



National Museum of African American History and Culture 2012 Annual Progress Report On EIS Tier I and II Mitigations and Section 106 Programmatic Agreement

Executive Summary

This short document provides an overview of those mitigations that have been fully completed in the past year. The attached report in table form includes the text of the mitigation measures from the Tier 1 and II Records of Decision and the Section 106 Programmatic Agreement and documents specific progress on each.

1. Land Use and Planning Policy

The above-grade building footprint has been refined to not exceed 216'x216'. The location has been refined so that the outer edge of the substantial mass of the building (the Corona) is set back from the McMillan line a distance of 19'-8" and the porch has been refined to extend south beyond the line by 24'-5" with all of its occupied area north of the setback line.

2. Visitor Experience

Fences with graphic concealment screens have been implemented to limit the visual intrusion of the construction site. A public observation trailer at the corner of 14th Street and Constitution Avenue has been erected on site and will soon incorporate additional information about the future museum.

3. Visual Resource

The selected building materials and lighting design are harmonious to the area. An illumination study provided the basis for appropriate lighting of the NMAAHC building and site (consistent with the measured lighting levels of other museums and similarly deferential to the Washington Monument and Capitol Building).

4. Geology, Soils, and Groundwater

Baselines have been established and test piles have been completed with monitoring of vibrations and acoustics showing negligible impacts well within the tolerance levels established in consultation with the National Park Service and neighboring Federal Triangle building representatives. A Support of Excavation (SOE) wall has been built to limit the effects of soil stress changes caused by excavation and construction and maintain current groundwater levels. All design plans were reviewed by licensed engineers.

5. Natural Resource

The final design necessitated the removal of existing trees but the design incorporates replacement with new trees of equal aggregate trunk diameter.

6. Transportation

Metrobus stops have been relocated during construction and the design provides for permanently relocating the Metrobus stop along 14th Street to avoid conflicts with the delivery ramp and place it closer to the main entrance; traffic control plans for construction were approved by DDOT and NPS for streets under their respective jurisdictions and are in place.

7. Surface Water: Construction phase mitigation measures are in place and ongoing.

8. Air Quality: Construction phase mitigation measures are in place and ongoing.

9. Noise: Construction phase mitigation measures are in place and ongoing.

10. Utilities and Infrastructure: Construction phase mitigation measures are in place and ongoing.

11. Sanitary Sewer

Plumbing fixtures have been selected and specified to meet mitigation requirements for low water use. All mechanical equipment that discharges clean water is designed to be directed to the storm system.

12. Public Health and Safety

Security measures have been incorporated into the design of the building and its perimeter.

13. Historic Resources

- Views and Vistas

Building has been designed to minimize loss of views across site by incorporating transparent glass on the first floor. Building has been designed to minimize adverse effect on the existing cultural landscape by reducing the scale, choosing a non-highly reflective corona material, and refining the appearance of the roof.

- Spatial Organization

West skylight in proposed landscape plan has been eliminated.

- Buildings and Structures

Building design has been refined to not exceed 126' above sea level, stay within 216'x216' footprint, reduce the amount by which the porch exceeds the McMillan set back line, have a non-highly reflective façade, and provide opportunities to view the Washington Monument from within the NMAAHC.

- Programmatic Agreement

- HABS/HALS quality photographic recordation of the Washington Monument has been undertaken
- Water intake tunnel has been documented
- Bullfinch Gate Post protection plan complete and in place
- Other mitigations including monitoring of adjacent properties during construction, tree planting on the Washington Monument grounds, updating the National Register nominations for the National Mall and the Bullfinch Gate Posts and Gate Houses and development of the Bullfinch Gate Post treatment plan are currently underway but not yet completed



**National Museum of African American History and Culture
2012 Annual Progress Report**

On EIS Tier I and II Mitigations and Section 106 Programmatic Agreement

This is the first annual report identifying the measures being taken by the Smithsonian Institution in accordance with its Tier I and II Records of Decision (ROD) and Programmatic Agreement for the National Museum of African American History and Culture. The first section is the ROD mitigations and the second is the Programmatic Agreement. As the anticipated date for completion of the project is November 2015, this will be the first of five reports. These reports are to be submitted on or about October 1st of each year until the mitigation measures have been completed.

