

**AMENDMENT  
TO THE  
PROGRAMMATIC AGREEMENT  
AMONG  
THE SMITHSONIAN INSTITUTION  
THE NATIONAL CAPITAL PLANNING COMMISSION  
THE DISTRICT OF COLUMBIA STATE HISTORIC PRESERVATION OFFICER  
AND  
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION  
REGARDING  
THE REVITALIZATION OF THE HISTORIC CORE REVITALIZE CASTLE PROJECT**

**WHEREAS**, the above-referenced Programmatic Agreement (PA) was executed on March 29, 2023; and

**WHEREAS**, the SI identified the need to divide the Project into two phases of Section 106 consultation. Phase 1 actions addressed in the PA are connected to below-grade construction work, including excavation below and adjacent to the Castle, and creation or enlargement of the areaways and window wells and were addressed in the PA. Phase 2 design actions are the remaining design actions for the main building and landscape rehabilitation (Exhibit H – Assessment of Effects Report Summary) that will be addressed in this Amendment to the PA (Amendment); and

**WHEREAS**, the Phase 2 project scope (Exhibit J – Assessment of Effects on Historic Resources) includes restoration of the Castle exterior; modifications to the roof including increases in height to accommodate energy improvements and replacement in-kind of materials; installation of rooftop mechanical penthouses; replacement of non-historic windows with blast resistant sash; restoration of historic windows and installation of blast resistant storm windows; installation of site and building lighting; and alterations at the north and south entrances for universal accessibility; and

**WHEREAS**, the SI and NCPC have agreed that SI will be the lead agency pursuant to 36 CFR § 800.2(a)(2) to fulfill their collective Section 106 responsibilities; and that certain interior actions that are associated with exterior changes or excavation and do not have independent utility are subject to Section 106 consultation to fulfill NCPC’s Section 106 obligations. Therefore, the following interior actions were included in Phase 2 consultation: basement level interior alterations associated with lowering the basement floor, new window openings and egress paths, installation of replacement windows and associated interior effects, and interior alterations to accommodate the South Tower elevators; and

**WHEREAS**, the *Assessment of Effects on Historic Resources* (Assessment) report has been revised several times in consultation. The report is organized around the two phases of consultation. This Amendment documents the revisions to the Assessment and additional mitigation or minimization measures that will be taken to resolve adverse effects from Phase 2 actions (Exhibit I – Phase 2 Design Details for Avoidance, Minimization, and Mitigation Measures, Exhibit J – Assessment of Effects on Historic Resources); and

**WHEREAS**, the Signatories and Consulting Parties agree that consultation put preservation at the forefront of design resulting in a positive preservation outcome for the Project, beneficial to the Castle and its long-term preservation; and

**WHEREAS**, the Signatories and Consulting Parties also agree that the complete scope of the Project, including work from both phases, will result in adverse effects on the Castle; and

**WHEREAS**, Section 106 consultation identified certain adverse effects that were within the scope of this consultation that became the primary focus of consultation. These actions included: creating areaways around the base of the Castle; introduction of a new finish treatment applied to the Castle's rubble stone foundation wall; the expansion and installation of new basement window openings; exterior appearance of the seismic control joint cover plate; exterior and interior alterations associated with the installation of two elevators in the South Tower; installation of two visible mechanical penthouses behind the Flag and North Towers; and the installation of perimeter security elements on Jefferson Drive; and

**WHEREAS**, the cumulative effect of changes around the Castle's setting from perimeter security, accessibility, areaway and window well finishes, and the seismic control joint cover plate finishes adversely effect both the Castle and the National Mall Historic District; and

**NOW, THEREFORE**, in accordance with Stipulation 9 of the PA, the Signatories agree to amend the PA with the following additional stipulations to take into account the effects of this undertaking on historic properties.

## **STIPULATIONS**

**Stipulations 1 through 15 are contained in the PA.**

The SI will ensure that the following measures are carried out:

### **16. ADDITIONAL AVOIDANCE MEASURES FOR PHASE 2**

A. Use of In-Kind Replacement Materials: The following actions avoid adverse effects through maintaining the Castle's exterior material palette (Exhibit I, page 15):

i. Exterior Masonry Repairs to Historic Fabric: The maximum amount of sound Seneca sandstone will be preserved. The historic sandstone exterior will be restored, cleaned, and repointed. Required stone replacements and Dutchman repairs will be accomplished using a stockpile of salvaged Seneca sandstone currently in SI storage. St. Bees is an alternative sandstone identified in Phase 2 consultation as a suitable alternative to be used for repairs after the salvaged Seneca sandstone stockpile is depleted.

ii. Roof Materials: Existing areas with lead coated copper roofing will be replaced with zinc-tin coated copper. Existing areas with slate shingles will be replaced with Grayson Slate, an even toned gray slate that closely matches the existing. Existing shingle sizes, details, and amount of exposure will be maintained.

B. South Entrance Accessible Walkway: A universally accessible walkway will replace a non-historic ramp on axis with the South Tower entrance. The adverse effect is avoided through retaining the historic sandstone steps and constructing the walkway over the steps flush with the historic stone landing. The walkway design maintains full visibility of the decorative door portal features. Adverse effects on the Castle setting and the Haupt Garden are avoided through the universal walkway slope which eliminates

a code required handrail, and the use of salvaged brick pavers and Mount Airy granite curbs in keeping with the Garden's material palette (Exhibit I, page 15).

C. Roof Modifications: Increases to roof height/thickness to accommodate insulation will be limited to locations where the dimensional change will not be perceptible. No changes will occur at visible roof edges. Roof dimensional changes at flat metal areas will taper to the roof edges to keep the alteration non-visible (Exhibit I, page 16).

## **17. ADDITIONAL MINIMIZATION MEASURES FOR PHASE 2**

The following measures were developed through Section 106 consultation to minimize adverse effects for Phase 2 actions.

A. Perimeter Security: A secure perimeter at the Castle's three entrance and exit points on Jefferson Drive will be accomplished through a combination of hardened street furniture, including bollards, urns on pedestals, wall signage, and benches. Benches and wall signage conceal bollards in keeping with traditional street furniture types (Exhibit I, page 16).

i. Bollards: Both the free-standing fixed and retractable bollards will measure 30 inches in height and 7 inches in diameter for visual continuity between the two types. Bollards will be clad in bronze with bush hammered detailing to reference the Castle's stonework.

ii. Double-sided Metal Bench: Two double-sided metal open slat benches will incorporate four bollards each, on either side of the porte cochere. The bench design is a contemporary take on existing wood slat and metal filigree benches currently found in the National Mall and Castle settings.

iii. Wall Bench: Two wall benches will incorporate nine bollards each adjacent to the accessible walkways. This bench type consists of open metal slats above a granite base. Stepping the granite base down from the ends permits maximum visibility of the Castle and the landscape setting.

iv. Granite Type: American Mahogany granite will be used for the wall bench base, wall signage, and urn pedestals. This gray-brown stone colorway was selected in Phase 2 consultation, contextual to both the Castle and the Jefferson Drive streetscape material palettes.

B. Modifications to Rooftop Mechanical Penthouses: To maintain the Castle's roofline, historic non-functioning visible rooftop mechanical features will be retained, including, the metal mushroom vent on the West Range roof, and the decorative abandoned masonry chimneys on East Range and East Wing (Exhibit I, page 17).

i. North Entry Hyphen Mechanical Penthouses: Multiple alternatives were developed to minimize visibility of two mechanical penthouses behind the Flag and North Towers to the greatest extent possible. The preferred alternative is the narrowest width (3'10") and shortest height (12'1") possible and closest in placement to the Hyphen roof ridge to minimize visibility. The penthouses will be clad in copper and detailed with an arched louver treatment on their respective east and west sides in keeping with the Castle's other rooftop appurtenances.

C. South Tower Elevators: Two elevators are proposed in the South Tower for the primary public circulation to all levels of the Castle's interior. The proposed west elevator shaft replaces a non-historic elevator shaft, and the east elevator replaces a non-historic circulation stair. Alternate locations for these public elevators are not available to avoid adverse effects because the Adolf Cluss modifications inserted additional levels creating quarter level height differences between the finish floors of the South Tower and the Main Building (Exhibit I, pages 17 and 18).

i. Exterior Alterations: The elevators will use machine room-less technology, which eliminates overhead mechanical equipment above the elevator shaft to minimize the required size of the elevator overruns. Elevator overruns will be the minimum length (11'1") and shortest height (3'7" above the parapet) possible. Elevator overruns will have a hipped profile, arched detailing, and copper cladding in keeping with other Castle roof appurtenances.

ii. Children's Room Alterations: Two new punched openings are proposed within blind arches to access the elevator cab vestibules, which will remove historic fabric. The design originally proposed two openings at the Children's Room to access each elevator vestibule. This was revised in consultation to one opening. The proposed openings will be arched to relate to the form of the blind arches. The historic circulation corridor between the Children's Room and the Great Hall will narrow 1'6" to accommodate the shafts, which removes historic plaster. The proposed elevators permit the restoration of most of the Children's Room floor plan, currently half occupied by non-historic stairs, accessible lift, and platform. Historic Tennessee Pink marble stairs which are present beneath the non-historic accessible lift platform, will be exposed and restored.

iii. Third Floor Interior Alterations: The historic circulation corridor between the Regents Room at the Upper Great Hall must narrow 1'5" to accommodate the elevator shafts, which impacts historic plaster and two sections of decorative floor mosaics. The mosaics will be narrowed through excising the center solid color tesserae and portions of the fretwork border. Mosaics will be re-laid with the fretwork border pattern intact aside from the dimensional change.

iv. Elevator Cabs: The exterior of the elevator cabs in all historic interiors will be bronze, simply detailed, and utilize minimal frames to avoid calling undue attention to the installations.

D. Areaways and Window Wells – Finishes: The proposed finishes within the areaways will consist of gray porcelain pavers and tinted stucco on both the Castle underpinning and the new areaway retaining walls (Exhibit I, page 19). SI will consult with the Consulting Parties on physical mock-ups during construction to select the stucco color and texture as follows:

i. SI will convene the Consulting Parties for a site meeting to review small samples of a range of gray and red tints. The Consulting Parties will select stucco color options to proceed for full-scale mock-ups.

ii. SI will convene the Consulting Parties for a second site meeting to review full-scale wall section mock-ups of the stucco tint and finish treatment (mock-ups approximately 4' by 8'). The Consulting Parties will select the final stucco color(s) and texture(s).

E. Seismic Control Joint Cover Plate – Finishes: Three materials are proposed to fill the seismic control joint cover plate to be contextual to different at-grade settings around the Castle. Olympic Black granite

will be used where the cover plate is adjacent to the Castle and landscaping. Exposed aggregate concrete will be used where the cover plate is within the Jefferson Drive sidewalk. Brick pavers will be used where the cover plate crosses the South Entrance walk. The narrow aluminum edges of the cover plate will have a clear anodized finish for neutrality in the Castle and National Mall settings (Exhibit I, page 19).

F. Replacement and Restoration of Windows: The majority of the Castle's existing windows are non-historic wooden replacements installed in 1987-1992. Historic documentation indicates the original window fenestration was primarily wood double-hung sash with wood muntins of square panes set in a diamond pattern (Exhibit I, page 20).

i. Replacement Windows: Blast resistant windows will replace all the non-historic window sash. Blast resistant windows will be steel sash with simulated divided lights. The replacement windows will be modeled on the remaining historic windows using a matching brickmold, similar muntin pattern, diamond pane configuration, and red-brown finish. Window configurations that feature decorative metal panels and woodwork will be salvaged, restored, and applied to the blast window assembly.

ii. Restored Windows: All the remaining historic windows in the Castle, which are limited to the West Wing, West Range, and North Tower will be restored and retained in-place. Blast resistant storm windows will be installed on the building interior to maintain the Castle's exterior appearance.

iii. Consultation on Window Mock-ups: SI will convene the Consulting Parties for a site meeting(s) to review full-scale mock-ups of the replacement windows. The mock-ups will consist of, at a minimum, a blast resistant window sash and a blast resistant storm window. Section 106 consultation will be re-opened if the mock-up review(s) reveals an intensification of adverse effects.

a. Historic Masonry Openings: SI will evaluate with the window manufacturer during the preparation of mock-ups on the potential for damage to the dimensions of the historic masonry openings and adjacent soft sandstone material during installation of the steel windows. If there is potential for unanticipated damage to the historic stone, SI will notify the Consulting Parties and consult to ensure damage is minimized or to otherwise resolve this intensification of adverse effect.

iv. Shop Drawings: SI will provide the Consulting Parties with the shop drawings for the manufacture of replacement windows and interior storm windows. Consulting Parties will have thirty calendar days to review and comment on the shop drawings prior to SI proceeding with window manufacturing or installation activities.

G. Basement Level Openings: Alterations to window openings and egress doors are proposed within visible areaways to provide daylight and required emergency egress (Exhibit I, pages 20 and 21).

i. Egress Doors: The historic door opening installed c. 1871 at the southeast portion of the Main Building will be maintained. The egress door infill will feature a four-light transom.

ii. Window Openings: Alterations to existing window openings will maintain the width and header location. New openings will match the altered window openings, with dimensions of 3'4" in width and 7' in height. Historic sandstone units need to be altered to accommodate the window openings. Sandstone units will be removed, cut and dressed, and reinstalled in their original locations.

a. Window sash will be fixed, double-hung, steel, simulated divided light blast resistant windows. The upper sash will feature a diamond muntin pattern over a single light lower sash. This window configuration is in keeping with the Castle's historic window configuration, with slight variation to differentiate the sash as a new installation.

b. Basement level window openings will have applied iron security grilles matching the dimensions and details of existing grilles.

H. Basement Level Interior Alterations: Certain exterior alterations affect the Castle's basement level interior and its historic character.

i. Basement Level Window Openings: New and altered basement level window openings will have an embrasure similar to the historic window condition.

ii. Lowering of the Basement Floor: Lowering of the historic basement floor 3' feet alters the appearance of the interior space including the historic masonry piers. New construction below the brick piers will have a gray parge coat as a utilitarian treatment in keeping with the historic character of the space, and which differentiates the material from the retained historic brick masonry. If unanticipated historic fabric is discovered during excavation, these features will be considered for recordation, potential salvage, and/or possible preservation in place of select features in accordance with this PA.

iii. Basement Level Interior Finishes: Interior basement finishes will be in keeping with the historic utilitarian character of this space. Historic brick will remain exposed, with a white painted finish matching the historic condition (Exhibit I, page 21).

## **18. ADDITIONAL MITIGATION MEASURES**

A. Educational Outreach: The SI will expand publications on the history of the Castle and topics related to construction to build educational outreach in the following ways:

i. Web-Based Exhibits: The SI will publish web-based exhibits on the following topics within three years of the completion of construction on the project. Exhibits will be posted on the SI's Architectural History and Historic Preservation webpage or otherwise be made available to the public.

a. Base Isolation: This method of seismic protection is unusual for the nation's east coast. This publication will feature construction specifics for the installation of base isolation and the exterior seismic control joint. This exhibit will focus on how this approach was used to protect a National Historic Landmark and how care was taken to limit the intrusion of this intervention.

b. Landscape Planting Plan and South Yard History: This exhibit will feature the history of change to the Castle's South Yard, including the evolving functions and uses of this landscape. The exhibit will detail the development of the project landscape planting plan.

c. National Historic Landmark Documentation Update for the Castle: This exhibit will consist of an executive summary of the completed update to the Castle's National Historic Landmark documentation that will be developed in accordance with Stipulation 3.C of the PA.

d. Art Room Restoration: The Art Room is located on the second floor of the Castle's East Wing. This historic space features a decorative plaster frieze fabricated as copies of the Elgin Marbles. This space will be fully restored but will not be open to the public after construction on the project is complete. This exhibit will feature the Art Room's history, restoration work, and remote accessibility to the space using a virtual tour, panoramic images, or other media. SI will open the space periodically for supervised tours. Tour opportunities will be advertised through the *Preservation Periodical* or the Architectural History and Historic Preservation webpage.

e. Castle's Architectural Style and James Renwick, Jr.: This exhibit will feature Robert Dale Owen's *Hints on Public Architecture* publication which led to the selection of the Castle's architectural style and its architect James Renwick, Jr.

ii. *Preservation Periodical*: The SI's Architectural History and Historic Preservation unit publishes a biannual newsletter to connect with individuals that have an interest in providing input on current and future SI projects with potential to affect historic properties; learning more about historic properties under the SI's jurisdiction; and engaging in a dialogue on related topics. Each future issue of the newsletter will incorporate a Castle construction progress update during the complete duration of the project, with highlights on any new discoveries regarding the building's history, and historic function and construction.

iii. Addendum Chapter to *The Castle an Illustrated History of the Smithsonian Building*: The SI will publish an addendum chapter to the book publication titled *The Castle*. The existing book details the architectural and cultural history of the Castle. The addendum chapter will detail the project design and completed work, published in a new printing of the book within four years of the completion of construction.

B. Video Walkthroughs: The SI will gather data from a Lidar and high-definition panoramic imaging scanner to create a three-dimensional model of the Castle interior. This record documentation will be utilized to create a virtual experience of walking through the Castle's principal interior spaces. Data points will be taken from the same locations to experience the pre-construction condition, after demolition, and after construction/restoration work is complete. The virtual walkthroughs will be completed within two years of the completion of construction on the project and will be posted on the SI's Architectural History and Historic Preservation webpage or otherwise be made available to the public.

C. Section 106 Project Archive: The RoHC Section 106 public webpage will be archived to create a complete record of consultation on the project. The webpage will be archived by the Smithsonian

Institution Archives and will become part of the *Smithsonian Institution Websites* collection. The archived Section 106 project webpage will be accessible through the Architectural History and Historic Preservation webpage or otherwise be made available to the public.

D. Castle Foundation: The following measures mitigate significant adverse effects associated with creating areaways around the Castle's base, the expansion and installation of new basement openings, and the introduction of new finish treatment applied to the Castle's rubble stone foundation walls:

i. Rubble Stone Exhibit: After demolition is complete and the full extent of the rubble stone foundation wall is determined, the SI will convene the Consulting Parties for a site meeting(s) to evaluate conditions and a location for a rubble stone exhibit. This exhibit is intended to leave a portion of the rubble stone exposed in a publicly accessible or visible areaway. The exhibit will feature one interpretive educational signage panel. The rubble stone can only be left exposed if conditions permit, which will be evaluated with the Consulting Parties.

ii. Rubble Stone Conservation Treatment Plan: Waterproofing and a tinted stucco will be applied to the rubble stone foundation wall. Once the full extent and condition of the rubble foundation is known, the SI will develop a conservation treatment plan to identify materials and methods for reversibility of applied finishes to the rubble stone. Consulting Parties will have thirty calendar days to review and comment on the conservation treatment plan prior to SI proceeding with construction activities.

E. Downing Urn: The Downing Urn is a marble memorial object dedicated to early American landscape architect Alexander Jackson Downing, originally installed within the National Mall in 1856. The Urn has been relocated several times and has been within the Castle's vicinity since the 1970s, and within the northeast quadrant of the Haupt Garden since 1989. The Urn has been temporarily disassembled and is in SI secure storage to protect the object during construction activities and will be returned to its pre-existing location. Conservation treatments to the Urn will be completed, including addressing marble deterioration and reversal of improper previous repair attempts.

F. Mosaics Documentation and Salvage: Prior to undertaking any construction associated with the South Tower elevators, the decorative floor mosaics will be fully documented using tracing and photography. Unused tesserae will be salvaged, crated, and retained for future repairs.

G. Interior Exhibits:

i. Room Identification Placards: Wall-mounted room identification placards will be installed in each of the Castle's interior public spaces. The placards will provide historic information on the room's original use(s) or other facts. Placards will be sized and mounted specific to each interior to avoid damage to restored or replicated historic finishes.

ii. Interpretive Exhibit: SI will designate one area within a public space of the Castle interior for a permanent exhibit on the Castle's history. The exhibit will consist of a physical display(s) on topics similar to those outlined in Stipulation 18.A.

H. Seismic Control Joint Interpretive Signage Location: One (1) interpretive signage panel will be installed adjacent to the apse of the Castle's West Wing in the landscape near the Jefferson Drive sidewalk (Exhibit I, page 21).



I. Collaboration with Smithsonian Center for Folklife and Cultural Heritage: The Center's project on the Building Arts and Traditional Architecture is focused on cultural sustainability and commitment to the building arts to sustain traditional building crafts and support new applications of traditional architecture around the world. The Castle project will require highly skilled traditional artisans to restore the Castle's masonry, terrazzo, decorative plaster, and paint finishes. The SI's Office of Planning, Design, and Construction will seek to collaborate with the Center as opportunities present themselves to feature the Castle project and its artisans.

J. Historic Structure Report – Part 3: The SI will prepare a Part 3 to the Castle's Historic Structure Report (HSR). Part 3 will document work performed after the issuance of the HSR in 2009 and will serve as a record of the work accomplished, physical evidence discovered during construction, and updates to interpretation of the Castle or treatment recommendations. Part 3 of the HSR will be completed within two years of the completion of construction on the project.

## **19. CONTINUING INVOLVEMENT OF CONSULTING PARTIES**

Consulting Parties will continue to have the opportunity to review and comment on decisions pursuant to the PA and its Amendment. SI will post documentation on each decision to the Architectural History and Historic Preservation webpage, with an email notification to Consulting Parties. Consulting Parties will receive an email invitation to any site visit review opportunity. Consulting Parties will have 30 calendar days to review and provide comments. The Signatories will consult to resolve any comments raised by Consulting Parties in accordance with Stipulation 12 (Dispute Resolution). Section 106 consultation may be re-opened if any decision results in the intensification of adverse effects.

## **20. ELECTRONIC COPIES**

Within one week of the last signature on this Amendment, the SI will provide the Signatories with one legible, color, electronic copy of the fully executed Amendment and all attachments fully integrated into one, single document. Internet links will not be used to provide copies of attachments. If the electronic copy is too large to send by e-mail, the SI will provide the Signatories with a copy of this Amendment on a compact disc or other suitable means.

**The Signatories agree that all other terms and conditions of the PA shall remain unchanged.**

**SIGNATURES FOLLOW ON SEPARATE PAGES**

## **EXHIBITS**

**Exhibits A through G are contained in the PA**

**Exhibit H – Final Assessment of Effects Report Summary**

**Exhibit I – Phase 2 Design Details for Avoidance, Minimization, and Mitigation Measures**

**Exhibit J – Assessment of Effects on Historic Resources**

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**THE SMITHSONIAN INSTITUTION**

DocuSigned by:  
*Ron Cortez*

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Ronald S. Cortez, JD, MA  
Under Secretary for Administration

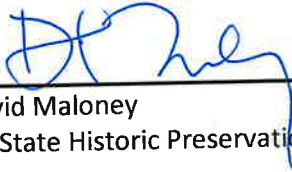
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**DC STATE HISTORIC PRESERVATION OFFICER**



2/28/2024

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David Maloney  
DC State Historic Preservation Officer

Date

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**THE NATIONAL CAPITAL PLANNING COMMISSION**



2/27/2024

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Marcel C. Acosta  
Executive Director

Date

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**THE ADVISORY COUNCIL ON HISTORIC PRESERVATION**



April 12, 2024

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Reid Nelson  
Executive Director

Date

**Exhibit H – Final Assessment of Effects Report Summary**

<b>Phase 1 Action</b>	<b>Final Effect Determination</b>
Introduction of New Areaways and Window Wells (Locations and Dimensions)	Adverse Effect
Installation of Seismic Control Joints Around the Castle Perimeter (Location and Width)	Adverse Effect
Extent of Excavation Adjacent to Castle – SIB Extension (B1 Level), B2 Level Cistern	Adverse Effect
Excavation Beneath the Castle – Base Isolation, Lowering of the Basement Level, Future Quadrangle Building B2 Connection, and Mechanical Distribution Level	Adverse Effect
Creation of Alternate Pedestrian Routes for Circulation Around the Castle	Adverse Effect
Cumulative Effects of Phase 1 Activities	Adverse Effect
<b>Phase 2 Action</b>	<b>Final Effect Determination</b>
Landscape and Planting Plan	No Adverse Effect
Perimeter Security	Adverse Effect
Signage	No Adverse Effect
Lighting	No Adverse Effect
Building Lighting	No Adverse Effect
South Tower Elevators – Exterior Alterations	Adverse Effect
South Tower Elevators – Interior Effects	Adverse Effect
Areaways and Window Wells – Finishes	Adverse Effect
Seismic Control Joint Cover Plate – Finishes	Adverse Effect
Emergency Generators	No Adverse Effect
In-Kind Replacement of Roof Materials	No Adverse Effect
Installation of Lighting Protection	No Adverse Effect
Installation of Rooftop Fall Protection	Adverse Effect
Installation of Roof Access	No Adverse Effect
Roof Modifications – Energy Improvements, Including Increases in Roof Thickness	No Adverse Effect
Modifications to Rooftop Mechanical Penthouses	Adverse Effect
Installation of East Wing 4 <sup>th</sup> Floor Egress	Adverse Effect
Replacement and Restoration of Windows	Adverse Effect
Replacement and Restoration of Windows – Interior Effects	No Adverse Effect
Exterior Masonry Restoration	No Adverse Effect
New Basement Windows	Adverse Effect
Basement Egress Doors	Adverse Effect
Basement Level Interior Alterations – Lowering of the Basement Floor, New Basement Window Openings, and Egress Paths to Basement Level Egress Doors	Adverse Effect
Alterations at the South Entrance to Improve Accessibility	No Adverse Effect
Accessible Walkways at the North Entrance	No Adverse Effect
Cumulative Effects on the Castle	Adverse Effect
Cumulative Effects on the National Mall Historic District	Adverse Effect

**Exhibit I – Phase 2 Design Details for Avoidance, Minimization, and Mitigation Measures**



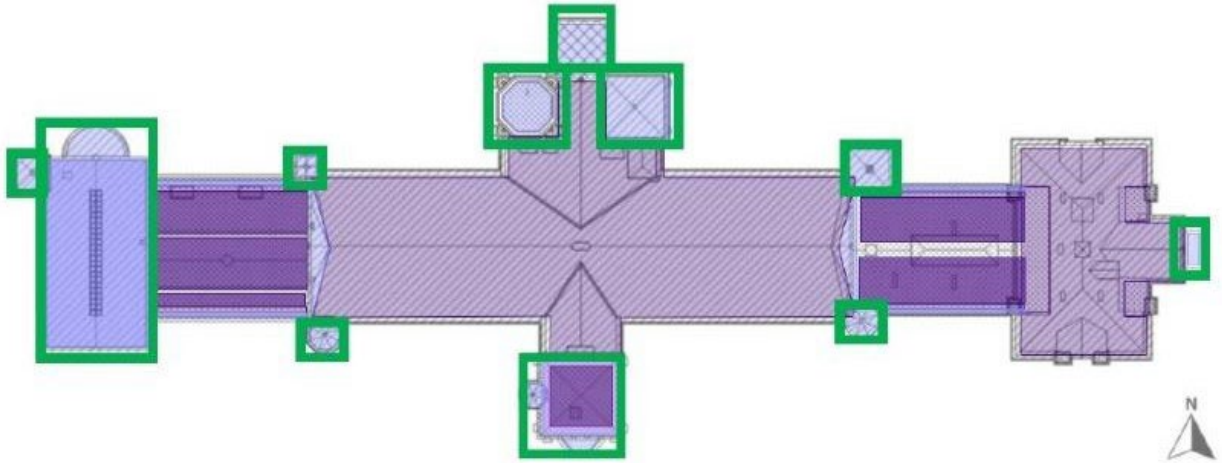
Stipulation 16.A. Use of In-Kind Replacement Materials, Exterior Masonry Repairs to Historic Fabric. St. Bees sandstone sample held against the Castle sandstone at left. Salvaged Seneca sandstone in SI storage at right.



