each contract
CMP	Cost Management Plan
CPOC	Capital Program Oversight Committee
CR	Candidate Revision
CSSR	Contact Status Summary Report
CIL	Central Instrument Location
CPRB	Capital Program Review Board
CPP	Contract Packaging Plan
DCB	Detailed Cost Breakdown
ELPEP	Enterprise Level Project Execution Plan
EPC	Engineering-Procurement-Construction
ERT	East River Tunnel
ESA	East Side Access
ET	Electric Traction
FA	Force Account
FAMP	Force Account Management Plan
FHACS	“F” Harold Alternate Control System
FFGA	Full Funding Grant Agreement
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GCT	Grand Central Terminal
GEC	General Engineering Consultant
HTSCS	Harold Tower Supervisory Control System

IEC	Independent Engineering Consultant (to MTA)
IFB	Invitation for Bid
IPS	Integrated Project Schedule
IST	Integrated System Testing
LIRR	Long Island Rail Road
MNR	Metro-North Railroad
MTA	Metropolitan Transportation Authority
MTACC	Metropolitan Transportation Authority Capital Construction
N/A	Not Applicable
NTP	Notice-to-Proceed
NYAR	New York and Atlantic Railroad
NYCDEP	New York City Department of Environmental Protection
NYCDOB	New York City Department of Buildings
NYCT	New York City Transit
NYSPTSB	New York State Public Transportation Safety Board
OCO	Office of Construction Oversight (MTA)
PAC	Pneumatically Applied Concrete
PCO	Preliminary Change Order
PEP	Project Execution Plan
PMOC	Project Management Oversight Contractor (Urban Engineers)
PMP	Project Management Plan
PMT	ESA Project Management Team
PQM	Project Quality Manual
PWE	Project Working Estimate
QA	Quality Assurance
RAMP	Real Estate Acquisition Management Plan
RFP	Request for Proposal
RMCP	Risk Mitigation Capacity Plan
RMP	Risk Management Plan
ROD	Revenue Operations Date
ROW	Right of Way
RSD	Revenue Service Date

SC	Substantial Completion
SCC	Standard Cost Category
SIR	Supplemental Independent Reviewer
SMP	Schedule Management Plan
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSPP	System Safety Program Plan
TBD	To Be Determined
TBM	Tunnel Boring Machine
TCC	Technical Capacity and Capability
VE	Value Engineering
VoIP	Voice over Internet Protocol
WBS	Work Breakdown Structure
WBY	Westbound Bypass Tunnel

**APPENDIX B – TABLES**

**Table 1: Summary of Critical Dates**

	FFGA	Forecast (F) Completion, Actual (A) Start	
		Grantee*	PMOC**
Begin Construction	September 2001	September 2001(A)	September 2001(A)
Construction Complete	December 2013	December 2022 (F)	September 2023(F)**
Revenue Service	December 2013	December 2022 (F)	September 2023 (F)

\* Source – Grantee forecast Revenue Operations Date per information presented to the MTA CPOC in June 2014.

\*\*Source –Based on PMOC 2014 schedule trending analysis representing a medium degree of mitigation.

**Table 2: Project Budget/Cost Table**

	FFGA			MTA's Current Baseline Budget CBB		Expenditures	
	(Millions)	(% of Grand Total Cost)	Obligated	(Millions)	(% of Grand Total Cost)	(Millions)	(% of CBB)
Grand Total Cost	\$7,386	100.00%	\$4,724	\$11,214	100.00%	\$6,042	53.88%
Financing Cost	\$1,036	14.00%	\$617	\$1,036	9.24%	618	59.61%
Total Project Cost	\$6,350*	86.00%	\$4,107	\$10,178	90.76%	\$5,424	53.29%
Federal Share	\$2,683	36.30%	\$1,148	\$2,699	24.07%	\$1,985	73.53%
5309 New Starts share	\$2,632	35.60%	\$1,098	\$2,437	21.73%	\$1,722	70.69%
Non New Starts grants	\$51	0.70%	\$50	\$67	0.60%	\$67	99.55%
ARRA	0	0.00%	0	\$195	1.74%	195	100.00%
Local Share	\$3,667	49.60%	\$2,959	\$7,479	66.69%	\$3,440	45.99%