KEY

COMPLETE
ONGOING
PREVIOUSLY COMPLETED
DUPLICATE MITIGATION

Record of Decision Mitigation

Land Use and Planning Policy

Mitigation Measures (from EIS Tier I and II Records of Decision)	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> The Smithsonian Institution shall reduce the facility’s footprint to no more than 216 feet x 216 feet to maintain as much open space on the site as possible, particularly on the western and southern sides of the building. 	NCPC	Design COMPLETE (as of Report 2012)	Final design of building footprint is 216’x216’.
<ul style="list-style-type: none"> The alternative shall continue to respect the urban context and established setbacks of the site by locating the mass of the building (Corona) behind the 445-foot McMillan setback line; studies are underway to refine the Corona and the porch to modestly increase the setback of the building mass from the McMillan line and reduce the extension of the porch across the McMillan line by at least 20 percent (i.e. from 32 feet to no more than 25 feet across the McMillan line). 	NCPC	Design COMPLETE (as of Report 2012)	Final design of the building Corona is set back 19’-8” from the McMillan line. Porch extends 24’-5” south of McMillan line with all of its occupied portion north of the McMillan line.
<ul style="list-style-type: none"> The loss of public space for large-scale gatherings and demonstrations will be offset by providing outdoor space on the NMAAHC site for a range of programmed activities (related to the museum’s mission) that will be open to the public (Tier I). 	NCPC	Operation	Design includes “reading groves” and other paved areas suited to future programmed activities.

Visitor Experience

Mitigation Measures	Monitoring	Phase and	Measures Taken
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	Responsibility	Status	
<ul style="list-style-type: none"> Concealment screens will be implemented around the site during construction to minimize impacts to visitor experience from noise and dust. The screens should convey information relating to the NMAAHC, including its background and mission and elements of African American history and culture (Tier I) [and will be coordinated with DDOT to meet or exceed their standards]. 	NPCPC	Construction. Ongoing.	Wood fence installed around ¾ of site with NMAAHC graphics. Remaining area is currently a chain link fence because it is being moved at night for roadwork. Will be replaced by a wood fence upon completion of this work. All DDOT signs are installed based on approved traffic control plan.
<ul style="list-style-type: none"> The loss of public space for large-scale gatherings and demonstrations will be offset by providing outdoor space on the NMAAHC site for a range of programmed activities that will be open to the public (Tier I). 	NPCPC	Operation Ongoing.	Design includes “reading groves” and other paved areas suited to future programmed activities.

NOTE: ALL HISTORIC RESOURCE-RELATED ITEMS ARE AT THE END

Visual Resources

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> The exterior building materials shall not be highly reflective to minimize glare. 	NPCPC	Design Ongoing.	Corona material has a matte bronze finish. Sample to be shown at final commission reviews scheduled for 9/20/12 (CFA) and 11/1/12 (NPCPC).
<ul style="list-style-type: none"> The Smithsonian Institution shall complete an illumination study as part of the final design to ensure that lighting levels of the NMAAHC would be consistent with the other museums on the north side of the National Mall and deferential to the Washington Monument and Capitol Building. 	NPCPC	Design. COMPLETE (as of Report 2012).	The A/E team performed a night survey of the Mall to record the applicable brightness levels and fully understand how the NMAAHC building would fit into this context. Readings were made with a Minolta 1° Luminance meter and concentrated on the typical and maximum brightness for each facade.
<ul style="list-style-type: none"> The Smithsonian Institution shall eliminate the skylight located on the western side of the site along the 15th Street sidewalk. 	NPCPC	Design COMPLETE (as of Report 2012)	Western skylight eliminated from design.
<ul style="list-style-type: none"> Concealment screens will be implemented around the site during construction to minimize impacts to visitor experience from noise and dust. The 	NPCPC	Construction Ongoing.	Wood fence installed around ¾ of site with NMAAHC graphics. Remaining area is currently