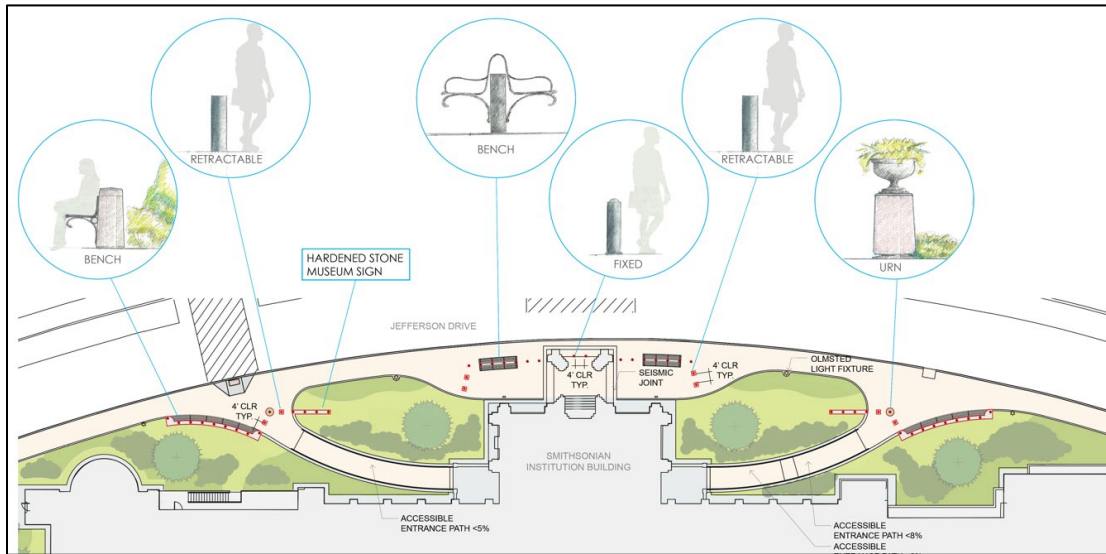
Stipulation 16.A. Roof Materials. Existing Castle slate shingles at left. Proposed Grayson slate shingles at right.



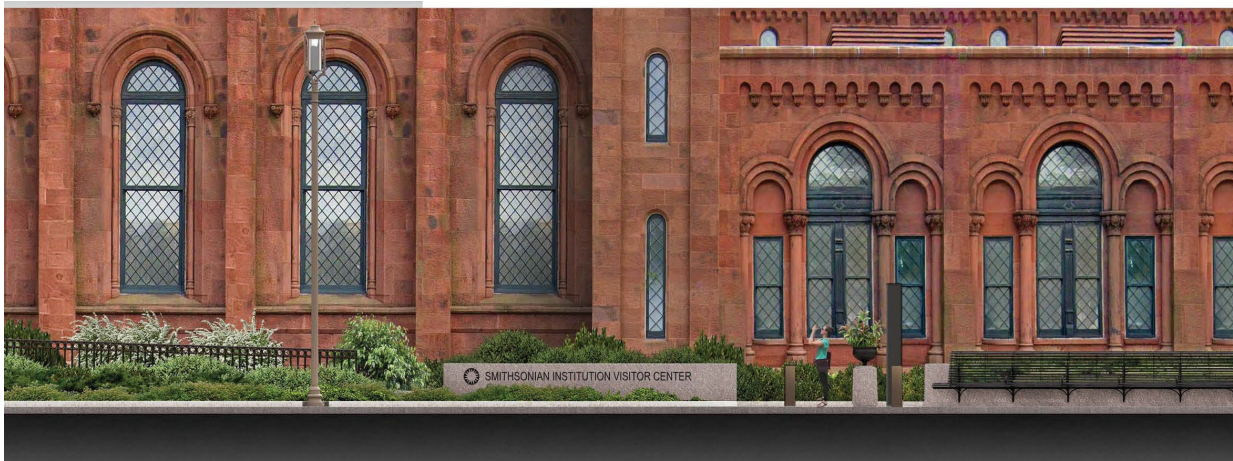
Stipulation 16.B. South Entrance Accessible Walkway.



Stipulation 16.C. Roof Modifications. Green outline notes areas with visible roof edges. Dimensional changes are not proposed in these locations to avoid adverse effect.

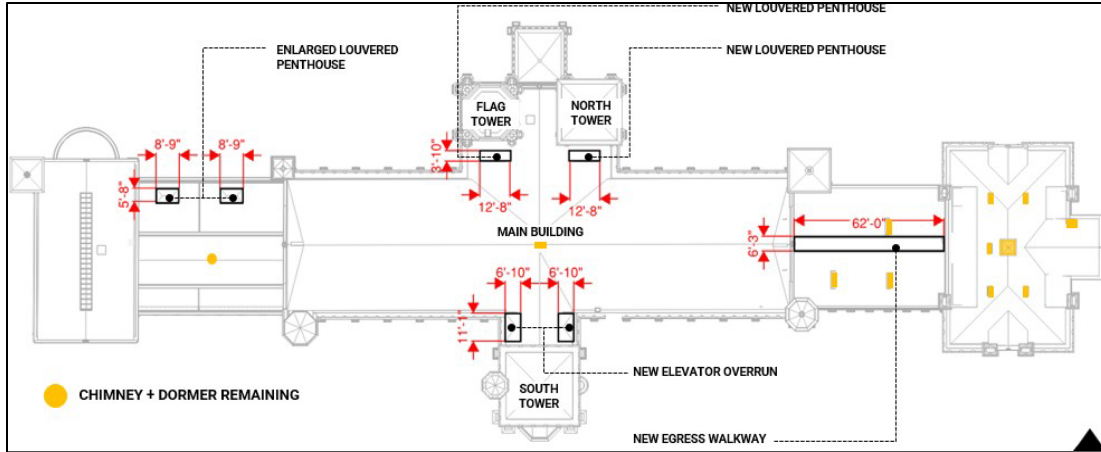


Stipulation 17.A. Perimeter Security. Perimeter security elements on Jefferson Drive.

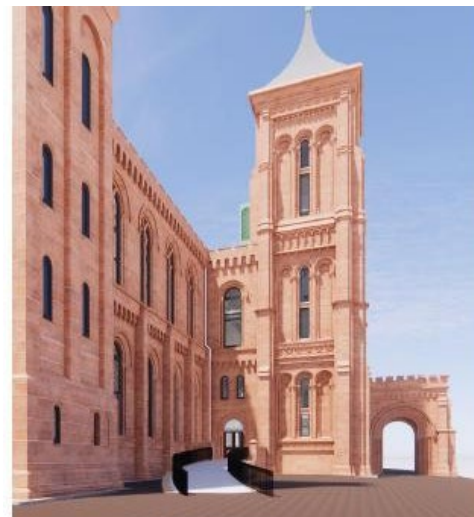
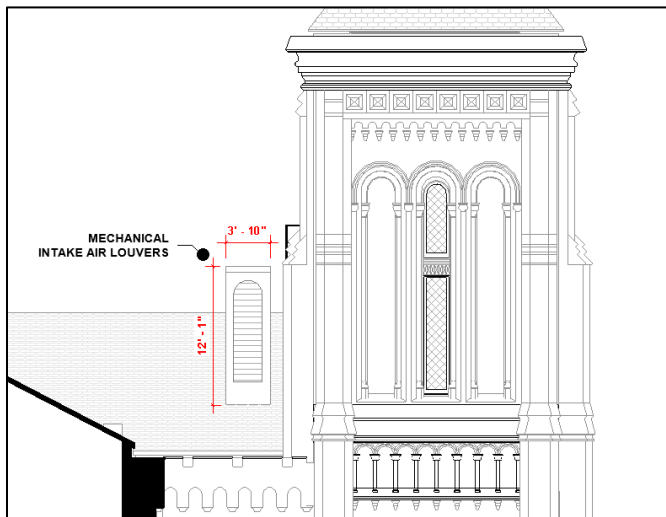


Rendering of perimeter security at the west accessible walkway using a gray-brown granite.

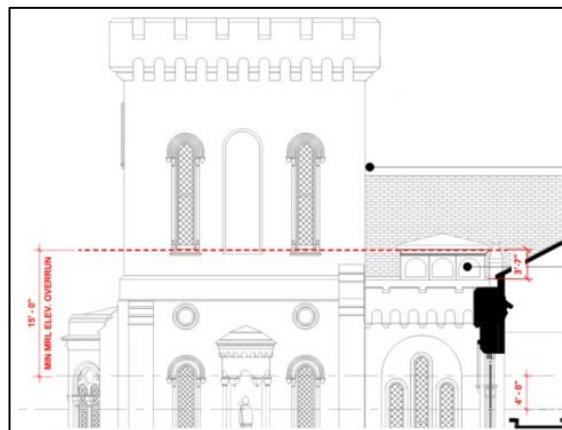
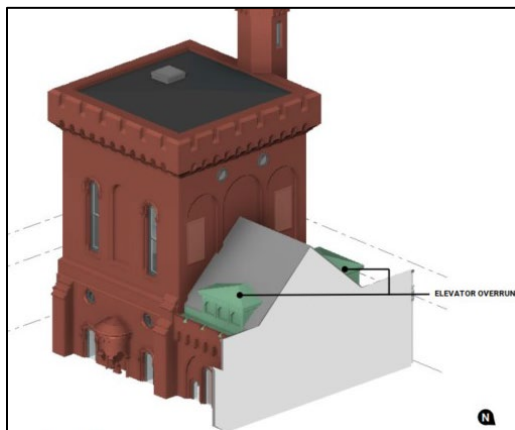




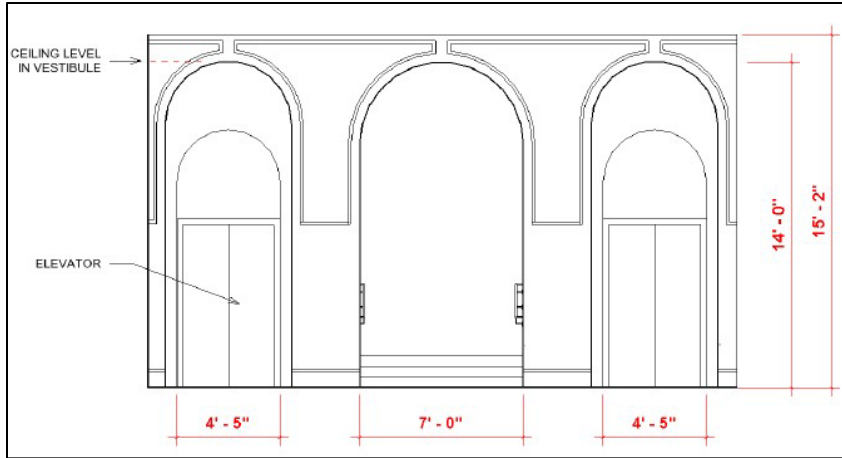
Stipulation 17.B. Modifications to Rooftop Mechanical Penthouses. Historic chimneys and dormers that will be retained are noted in yellow.



Section elevation of the Castle's North Tower and Hyphen. Rendered view of the visibility of the same penthouse from Jefferson Drive.



Stipulation 17.C. South Tower Elevators. Axonometric view of the Castle's South Tower with the elevator overruns noted with green copper cladding. Section elevation noting the dimensions of the east elevator overrun.



Proposed north elevation of the Children’s Room interior. New arched openings are proposed centered within the historic blind arches for access to the South Tower elevators.



Rendered view from the Great Hall looking into the Children’s Room. New bronze elevator doors flank the historic center arched opening.



Proposed modification to the upper section of the third-floor decorative mosaic from narrowing the corridor to accommodate the elevator shafts.



**RETAINING WALL FINISH**  
LIGHT GRAY STUCCO



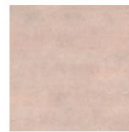
**UNDERPINNING FINISH**  
LIGHT GRAY STUCCO



Stipulation 17.D. Areaways and Window Wells – Finishes. Proposed southwest areaway with gray tinted stucco applied at the retaining walls and the Castle foundation wall.



**RETAINING WALL FINISH**  
TINTED STUCCO



**UNDERPINNING FINISH**  
TINTED STUCCO

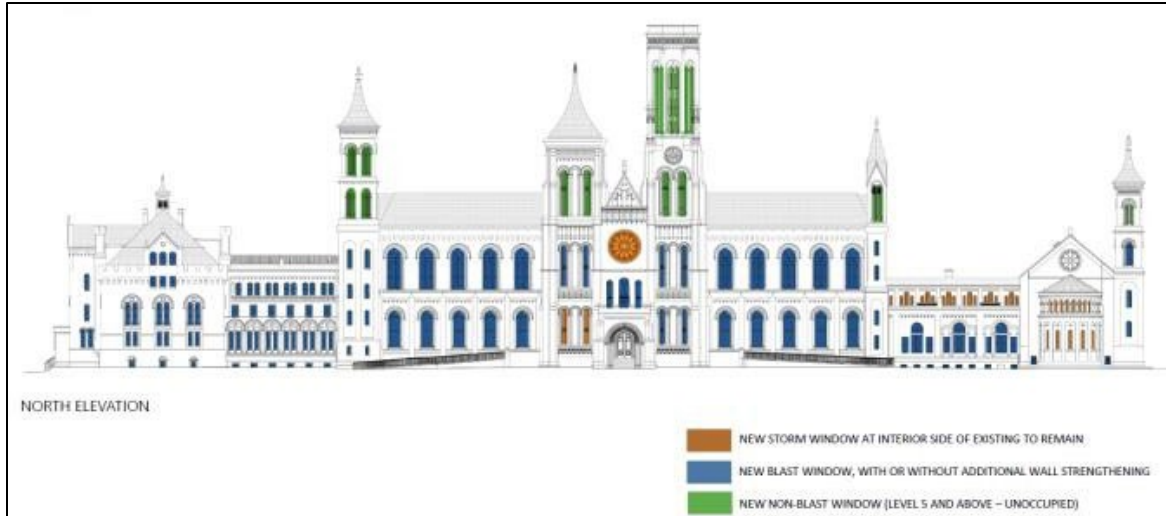


Proposed southwest areaway with red tinted stucco applied at the retaining walls and the Castle foundation wall.

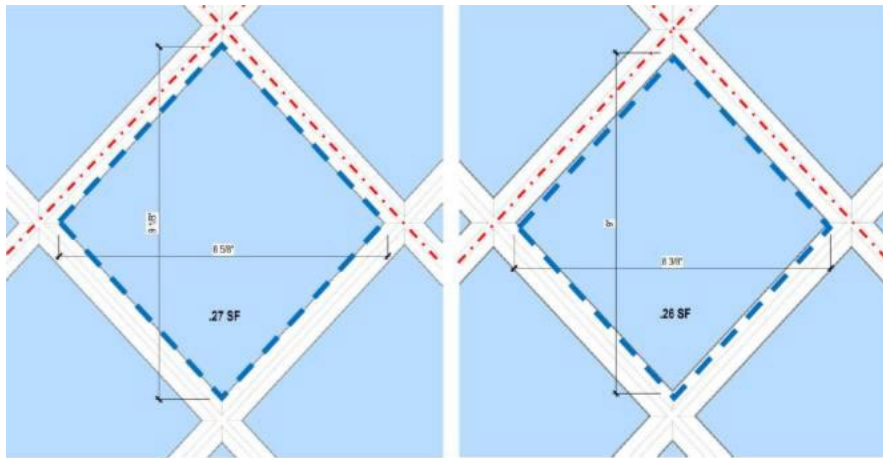


**OLYMPIC BLACK (PREFERRED)**

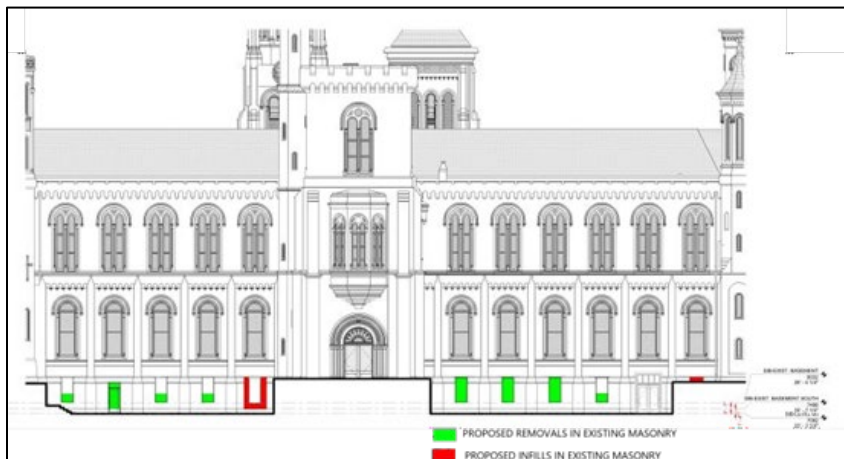
Stipulation 17.E. Seismic Control Joint Cover Plate – Finishes. Annotated photograph of the Castle porte cochere and Jefferson Drive sidewalk. Red line notes the outboard edge of the seismic control joint cover plate; aggregate concrete will be used in this location. In other areas Olympic Black granite will infill the cover plate.



Stipulation 17.F. Replacement and Restoration of Windows. Proposed Castle north elevation with window replacement types noted.



Free glass comparison of a typical diamond pattern muntin; existing at left, simulated divided light at right.



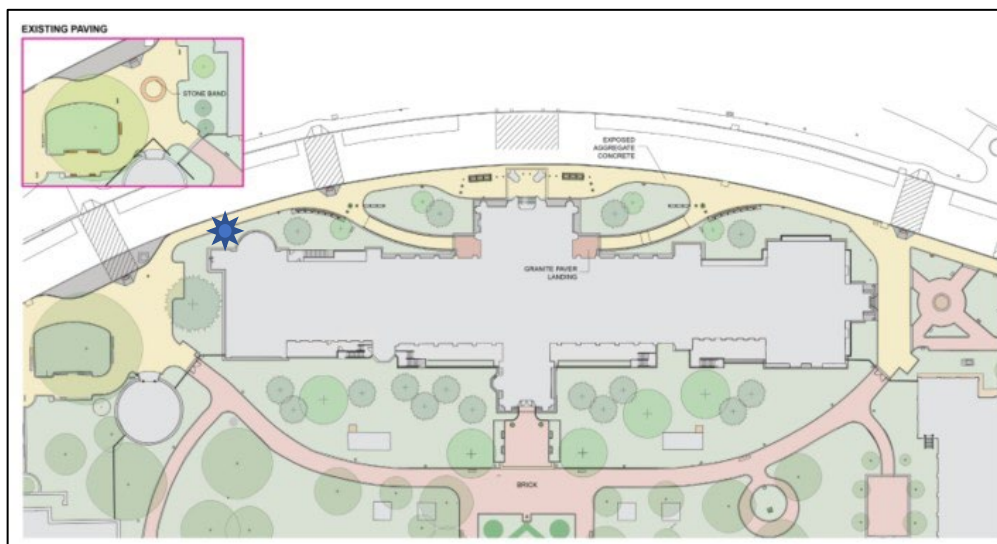
Stipulation 17.G. Basement Level Openings. Proposed south elevation noting masonry changes at the basement level for new window openings.



Detail elevation at the southeast basement level with the c. 1871 historic door opening and proposed egress infill.



Stipulation 17.H. Basement Level Interior Alterations. Rendered view of the Castle basement level.



Stipulation 18.H. Seismic Control Joint Interpretive Signage Location.

### **Criteria of Adverse Effect**

This report provides an assessment of effects on historic resources associated with the Revitalization of the Historic Core (RoHC) Revitalize Castle project. Effect assessments are based on the criteria of adverse effect as defined in the implementing regulations of Section 106 of the National Historic Preservation Act (36 CFR Part 800). The criteria of adverse effect are defined as follows:

*An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative (36 CFR § 800.5(a)(1)).*

### **Project Background and Section 106 Compliance**

This project provides a comprehensive rehabilitation of the Smithsonian Institution Building (Castle) to address physical deterioration, obsolete infrastructure and systems, non-compliance with building codes, and provide below-grade mechanical and building support space connected to the adjacent Quadrangle Building loading dock.

The Castle is a National Historic Landmark, individually listed in the National Register of Historic Places and the DC Inventory of Historic Sites and is a contributing element of the National Mall Historic District listed in the National Register. The Castle is also a contributing element of the Smithsonian Quadrangle Historic District listed in the DC Inventory of Historic Sites.

Initial Section 106 compliance resulted in a 2018 Programmatic Agreement for the larger South Mall Campus Master Plan of which the RoHC is a subset. The RoHC was further divided into two phases of consultation as described below. A Programmatic Agreement was developed to oversee the two phases of the project, with an anticipated subsequent Memorandum of Agreement to resolve adverse effects for the second phase of consultation.



Smithsonian Institution Building, Aerial Photograph.



Smithsonian Institution Building, South Elevation.

### **Smithsonian Institution Building – Character Defining Features \***

The Smithsonian Institution Building (Castle), designed by James Renwick, Jr., in the Romanesque Revival or Norman Revival style, is nationally significant for associations with the history of science and scientific institutions, museums and

education; for association with prominent American scientists (National Register Criterion A); as a premiere example of mid-19<sup>th</sup> century romantic architecture and as a seminal work of Renwick; and for incorporation of innovative fireproof floor construction methods (National Register Criterion C).

The period of significance for the Castle is 1847-1910, to reflect the period that best demonstrates significance and historic associations. This date range reflects the lengthy construction that spanned a destructive fire, and later modifications by Adolf Cluss (fireproofing and East Wing reconstruction) and Hornblower and Marshall (Great Hall modifications, Smithson Crypt, and Children’s Room).