**Table 3: Project Budget and Invoices as of December 31, 2014**

Elements	Baseline Total Budget (June 2014)	Current Baseline Budget (Dec 2014)	Actual Awards (Dec 2014)	Paid to Date (Dec 2014)	Actual % Budget Paid
Construction	\$7,379,296,706	\$7,353,687,141	\$4,965,423,099	\$3,809,019,232	51.80%
<b>Soft Costs Subtotal</b>	<b>\$2,798,474,304</b>	<b>\$2,824,083,869</b>	<b>\$1,603,571,661</b>	<b>\$1,520,835,873</b>	<b>20.68%</b>
Engineering	\$720,615,810	\$720,615,810	\$653,226,882	\$630,428,927	87.48%
OCIP	\$282,613,620	\$282,613,620	\$187,960,159	\$174,847,432	61.87%
Project Mgmt.	\$972,168,644	\$972,168,644	\$646,491,911	\$601,469,058	61.87%
Real Estate	\$182,076,230	\$182,076,230	\$115,892,709	\$114,090,456	62.66%
Rolling Stock	\$202,000,000	\$202,000,000	\$0	\$0	0.00%
<b>Project subtotal w/o Financing &amp; RI</b>	<b>\$10,177,771,010</b>	<b>\$10,177,771,010</b>	<b>\$6,568,994,760</b>	<b>\$5,329,855,105</b>	<b>52.37%</b>
<b>RI Subtotal</b>	<b>\$758,260,953</b>	<b>\$758,260,953</b>	<b>\$272,435,735</b>	<b>\$77,451,851</b>	<b>10.21%</b>
Construction (RI)	\$611,214,337	\$611,214,337	\$213,020,634	\$41,614,493	6.81%
Design (RI)	24,595,433	24,595,433	\$24,595,433	\$15,976,887	64.96%
OCIP (RI)	\$16,939,198	\$16,939,198	\$16,939,198	\$16,939,198	100.00%
Project Mgmt. (RI)	\$24,181,291	\$24,181,291	\$17,880,470	\$2,921,273	12.08%
Real Estate (RI)	\$0	\$0	\$0	\$0	0.00%
Rolling Stock(RI)	\$50,000,000	\$50,000,000	\$0	\$0	0.00%
<b>Project Subtotal w/o Financing</b>	<b>\$10,936,031,963</b>	<b>\$10,936,031,963</b>	<b>\$6,841,430,496</b>	<b>\$5,407,306,956</b>	<b>49.44%</b>
Finance Charges	\$1,036,100,000	\$1,036,100,000	\$617,607,000	\$617,607,000	59.61%
<b>Grand Total</b>	<b>\$11,972,131,963</b>	<b>\$11,972,131,963</b>	<b>\$7,459,037,496</b>	<b>\$6,024,913,956</b>	<b>50.32%</b>

Note: ESA is currently carrying the Rolling Stock Reserve as an off-line cost, not in the Budget.



**Table 4: Comparison of Standard Cost Categories: FFGA vs. CBB**

Standard Cost Category (SCC) No.	FFGA SCC baseline (YOE \$) M	June, 2014 Re-Plan (YOE \$)	Nov 2014 SSC (YOE \$) M	Dec 2014 SSC (YOE \$) M	Dec 2014 % of Re-Plan	Sept '14 to Dec '14 Change \$M	CBB Variance from FFGA %
10	1,989	3,405	3,409	3,399	99.82%	-10	70.89%
20	1,169	2,238	2,250	2,264	101.16%	19	93.67%
30	356	474	474	475	100.21%	2	33.43%
40	205	611	605	605	99.02%	-1	195.12%
50	619	606	571	567	93.56%	-39	-8.40%
60	165	220	219	219	99.55%	0	32.73%
70	957	210	210	210	100.00%	0	-78.06%
80	1,184	1,975	1,975	1,975	100.00%	0	66.81%
<b>Subtotal</b>	<b>6,813</b>	<b>10,178</b>	<b>10,178</b>	<b>10,178**</b>	<b>100.00%</b>	<b>0</b>	<b>49.39%</b>
100	1,036	1,036	1,036	1,036	100.00%	0	0.00%
<b>Total Project Cost (10 - 100)</b>	<b>7,849</b>	<b>11,214*</b>	<b>11,214*</b>	<b>11,214*</b>	<b>100.00%</b>	<b>0</b>	<b>42.87%</b>

\*This total amount does not include Regional Investment amount of \$758,260,953.