<p>screens should convey information relating to the NMAAHC, including its background and mission, and elements of African American history and culture (Tier I).</p>			<p>a chain link fence because it is being moved at night for roadwork. Will be replaced by a wood fence upon completion of this work. All DDOT signs are installed based on approved traffic control plan.</p>
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Geology, Soils, and Groundwater

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> The potential impacts on geology, soils, and groundwater resources will be minimized to no impact or a less than significant impact with implementation of appropriate Best Management Practices (BMPs) during clearing, excavation, and construction. 	<p>NCPC</p>	<p>Construction Ongoing.</p>	<p>Permits complete. Super silt fence installed (see photographs on website). Ground water well test points established. Minimal contamination found, continued monitoring. Manifests available on site for all contaminated soil.</p>

Soil Erosion

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> Appropriate stormwater management and soil erosion measures shall be implemented in accordance with District of Columbia regulations and applicable federal storm water management guidelines and regulations. 	<p>NCPC</p>	<p>Design, Construction: Ongoing.</p>	<p>Permits complete. Super silt fence installed (exceeding document requirements). Storm drain inlet protected as required by DC permit & site inspection (see photograph on website).</p>
<ul style="list-style-type: none"> Positive surface drainage shall be maintained in a manner to prevent the accumulation of water and minimize erosion. 	<p>NCPC</p>	<p>Design, Construction: Ongoing</p>	<p>Permits complete. Super silt fence installed (exceeding document requirements). Storm retention pond was installed at NW corner of site as required by DC permit.</p>

Geology/Soils

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> To maintain soil stability on the project site, either on-site soils or compatible off-site soils shall be used as fill. Fill soils shall have a maximum liquid limit of 45 and plasticity of less than 20. The moisture content of fill soils shall be within two percentage points of the optimum moisture content as determined from the standard Proctor density test, ASTM D 698. 	<p>NCPG</p>	<p>Construction Ongoing.</p>	<p>Only engineer-approved soil (select backfill) is being placed and inspected by SI's 3rd party testing agent (ECS). Compaction has been maintained- reports filed on site.</p>
<ul style="list-style-type: none"> The Smithsonian Institution is committed to protecting the nearby resources on the National Mall and within the Federal Triangle and will implement a monitoring and contingency plan that will be developed to monitor vibrations, soil stability and groundwater movement on site and within surrounding areas during construction. The monitoring and contingency plan, once developed, will outline the required monitoring periods for each type of monitoring instrument. Typically, monitoring well and excavation support monitoring instruments (inclinometers, tiltmeters, and survey points) are installed prior to beginning excavation on site. This advance installation provides a preliminary period to develop a preconstruction baseline reading for the instrument showing natural deviations in readings. Once a baseline has been established readings may be taken weekly or daily depending on what is outlined in the plan. These plans would also include a preconstruction survey identifying the current conditions of adjacent structures prior to NMAAHC construction activities, as well as a post-construction survey. The monitoring plan will be coordinated with monitoring well access points already in place at the Washington Monument. 	<p>NCPG</p>	<p>Construction Ongoing.</p>	<p>Established preconstruction baseline survey. Preliminary monitoring inclinometers and well points locations established and coordinated and approved by AE & NPS. Piezometer readings being taken weekly.</p>
<ul style="list-style-type: none"> Optical survey points and geotechnical instrumentation will be used during construction, to detect any movement in the area and take immediate corrective action. As specific monitoring plans are developed during the detailed design phase of the project, additional measures may be identified and coordinated with NPS. 	<p>NCPG</p>	<p>Construction Ongoing.</p>	<p>Optical survey points and geotechnical instrumentation are being used to monitor any movement in the SOE. Crack monitors were added to the Wash. Monument post-earthquake.</p>
<ul style="list-style-type: none"> Test piles shall be conducted by the 	<p>NCPG</p>	<p>Design</p>	<p>Test piles were conducted;</p>