Character Defining Feature	Notes
Setting – Area surrounding base of the building to the north, east, and west, and the South Yard (Haupt Garden)	<ul style="list-style-type: none"> <li>- Current hardscape and landscape were significantly modified in the last 30 years.</li> <li>- Jefferson Drive is the only extant roadway from the landscape setting during the period of significance.</li> <li>- Independence Avenue remains but is significantly altered.</li> <li>- Building entrances maintain relationship with grade and original configurations.</li> </ul>
Building Massing and Materials	<ul style="list-style-type: none"> <li>- Seneca sandstone exterior.</li> <li>- Decorative masonry trim, carved corbels, parapets, cornices, finials, arches, piers, and texture of hand chiseled stone faces.</li> <li>- Original pointing mortar was tinted red to match Seneca sandstone.</li> <li>- Building massing characterized by a central block with similarly scaled wings and hierarchically arranged towers.</li> </ul>
Windows	<ul style="list-style-type: none"> <li>- Majority of the windows are replacements dating to 1987-1992.</li> <li>- c. 1915 windows are extant in the West Range Clerestory and West Wing apse.</li> <li>- Original fenestration was wood muntins of square panes set in a diamond pattern. Mostly double-hung sash.</li> <li>- Photographic documentation pre-1887 shows the size of the diamond pane varied for each window type.</li> </ul>
Roof Materials and Profiles	<ul style="list-style-type: none"> <li>- Slate shingles and flat seamed lead coated copper.</li> <li>- Dynamic roofline follows the massing of the building.</li> </ul>
North and South Towers	<ul style="list-style-type: none"> <li>- Significant scale and decorative stone directs visitors to the primary entrances leading to the primary interior public space (Great Hall). Original doors were wood.</li> <li>- North porte cochere indicates primary reception point for visitors by vehicle. Access ramp and stair flanking the North Tower were added in 1987.</li> <li>- Original sandstone steps at the South Tower are extant beneath access ramp.</li> <li>- Clock added to the Flag Tower in 1966.</li> </ul>
Perimeter Towers – West Tower, Northwest Tower, Octagon Tower, Campanile Tower, and Southeast Tower.	<ul style="list-style-type: none"> <li>- Three of the perimeter towers provide vertical circulation.</li> <li>- Each tower has distinct design detailing.</li> </ul>
Great Hall (Lower Main Hall) Interior	<ul style="list-style-type: none"> <li>- Space is truncated by c. 1940 end walls. Full length mezzanine was removed in 1914.</li> <li>- Ornamental plaster and flat plaster walls scored to represent stone coursing. Plaster column bases were replaced with granite in 1989.</li> </ul>

Assessment of Effects on Historic Resources

	- Terrazzo flooring sections from 1889 remain.
Upper Great Hall (Upper Main Hall) Interior	- Spatial proportions are obscured with infill construction c. 1968. - Ornamental plaster window surrounds are the only surviving historic features.
Basement Interior	- Utilitarian spaces with masonry floors and walls. Brick groin vaults supporting the first floor above are exposed. - Renwick era masonry partitions are distinguished by semi-circular brick arched door openings. Later door openings have segmental arch headers. - Modern conduit and mechanical pipes obscure the groin vaults and diminish the character of the space.
South Tower Interior	- Children’s Room at the first floor c. 1901. Mosaic tile floor, decorative finishes, and figurative ceiling treatment were restored in 1989. Non-historic platform and accessible lift occupy half of the space. - Apparatus Room at the second floor c. 1900. Modifications in 1968 converted this room to mechanical space. Portions of the decorative mosaic tile floor remain. - Regents’ Room at the third floor features ornamental and flat plaster, and decorative mosaic tile flooring in the outer vestibule.

\* Original National Historic Landmark and National Register nominations are short. Character defining features are referenced from “Historic Structure Report, Smithsonian Institution Building, Smith-Group, December 2009.” The Historic Structure Report is available on the project webpage.

**Phased Section 106 Consultation**

SI identified a need to phase design and Section 106 consultation for the RoHC Revitalize Castle project to meet a March 2023 construction start. Phase 1 design actions are baseline project early construction activities, required to procure a contractor. Phase 1 actions are connected to below-grade construction work, including excavation below and adjacent to the Castle, insertion of seismic base isolation, and creation of areaways and window wells. A 2023 construction start is critical to the timeline of presenting the Castle in a usable condition for participation in Semiquincentennial 2026 activities. During 2026 activities, construction work will be temporarily demobilized, and the grade will be restored with temporary turf grass. In the fall of 2026 construction work will remobilize and the building will be scaffolded, with the project scheduled for completion in 2028.

Design development and Section 106 consultation on Phase 2 design actions will continue without pause through 2023. Phase 2 consists of changes to the Castle exterior, restoration work, landscape, and perimeter security. Phase 2 includes some interior alterations that lack independent utility, meaning the interior change is directly related to an exterior change. Note that the interior scope of the RoHC project is broader than the work addressed in this report. These other interior changes are not subject to 106 consultation, because this work can function as stand-alone projects.

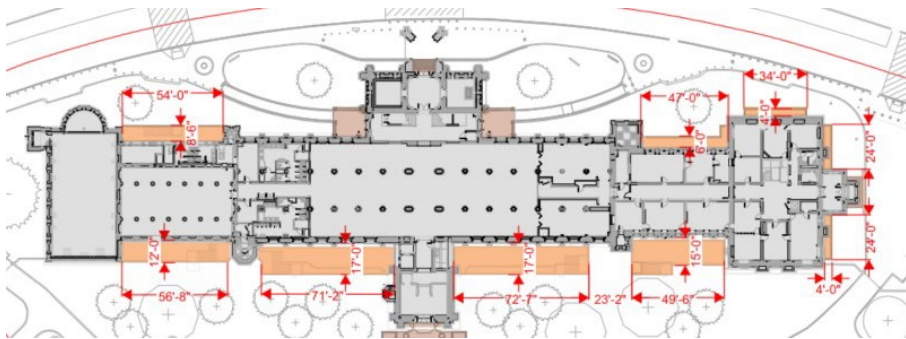
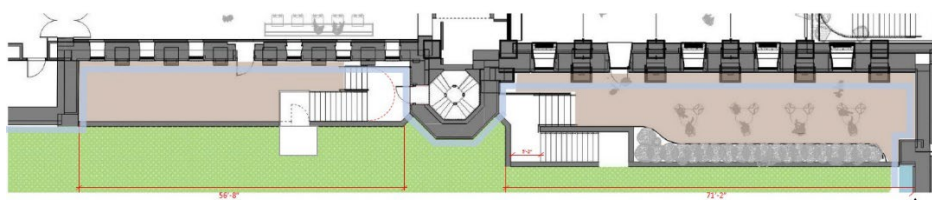
Smithsonian does not conduct Section 106 consultation on interior building changes because interior projects are not subject to National Capital Planning Commission (NCPC) review. Public Law No. 108-72, 117 Stat. 888, deems the Smithsonian a federal agency for purposes of compliance with Section 106 of the National Historic Preservation Act for projects in the District of Columbia requiring NCPC review and approval. Interior alterations that lack independent utility are included in 106 consultation to fulfill NCPC’s Section 106 consultation obligation. The Smithsonian, NCPC, and Advisory Council on Historic Preservation (ACHP) conferred and agreed upon this as set forth in a memo dated September 14, 2022, signed by NCPC and ACHP General Counsels.

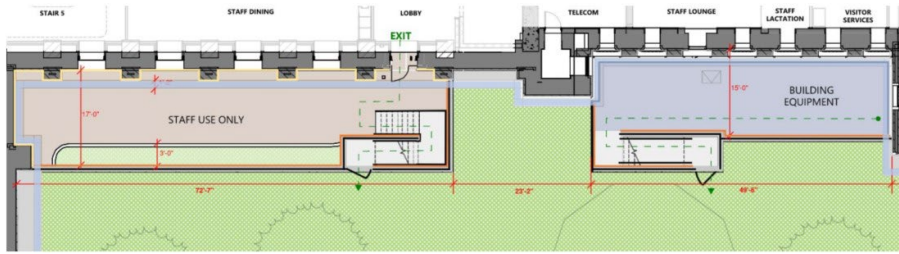
Consensus on the effects of the Phase 1 actions was reached in November 2022. Analysis on the effects of the Phase 2 actions begins on page 15 of this report.



**Assessment of Effects on Historic Resources – Phase 1**

The following provides an assessment of effects of each feature or action of the RoHC Revitalize Castle. The effect determination is based on the criteria of adverse effect. For more images and information on each action and assessment, please refer to the presentation materials from past Section 106 Consulting Parties meetings available on the project webpage. Phase 1 is the baseline project required to start construction in March 2023.

Smithsonian Institution Building	
Feature/Action	Design Details
<p>Introduction of New Areaways and Window Wells (Locations and Dimensions)</p>  <p>Castle site plan, with proposed below-grade areaways and window wells noted with orange shading.</p>	<ul style="list-style-type: none"> <li>- Recessed areaways and window wells are proposed in various locations around the Castle perimeter.</li> <li>- Recessed areaways and window wells bring light to public spaces in the basement level, or provide egress.</li> <li>- Areaways sized to provide egress paths and to align with the Castle’s massing or architectural features. The maximum depth change from an existing condition is 4’.</li> <li>- Areaways on the south side are bisected around the Octagon and Southeast Towers.</li> <li>- Recessed areaways and window wells require fall protection railings.</li> <li>- Egress areaways contain stairs within the recessed areaway. Fall protection railings will incorporate a gate to egress from the stairs at grade.</li> </ul>
Images	Additional Information
 <p>Detail plan of the Castle’s proposed southwest areaway.</p>	<ul style="list-style-type: none"> <li>- Setting is a character defining feature.</li> <li>- Castle currently has 393’ linear feet of areaway (recessed well), and 220’ existing linear feet of apron (paving at grade) at its base.</li> <li>- Proposed below-grade areaways and wells alter the Castle’s relationship with the ground plane and create a moat-like effect at the Castle’s base. This work will expose portions of the foundation that were not designed to be exposed.</li> </ul>



Detail plan of the Castle's proposed southeast areaway.



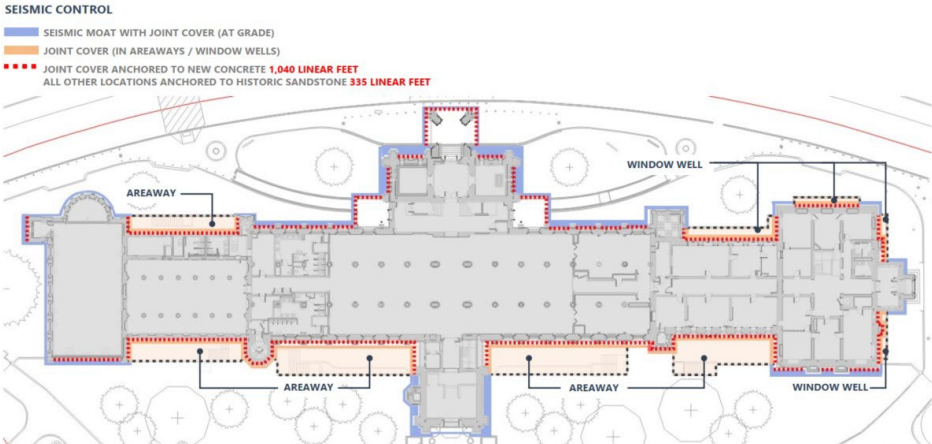
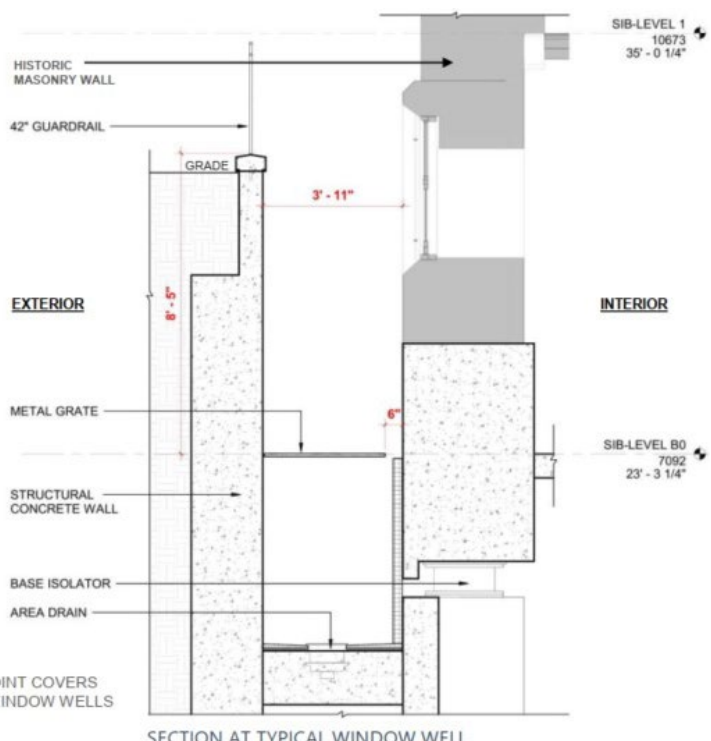
Existing southeast façade.

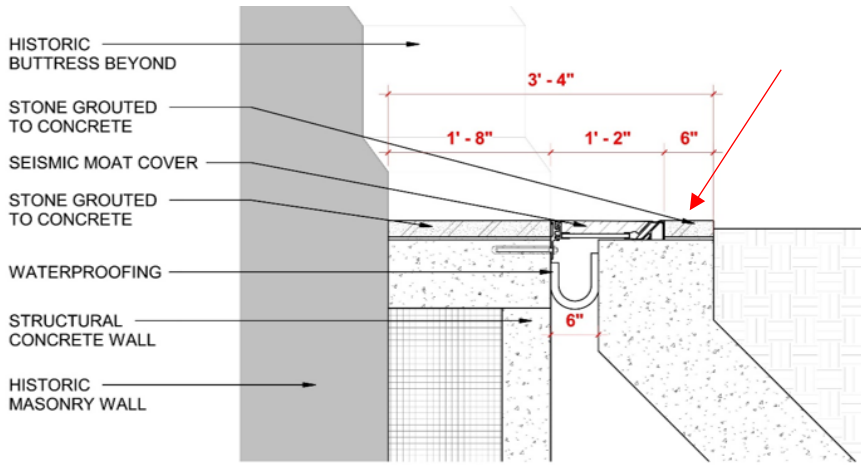


Rendering of the visibility of the Castle's proposed southeast areaway, taken from the Haupt Garden hardscape path. The fall protection railing and plantings will be finalized in Phase 2 of Section 106 consultation. Egress stair gate location is noted with a red arrow.

- Options for exposed foundation surface treatments and materials to minimize adverse effect, are pending mock-ups and further development in Phase 2 of 106 consultation.
- During Phase 1 of 106 consultation the SE and SW areaways were originally proposed as singular egress placing areaway structure between the Octagon and Southeast Towers and grade.
- Alternatives were developed during Phase 1 to bisect the SE and SW areaways which maintains the Towers' relationships with grade, and reduces impact and perceived size of these areaways, and minimizes adverse effects.
- Areaways, egress stairs, window wells, and their fall protection railings will be visible within the setting at the base of the Castle. Railing design alternatives will be finalized in Phase 2 of 106 consultation.
- Adverse effect may be minimized through the reintroduction of similar landscaping post excavation and construction within the Haupt Garden and setting north of the Castle. Landscape plan and plantings will be finalized in Phase 2 of 106 consultation. SI acknowledges that a substantial regrowth period will be required to achieve the current level of screening.
- Seismic base isolation joint will be incorporated into the recessed areaways and aprons.
- Existing sidewalks and pedestrian paths in the Haupt Garden will be maintained, which restricts some visibility in combination with the landscape plan and minimizes adverse effect.
- Contributes to the cumulative adverse effect on the Setting of the Castle.

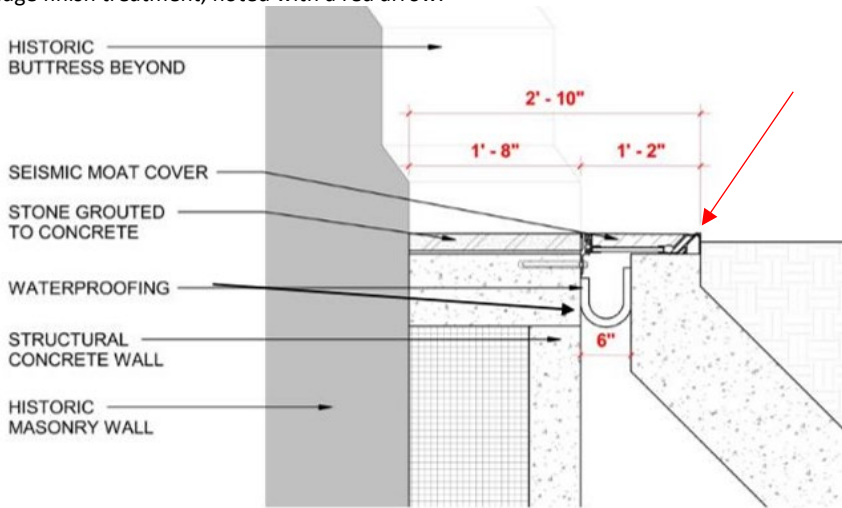
**Proposed Effect Determination – Adverse Effect**

Smithsonian Institution Building	
Feature/Action	Design Details
<p>Installation of Seismic Control Joints Around the Castle Perimeter (Location and Width)</p>  <p>SEISMIC CONTROL</p> <ul style="list-style-type: none"> <li>■ SEISMIC MOAT WITH JOINT COVER (AT GRADE)</li> <li>■ JOINT COVER (IN AREAWAYS / WINDOW WELLS)</li> <li>--- JOINT COVER ANCHORED TO NEW CONCRETE 1,040 LINEAR FEET</li> <li>--- JOINT COVER ANCHORED TO HISTORIC SANDSTONE 335 LINEAR FEET</li> </ul> <p>Proposed Castle site plan. Blue shading notes at-grade seismic joint cover; orange shading notes below-grade seismic joint cover in areaways or window wells.</p>	<ul style="list-style-type: none"> <li>- Seismic base isolation joint is required around the entire Castle perimeter.</li> <li>- Seismic control joint must be as regular as possible around the Castle's unique footprint.</li> <li>- Seismic control joint will have an at-grade cover plate to prevent water infiltration into the joint.</li> <li>- Seismic control joint moat cover is 1'2" in width, but the overall visual assembly width varies to account for buttresses or other architectural features.</li> <li>- Seismic control joint cover plate overall assembly width will be the minimum dimension possible.</li> </ul>
Images	Additional Information
 <p>SECTION AT TYPICAL WINDOW WELL</p> <p>*NO SEISMIC JOINT COVERS REQUIRED IN WINDOW WELLS</p> <p>Section of a typical window well. Note that a seismic control joint cover is not required in window wells.</p>	<ul style="list-style-type: none"> <li>- Setting is a character defining feature.</li> <li>- Castle is an unreinforced masonry structure with complex building massing. Castle experienced significant damage from the 2011 Mineral, VA earthquake.</li> <li>- Seismic base isolation provides protection for the Castle with minimal visual impact. Seismic base isolation avoids the installation of visually intrusive steel and cable supports.</li> <li>- Seismic control joint is associated with base isolation, which separates the building from the ground motion. Base isolation is achieved by creating a plane of separation between the superstructure and the foundations.</li> <li>- Seismic control joint covers the seismic moat to prevent water infiltration.</li> <li>- Seismic control joint cover is not required in the proposed window wells because water infiltration is handled through floor drains.</li> </ul>



SEISMIC JOINT COVER WITH STONE EDGING

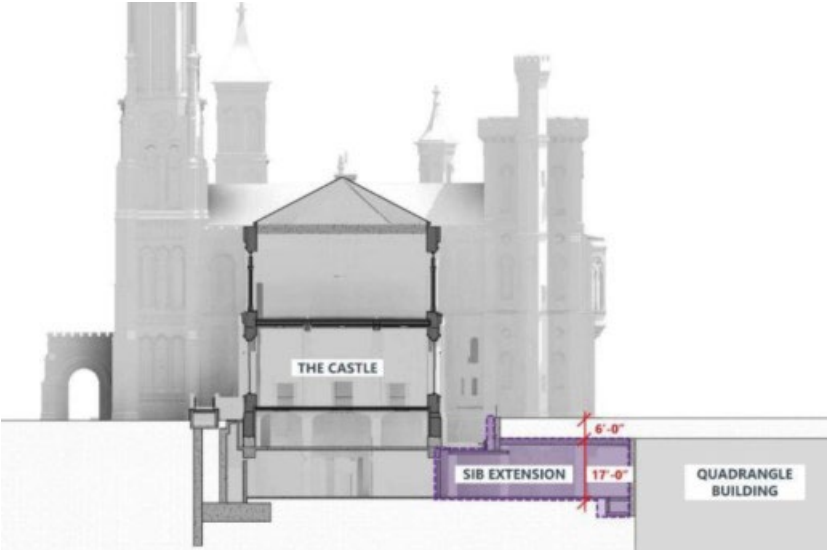
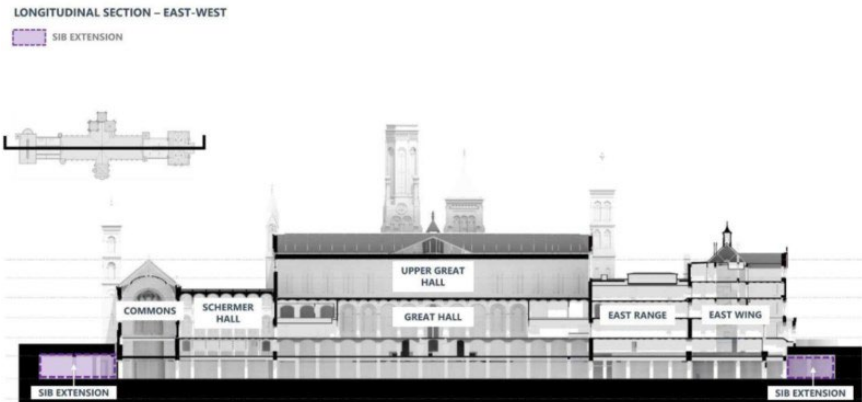
Note the dimension of the seismic moat cover width of 1'2". This option includes a 6" stone edge finish treatment, noted with a red arrow.



SEISMIC JOINT COVER WITH FINISHED METAL EDGE

Note the dimension of the seismic moat cover width of 1'2". This option lacks a stone edge, with the finished metal of the cover plate terminating the above-grade assembly, noted with a red arrow.

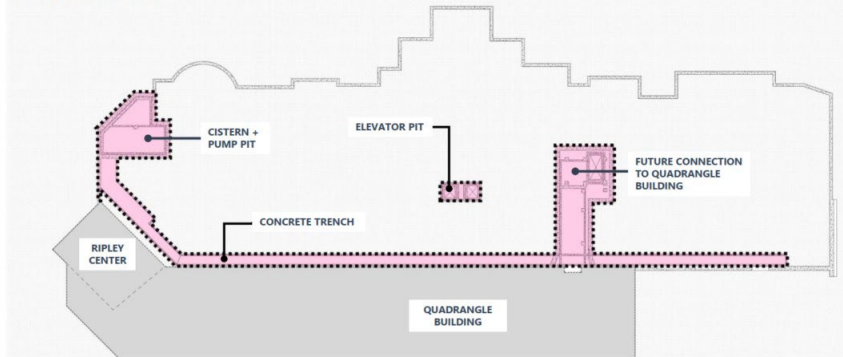
- Seismic base isolation joint will be incorporated into the recessed areaways and under projecting building elements such as the porte cochere and east entrance stairs.
- Seismic control joint will be visible immediately adjacent to the base of the Castle at-grade, and visible around the porte cochere in the sidewalk. This has an adverse effect on the Castle and National Mall Settings.
- Seismic control joint cover plate can accept a variety of finishes, including pavers and architectural features.
- Seismic joint cover is anchored to new concrete for the majority of the Castle perimeter (1,040 linear feet), which minimizes adverse effect by limiting the amount of attachment to historic fabric.
- During Phase 1 of 106 consultation there was some consensus that the "Seismic Joint Cover with Finished Metal Edge" option with the narrowest possible width dimension minimizes visual impact and adverse effect.
- Adverse effect may be further minimized through selection of seismic cover plate materials, sealant, and finish options for exposed metal pending mock-ups and design details in Phase 2 of 106 consultation.
- There was consensus during Phase 1 of 106 consultation that a gray granite insert in the cover plate provides a visual transition and will not call undue attention in the landscape. A different material is needed where the seismic joint crosses Jefferson Drive.
- Contributes to the cumulative adverse effect on the Setting of the Castle.