\*\* Sum of rounded values for current month is less than actual summed value

#### Reasons for Changes to SCC Codes:

The SCC codes 10 20 and 30 changed due to transfer of Bellmouth Closure from CM012A to CM007 and CQ032

The SCC codes 10 30 and 50 changed due to transfer of the YLT Ductbench from CS284 to CQ032

The SCC codes 10 and 20 changed due to the NYCT FA Budget Consolidation

The SCC codes 20 and 90 changed due to funds transfer for Yale Club Improvements

Other changes are attributable to issue changes that affect contingency

**COST ANALYSIS TABLES- 2014 Re-Plan- November 2014**

**Table 5: ESA Planned Cash Flow**

**12/31/14**

Quarter/ year	Construction \$(000)	Engineering \$(000)	OCIP \$(000)	Project Mgmt. \$(000)	Real Estate \$(000)	Rolling Stock \$(000)
Invoiced To Date	3,837,410,052	625,725,941	174,752,914	596,390,863	114,068,968	0
<b>Remaining</b>	<b>3,548,451,714</b>	<b>94,889,869</b>	<b>107,860,706</b>	<b>375,777,781</b>	<b>68,007,262</b>	<b>202,000,000</b>
4Q2014	159,139,617	4,018,264	0	16,014,544	0	0
<b>Remaining Planned</b>	<b>3,389,312,096</b>	<b>90,871,605</b>	<b>107,860,706</b>	<b>359,763,237</b>	<b>68,007,262</b>	<b>202,000,000</b>
<b>Remaining Actual</b>	<b>3,361,468,601</b>	<b>89,521,790</b>	<b>107,671,651</b>	<b>357,288,386</b>	<b>67,980,830</b>	<b>202,000,000</b>
1Q2015	158,808,550	3,950,940	0	15,666,401	0	0
2Q2015	148,090,046	3,994,839	4,425,268	15,840,473	3,427,824	0
3Q2015	158,349,548	4,038,738	4,498,615	16,014,544	3,484,638	0
4Q2015	150,074,456	4,038,738	4,498,615	16,014,544	3,484,638	0
1Q2016	190,727,218	3,994,839	4,449,717	15,840,473	3,446,762	0
2Q2016	190,538,714	3,994,839	4,449,717	15,840,473	3,446,762	4,262,235
3Q2016	209,991,019	4,038,738	4,498,615	16,014,544	3,484,638	13,070,855
4Q2016	193,468,104	4,038,738	0	16,014,544	3,484,638	13,070,855
1Q2017	191,280,417	3,950,939	4,400,819	15,666,401	3,408,885	12,786,706
2Q2017	180,831,611	3,994,839	4,449,717	15,840,473	3,446,762	12,786,706
3Q2017	150,687,093	4,038,738	4,498,615	16,014,544	3,484,638	13,070,855
4Q2017	150,139,949	4,038,738	4,498,615	16,014,544	3,484,638	13,070,855
1Q2018	162,268,503	3,950,939	4,400,819	15,666,401	3,408,885	12,786,706
2Q2018	163,902,316	3,994,839	4,449,717	15,840,473	3,446,762	12,928,780
3Q2018	165,491,619	4,038,738	4,498,615	16,014,544	3,484,638	13,696,710
4Q2018	163,375,120	4,038,738	4,498,615	16,014,544	3,484,638	14,014,767
1Q2019	155,623,337	3,950,939	4,400,819	15,666,401	3,408,885	13,710,098
2Q2019	145,591,558	3,994,839	4,449,717	15,840,473	3,446,762	13,862,433
3Q2019	144,263,327	4,038,738	4,498,615	16,014,544	3,484,638	14,014,767
4Q2019	122,877,524	4,038,738	4,498,615	16,014,544	3,484,638	14,014,767
1Q2020	50,376,841	3,994,839	4,449,717	15,745,452	2,272,590	9,458,123
2Q2020	28,082,800	3,994,839	4,449,717	15,561,541	0	933,653
3Q2020	9,913,384	2,721,758	4,594,094	10,602,368	0	318,057
4Q2020	2,750,374	0	4,791,416	0	0	0
1Q2021	1,808,670	0	4,687,255	0	0	0
2Q2021	0	0	26,040	0	0	0
3Q2021	0	0	0	0	0	0
4Q2021	0	0	0	0	0	0
<b>Subtotal</b>	<b>10,299,232,411</b>	<b>275,283,264</b>	<b>318,894,448</b>	<b>1,092,829,404</b>	<b>203,995,354</b>	<b>605,857,925</b>