<p>project's construction manager on the site prior to construction to determine the feasibility of utilizing a driven pile foundation system and provide input on the performance of the soils. Prior to any test of pile driving operations, a monitoring program utilizing seismographs and sound level meters to collect noise and vibration readings shall be installed at various radii from the test area and at critical buildings around the NMAAHC site, including the Washington Monument, the National Museum of American History, the Herbert C. Hoover Commerce Building, and the EPA Headquarters and Mellon Auditorium so that any vibrations during the test can be measured. Continuous baseline readings will be established before any pile driving.</p>		<p>COMPLETE (as of Report 2012)</p>	<p>Seismographic monitoring program implemented. Negligible effect discovered. Report filed on site.</p>
<ul style="list-style-type: none"> Pile installation monitoring shall be coordinated with adjacent property owners and occupants, and should be conducted by utilizing seismographs and a Pile Driving Analyzer (PDA) under the full time supervision of a qualified geologist/geotechnical engineer. 	<p>NCPC</p>	<p>Construction. Ongoing.</p>	<p>Completed test piles (2011). The established monitoring program will be repeated for production plies starting late September 2012.</p>

Groundwater

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> To limit the effects of soil stress changes caused by excavation and construction on adjacent structures, the use of a rigid Support of Excavation (SOE) system shall be employed. The SOE system would function two ways: (1) it would allow for excavation and construction of the building by creating a rigid wall between the exterior of the site and the building area allowing for vertical soil excavation without causing soil instability in the surrounding area and (2) it would provide a permanent groundwater cutoff between the building and the surrounding area to maintain current groundwater pressures. The intent of the cutoff wall would be to greatly reduce the amount of groundwater intrusion into the site, allowing for dewatering of the zone within the SOE by utilizing a conventional subdrainage pumping system (Froehling & Robertson, 2010). 	<p>NCPC</p>	<p>Design, Construction: COMPLETE (as of Report 2012)</p>	<p>An SOE wall has been built to limit the effects of soil stress changes caused by excavation and construction.</p>
<ul style="list-style-type: none"> Prior to construction, a licensed structural engineer shall review all SOE design plans and specifications to verify the 	<p>NCPC</p>	<p>Design, Construction COMPLETE (as</p>	<p>Contractor (Clark Foundations) maintains an engineer to review all plans</p>

<p>stability of the system. Prior to construction, a licensed geotechnical engineer shall review all pile design plans and specifications for piles, or caissons, or augured piles, or drilled shafts for conformance to the design intent.</p>		<p>of Report 2012)</p>	<p>and specifications. All pile design plans and specifications were reviewed by a geotechnical engineer. F&R was retained to perform Environmental Services and Geotechnical Engineering.</p>
<ul style="list-style-type: none"> Periodic groundwater monitoring shall occur before, during, and after dewatering activities to further verify data and establish a trend analysis of the groundwater data. A system of monitoring wells shall be installed and recorded during construction. These wells shall be used to demonstrate that the dewatering activities would be constrained to the site area and would not induce stress changes below adjacent structures. Monitoring is continued until the activity requiring monitoring is completed. For dewatering, water wells would be read until construction dewatering is completed and the permanent dewatering system is in operation. The SOE monitoring would continue until the building has reached ground level and the annular space between the SOE and the building wall has been filled in. With the use of vibration and/or air noise monitors, monitoring may continue past completion of construction. The NMAAHC vibration and groundwater monitoring efforts will be coordinated with the monitoring well access points already in place at the Washington Monument. Additionally, the SOE contractor will be required to install a groundwater reinjection system should groundwater depressions be observed during construction. 	<p>NCP</p>	<p>Construction: Ongoing. Operation</p>	<p>Piezometers well points locations established and coordinated and accepted by AE & NPS. Wells located within and outside the SOE. Monitoring is ongoing.</p>