Smithsonian Institution Building	
Feature/Action	Design Details
<p>Extent of Excavation Adjacent to Castle – SIB Extension (B1 Level), B2 Level Cistern*</p> <p>* This project labels the current Castle basement level B0; the mechanical distribution level below and SIB Extension level B1; and the cistern and future Quadrangle connection B2.</p>  <p>Proposed transverse section through the Castle showing the depths of excavation. SIB Extension is shaded purple.</p>	<ul style="list-style-type: none"> <li>- Excavation occurs adjacent to the Castle for the SIB Extension at the B1 level proposed in an unexcavated area between the Quadrangle and Castle.</li> <li>- SIB Extension will be 23’ below-grade.</li> <li>- SIB Extension aligns with the depth of the B1 level of the Quadrangle Building.</li> <li>- SIB Extension provides connection to the existing Quadrangle loading dock, and spaces for service functions to support the Castle.</li> <li>- Stormwater management cistern will be located at the B2 level adjacent to the west of the Castle.</li> <li>- Excavation adjacent to the Castle will result in no discernible alterations to the above grade setting.</li> </ul>
Images	Additional Information
<p>LONGITUDINAL SECTION – EAST-WEST</p>  <p>Proposed longitudinal section.</p>	<ul style="list-style-type: none"> <li>- SIB Extension will allow for the majority of service functions and infrastructure to be placed outside the Castle footprint, prioritizing the historic interiors for public programming and use.</li> <li>- There is the potential for construction related adverse effects from excavation or building vibration.</li> <li>- Excavation for this project is connected to Stipulation 7.C (Monitoring of Adjacent Historic Properties) of the South Mall Master Plan Programmatic Agreement which requires monitoring adjacent to historic properties.</li> <li>- Adverse effects of excavation adjacent to the Castle will be mitigated and remedied provided the following conditions are met:                         <ol style="list-style-type: none"> <li>1. Pre-construction monitoring is carried out to establish a baseline for movement</li> </ol> </li> </ul>

EXTENT OF EXCAVATION – LEVEL B2

EXTENT OF EXCAVATION

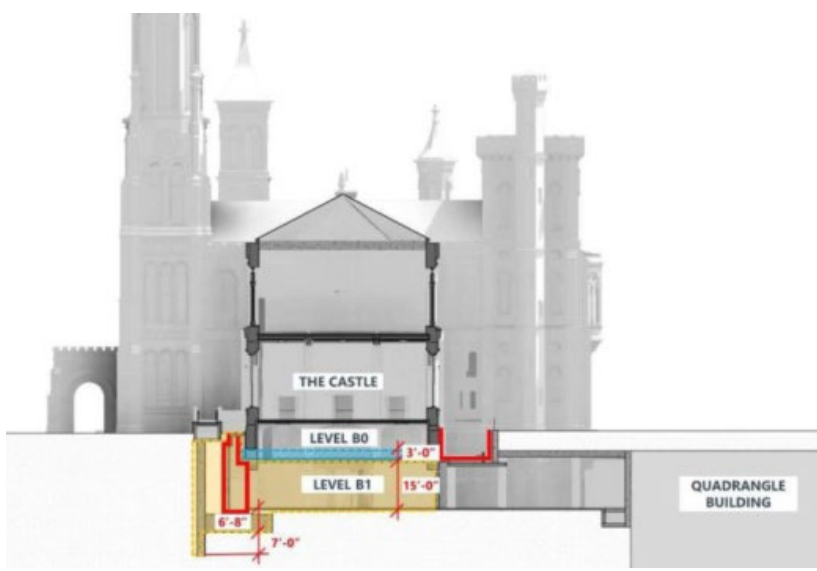
BELOW GRADE CONSTRUCTION

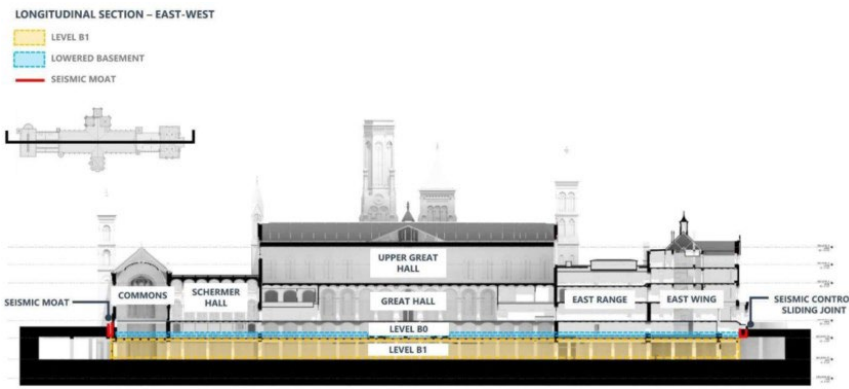


Extent of excavation at the B2 level.

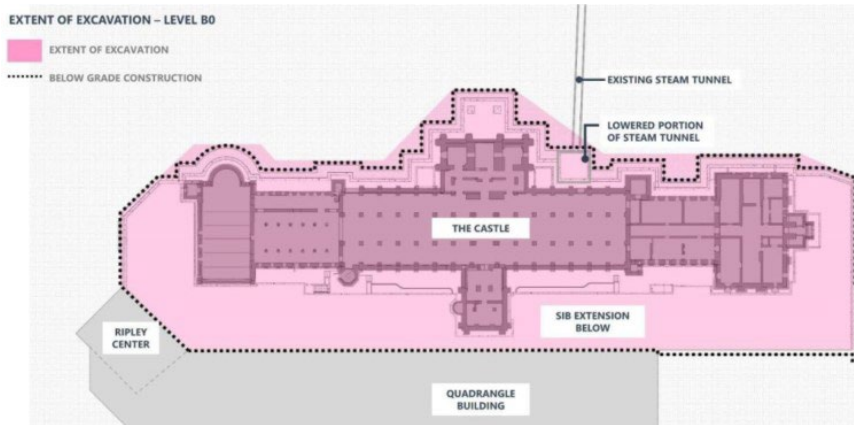
- and vibrations (Note: this monitoring started in October 2022);
2. A Monitoring Plan will be prepared to identify safe vibration limits based upon the pre-construction monitoring prior to starting construction;
  3. Monitoring will be carried out for entire project duration to measure vibration during the proposed excavation and other construction activities;
  4. Construction activities will be temporarily halted should any vibration, settlement, or unanticipated circumstances exceed the safe limits outlined in the pending Monitoring Plan; and
  5. If safe limits are exceeded, the SI shall stop work, notify the Signatories and other parties as appropriate, and follow Stipulation 8 (Emergency Actions) of the South Mall Master Plan Programmatic Agreement.
  6. Excavation will result in no discernible alterations to the above grade setting.
  7. After construction is complete, the grade is restored.

Proposed Effect Determination – Adverse Effect

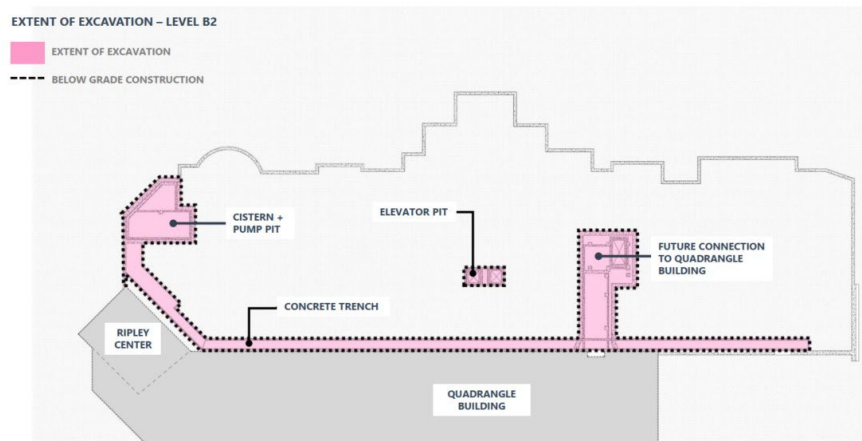
Smithsonian Institution Building	
Feature/Action	Design Details
<p>Excavation Beneath the Castle – Base Isolation, Lowering of the Basement Level, Future Quadrangle Building B2 Connection, and Mechanical Distribution Level*</p> <p>* This project labels the current Castle basement level B0; the mechanical distribution level below and SIB Extension level B1; and the cistern and future Quadrangle connection B2.</p>	<ul style="list-style-type: none"> <li>- Basement floor level (B0) will be lowered 3’ to accommodate public use and programming.</li> <li>- Seismic base isolation will be inserted.</li> <li>- New mechanical distribution level (B1) with a 15’ floor to ceiling height is proposed below the Castle basement for building specific mechanical equipment.</li> <li>- Mechanical distribution level is aligned with the existing Quadrangle loading dock, Quadrangle B1 level, and the SIB Extension.</li> <li>- B2 level will contain an excavated but not enabled future connection to the Quadrangle Building B2 level.</li> </ul>
Images	Additional Information
 <p>Proposed transverse section through the Castle showing the depths of excavation. Lowered basement is shaded blue. Mechanical distribution level is shaded yellow.</p>	<ul style="list-style-type: none"> <li>- Castle is an unreinforced masonry building, with a long and narrow profile, and complex building massing.</li> <li>- Castle is at risk for significant seismic related damage, experienced during the 2011 earthquake.</li> <li>- Base isolation separates the building from the ground motion, achieved by creating a plane of separation between the superstructure and the foundations.</li> <li>- Proposed mechanical distribution level reduces the impact of new systems on the exterior or historic interior.</li> <li>- Mechanical distribution level is proposed at 15’ for sufficient space for equipment operations and maintenance.</li> <li>- Excavation of the B0 and B1 levels has the potential to adversely affect historic fabric such as the existing floor material and the “reverse arch” construction that may exist below grade, and by altering the historic character of the existing basement. Consideration of these interior alterations, which do not have independent utility, will be part of Phase 2 of 106 consultation.</li> <li>- There is the potential for construction related adverse effects from excavation or building vibration.</li> </ul>



Proposed longitudinal section.



Extent of excavation at the B0 level (current Castle basement).

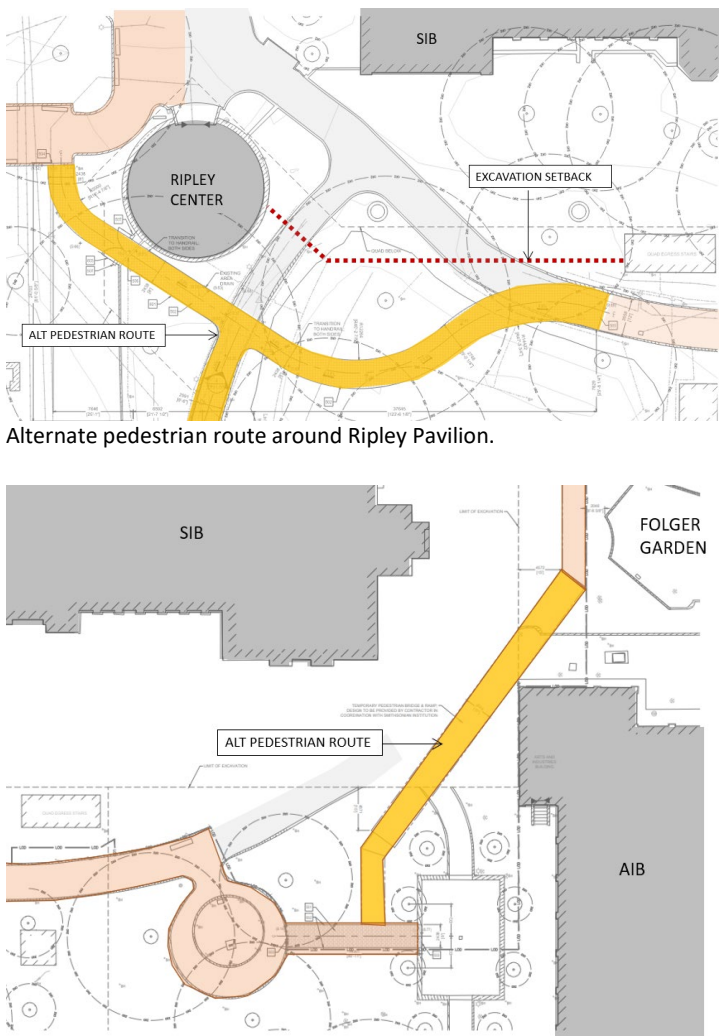


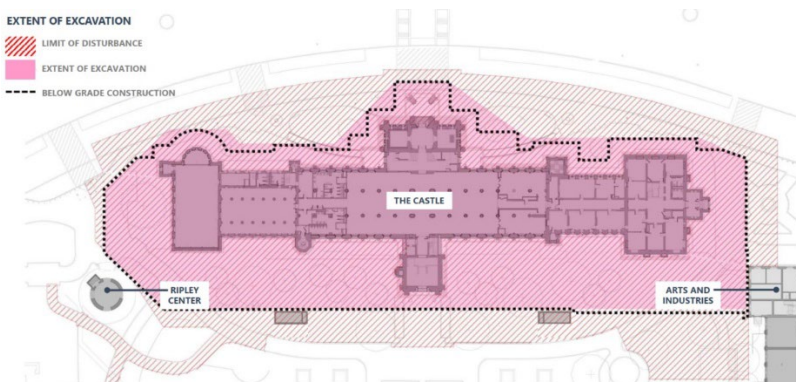
Extent of excavation at the B2 level.

- Excavation for this project is connected to Stipulation 7.C (Monitoring of Adjacent Historic Properties) of the South Mall Master Plan Programmatic Agreement which requires monitoring adjacent to historic properties.
- Adverse effect of excavation beneath the Castle will be remedied provided the following conditions are met:
  1. Pre-construction monitoring is carried out to establish a baseline for movement and vibrations (Note: this monitoring started in October 2022);
  2. A Monitoring Plan will be prepared to identify safe vibration limits based upon the pre-construction monitoring prior to starting construction;
  3. Monitoring will be carried out for entire project duration to measure vibration during the proposed excavation and other construction activities;
  4. Construction activities will be temporarily halted should any vibration, settlement, or unanticipated circumstances exceed the safe limits outlined in the pending Monitoring Plan; and
  5. If safe limits are exceeded, the SI shall stop work, notify the Signatories and other parties as appropriate, and follow Stipulation 8 (Emergency Actions) of the South Mall Master Plan Programmatic Agreement.
  6. No “reverse arches” or other unanticipated historic fabric are discovered during excavation. The Programmatic Agreement will stipulate the process for stopping work and considered unanticipated discoveries during construction.

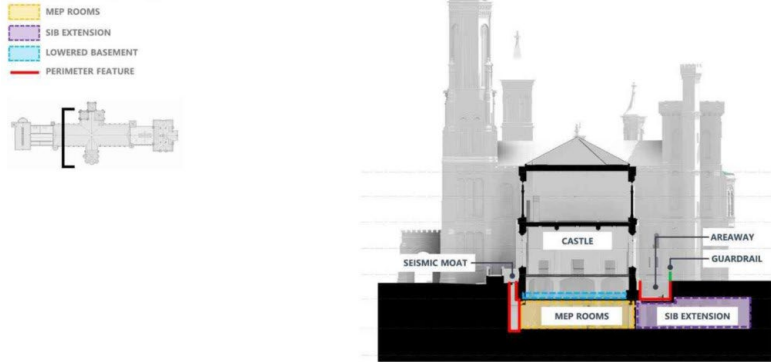
**Proposed Effect Determination – Adverse Effect**



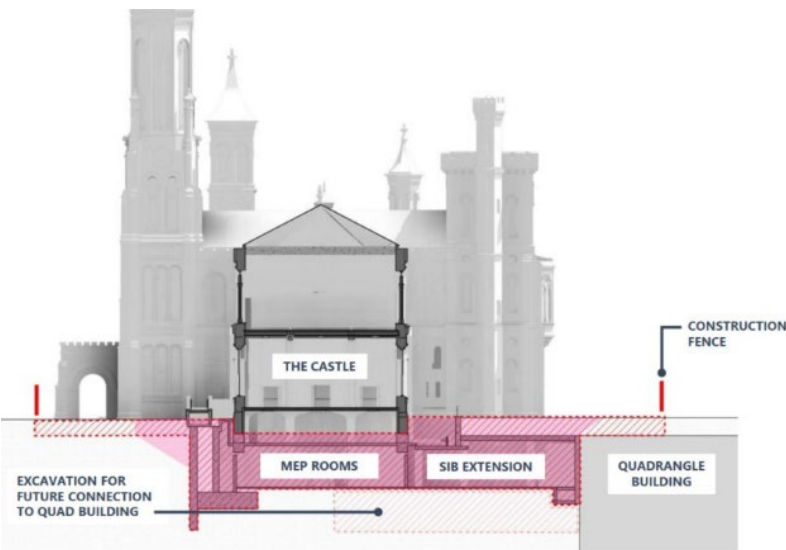
Site - Smithsonian Institution Building	
Feature/Action	Design Details
<p>Creation of Alternate Pedestrian Routes for Circulation Around the Castle</p>	<ul style="list-style-type: none"> <li>- Limit of Disturbance for Phase 1 construction activities will temporarily affect part of Jefferson Drive, Folger Rose Garden, and Haupt Garden.</li> <li>- Existing pedestrian pathways south of the Castle will be temporarily blocked due to construction fencing and ground disturbance activities.</li> <li>- Alternate pedestrian routes are required to access the Haupt Garden and the Quadrangle Building programs.</li> </ul>
Images	Additional Information
 <p>Alternate pedestrian route around Ripley Pavilion.</p> <p>Alternate pedestrian route around the Castle's east side.</p>	<ul style="list-style-type: none"> <li>- Pedestrian route around the Castle's east side must span the excavation work and project Limit of Disturbance using a temporary pedestrian landbridge structure with accessible ramps.</li> <li>- Pedestrian route around the Castle's west side is located and slightly elevated to avoid impacts to root systems of mature trees.</li> <li>- Alternate pedestrian routes may remain in place during the entire RoHC Revitalize Castle construction (Phase 1 and 2).</li> <li>- Hardscape materials will be salvaged and reinstalled in their original locations.</li> <li>- Maintenance of pedestrian access and circulation during construction is in accordance with Stipulation 7.D (Implementation of Projects – Campus Circulation) of the South Mall Master Plan Programmatic Agreement.</li> <li>- The creation of alternate pedestrian routes has the potential to adversely affect the Castle's Setting due to changed pathways and/or pedestrian landbridge (elevated walkway that crosses excavation work).</li> <li>- Adverse effect of the alternate pedestrian routes will be mitigated provided the following conditions are met after the completion of construction activities in 2028:                         <ol style="list-style-type: none"> <li>1. Construction fencing is removed and land disturbance activities are completed allowing returned use of the Haupt Garden circulation path south of the Castle.</li> <li>2. Hardscape materials are salvaged and reinstalled in their original locations.</li> <li>3. Turf and landscape plantings are returned.</li> <li>4. All temporary pathway/pedestrian landbridge materials are removed after construction activities are complete.</li> </ol> </li> </ul>
<p><b>Proposed Effect Determination – Adverse Effect</b></p>	

Smithsonian Institution Building	
Feature/Action	Design Details
<p>Cumulative Effects of Phase 1 Activities</p>	<ul style="list-style-type: none"> <li>- Limit of Disturbance for Phase 1 construction activities will temporarily affect parts of Jefferson Drive, Folger Rose Garden, Haupt Garden, and the Castle’s landscaped setting.</li> <li>- Construction fencing will obscure the base of the Castle around the Limit of Disturbance during Phase 1 construction activities.</li> <li>- To enable use of the Castle for 2026 activities, construction work will be temporarily demobilized and the construction fencing removed.</li> <li>- During 2026 activities within the project Limit of Disturbance, the grade will be restored and the landscape will temporarily be turf grass, prior to mobilization for Phase 2 construction activities.</li> <li>- Recessed areaways and window wells are proposed in various locations around the Castle perimeter.</li> <li>- Seismic base isolation joint with a visible cover plate assembly is required around the Castle perimeter at-grade.</li> </ul>
Images	Additional Information
 <p>Project Limit of Disturbance.</p>	<ul style="list-style-type: none"> <li>- The Andrew Jackson Downing Urn, a memorial and public artwork located in the Haupt Garden, will be protected-in-place or temporarily relocated to a SI storage facility.</li> <li>- There is the potential for construction related adverse effects from excavation or building vibration. Construction activities will be temporarily halted should any vibration, settlement, or unanticipated circumstances exceed the safe limits outlined in the Monitoring Plan.</li> <li>- Alternate pedestrian routes may remain in place during the entire RoHC Revitalize Castle construction (Phase 1 and 2).</li> <li>- Construction fencing and alternate pedestrian routes will have an adverse effect on the Castle and its setting. When the Castle opens for 2026 activities, construction fencing will be removed. When construction resumes, construction fencing and scaffolding will be erected.</li> <li>- Cumulative adverse effects from excavation work, construction fencing, and alternate</li> </ul>

TRANSVERSE SECTION – GREAT HALL



Transverse Castle section. Red lines annotate visible changes at the Castle's base.



Transverse Castle section. Limit of Disturbance noted with a red hatch mark, and construction fencing with red.



pedestrian routes will be mitigated, provided the site is restored after construction is complete, including reinstallation of salvaged hardscape pavers and plantings.

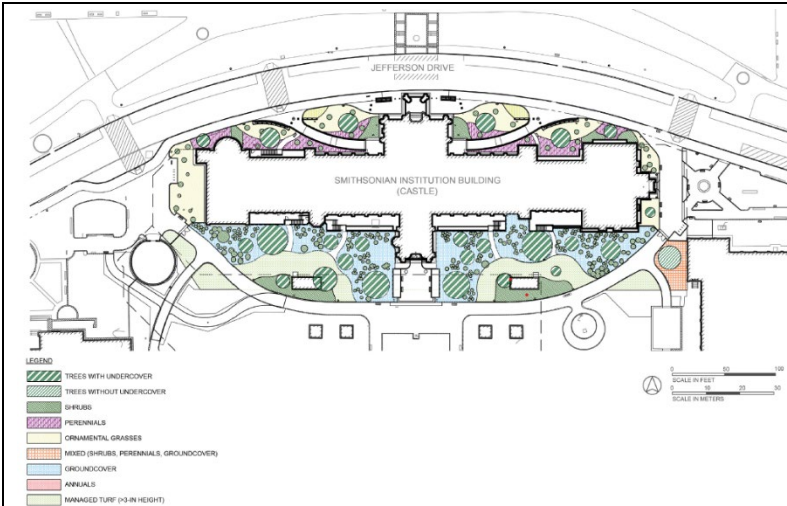
- Seismic control joint will be visible immediately adjacent to the base of the Castle at-grade, and visible around the porte cochere in the sidewalk. This has an adverse effect on the Castle and National Mall Settings.
- Proposed below-grade areaways and wells alter the Castle's relationship with the ground plane.
- Areaways, window wells, and their fall protection railings will be visible within the setting at the base of the Castle. Railing design alternatives will be finalized in Phase 2 of 106 consultation.
- There is a cumulative adverse effect on the Castle's Setting from the seismic control joint, areaways, and window wells.

**Proposed Effect Determination – Adverse Effect**

**Assessment of Effects on Historic Resources – Phase 2**

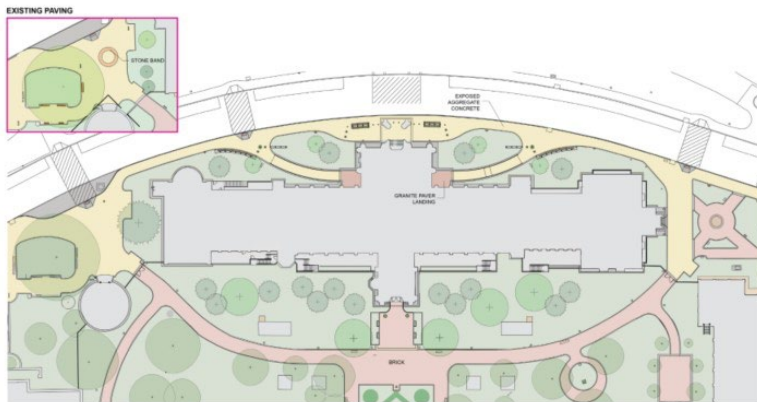
The following provides an assessment of effects for each feature or action of Phase 2 of the RoHC Revitalize Castle. The effect determination is based on the criteria of adverse effect. For more images and information on each action and assessment, please refer to the presentation materials from past Section 106 Consulting Parties meetings available on the project webpage. Phase 2 contains the remaining design actions for consultation to complete the RoHC Revitalize Castle project. Certain design actions were determined to have an adverse effect during Phase 1 consultation, with additional consultation required on minimization measures during Phase 2 consultation.

Site	
Feature/Action	Design Details
<p>Landscape and Planting Plan</p>  <p>Castle South Elevation and South Yard, 1880.</p>	<ul style="list-style-type: none"> <li>- Hardscape displaced by the project limit of disturbance will be replaced in-kind.</li> <li>- Paths and sidewalks adjacent to Jefferson Drive will have aggregate concrete to match the National Mall standard.</li> <li>- Paths within the Haupt Garden and Folger Rose Garden will have red brick. Granite pavers will be used at the north entrance landings.</li> <li>- Character of the landscape will be maintained, through the same diversity of plant typology and heights of trees.</li> <li>- Tree and plants will be placed in a similarly loose arrangement to the existing condition.</li> <li>- Tree plantings will be slightly setback to prevent biological growth and damage to the Castle’s sandstone.</li> <li>- Amount of turf panels around the Castle’s setting will be reduced, with some areas replaced with native perennials and low ornamental grasses.</li> </ul>
Images	Additional Information
 <p>Existing landscape character south of the Castle.</p>	<ul style="list-style-type: none"> <li>- Setting of the Castle is a character defining feature.</li> <li>- Building entrances maintain relationship with grade and original configurations.</li> <li>- Haupt Garden is documented in the National Mall Historic District nomination as part of the landscape setting, not as a contributing element.</li> <li>- Different landscape treatments were present adjacent to the Castle over time. Original landscaping was turf grass immediately adjacent with sparse shrubs.</li> <li>- Current tree plantings are immediately adjacent to and touch the Castle. This results in dense shade conditions causing biological growth on the Seneca sandstone. Setting the trees back slightly from the Castle eliminates dense shade conditions</li> </ul>



Final landscape planting plan. Trees are placed around the Castle perimeter, with shrubs, perennials, and turf comprising the ground cover.