**Table 6- MTA ESA Project Summary by FTA Standardized Cost Categories  
2014 Re-plan (\$ in Thousands)**

<b>Standardized Cost Category</b>	<b>FFGA</b>	<b>May 2012 Re-Baseline</b>	<b>June 2014 Re-Plan</b>	<b>Awarded Value (4Q14)</b>	<b>Paid To Date (4Q14)</b>
10- Guideway & Track Elements	\$1,513,998	\$2,943,165	\$3,405,463	\$2,680,463	\$1,875,309
20- Stations, Stops, Terminals, Intermodal	\$1,168,655	\$1,513,998	\$2,238,235	\$1,226,820	\$1,050,349
30- Support Facilities, Yards, Shops, Admin Buildings	\$356,264	\$384,583	\$474,177	\$209,900	\$200,841
40- Site Works and Special Conditions	\$205,105	\$491,341	\$610,570	\$417,761	\$407,856
50- Systems	\$619,343	\$698,296	\$605,592	\$389,434	\$261,070
60-ROW, Land, Existing Improvements	\$165,280	\$203,639	\$219,397	\$153,209	\$151,416
70- Vehicles	\$493,982	\$674,372	\$209,938	\$7,838	\$5,549
80- Professional Services	\$1,184,000	\$1,648,606	\$1,975,398	\$1,494,826	\$1,417,392
Sub-Total	\$6,349,900	\$8,708,000	\$10,177,771	\$6,580,251	\$5,369,782
Estimated Financing Cost	\$1,036,100	\$1,116,000	\$1,036,000	\$617,607	\$617,607
Total	\$7,386,000	\$9,824,000	\$11,213,771	\$7,197,858	\$5,987,389

**Table 7 – ESA Core Accountability Items**

Project Status:		Original at FFGA	Current*	ELPEP **
Cost	Cost Estimate	\$7.368B	\$10.178B	\$8.119B
Schedule	RSD	December 31, 2013	December 2022	April 30, 2018
Total Project Percent Complete	Based on Invoiced Amount	54.3		
	Based on Earned Value	NA		
Major Issue	Status	Comments		
Major Procurements Delays	CM014B was advertised in May 2014; ESA did not make its recommendation to award forecast date of November 2014 for this package, and did not make its last forecast date of November 2014 for advertising CM007. CM007 was advertised in late December 2014, and the CM014B award recommendation was made in January 2015.	PMOC remains concerned about the potential project schedule impacts of procurement delays on these two packages, since they are on the critical and near critical paths for the project.		
Project Schedule	MTACC presented a new baseline schedule to the MTA CPOC in June 2014, with an RSD in December 2022. This schedule incorporates 22 months of Program level contingency. It should be noted that there have been significant changes in elements comprising the baseline schedule, including a re-planning of the Harold work and a restructuring of the CM007 package procurement.	CM006 has experienced significant delays. ESA has requested a recovery schedule from the Contractor. The PMOC is also concerned about the inability of the CS179 Contractor to produce a viable schedule. This is a key remaining Contract which is on the critical path and also one of the most complex.		
Harold Re-planning	The ESA re-planned the remaining work at Harold, as such, the Harold baseline schedule that formed the basis of the Program schedule presented to the CPOC in June 2014, is no longer valid.	Work within and around the Harold Interlocking is subject to influences outside of the control of ESA. Continuing issues with the level of Amtrak force account support, which is currently providing only 30-35% of the planned level required to maintain the current schedule would be significant and could delay the Harold Interlocking work another three years until 2022 under the worst-case trending scenario.		

\* Current Budget was approved by MTA CPOC in June 2014. \*\* 2010 Enterprise Level Project Execution Plan (ELPEP) reflecting medium level of risk mitigation, excluding financing cost of \$1,116 million.