Natural Resource

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> Continue to consider measures to avoid the loss of trees on the site. 	NCPC	Design, Construction. COMPLETE (as of Report 2012)	Final design required removal of existing trees. Design incorporates replacement with new trees of equal aggregate diameter.
<ul style="list-style-type: none"> To minimize adverse effects associated with the loss of trees, the Smithsonian shall try to retain existing site trees to the extent practicable. For those trees that are candidates for being retained in place, the drip lines of these trees shall be fenced by a certified arborist prior to the start of construction. 	NCPC	Design, Construction. COMPLETE (as of Report 2012)	Final design required removal of existing trees. Design incorporates replacement with new trees of equal aggregate diameter.
<ul style="list-style-type: none"> To mitigate the loss of trees during construction, new trees that total the aggregate diameter breast height (dbh) of the trees lost (493.5 inches) shall be planted on site (or adjacent parcels). 	NCPC	Design. COMPLETE (as of Report 2012)	Landscape plan by landscape architect includes new trees that total the aggregate diameter breast height of the trees lost.

Transportation

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> Work with DDOT to optimize signal timing and coordination at appropriate intersections and install enhanced pavement markings and other roadway changes to accommodate the projected museum vehicular and pedestrian traffic. These improvements have been identified for the Constitution Avenue and 14th Street intersection by DDOT. 	SI, NCPC	Design. Ongoing.	Traffic study underway at 15 th and Constitution (Gorove/Slade). DDOT has Implementing Responsibility
<ul style="list-style-type: none"> Work with DDOT to restrict charter bus drop-off and pick-up activity to appropriate locations and times; and prohibit parking on 14th and 15th Streets along the site boundary. 	SI, NCPC	Construction Ongoing.	Traffic control plans approved by DDOT & NPS. DDOT has Implementing Responsibility
<ul style="list-style-type: none"> Work with DDOT to “enhance signalization, signage and pavement marking improvements to address the increased potential amount of pedestrian-vehicular conflicts that would occur (Tier I)” and implement pedestrian mitigation measures at adjacent intersections, including optimized pedestrian count-down signals, 10-foot distance between stop bars and crosswalks to separate motorists from crossing pedestrians, ladder-patterned crosswalks for greater visibility, and new curb ramps facing 	SI, NCPC	Construction. Ongoing.	Traffic control plans approved by DDOT & NPS. DDOT has Implementing Responsibility

crosswalks.			
<ul style="list-style-type: none"> Work with WMATA and DDOT to relocate the Metrobus stop and commuter “slug” line to the north or south along 14th Street to minimize conflicts with the eventual location of the 14th Street curb cut for servicing and loading. 	SI, NCPC	Construction. COMPLETE (as of Report 2012)	Stops relocated. DDOT has Implementing Responsibility
<ul style="list-style-type: none"> Work with DDOT to implement the agreed upon appropriate time periods for truck access; in particular trucks over 70 feet in length are restricted to the hours between 11:00 pm and 6:30 am. Other trucks will be encouraged to provide delivery service during non-peak hour time periods. 	DDOT, NCPC	Construction. Ongoing. Operation	Contractor working per DDOT & NPS requirements- Truck entrance ramp located on 14 th St. Sally Port for entrance point control.
<ul style="list-style-type: none"> Conduct construction activities and transporting materials during the weekday off-peak periods, and utilize the lower volume streets (15th Street and Madison Drive) whenever possible, in keeping with the District and Federal [NPS] regulations to minimize the effects from construction traffic, lane closures [and sidewalk closures] (Tier I); and continue to study the possibility of providing alternative pedestrian routes and earlier reopening of the sidewalks along 14th and 15th Streets and possibly Madison Drive. 	DDOT, NCPC	Construction Ongoing.	Construction activities and transport done at off-peak times when possible. Sidewalk of 14 th St. to reopen as soon as deemed safe for pedestrians. Traffic control plans approved by DDOT & NPS.