- against the stone and bolsters the Castle’s long-term preservation.
- Existing landscape setting features a mix of large structural trees (evergreen and deciduous), large shrubs/small trees, low shrubs, perennials, and turf. Diversity, type, and hierarchy of plantings will be maintained.
- Proposed trees and plantings are in keeping with the existing landscape variety but use native and sustainable plantings.
- Changes to the landscape and replacement of hardscape will not alter the character of the Castle’s setting.
- Refer to “Accessible Walkways at the North Entrance” and “Alterations at the South Entrance to Improve Accessibility” for related changes.

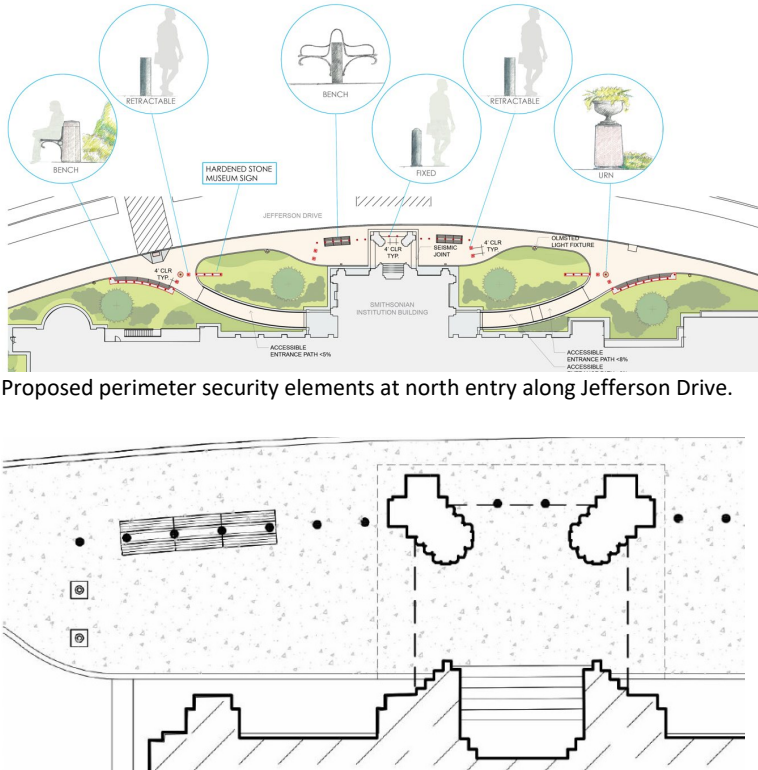
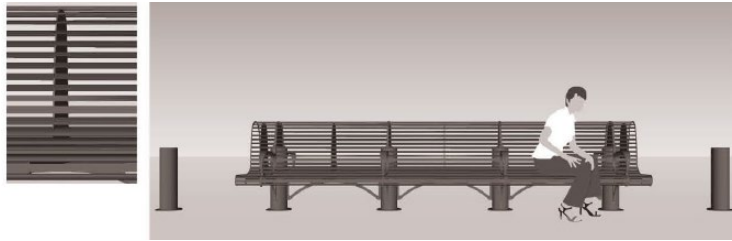



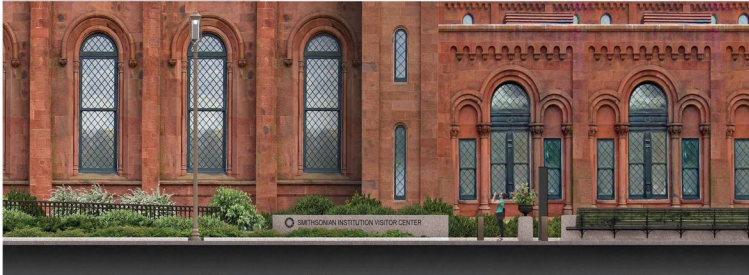
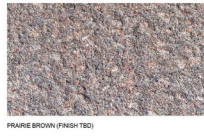
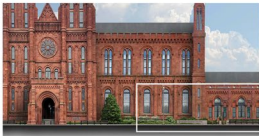
Final paving plan. Yellow shading notes aggregate concrete, red shading notes brick. Granite pavers are proposed at the north entrance landings.



Rendering of the proposed planting plan.

**Proposed Effect Determination – No Adverse Effect**

Site	
Feature/Action	Design Details
<p>Perimeter Security</p>  <p>Proposed perimeter security elements at north entry along Jefferson Drive.</p> <p>Partial site plan at the porte cochere.</p>	<ul style="list-style-type: none"> <li>- Design is a combination of hardened metal bollards (fixed and retractable), urns, wall signage, and benches.</li> <li>- Fixed and retractable bollards measure 30" in height and 7" in diameter for visual continuity between the two types.</li> <li>- Bollards will have a decorative bronze cover with the Smithsonian logo at the top and bush hammered detail mid-level on the shaft.</li> <li>- Two fixed bollards will be placed between the porte cochere piers aligned with the second colonnette.</li> <li>- Two (2) double-sided open metal slat benches are proposed on each side of the porte cochere.</li> <li>- At the north entrance accessible walkways, perimeter security is accomplished through bollards, hardened urn pedestals, engraved signage walls, and hardened benches.</li> <li>- Perimeter security stone components will use a gray-brown granite.</li> </ul>
Images	Additional Information
 <p>Detail elevations of the double-sided metal slat bench at the porte cochere.</p>  <p>Context renderings of the perimeter security on Jefferson Drive.</p>	<ul style="list-style-type: none"> <li>- Setting is a character defining feature.</li> <li>- Perimeter security alters the Castle's setting.</li> <li>- Castle porte cochere is less than 4 feet from the roadbed curb.</li> <li>- At the beginning of consultation, perimeter security proposed a continuous line of bollards and site walls to create a barrier along the Jefferson Drive curb. This design had significant adverse effects on the Castle and National Mall settings and was revised to focus on three building entrance/exit locations on Jefferson Drive to minimize adverse effects.</li> <li>- Phase 1 of Section 106 consultation considered various combinations of hardened metal bollards (fixed and retractable), landscape wall features, and benches. There was consensus for the length, size, and placement of the integral bollard benches adjacent to the porte cochere; and for the length of benches adjacent to the accessible walkway entrances.</li> </ul>



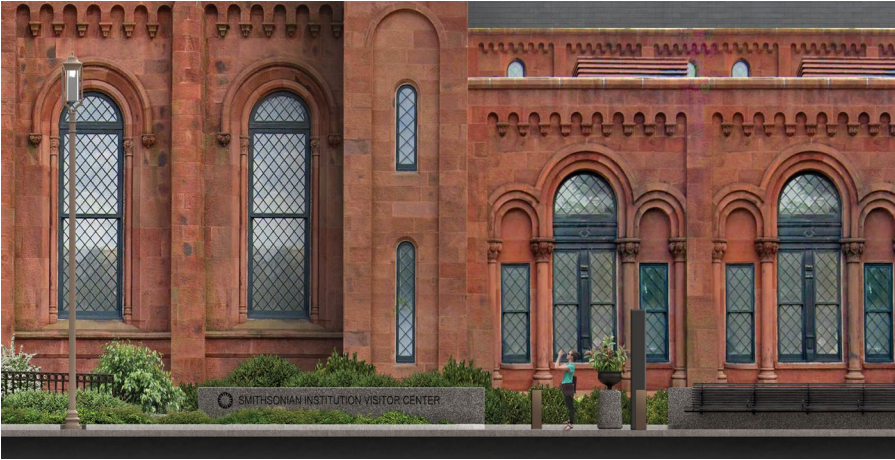
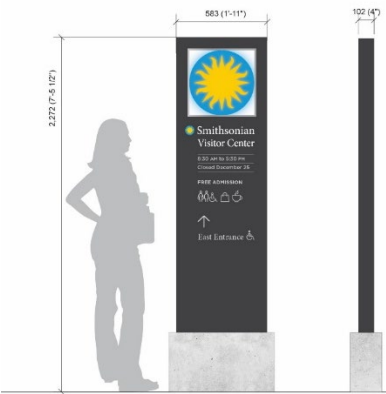



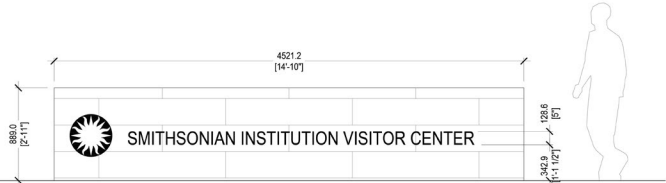
Detail rendering of perimeter security with gray-brown granite.





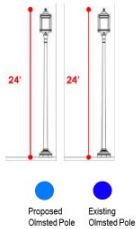
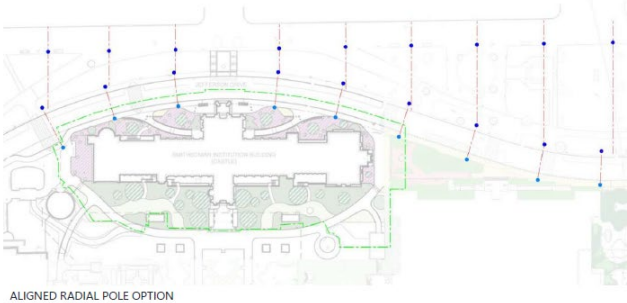
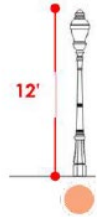
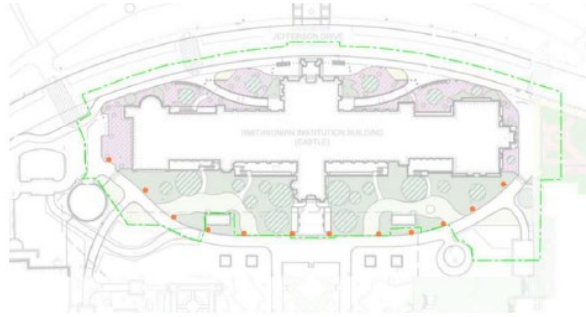
Bollard mock-up inside the porte cochere for Consulting Parties review.

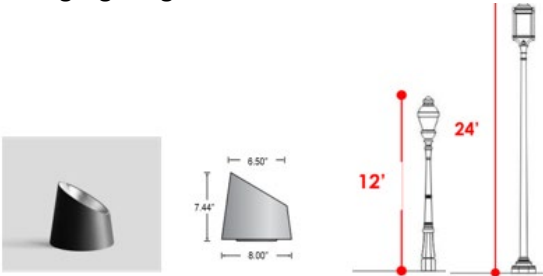
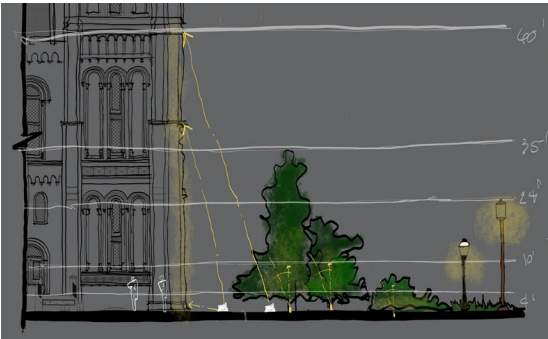


- Double-sided metal open slat benches incorporate four (4) bollards each adjacent to the porte cochere. Bench design is a contemporary take on existing wood slat benches and metal filigree benches currently around the Castle's setting. Bench design minimizes adverse effect by concealing bollards in a traditional type of street furniture.
- Bush hammered detail on the bollard shaft takes visual cues from the Castle's stonework.
- Design of the hardened wall bench permits maximum visibility of the Castle due to stepping the granite down from the ends allowing visibility through the open metal bench slats. Metal slat seating conceals hardened metal bollards.
- Use of a gray-brown granite is contextual to both the Castle and the Jefferson Drive streetscape materials.
- Contributes to the cumulative adverse effect on the Setting of the Castle and the National Mall Historic District.
- Refer to "Signage" for related changes.


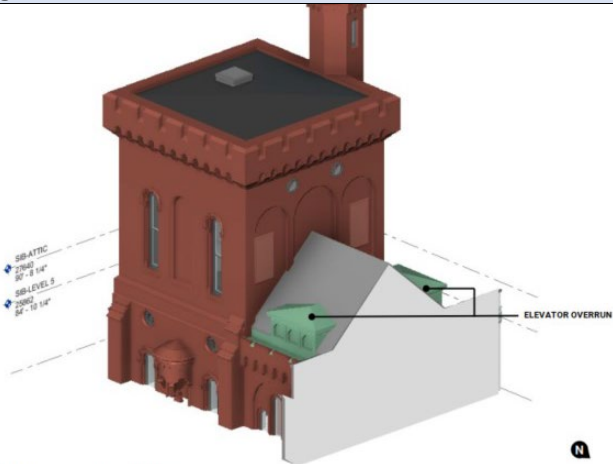
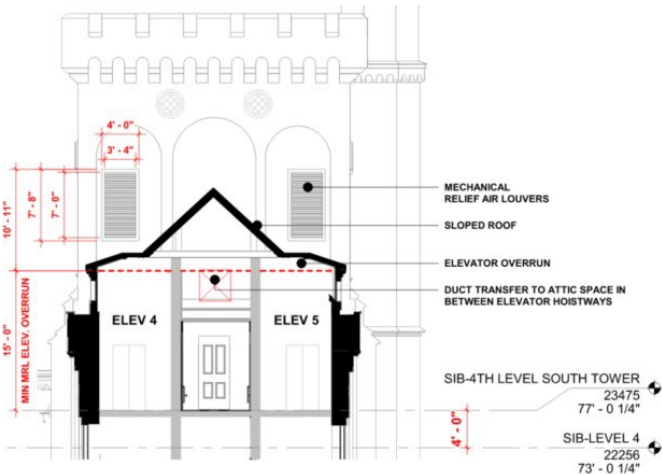
**Proposed Effect Determination – Adverse Effect**

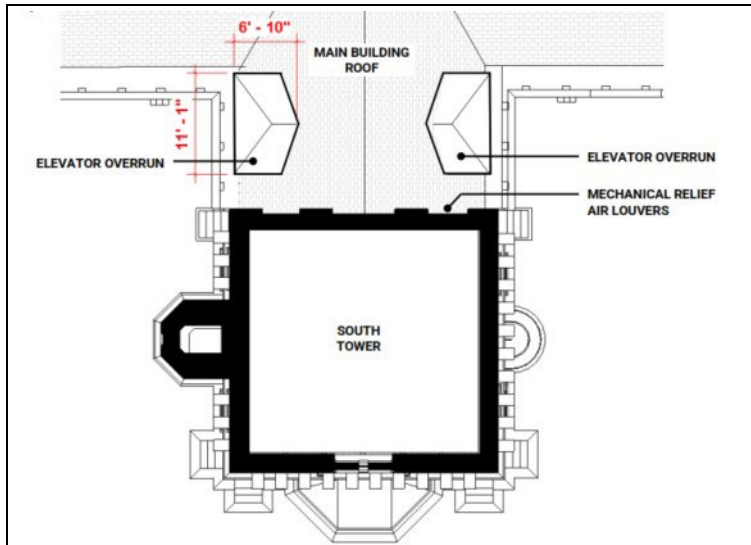
Site	
Feature/Action	Design Details
<p>Signage</p>  <p>Rendering of the approach to the west accessible walkway at the North Entry.</p>	<ul style="list-style-type: none"> <li>- Existing large SI pylon sign west of the porte cochere will be removed.</li> <li>- Two (2) existing Smithsonian Visitor Center metal signs will be replaced in the same location with stone walls with engraved signage. These signs are hardened walls and part of perimeter security.</li> <li>- Two (2) new directional signage pylons are proposed in the landscape at the transition between the sidewalk and the North Entry accessible walkways.</li> </ul>
Images	Additional Information
 <p>Elevation and section of the proposed signage pylon.</p>     <p>Elevation drawing of the hardened wall with engraved signage, and other National Mall precedents.</p>	<ul style="list-style-type: none"> <li>- Proposed new directional signage type is approximately half of the width of the existing signage pylons.</li> <li>- Proposed signage program results in an overall reduction in the amount of SI signage adjacent to the Castle.</li> <li>- Signage pylons will be bronze with a granite base in keeping with the SI National Mall wide standard.</li> <li>- There is established precedent for engraved building signage on the National Mall.</li> <li>- Proposed signage program will not detract from the Castle's or the National Mall settings.</li> <li>- Refer to "Perimeter Security" for related changes.</li> </ul>
<p><b>Proposed Effect Determination – No Adverse Effect</b></p>	



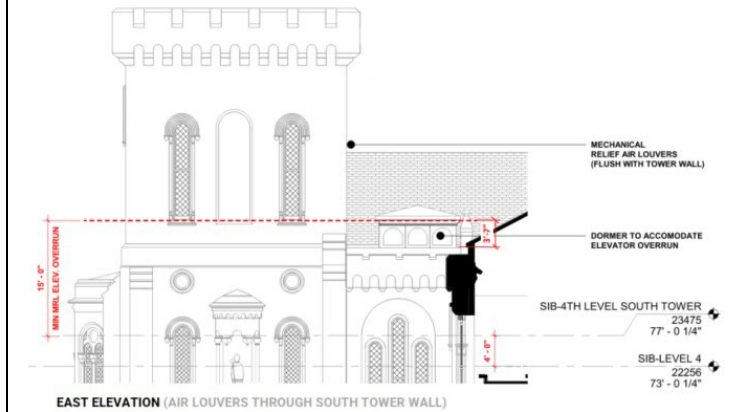
Site	
Feature/Action	Design Details
<p>Lighting</p> <div style="display: flex; justify-content: space-around;">   </div> <p>Existing Mall Olmsted light post.      Existing Victorian light post.</p>	<ul style="list-style-type: none"> <li>- Olmsted light posts are proposed along the south side of Jefferson Drive in keeping with the historic context and National Mall existing light posts.</li> <li>- Olmsted posts are 24 feet high, placed in a radial pattern to transition from the Mall placement and the curve of Jefferson Drive.</li> <li>- Victorian light posts are 12 feet high, placed along the main pedestrian path south of the Castle, in keeping with the existing lighting of the Haupt Garden.</li> </ul>
Images	Additional Information
<ul style="list-style-type: none"> <li>• The proposed Olmsted Pole location runs in relation to the natural curve of Jefferson Drive.</li> <li>• Maintains formality of mall</li> </ul> <div style="display: flex; align-items: center;">   </div> <p>ALIGNED RADIAL POLE OPTION</p> <p>Proposed placement of the Olmsted light posts on the south side of Jefferson Drive, aligning radially with the existing National Mall Olmsted posts.</p> <div style="display: flex; align-items: center;">   </div> <p>PROPOSED VICTORIAN POLE LOCATION</p> <p>Proposed placement of the Victorian light posts south of the Castle.</p>	<ul style="list-style-type: none"> <li>- Existing light posts on the south side of Jefferson Drive are 12 feet high. Proposed Olmsted light posts reduce the number from what is currently in the streetscape.</li> <li>- Light post design aligns with District of Columbia standards and the National Capital Planning Commission’s Monumental Core Streetscape Framework.</li> <li>- Light posts conform with dark sky requirements in the National Mall setting.</li> <li>- Proposed light posts are in keeping with the different contexts north and south of the Castle and maintain the existing settings.</li> <li>- Posts work in concert with the building lighting to light the Castle.</li> <li>- Refer to “Building Lighting” for related changes.</li> </ul>
<p><b>Proposed Effect Determination – No Adverse Effect</b></p>	

Smithsonian Institution Building	
Feature/Action	Design Details
<p>Building Lighting</p>  <p>Building lighting is accomplished from the street light posts and a 7" tall light fixture installed in the ground and in non-visible locations on the Castle.</p>	<ul style="list-style-type: none"> <li>- Building façade lighting will be accomplished through fixtures hidden within the landscape and installed in non-visible locations on the Castle.</li> <li>- Building façade lighting is assisted by the proposed street light posts.</li> <li>- Existing building specific fixtures will be restored and rehabilitated with energy efficient lighting.</li> </ul>
Images	Additional Information
 <p>Section drawing detailing the light reach of in-ground fixtures and posts on the Castle façade.</p>  <p>Rendered night view of the Castle's north elevation and Jefferson Drive.</p>  <p>Rendered night view of the Castle's south elevation and Haupt Garden paths.</p>	<ul style="list-style-type: none"> <li>- Proposed façade lighting scheme is in keeping with other lighting on monumental buildings within the National Mall setting.</li> <li>- Proposed façade lighting scheme does not detract from the Castle or National Mall settings.</li> <li>- Light fixtures attached to the Castle will be in non-visible locations and readily reversible.</li> </ul>
<p><b>Proposed Effect Determination – No Adverse Effect</b></p>	

Smithsonian Institution Building	
Feature/Action	Design Details
<p>South Tower Elevators – Exterior Alterations</p>  <p>Existing condition of the South Tower peaked roof and mechanical bulkhead to be removed, and the blind arches infilled with brick masonry.</p>	<ul style="list-style-type: none"> <li>- Two (2) new elevators replace an existing non-code compliant elevator and stair in the Castle’s South Tower.</li> <li>- Proposed elevators are accessible and code compliant and will be the primary vertical circulation for the public for all levels of the Castle.</li> <li>- Each new elevator requires a visible overrun.</li> <li>- Overruns are 3’7” above the parapet, with a hipped roof, arched detailing, and copper cladding.</li> <li>- Mechanical relief is accomplished with through wall louvers at blind arches at the north elevation of the South Tower. Louvers will require the removal of historic brick. Louvers will be finished to match the brick. Louvers cannot be centered within the blind arches due to an existing stair and proposed ductwork.</li> </ul>
Images	Additional Information
 <p>Partial axonometric view of the South Tower.</p>  <p>Section elevation depicting the size of the through wall louvers and extent of brick removal.</p>	<ul style="list-style-type: none"> <li>- Roof Profile is a character defining feature. South Tower has a steep peaked roof clad in slate shingles.</li> <li>- Proposed work enables the removal of the existing non-code compliant elevator and its visible elevator overrun from the North Tower.</li> <li>- Existing elevator mechanical relief bulkhead is visible from the east and west of the South Tower.</li> <li>- Proposed elevators use Machine Room-less technology, which does not require overhead mechanical equipment above the elevator shaft. If this technology was not used, the elevator overruns would be significantly taller.</li> <li>- Alternate locations for these public elevators cannot be considered to avoid adverse effects to the South Tower exterior and interior. This is because the Adolf Cluss modifications inserted additional levels creating quarter level height differences between the finish floors of the South Tower and the Main Building.</li> <li>- Phase 1 of 106 consultation included a significantly taller mechanical relief bulkhead than the existing condition, found to have significant visual impact and adverse effect. Phase 1 of 106 consultation produced a through wall louver design, with consensus that this solution minimized adverse effect by eliminating visibility of the mechanical relief bulkhead.</li> <li>- Proposed elevator overruns will be visible from the east and west of the South Tower.</li> <li>- Proposed exterior changes have an adverse effect on the Castle’s roofline, South Tower massing, and will remove historic roofing materials and brick masonry.</li> </ul>



Proposed roof plan noting locations of the elevator overruns and through wall louvers.



East elevation of the South Tower, depicting the preferred hipped roof and detailing of the overrun.



EXISTING VIEW FROM GRADE – LOOKING NW

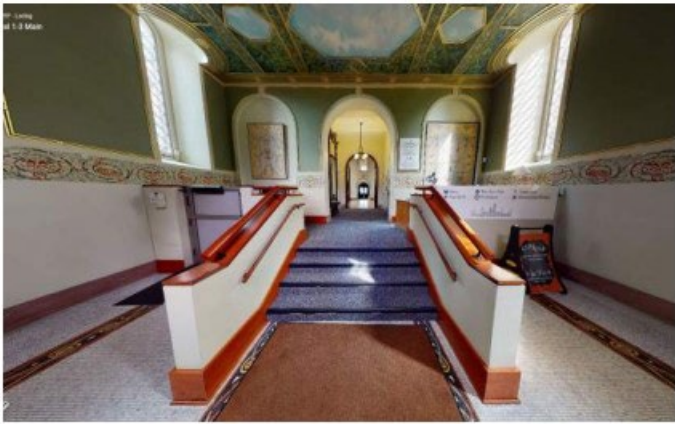
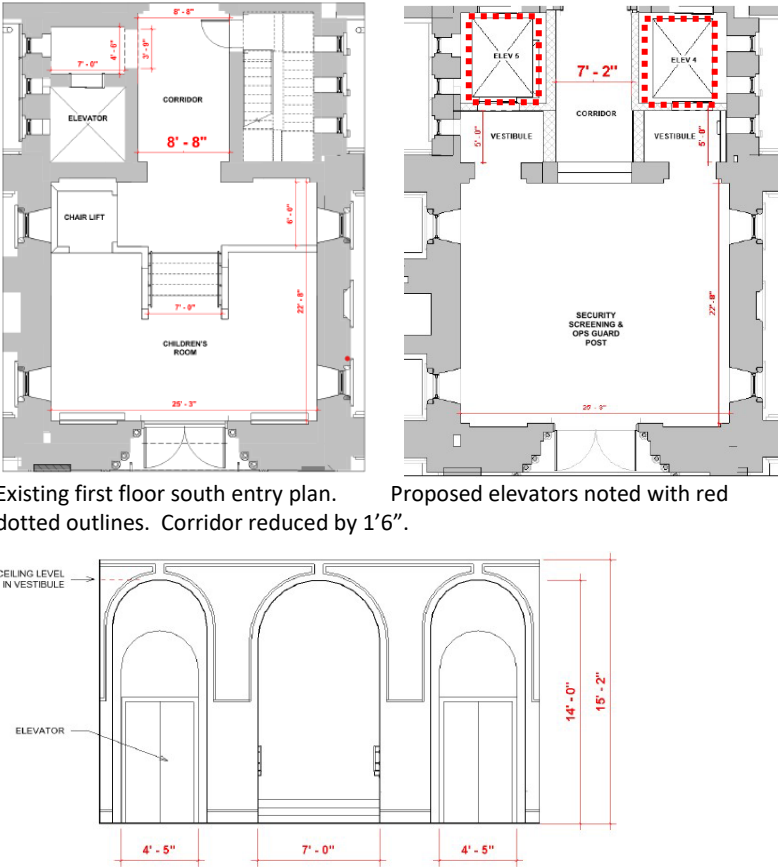


PROPOSED VIEW FROM GRADE – LOOKING NW

Location of the southeast elevator overrun noted with a red arrow.