Surface Water

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> The Tier I Final EIS (Smithsonian Institution, 2008a) required implementation of mitigation measures to minimize adverse effects on surface water resources. Erosion and sediment control plans will be implemented to minimize erosion of exposed soils, slow the rate at which water leaves the site, and capture eroded soils and concentrated nutrients before they enter the downstream water flow. 	NCPC	Design, Construction	Permits complete. Super silt fence installed (exceeding document requirements). Storm drain inlet protected as required by DC permit & site inspection (see photograph on website).
<ul style="list-style-type: none"> Effluent created by dewatering practices associated with construction will be managed in a way that minimizes the potential impacts to water quality within the Potomac River Watershed and will be in compliance with all local and federal permits. 	NCPC	Construction	Permits complete. Super silt fence installed (exceeding document requirements). Storm drain inlet protected as required by DC permit & site inspection (see photograph on website).

Air Quality

Mitigation Measures	Monitoring	Phase and	Measures Taken
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	Responsibility	Status	
<ul style="list-style-type: none"> Use ultra low sulfur diesel fuel in off-road construction equipment. 	DCRA, NCPC	Construction Ongoing.	ULSD fuel is being used.
<ul style="list-style-type: none"> Limit unnecessary idling times on diesel powered engines. 	DCRA, NCPC	Construction Ongoing.	Unnecessary idling times limited on diesel powered engines.
<ul style="list-style-type: none"> Locate diesel powered exhausts away from fresh air intakes. 	DCRA, NCPC	Construction Ongoing.	Diesel powered exhausts located away from fresh air intakes.
<ul style="list-style-type: none"> Utilize water or appropriate liquids for dust control during demolition, land clearing, grading, on materials stockpiled on the ground surfaces, and other activities. 	DCRA, NCPC	Construction Ongoing.	Water truck & hose used to reduce dust. Photograph on website.
<ul style="list-style-type: none"> Cover open-body trucks for transporting materials. 	DCRA, NCPC	Construction Ongoing.	All open-body trucks covered. Photograph on website.
<ul style="list-style-type: none"> Control dust related to the construction site through a soil erosion sediment control procedures. 	DCRA, NCPC	Construction Ongoing.	Water truck & hose used to reduce dust & Super silt fence installed. Photographs on website.

Noise

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> Construction activities and equipment will adhere to District of Columbia and EPA requirements and will be confined to normal working hours to the greatest extent possible. 	DCRA, NCPC	Construction Ongoing.	Construction activities confined to normal working hours to the greatest extent possible. Traffic control plans approved by DDOT & NPS.
<ul style="list-style-type: none"> Noise-controlled construction equipment will be utilized to the greatest extent feasible. 	DCRA, NCPC	Construction. Ongoing.	Noise-controlled equipment utilized to the extent possible.

Utilities and Infrastructure

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> Existing utility lines will be shielded from accidental damage or earth shifting and utilities in the construction area will be adequately rerouted. Consultation will occur with utility service providers. 	DCRA, NCPC	Construction Ongoing.	Engineering site plan contains plans for existing utility lines. Utility Service providers are contacted to prior to work to attend site & inspect operations during any work done in proximity of service. Sewer survey 75% complete, test pits done before work starts.
<ul style="list-style-type: none"> Solid and hazardous wastes will be managed per the appropriate regulations and criteria. 	DCRA, NCPC	Construction Ongoing.	Testing of suspect material is done if found and approved removal plan made if needed. Contaminated soils isolated. LEED requires waste management plan.

Sanitary Sewer¹

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> Use best practices such as low-flow toilets (1.28 gal per flush), ultra low-flow urinals (0.125 gal per flush), low-flow sensor-operated lavatory faucets, and flow-restricting aerators at general use sinks (1.5 gpm flow rate) 	NCPC	Design COMPLETE (as of Report 2012)	Specified plumbing fixtures reflect these low water use requirements.
<ul style="list-style-type: none"> Direct all mechanical equipment that discharges clean water to the storm system 	NCPC	Design COMPLETE (as of Report 2012)	All mechanical equipment that discharges clean water is directed to the storm system.