- Adverse effect is minimized through the minimum proposed height of the overruns; and hipped profile, articulation, and copper cladding in keeping with other rooftop appurtenances.
- Contributes to the cumulative adverse effect on the Castle’s Building Massing, Perimeter Towers, and Roof Profile.

**Proposed Effect Determination – Adverse Effect**

Smithsonian Institution Building	
Feature/Action	Design Details
<p>South Tower Elevators - Interior Effects</p> 	<ul style="list-style-type: none"> <li>- South Tower elevators have associated interior alterations to accommodate the shafts and access the elevators.</li> <li>- West elevator replaces a non-historic elevator. East elevator replaces a non-historic circulation stair.</li> <li>- Elevator cabs in all spaces will be bronze with minimal frames.</li> <li>- Proposed arched openings in historic blind arches provide access to the elevators in the first floor Children’s Room.</li> <li>- Historic circulation corridors must narrow 1’6” at the first floor and 1’5” at the third floor. Alterations to the corridors at these levels impacts historic fabric.</li> </ul>
Images	Additional Information
 <p>Existing first floor south entry plan. Proposed elevators noted with red dotted outlines. Corridor reduced by 1’6”.</p> <p>Proposed north elevation of the Children’s Room. The center existing opening leads to the Great Hall with the historic stone stairs exposed. New arched openings within the historic blind arches lead to the elevator cabs, centered on the openings.</p>	<ul style="list-style-type: none"> <li>- Interior alterations for the South Tower elevators lack independent utility and are subject to Section 106 consultation.</li> <li>- Alternate locations for these public elevators cannot be considered to avoid adverse effects to the South Tower exterior and interior. This is because the Adolf Cluss modifications inserted additional levels creating quarter level height differences between the finish floors of the South Tower and the Main Building.</li> <li>- Elevators are double-sided to address floor level changes between the South Tower and the Main Building. For example, for the first floor the elevator has a stop at-grade in the Children’s Room, and a quarter level up for access to the Great Hall.</li> <li>- Proposed elevators permit the restoration of the Children’s Room, currently half occupied by non-historic stairs, accessible lift, and platform.</li> <li>- Historic Tennessee Pink marble stairs are present beneath the non-historic accessible lift platform in the Children’s Room. The stairs will be exposed and restored.</li> </ul>



Rendered view from the Great Hall looking into the Children's Room. New bronze elevator doors flank the historic center arched opening.



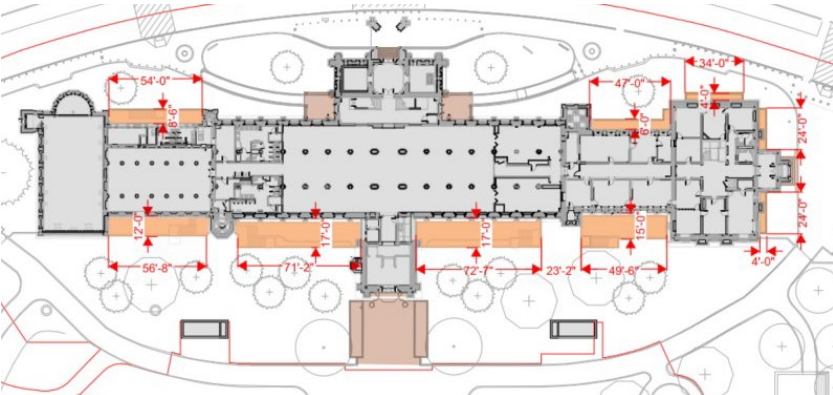


Existing upper mosaic at corridor of third level Regent's Room.

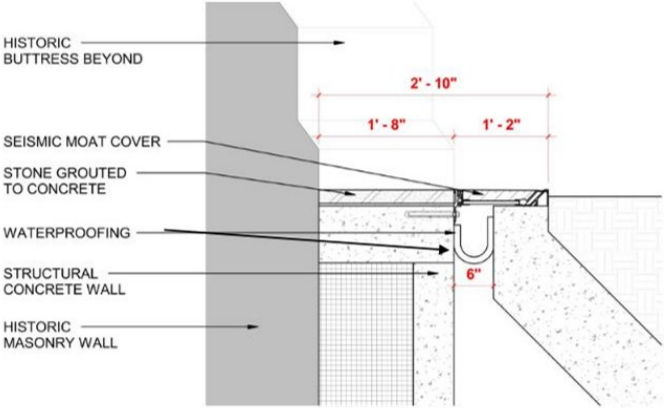

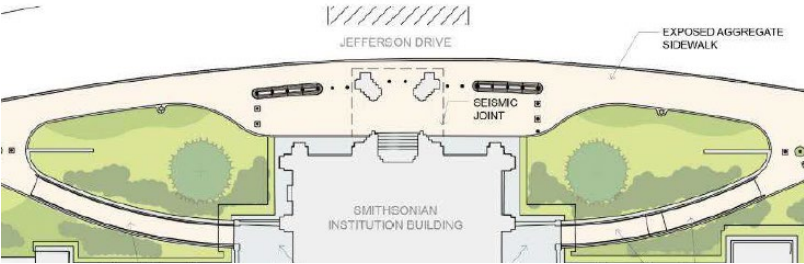


Proposed modification to the mosaics from narrowing the corridor 1'5\"/>

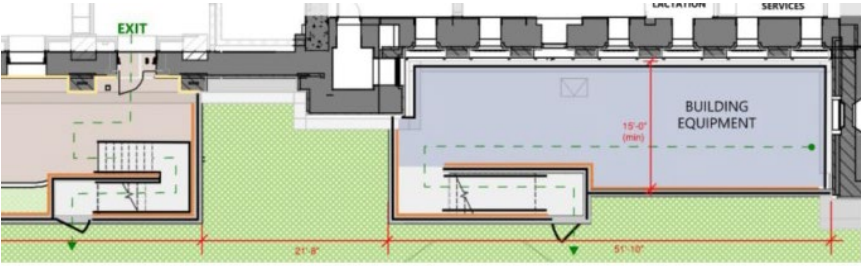
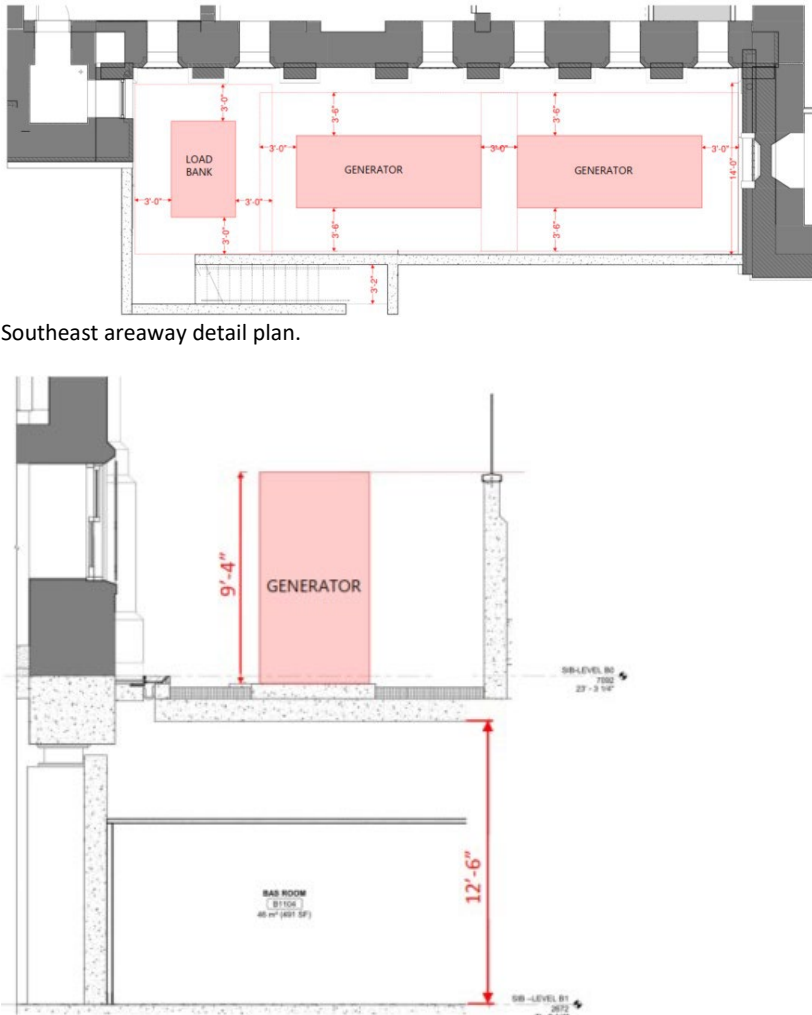
- Arched openings are used for many historic door openings in public areas of the Castle.
- Interior alterations associated with the elevators have an adverse effect on historic fabric and interiors.
- New elevator openings in the south side of the Great Hall remove historic plaster.
- Design originally proposed two openings at the Children's Room to access each elevator vestibule. This was revised in consultation to one opening to preserve the historic stairs and minimize adverse effect.
- Two mosaic floor panels at the third floor will be narrowed through excising the center solid color tesserae and portions of the fretwork border. Mosaics will be re-laid with the fretwork border pattern intact aside from the dimensional change. Infill is required at the east and west edges, proposed in marble in keeping with the adjacent historic stairs. This treatment minimizes adverse effect through preservation of the central decorative medallion and majority of the mosaics.

**Proposed Effect Determination – Adverse Effect**



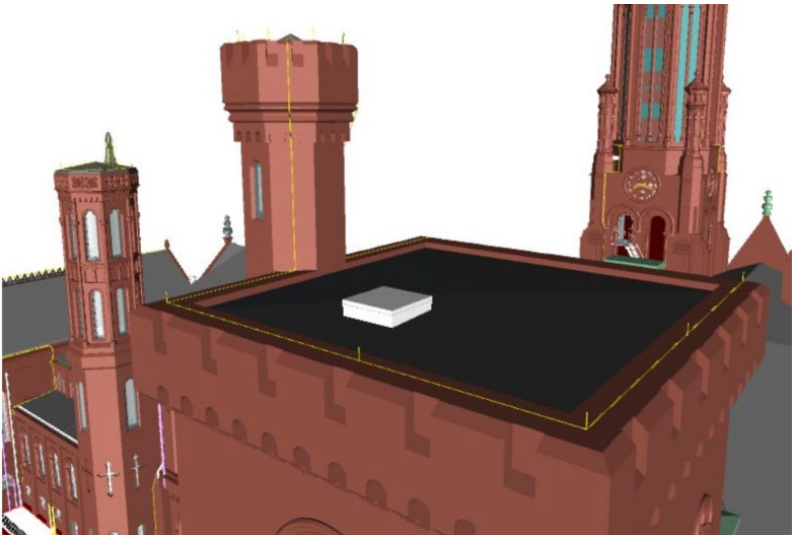
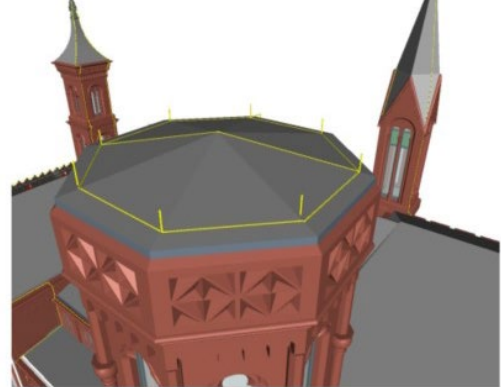
Smithsonian Institution Building	
Feature/Action	Design Details
<p>Areaways and Window Wells – Finishes</p>  <p>Castle site plan, with proposed below-grade areaways and window wells noted with orange shading.</p>	<ul style="list-style-type: none"> <li>- Recessed areaways and window wells are proposed at locations around the Castle perimeter.</li> <li>- Recessed areaways expose up to 4 feet of the Castle’s foundations.</li> <li>- Castle’s foundation wall consists of rubble stone with unknown exact depths.</li> <li>- Within the areaways, rubble stone will be left intact, with applied waterproofing and a tinted stucco coat on the exterior.</li> <li>- Other materials include neutral gray pavers and a tinted stucco on the new outboard areaway walls.</li> </ul>
Images	Additional Information
 <p>Rendering of finishes at the southwest areaway.</p>  <p>Rendering of finishes at the southwest areaway.</p>	<ul style="list-style-type: none"> <li>- Setting is a character defining feature.</li> <li>- Castle currently has 393 linear feet of areaway (recessed well), and 220 existing linear feet of apron (paving at grade).</li> <li>- Phase 1 determined that the Areaways and Window Wells (Locations and Dimensions) adversely affect the Castle’s Setting and relationship with the ground plane.</li> <li>- Areaways, egress stairs, window wells, and their fall protection railings will be visible at the base of the Castle, and adversely affect the Setting.</li> <li>- Proposed finishes are intended to be neutral and utilitarian, and to not call undue attention to the new work.</li> <li>- Proposed finishes will not intensify the adverse effect.</li> <li>- Section 106 agreement document will include measures for consultation on physical mock-up to select the stucco finish colors.</li> </ul>
<p><b>Phase 1 Effect Determination – Adverse Effect</b></p>	


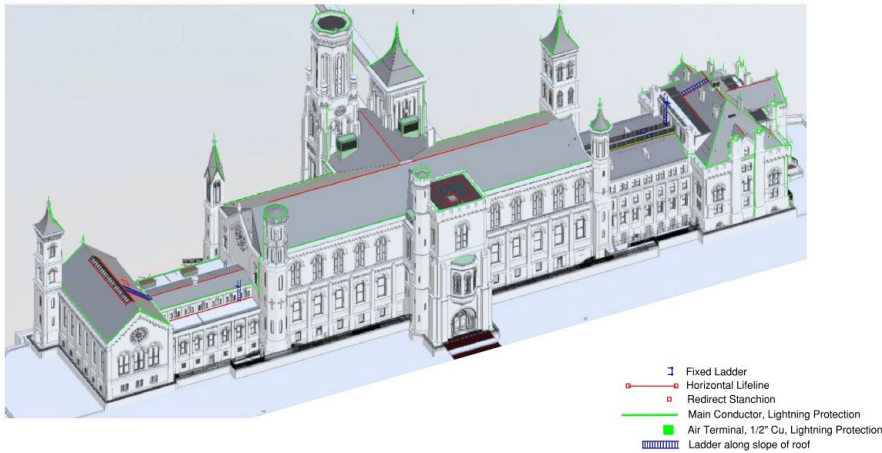
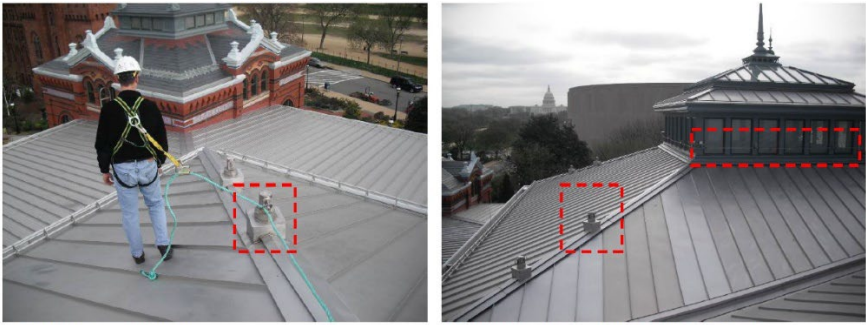
Smithsonian Institution Building	
Feature/Action	Design Details
<p>Seismic Control Joint Cover Plate – Finishes</p>  <p>SEISMIC JOINT COVER WITH FINISHED METAL EDGE</p> <p>Narrowest finish option for the seismic control joint, selected as preferred during Phase 1 consultation. Note the dimension of the seismic moat cover width of 1'2".</p>	<ul style="list-style-type: none"> <li>- Seismic base isolation joint is required around the Castle perimeter at-grade.</li> <li>- Seismic control joint moat cover is 1'2" in width, but the overall visual assembly width varies to account for buttresses or other architectural features.</li> <li>- Seismic joint passes around the porte cochere in the Jefferson Drive sidewalk. Exposed aggregate concrete will be used for the joint moat cover in this location for a consistent sidewalk appearance.</li> <li>- Olympic Black granite will be installed within the seismic control joint at the Castle's base where the cover plate is at grade.</li> <li>- Metal edges of the cover plate will have an anodized clear finish.</li> </ul>
Images	Additional Information
 <p><b>OLYMPIC BLACK (PREFERRED)</b>      <b>OLYMPIC BLACK (PREFERRED)</b></p>  <p>Partial site plan noting the seismic joint line location at the porte cochere.</p>	<ul style="list-style-type: none"> <li>- Setting is a character defining feature.</li> <li>- Phase 1 determined that the visibility of the Seismic Control Joint has an adverse effect on the Castle and National Mall settings.</li> <li>- Phase 1 determined that the Seismic Control Joint (Location and Width) overall assembly width will be the minimum dimension possible to minimize visual impact.</li> <li>- Seismic control joint will be incorporated into the recessed areaways and under projecting building elements such as the porte cochere and east entrance stairs.</li> <li>- Olympic Black granite was selected as the preferred neutral option, to differentiate from the Castle's sandstone and for its ability to recede in the landscape context.</li> <li>- Use of Olympic Black granite minimizes visibility of the seismic control joint and minimizes the adverse effect from the seismic control joint installation.</li> <li>- Anodized metal appears neutral to the variety of materials in the Castle's setting.</li> <li>- Refer to "Installation of Seismic Control Joints Around the Castle Perimeter (Location and Width)" for more information from Phase 1 of consultation.</li> </ul>
<p><b>Phase 1 Effect Determination – Adverse Effect</b></p>	


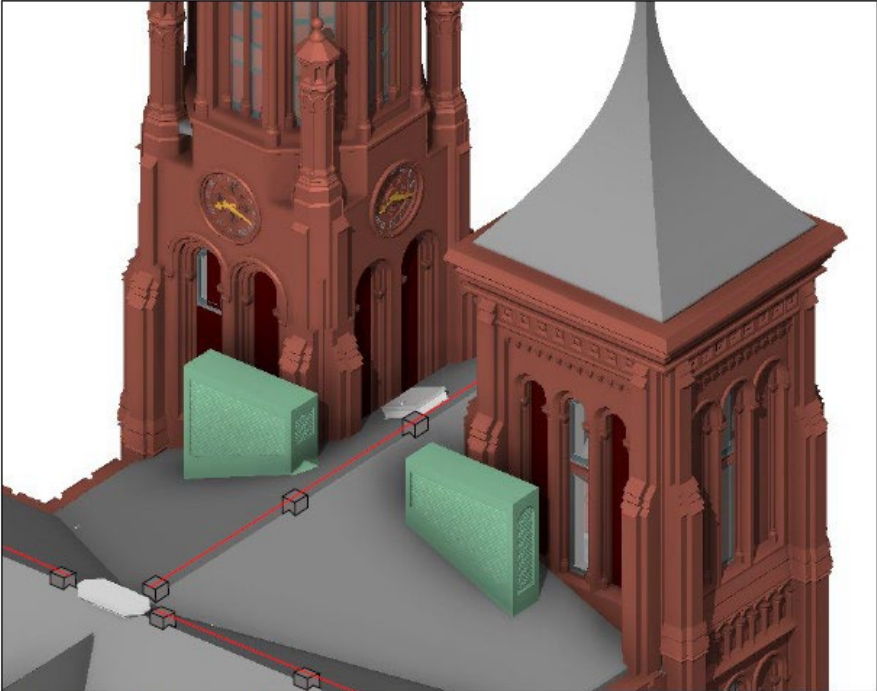


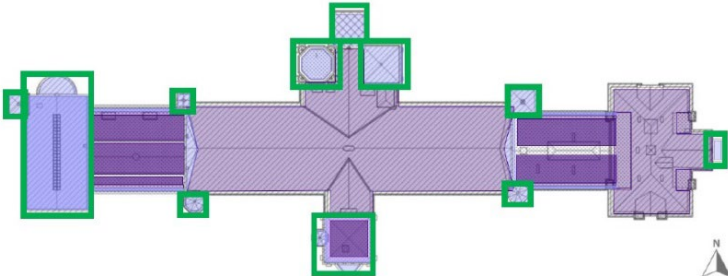


Smithsonian Institution Building	
Feature/Action	Design Details
<p>Emergency Generators</p>  <p>Partial southeast areaway plan. Location for the emergency generator noted with blue shading.</p>	<ul style="list-style-type: none"> <li>- Two new emergency gas generators and associated equipment will be located within the proposed southeast areaway.</li> <li>- Maximum height of each generator at 9'4" will not exceed the height of the proposed areaway wall.</li> <li>- Emergency generators may be minimally visible within the Castle's setting.</li> </ul>
Images	Additional Information
 <p>Southeast areaway detail plan.</p> <p>Section of southeast areaway above the SIB Extension. Generators do not exceed the height of the areaway wall.</p>	<ul style="list-style-type: none"> <li>- Removal of the Central Utility Plant from the project required alternate placement for the emergency generator.</li> <li>- Emergency generators replace two existing pieces of mechanical equipment, one of which is visible above-grade.</li> <li>- Generators will not be visible within the Haupt Garden and setting, except within the immediate vicinity of the southeast areaway. The southeast areaways are for staff use or building operations and will not have any public function.</li> <li>- Presence of the largely non-visible generators and associated equipment will not intensify the adverse effect from the areaways.</li> </ul>
<p><b>Proposed Effect Determination – No Adverse Effect</b></p>	

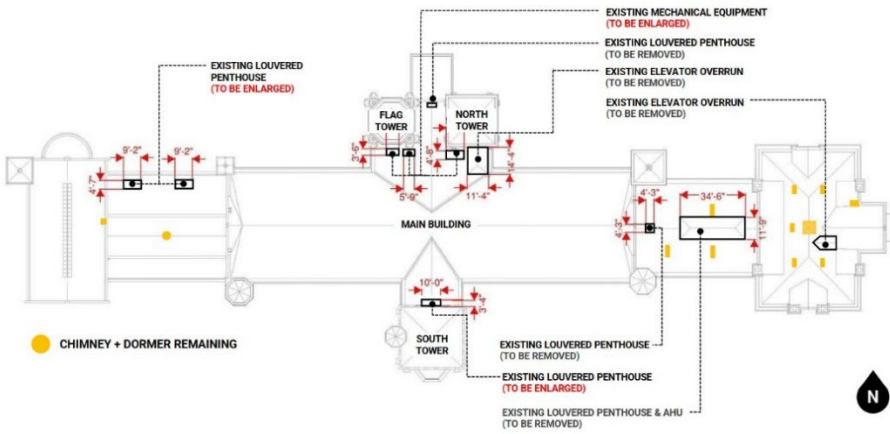
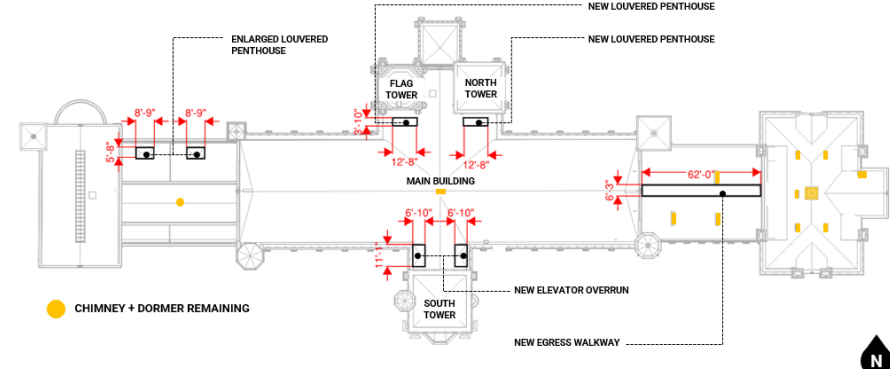
Smithsonian Institution Building	
Feature/Action	Design Details
<p>In-Kind Replacement of Roof Materials</p>  <p>Proposed roof plan noting locations of slate and copper cladding.</p>	<ul style="list-style-type: none"> <li>- Removal and replacement of existing roofing system, with new underlayment, insulation, gutters, and metal flashing.</li> <li>- In-kind replacement of the slate shingles, maintaining shingle exposure, and existing roof appearance.</li> <li>- Lead coated copper roofing will be replaced with zinc-tin coated copper.</li> </ul>
Images	Additional Information
 <p>Typical conditions of slate roofing shingles.</p>  <p>Typical conditions of flat seamed copper roofing.</p>  <p>Proposed "Grayson Slate" shingles.</p>	<ul style="list-style-type: none"> <li>- Slate shingles are present at the Main Hall, North Tower, and West Wing exteriors. Existing slate shingles show with some color variation and are dated c. 1950.</li> <li>- Flat seamed lead coated copper is present at the West Wing Apse, Flag Tower, West Range, South Tower, and East Wing.</li> <li>- Roof materials are a character defining feature.</li> <li>- Widespread slate conditions include missing, broken, or loose shingles. Existing slates were tested; 75% of the samples tested did not meet ASTM standards.</li> <li>- Lead coated copper roofing has widespread thin solders and heavy-handed sealant repairs.</li> <li>- Renwick 1847 specifications suggested use of "Welsh slate" likely originally Buckingham slate, a dark gray from Virginia, no longer quarried.</li> <li>- Proposed "Grayson Slate" is quarried near the Buckingham quarry and is the closest material available to the historic condition.</li> </ul>
<p><b>Proposed Effect Determination – No Adverse Effect</b></p>	