¹ While the Tier I EIS addressed utilities and infrastructure, concerns were raised regarding the sufficiency of the analysis related to sanitary sewer service. As a result, to minimize potential impacts to the sanitary sewer system, the following measures shall be implemented to reduce the sanitary sewer load generated by the museum.

Public Health and Safety

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> Appropriate [and visible] signage will be posted near the site to redirect pedestrians and bicyclists away from the [fenced-off and patrolled] construction area during the construction period. 	NCPC	Construction Ongoing.	Complete contractor fence with locking gates & signs installed. DDOT signs have been & will be installed to redirect pedestrians and bicyclists based on DDOT approved Traffic control plans.
<ul style="list-style-type: none"> Construction activities will be conducted in compliance with the applicable regulations and guidance and ensure the safety and health of the workers during construction. 	NCPC	Construction Ongoing.	Contractor has a full time safety superintendent & is enforcing OSHA requirements.
<ul style="list-style-type: none"> Appropriate building security measures will be incorporated into the design. 	NCPC	Design COMPLETE (as of Report 2012)	Security measures based on federal and SI standards and risk assessment incorporated into design.
<ul style="list-style-type: none"> Enhanced signalization, signage, and pavement marking improvements are required to increase pedestrian safety 	NCPC	Construction Ongoing.	Traffic control plans approved by DDOT & NPS.

Historic Resources²

Views and Vistas

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> Minimize loss of views across the site by using low reflectivity glass along the perimeter wall of the Corona base to enhance transparency and allow for partial views through the building at the ground level. 	NCPC	Design COMPLETE (as of Report 2012).	Design includes low-reflectivity glass along perimeter wall.
<ul style="list-style-type: none"> Minimize potential adverse effects on distant views of the Washington Monument Grounds, the Mall, and Federal Triangle from locations such as the top of the Washington Monument by avoiding the use of highly reflective materials on the exterior of the Corona and the roof, by minimizing the overall height of the building to no more than 126 feet above sea level, and by refining the sawtooth-shaped roof, comprised of north-facing 	NCPC	Design COMPLETE (as of Report 2012).	Corona material has a matte bronze finish. Sample to be shown at final commission reviews scheduled for 9/20/12 (CFA) and 11/1/12 (NCPC). Overall height of building reduced to 126' above sea level. Roof design revised to be more compatible with adjacent architectural

² The Programmatic Agreement (PA) referenced in Section 4.0 of the EIS specifies certain minimization and mitigation commitments related to historic resources that the Smithsonian Institution will implement. Under the provisions of the PA, Section 106 consultation will be on-going until such time that final plans are completed and approved and all mitigation measures are fulfilled, which may potentially result in further minimization and mitigation measures.

skylights and south-facing photovoltaic panels, so that the roof is an attractive feature compatible with the adjacent architectural and urban context.			and urban context.
<ul style="list-style-type: none"> Minimize adverse effects on views of the Washington Monument Grounds, the Mall, and Federal Triangle at night by reducing exterior night lighting levels to that required for pedestrian and visitor safety without competing with the light levels at the Washington Monument and the Capitol Building, based on light level readings from certain vantage points. 	NPCPC	Design, Operation. Ongoing.	Lighting study of area buildings completed.

Spatial Organization

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> Minimize adverse effects on the spatial organization of the Washington Monument Grounds by eliminating the west skylight in the proposed landscape design. 	NPCPC	Design COMPLETE (as of Report 2012).	West skylight in proposed landscape plan eliminated.