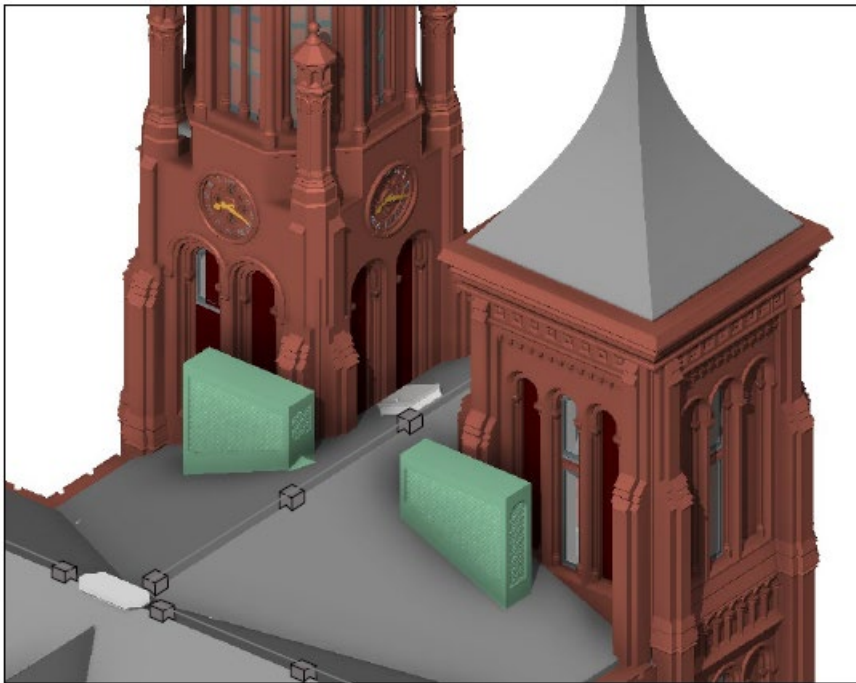
Smithsonian Institution Building	
Feature/Action	Design Details
<p data-bbox="110 281 521 310">Installation of Lightning Protection</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="115 348 553 728">  <p data-bbox="110 732 513 789">Historic image c. 1930 of the West Tower with lightning protection.</p> </div> <div data-bbox="581 407 979 728">  <p data-bbox="581 732 967 789">Octagon Tower damaged by a lightning strike in 2005.</p> </div> </div>	<ul style="list-style-type: none"> <li>- Lighting protection system will be installed on the perimeter of the Castle roof.</li> <li>- Air terminals (metal rod) project 10 inches above rooftop features, placed at the perimeter of the Towers and peak of the East Wing roof.</li> <li>- Air terminals will be clamped to existing features, with grounding cables held in place using metal brackets attached at mortar joints. Some cables will require adhesive mounting at the roof edges.</li> </ul>
Images	Additional Information
<div style="display: flex; flex-direction: column;"> <div data-bbox="115 894 902 1425">  <p data-bbox="110 1430 683 1459">Axonometric view over the South Tower roof looking west.</p> </div> <div data-bbox="115 1459 613 1843">  <p data-bbox="110 1848 597 1877">Proposed Octagon Tower air terminals and cables.</p> </div> </div>	<ul style="list-style-type: none"> <li>- Lighting protection was implemented in the original Castle design with wrought iron lighting rods on the Perimeter Towers, originally 10' taller than the various Tower roofs.</li> <li>- In 2005 the Southeast Tower roof was damaged from a lightning strike and restored.</li> <li>- Proposed lighting protection system is in keeping with systems found on historic buildings and buildings on the National Mall.</li> <li>- Air terminals will have minimal visibility and the grounding cables will be installed in building recesses or the least obtrusive locations.</li> <li>- Lighting protection system will not damage historic fabric and is fully reversible.</li> </ul>
<p><b>Proposed Effect Determination – No Adverse Effect</b></p>	

Smithsonian Institution Building	
Feature/Action	Design Details
<p>Installation of Rooftop Fall Protection</p>  <p>Rendered view of the fall protection system looking south to the Castle.</p>	<ul style="list-style-type: none"> <li>- Life safety fall protection system will be installed at the Castle roof to allow maintenance.</li> <li>- Fall protection system consists of low metal cables and stanchions at the roof ridges.</li> <li>- Low metal stanchion redirects in select locations off the ridges connect different sections of fall protection system.</li> </ul>
Images	Additional Information
 <p>Axonometric drawing of the Castle. Red lines indicate the horizontal cable lifelines. Green lines indicate the lighting protection system.</p>  <p>EXAMPLE OF REDIRECT STANCHION      EXAMPLE OF REDIRECT STANCHION AND HORIZONTAL LIFELINE</p> <p>Similar fall protection system installed on the Arts &amp; Industries Building.</p>	<ul style="list-style-type: none"> <li>- Roof Profile is a character defining feature.</li> <li>- Providing fall protection on the roof of the Castle cannot be avoided.</li> <li>- Proposed minimal cable and stanchion system avoids requiring a guardrail around the entire roof perimeter, and significant adverse effect.</li> <li>- Redirect stanchions connect sections of cables and reduce the visual impact of the system.</li> <li>- Fall protection system will be visible on the Castle's roof, and adversely effects the roof profile.</li> <li>- Moving the stanchions and system off the ridge was considered to minimize adverse effect. Placing the stanchions at the metal ridge gap reduces challenging waterproofing details and opportunities for water intrusion in the long-term.</li> <li>- Contributes to cumulative adverse effects on Roof Profile and Building Massing, and overall visual effects.</li> </ul>
Proposed Effect Determination – Adverse Effect	

Smithsonian Institution Building	
Feature/Action	Design Details
<p>Installation of Roof Access</p>  <p>Existing conditions of roof access ladder and stairs at the south elevations of the Flag and North Towers.</p>	<ul style="list-style-type: none"> <li>- Roof access hatch proposed on the peaked roof between the Flag and North Towers.</li> <li>- Access hatch provides direct access to the cable fall protection system.</li> <li>- Permits the removal of unsightly non-historic access stairs at the south sides of the Flag and North Towers.</li> </ul>
Images	Additional Information
 <p>Proposed roof hatch shown in light gray between the towers. Green rooftop additions represent mechanical penthouses. Red lines represent the fall protection system.</p>	<ul style="list-style-type: none"> <li>- Roof access is currently accomplished through high doors and ladders from the south sides of the Flag and North Towers.</li> <li>- Roof access hatch will not be visible behind the North Tower pediment.</li> </ul>
<p><b>Proposed Effect Determination – No Adverse Effect</b></p>	

Smithsonian Institution Building	
Feature/Action	Design Details
<p>Roof Modifications – Energy Improvements, Including Increases in Roof Thickness</p>  <p>Proposed roof plan noting locations of slate and copper cladding, and dimensional changes. Green outline notes areas with no proposed dimensional changes due to visible impacts.</p>	<ul style="list-style-type: none"> <li>- Removal and replacement of existing roofing system, with new underlayment and insulation will be installed to meet prescriptive energy requirements.</li> <li>- Increases to roof height/thickness will be limited to locations where the dimensional change will not be perceptible due to parapets, towers, and roof features.</li> <li>- Dimensional change varies by location and will not exceed 5.25 inches.</li> <li>- No changes to roof thickness are proposed at visible roof edges such as the West Wing, or at high peaked tower roofs.</li> </ul>
Images	Additional Information
 <p>PROPOSED (+1.25\" data-bbox="75 640 200 650"/&gt; EXISTING</p> <p>Proposed and existing montage demonstrating the dimensional roof change over the Main Building.</p>  <p>EXISTING PROPOSED (TAPER TO +5.25\" data-bbox="75 845 340 855"/&gt; <p>Proposed and existing montage demonstrating the dimensional roof change over the East Range.</p> </p>	<ul style="list-style-type: none"> <li>- Roof Materials and Profiles are character defining features.</li> <li>- Existing roof system includes little to no insulation.</li> <li>- Addition of rigid insulation beneath the slate and zinc-tin cladding improves the Castle’s energy performance.</li> <li>- Majority of the Castle’s roof edges are behind crenellated parapets and other architectural features and are at least 30’ above grade.</li> <li>- Proposed work will not result in discernible impacts at the roof edges and ridgelines from grade or at distances around the Castle.</li> <li>- Dimensional changes are not proposed in visible locations to avoid adverse effect.</li> <li>- Roof dimensional change at the flat metal areas tapers to the roof edge to keep the alteration non-visible and to avoid adverse effect.</li> </ul>
<p><b>Proposed Effect Determination – No Adverse Effect</b></p>	

Smithsonian Institution Building	
Feature/Action	Design Details
<p>Modifications to Rooftop Mechanical Penthouses</p>  <p>Existing roof plan. Existing rooftop features with all black text in the tags will be removed.</p>	<ul style="list-style-type: none"> <li>- West Range has two (2) visible mechanical penthouses that will be expanded. Location and height remain the same, and only the width expands.</li> <li>- One (1) visible elevator mechanical penthouse and two (2) mechanical penthouses will be removed from the North Entry Hyphen.</li> <li>- One (1) visible non-historic mechanical penthouse on the East Wing will be removed for the 4<sup>th</sup> Floor Egress Path.</li> <li>- Two (2) visible mechanical penthouses are proposed behind the Flag and North Towers at the North Entry Hyphen.</li> </ul>
Images	Additional Information
 <p>Proposed roof plan. Historic chimneys and dormers that will be retained are noted in yellow.</p>	<ul style="list-style-type: none"> <li>- Roof Profile and Building Massing are character defining features.</li> <li>- Historic visible chimneys, dormers, and historic ventilators will be retained, noted with yellow on the plans at left.</li> <li>- Existing historic cupola with louvers at the East Wing will be re-used without expansion.</li> <li>- Majority of the associated mechanical modifications occur within the interior attic space. There will not be additional rooftop mechanical features beyond the penthouses.</li> <li>- During Phase 2 of consultation multiple design alternatives were developed to minimize visibility of the North Entry Hyphen penthouses. Visibility of the penthouses cannot be eliminated to avoid adverse effect.</li> <li>- The preferred option is the narrowest width and as close to the ridge as possible to reduce visibility and minimize adverse effect. The penthouses will be clad in copper and feature an arched louver at the east and west sides in keeping with detailing found on the Castle's stone and other rooftop additions.</li> </ul>



Axon view of the proposed North Entry Hyphen mechanical penthouses.

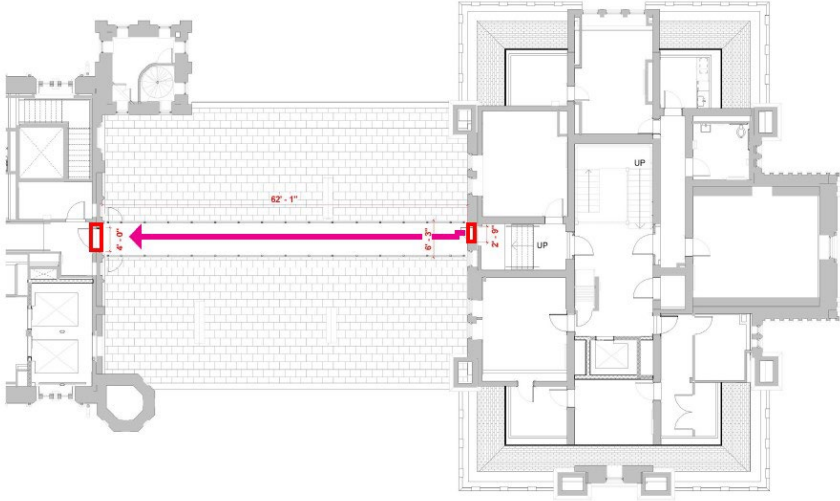

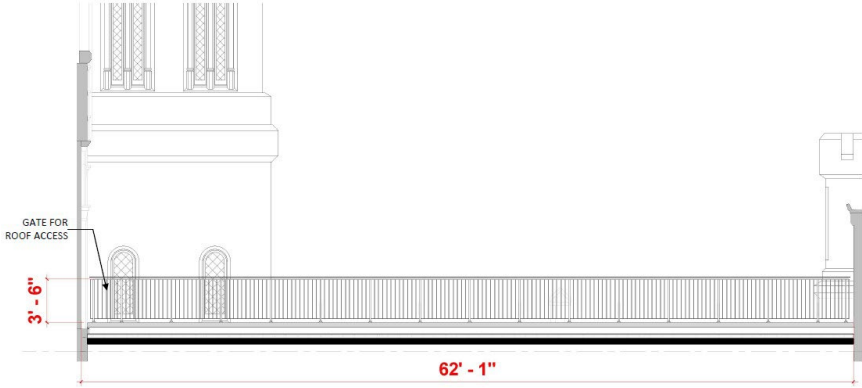
- The east North Entry penthouse is visible for a limited distance on Jefferson Drive. The west penthouse is minimally visible due to the historic buttressing of the Flag Tower.
- During Phase 2 of consultation a visible mechanical penthouse to support the South Tower elevators was revised to non-visible through wall louvers, avoiding adverse effect.
- Visibility of the West Range and North Entry mechanical penthouses adversely effects the Roof Profile and Building Massing, character defining features of the Castle.
- Refer to “South Tower Elevators – Exterior Alterations” for related changes.



Rendered view of visibility of the east penthouse at the North Entry Hyphen from Jefferson Drive.

**Proposed Effect Determination – Adverse Effect**



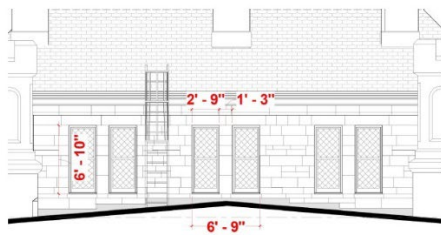
Smithsonian Institution Building	
Feature/Action	Design Details
<p>Installation of East Wing 4<sup>th</sup> Floor Egress</p>  <p>Plan of the proposed egress path from the East Wing across the East Range roof to the Main Building.</p>	<ul style="list-style-type: none"> <li>- Installation of an exterior egress pathway at the East Range roof provides a second means of egress from the East Wing.</li> <li>- Exterior egress pathway will be unenclosed with fall protection railings.</li> <li>- Non-historic window sash will be removed from two openings to accommodate egress doors. Egress doors will not require alterations to the masonry openings.</li> <li>- Egress path fall protection railings will be a simple metal picket with a black finish.</li> </ul>
Images	Additional Information
 <p>Photograph of the East Range and the visibility of the 1973 mechanical penthouse. Red dotted line indicates the height of the 42" guardrail.</p>  <p>Elevation of the egress walkway and fall protection railing design.</p>	<ul style="list-style-type: none"> <li>- Roof Profile is a character defining feature.</li> <li>- Secondary means of egress from the fourth floor of the East Wing is currently across the East Range roof, through windows and without fall protection. A second means is required for occupancy.</li> <li>- Proposed egress walkway replaces an existing visible mechanical penthouse added in 1973. Egress pathway fall protection railings and the existing mechanical penthouse are comparable in height.</li> <li>- Adjacent historic brick chimneys on the East Wing roof installed c. 1900 will be retained and restored.</li> <li>- Egress path fall protection railings will be visible from various locations within the National Mall and to the south.</li> <li>- Fall protection railings will have a lit handrail, only activated during emergencies.</li> <li>- Installation of egress doors will not require alterations to the existing</li> </ul>



Walkway railing visibility from the middle of the National Mall.

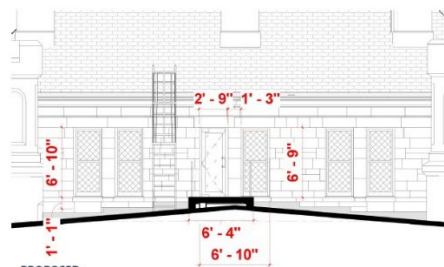
window openings. The existing window sash to be removed is non-historic.

- Use of a simple metal picket railing that meets the code requirement minimums, minimizes undue attention to this change and adverse effect.
- Contributes to cumulative adverse effects on Roof Profile and Building Massing, and overall visual effects.



EXISTING

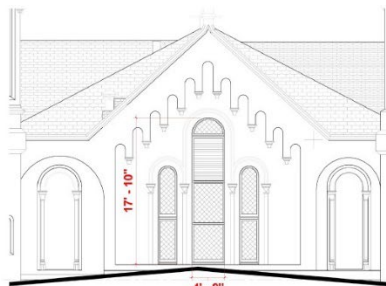
EXISTING SENECA SANDSTONE UNIT



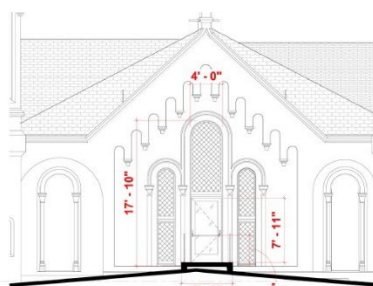
PROPOSED

\*NO ALTERATION TO HISTORIC SANDSTONE

4<sup>th</sup> Level East Wing, west elevation. Non-historic window sash will be replaced with a metal and glass egress door.



EXISTING

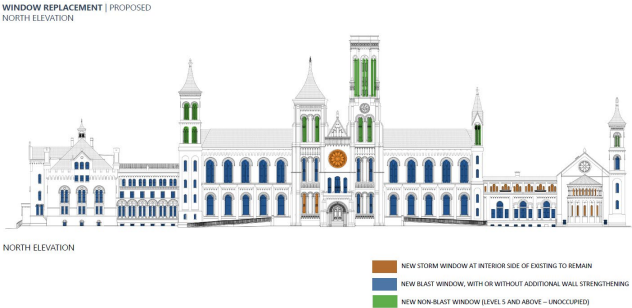
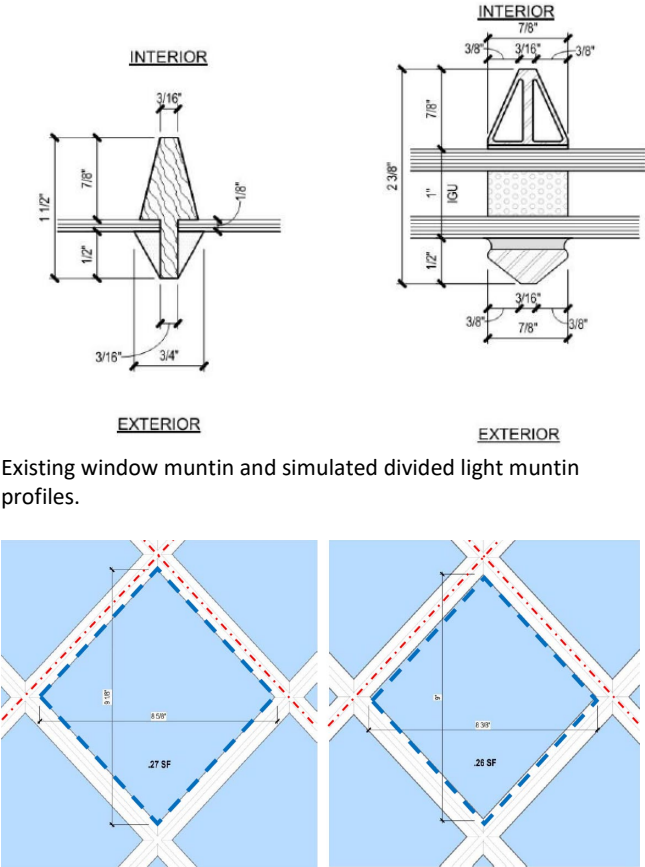


PROPOSED



\*NO ALTERATION TO HISTORIC SANDSTONE



4<sup>th</sup> Level Main Building, east elevation. Non-historic window sash will be replaced with a metal and glass egress door with a fixed window above.

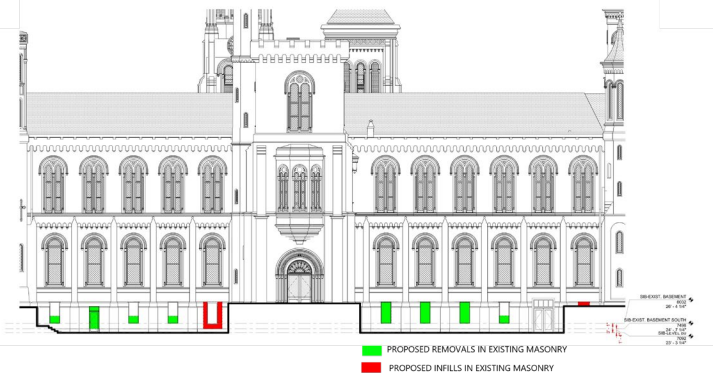
**Proposed Effect Determination – Adverse Effect**

Smithsonian Institution Building	
Feature/Action	Design Details
<p>Replacement and Restoration of Windows</p>  <p>Proposed Castle north elevation with window replacement types noted.</p>	<ul style="list-style-type: none"> <li>- Building-wide window replacement of the non-historic window sash with blast resistant windows.</li> <li>- Historic windows c. 1915 that are present in the West Range Clerestory, West Wing Apse, Smithson Crypt, rose windows, and West Wing skylights will be restored and retained in-place. Blast resistant storm windows will be installed on the building interior to maintain the exterior appearance.</li> <li>- Replacement windows will restore the red-brown historic finish color.</li> <li>- Replacement windows will be steel and simulated divided light. Diamond muntin pattern size will vary proportionally based on the window type and size.</li> </ul>
Images	Additional Information
 <p>Existing window muntin and simulated divided light muntin profiles.</p> <p>Free glass comparison of a typical diamond muntin, historic at left, simulated divided light at right.</p>	<ul style="list-style-type: none"> <li>- Windows are a character defining feature. Majority of the existing windows are wood non-historic replacements installed in 1987-1992.</li> <li>- Historic documentation indicates the original window fenestration was primarily wood double-hung sash with wood muntins of square panes set in a diamond pattern.</li> <li>- Photographic documentation pre-1887 indicates the size of the diamond pane varied for each window type.</li> <li>- Paint analysis revealed that the windows were historically painted a red-brown in keeping with the Seneca sandstone.</li> <li>- Castle contains 579 windows in a variety of sizes, five different sash shapes, and five different types of operation.</li> <li>- Some window configurations feature decorative metal panels and woodwork. Where these features exist they will be salvaged, restored, and applied to the blast window assembly.</li> <li>- Blast resistant windows are required to meet Facility Security Level III.</li> <li>- Above the Castle's fifth floor, the replacement windows are non-blast resistant, due to the height above grade.</li> <li>- Blast and replacement windows will not be able to completely replicate the historic window details.</li> <li>- Insulated glazing units are 1" in depth, with a required air gap to assist with both blast and energy performance.</li> <li>- Replacement windows match the historic windows in terms of dimensions and details, such as brickmold, and finish, to minimize adverse effect. Muntins will differ, and the replacement window will have a reduction of 4% in area of free glass compared to the existing.</li> <li>- Refer to "Replacement and Restoration of Windows – Interior Effects" for related changes.</li> </ul>
<p><b>Proposed Effect Determination – Adverse Effect</b></p>	

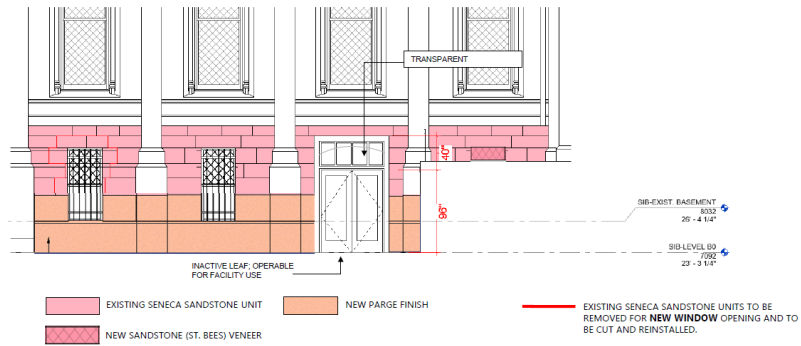
Smithsonian Institution Building	
Feature/Action	Design Details
Replacement and Restoration of Windows – Interior Effects	<ul style="list-style-type: none"> <li>- Building-wide window replacement of the non-historic window sash with blast resistant windows.</li> <li>- Historic windows c. 1915 will be restored and retained in-place. Blast resistant storm windows will be installed on the building interior to maintain the exterior appearance.</li> <li>- Installation of blast resistant windows requires the removal of select areas of historic plaster to anchor the windows into the building structure. Plaster and paint finishes will be replaced in-kind.</li> <li>- Installation of blast resistant windows or storm windows will not affect any decorative plaster or interior feature aside from flat plaster.</li> </ul>
Images	Additional Information
<p>Existing Great Hall window plan detail.</p> <p>Proposed Great Hall window plan detail.</p>	<ul style="list-style-type: none"> <li>- Blast resistant windows are required to meet Facility Security Level III.</li> <li>- Removal and replacement of interior finishes around window openings lacks independent utility without the blast window installation, and is subject to Section 106 consultation.</li> <li>- Retention of historic windows with blast resistant interior storm windows will be visible within the apse of the Commons.</li> </ul>
<p><b>Proposed Effect Determination – No Adverse Effect</b></p>	