Buildings and Structures

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> Reduce the overall height of the building to a level that does not exceed the 126-foot height above sea level of the Herbert C. Hoover Commerce Building. 	NPCPC	Design COMPLETE (as of Report 2012)	Height of building reduced to less than 126' above sea level.
<ul style="list-style-type: none"> Reduce the size of the Corona to no larger than 216 feet x 216 feet. 	NPCPC	Design COMPLETE (as of Report 2012)	Corona reduced to 216'x216'.
<ul style="list-style-type: none"> Minimize intrusions of the porch into the 445-foot setback by at least 20 percent (i.e. from 32 feet to no more than 25 feet across the McMillan line). 	NPCPC	Design COMPLETE (as of Report 2012)	Reconfigured porch now exceeds McMillan line by 24.5'
<ul style="list-style-type: none"> Continue to minimize adverse effects on the Washington Monument by relating the west façade to the Washington Monument and providing windows to view the Monument and Grounds. 	NPCPC	Design COMPLETE (as of Report 2012).	Façade filigree opens up to reveal prominent views.
<ul style="list-style-type: none"> Minimize adverse effects on the buildings and structures within the Washington Monument Grounds, Federal Triangle, and the Mall by refining the skin treatment of the Corona to ensure it is not highly reflective. 	NPCPC	Design COMPLETE (as of Report 2012).	Corona material has a matte bronze finish. Sample to be shown at final commission reviews scheduled for 9/20/12 (CFA) and 11/1/12 (NPCPC).

Section 106 Programmatic Agreement

Mitigation Measures	Monitoring Responsibility	Phase and Status	Measures Taken
<ul style="list-style-type: none"> Monitoring of adjacent historic properties. 	NCPC	Design, Construction Ongoing.	Adjacent properties monitored during construction to ensure no adverse effects. Duplicate requirement for EIS.
<ul style="list-style-type: none"> Tree planting on the Washington Monument Grounds. 	NCPC, NPS	Construction Ongoing.	Coordinating with NPS. Overall plan reviewed by NCPC March 2012 and found consistent with OLIN plan. 80% of trees have been planted. Remaining 20% in areas adjacent to NMAAHC site will be coordinated with final NMAAHC plantings.
<ul style="list-style-type: none"> National Register amendment for the Washington Monument Grounds. 	NPS, NCPC, SHPO	Construction, Ongoing	Work initiated in collaboration with NPS and other agencies.
<ul style="list-style-type: none"> Bulfinch Gate Post protection plan. 	NPS, NCPC, SHPO	Design COMPLETE (as of Report 2012)	Protection in place determined to be sufficient. Photograph on website.
<ul style="list-style-type: none"> National Register amendment for the Bulfinch Gate Posts and Gate Houses history. 	NPS, NCPC, SHPO	Construction Ongoing.	Amendment underway-draft report on website. 85% complete
<ul style="list-style-type: none"> Bulfinch Gate Post treatment plan. 	NPS, NCPC, SHPO	Construction Ongoing	Research underway to determine early treatments by NPS.
<ul style="list-style-type: none"> Coordination with the National Mall Plan PA. 	NPS, NCPC, SHPO	Construction, Ongoing	National Register nomination update initiated.
<ul style="list-style-type: none"> HABS/HALS recordation of the Monument Site. 	NPS, NCPC, SHPO	Design COMPLETE (as of Report 2012).	HABS/HALS quality recordation undertaken. Documentation material available through Smithsonian Institution and Library of Congress.
<ul style="list-style-type: none"> Documentation of water intake tunnel. 	SHPO	Construction COMPLETE (as of Report 2012).	Water intake tunnel documented. Archeological report available on website.
<ul style="list-style-type: none"> Archaeology throughout project 	SHPO	Design, Construction Ongoing.	Archaeology continuing throughout project. Historic stone from Canal salvaged for incorporation in landscape design
<ul style="list-style-type: none"> Exhibits regarding the NMAAHC, the Section 106 process and related information. 	SHPO	Design Ongoing.	Preliminary public exhibit displayed in May 2012.
<ul style="list-style-type: none"> National Register Nomination for the 	SHPO	Construction,	Materials gathered for DC

Greenough Statue of George Washington.		COMPLETE (as of Report 2012)	Register Nomination (National Register has declined).
<ul style="list-style-type: none">Research regarding Monument Site-related African American history and related topics.	SHPO	Design Ongoing.	Early Clara Barton photograph showing canal found. Link to walking tour now posted.