Smithsonian Institution Building	
Feature/Action	Design Details
<p>Exterior Masonry Restoration</p>	<ul style="list-style-type: none"> <li>- Exterior red Seneca sandstone will be restored, including façade cleaning, and pointing.</li> <li>- Maximum amount of sound sandstone will be preserved.</li> <li>- Stone repairs include resetting of displaced masonry, Dutchmen repairs, and select full replacement stones.</li> <li>- A red sandstone (St. Bees) was selected through consultation as the alternative stone to use for restoration repairs after Seneca sandstone reserves are exhausted.</li> </ul>
Images	Additional Information
 <p>Seneca sandstone with biological growth staining.</p>  <p>Displaced Seneca sandstone masonry at the Octagon Tower.</p>	<ul style="list-style-type: none"> <li>- Seneca sandstone exterior is a character defining feature.</li> <li>- Seneca sandstone is no longer quarried, and the SI retains a significant stockpile at a Smithsonian storage facility that will be used for the restoration work.</li> <li>- Stone replacement pieces will be in-kind, with hand tooling and finishing to maintain consistency with the stone color ranges, texture, and detailing.</li> <li>- Stone restoration will be consistent with the <i>Secretary of the Interior's Standards</i> Preservation approach.</li> <li>- Seneca stone reserves will be prioritized for highly visible repairs, and limit any alternative sandstone for repairs in less visible areas.</li> </ul>
<p><b>Proposed Effect Determination – No Adverse Effect</b></p>	

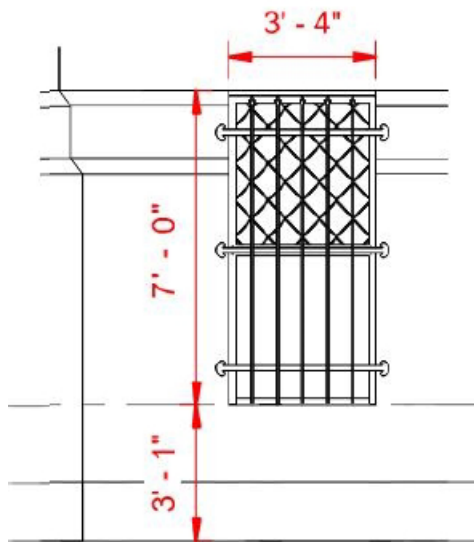
Smithsonian Institution Building	
Feature/Action	Design Details
<p>New Basement Windows</p>  <p>Photograph of existing basement window at the southeast side of the Main Building. Note the metal window security grille.</p>	<ul style="list-style-type: none"> <li>- New basement windows are proposed within the basement level areaways below-grade on the Castle south elevation.</li> <li>- Castle south elevation at the basement level contains some window openings. Proposed work will enlarge existing window openings and create new masonry openings.</li> <li>- Existing basement windows are cut into a water table with a chamfered top edge. Existing windows are 3'-4" wide and 4'-6" tall.</li> <li>- The preferred option maintains the existing window header and width and lowers the sill to an overall window height of 7'. New window openings match the altered window openings.</li> <li>- Proposed window sash within the openings is fixed double-hung, with a diamond pane muntin at the upper sash and a single lite lower sash.</li> <li>- Basement window openings will have an applied metal security grille, matching the design of the existing grilles, with wider horizontal bars and thin verticals with finials.</li> </ul>
Images	Additional Information
 <p>Existing south elevation</p>	<ul style="list-style-type: none"> <li>- Proposed windows increase natural light to newly occupied public basement spaces utilizing existing window openings and creating new masonry openings.</li> <li>- Proposed window fenestration is subtly differentiated from the historic windows consistent with the <i>Secretary of the Interior's Standards</i>.</li> <li>- Historic door opening size installed c. 1871 at the southeast end of the Main Building will be retained with new door infill.</li> <li>- Exterior metal grilles are required for security.</li> <li>- Proposed work requires the removal and alteration of sandstone masonry. Masonry blocks will be removed, cut,</li> </ul>



Proposed south elevation.




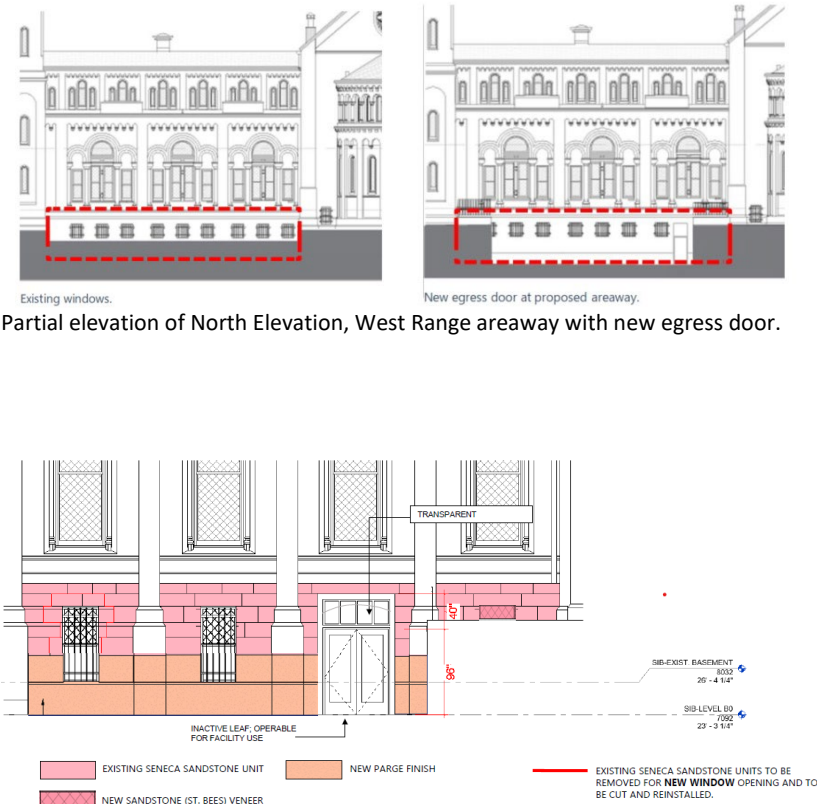
Detail elevation at the southeast basement level.



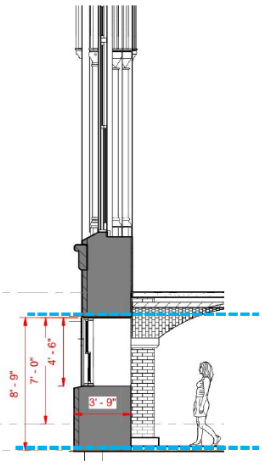
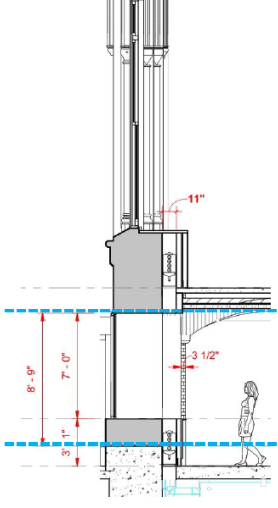

Detail elevation of proposed basement window dimensions. Elevation depicts the proposed sash configuration and security grille.

- dressed, and re-installed to create the masonry openings.
- New window openings will be visible from within the Haupt Garden.
- New window openings alter the façade composition of the Castle, and the solid masonry base at the basement level.
- During consultation, wider, taller, and shorter window opening sizes were considered. Dropping the window header below the water table to reduce visibility was also considered.
- Preferred option for the basement windows has the least impact on decorative stone to minimize adverse effect.
- Existing sidewalks and pedestrian paths in the Haupt Garden will be maintained, which restricts some visibility in combination with the landscaped setting and minimizes adverse effect.
- Refer to “Basement Level Interior Alterations” for related changes.

**Proposed Effect Determination – Adverse Effect**

Smithsonian Institution Building	
Feature/Action	Design Details
<p>Basement Egress Doors</p>  <p>Existing egress door at the East Range south areaway.</p>	<ul style="list-style-type: none"> <li>- On the Castle’s south elevation, two existing doors (East and West Range areaways) will be modified and re-used. One (1) new doors opening will be created (Main Building southwest areaway).</li> <li>- On the Castle’s north, one (1) new egress door opening will be created (West Range areaway).</li> <li>- Egress doors will be metal, full glazing, single light.</li> <li>- On the Castle’s south elevation at the Main Building southeast areaway, the historic masonry opening from a c. 1871 door will be maintained. Proposed infill will be paired single-light metal doors with a four-light transom.</li> </ul>
Images	Additional Information
 <p>Existing windows.</p> <p>New egress door at proposed areaway.</p> <p>Partial elevation of North Elevation, West Range areaway with new egress door.</p> <p>Detail elevation at the southeast basement level with the c. 1871 historic door opening and proposed egress infill.</p>	<ul style="list-style-type: none"> <li>- Additional egress doors are required for life safety based on the increased building population.</li> <li>- All egress doors will be located at the Castle basement level within below-grade areaways.</li> <li>- Proposed work requires the removal and alteration of sandstone masonry. Masonry blocks will be removed, cut, dressed, and re-installed to create the masonry openings.</li> <li>- Egress doors will have some visibility within the setting and Haupt Garden.</li> <li>- Existing sidewalks and pedestrian paths in the Haupt Garden will be maintained, which restricts some visibility in combination with the landscaped setting and minimizes adverse effect.</li> <li>- The c. 1871 large door opening on the south elevation was added during the period of significance. Retaining this opening size and insertion of paired egress doors minimizes adverse effect.</li> <li>- Contributes to cumulative adverse effects on the Castle’s Setting.</li> </ul>
Proposed Effect Determination – Adverse Effect	



Smithsonian Institution Building	
Feature/Action	Design Details
<p>Basement Level Interior Alterations – Lowering of the Basement Floor, New Basement Window Openings</p>	<ul style="list-style-type: none"> <li>- Interior alterations at the Castle basement level (B0) are connected to exterior alterations.</li> <li>- Lowering of the historic basement floor level 3’ alters the appearance of the interior space including the historic masonry piers.</li> <li>- Pier extension will be parged in a light gray color.</li> <li>- New flooring will be terrazzo.</li> <li>- New and altered basement level window openings will be created in the Castle’s south elevation. Windows on the interior will have an embrasure consistent with existing windows inside the Castle basement.</li> </ul>
Images	Additional Information
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Existing Main Building section at an existing window opening.</p> </div> <div style="text-align: center;">  <p>Proposed Main Building section at an altered window opening.</p> </div> </div> <div style="text-align: center; margin-top: 20px;">  <p>Rendering of the Basement interior.</p> </div>	<ul style="list-style-type: none"> <li>- These alterations to the basement level historic finishes lack independent utility without the associated exterior alterations, and are subject to Section 106 consultation.</li> <li>- Where grade is changed and underpinning is added to the historic piers, existing and new construction will be integrated but differentiated in appearance consistent with the <i>Secretary of the Interior’s Standards</i>.</li> <li>- Altered basement windows maintain the existing header height.</li> <li>- Excavation of the B0 and B1 levels has the potential to adversely affect historic fabric such as the existing floor material and the “reverse arch” construction that may exist below grade, and by altering the historic character of the existing volume of the basement space.</li> <li>- If unanticipated historic fabric is discovered during excavation, these features will be considered for recordation, potential salvage, possible preservation in place of select features.</li> <li>- Cladding the pier extension with a parging is a utilitarian treatment in keeping with the historic character of the space and differentiates the material from the retained historic brick masonry.</li> <li>- Refer to “New Basement Windows” for related changes.</li> </ul>
Proposed Effect Determination – Adverse Effect	

**Smithsonian Institution Building**

**Feature/Action**

Alterations at the South Entrance to Improve Accessibility



Existing South Entrance condition.

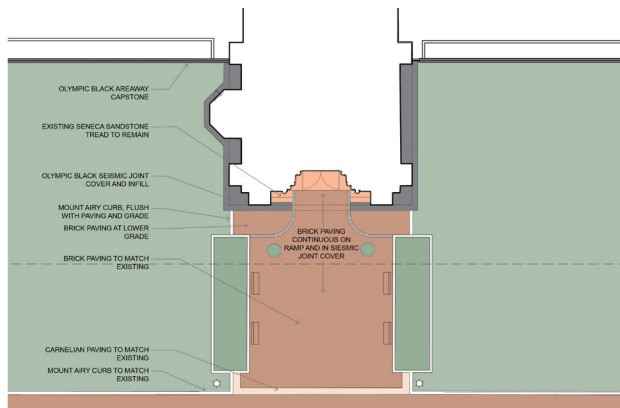


Existing ramp connection to the historic sandstone stair treads.

**Design Details**

- Universally accessible walkway replaces an existing ramp on axis with the South Tower entrance. Current ramp is not universally accessible.
- Walkway will be paved with salvaged brick and Mount Airy granite curbs in keeping with the Haupt Garden materials palette.
- Historic sandstone steps are retained, with the walkway constructed over the steps flush with the historic landing.
- Low bronze kickrail provides edge protection at the top of the walkway.

**Images**



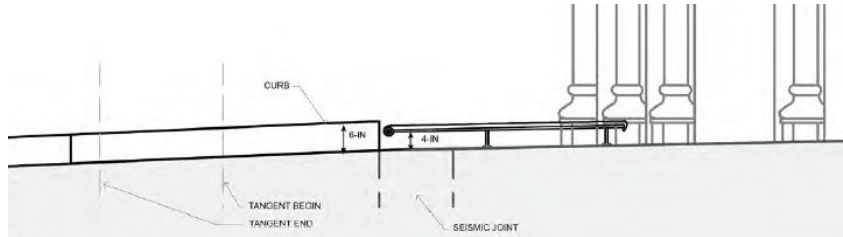
Proposed South Entrance plan.



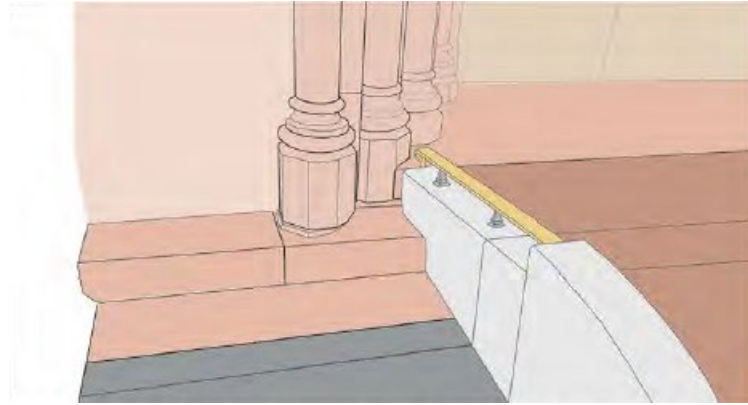
Proposed South Entrance renderings.

**Additional Information**

- Setting and the South Tower are character defining features.
- South Tower entrance retains historic Seneca sandstone stairs (two risers).
- Existing access ramp installed c. 2015 is constructed over the Seneca sandstone historic stairs.
- Universal accessibility is the goal for SI projects, inclusive of all ages and abilities.
- Universal walkway slope eliminates the need for a handrail, which minimizes visual impact by incorporating the walkway into the Haupt Garden hardscape.
- Walkway design does not obscure the architectural features of the decorative south entrance surround.
- Use of a stone curb and low kick rail for edge protection maintains full visibility of the decorative stone door surround.
- Walkway design, though wider and longer than the existing ramp, has no significant impact on circulation, setting, and use of the South Tower entrance.
- Adverse effect is avoided through the use of salvaged brick paving and granite curbs from the existing location.
- Adverse effect is avoided through retaining and not altering historic fabric beneath the walkway construction.



Section from walkway surface look west. Stone curb transitions to a bronze kick rail to maintain visibility of the South Entrance stone colonettes.



Detail drawing of the placement of the walkway, curb, and kick railing, against the historic features of the Castle's South Entrance.

**Proposed Effect Determination – No Adverse Effect**

**Smithsonian Institution Building**

**Feature/Action**

Accessible Walkways at the North Entrance

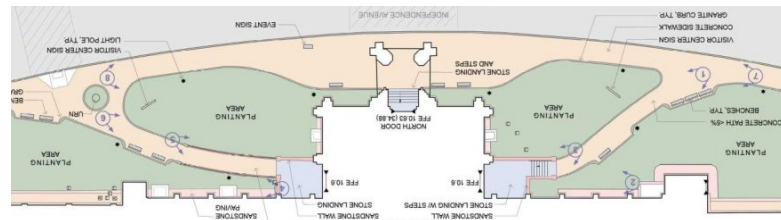


Existing west accessible ramp to the Castle's North Tower.

**Design Details**

- Two universally accessible walkways are proposed in a symmetrical plan to the east and west entrances of the North Tower. Walkway walls and coping will be red sandstone, with a smooth finish treatment.
- Walkway guardrails will consist of steel pickets with circular details at the top with a black finish. The handrail will be bronze.
- Walkway paving surface will be aggregate concrete to connect with the National Mall sidewalk context. Landings at the east and west doors will be granite.
- Adjacent landscape beds will be adjusted to a symmetrical configuration.
- Non-historic east and west doors to the North Tower will be replaced with wood and glass paired doors.

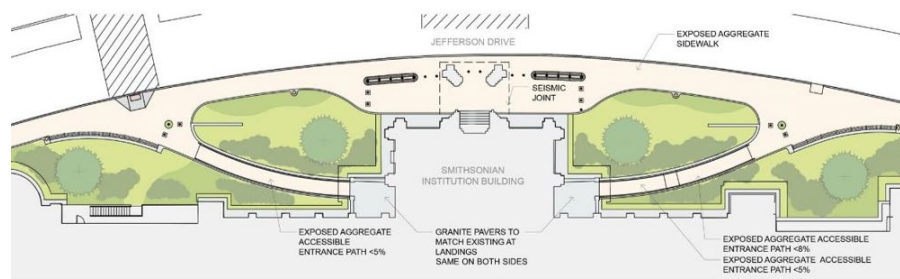
**Images**



Existing site plan.

**PAVING AT RAMPS**

- Exposed aggregate concrete on ramps leading to landings
- Exposed aggregate concrete in keeping with the sidewalks
- Stone proposed for landings, material alternatives in development

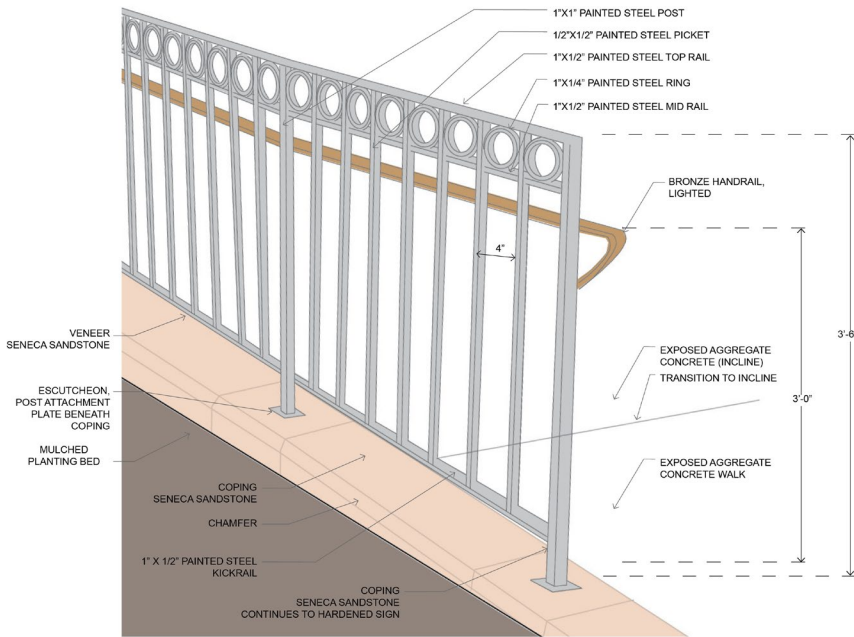


Proposed site plan and materials.

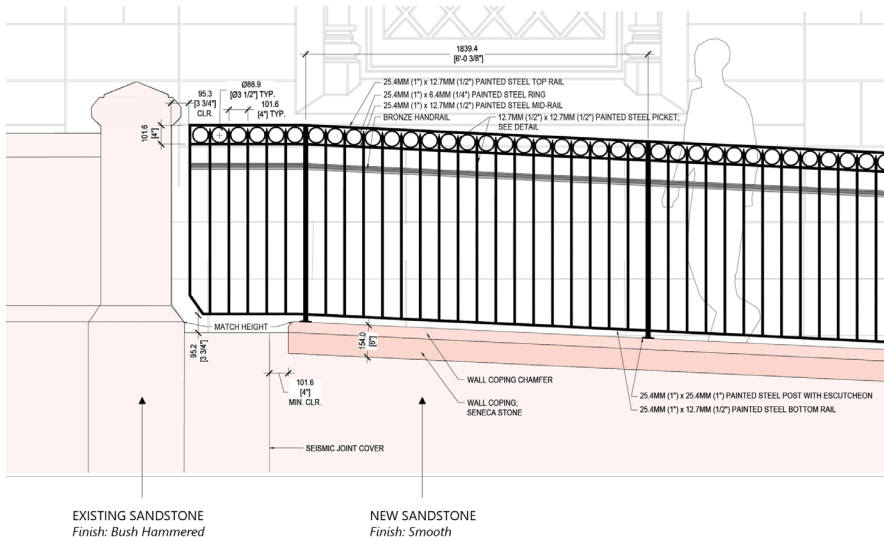
**Additional Information**

- Setting is a character defining feature.
- Existing east and west asymmetrical pathways are not historic, installed c. 1987.
- East entrance to the North Tower features stairs and stone newel posts installed c. 1987. West entrance to the North Tower features an access ramp installed c. 1987. These non-historic entry materials will be removed.
- North Tower setting features a semi-symmetrical path arrangement to the east and west entrances around undulating planting beds with lush plantings.
- Historic fabric will not be removed or obscured by the construction of the walkways.
- Proposed guardrail design is in keeping with the Haupt Garden fence and gate design.
- Adverse effect is avoided through maintaining the existing landscape character and setting through the proposed curvilinear paths, planting beds, and planting diversity.

- Adverse effect is avoided through use of sandstone, granite, and aggregate concrete paving to construct the walkways, consistent with materials present in the setting.
- Use of a smooth finish on the vertical walls and coping stones for the walkways differentiates the new construction from the adjacent bush hammered sandstone on the c. 1970s landings.




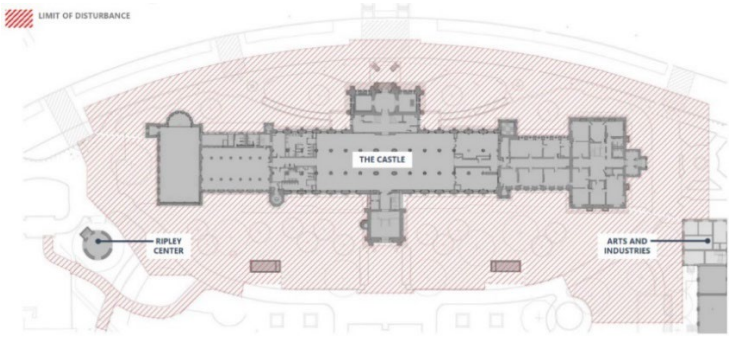
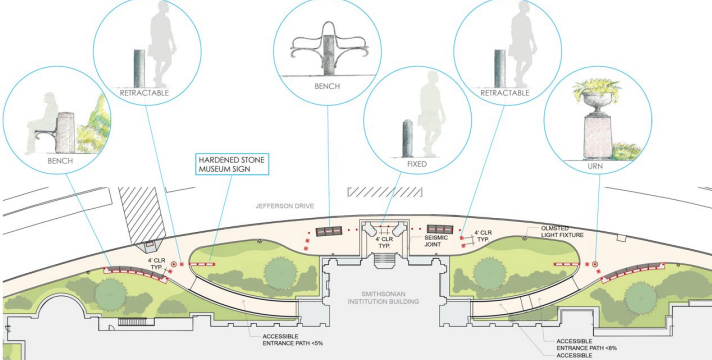

Proposed accessible walkway section, elevation, and guardrail detail.



Proposed elevation detail of the accessible walkway connection to the west landing at the North Entry.

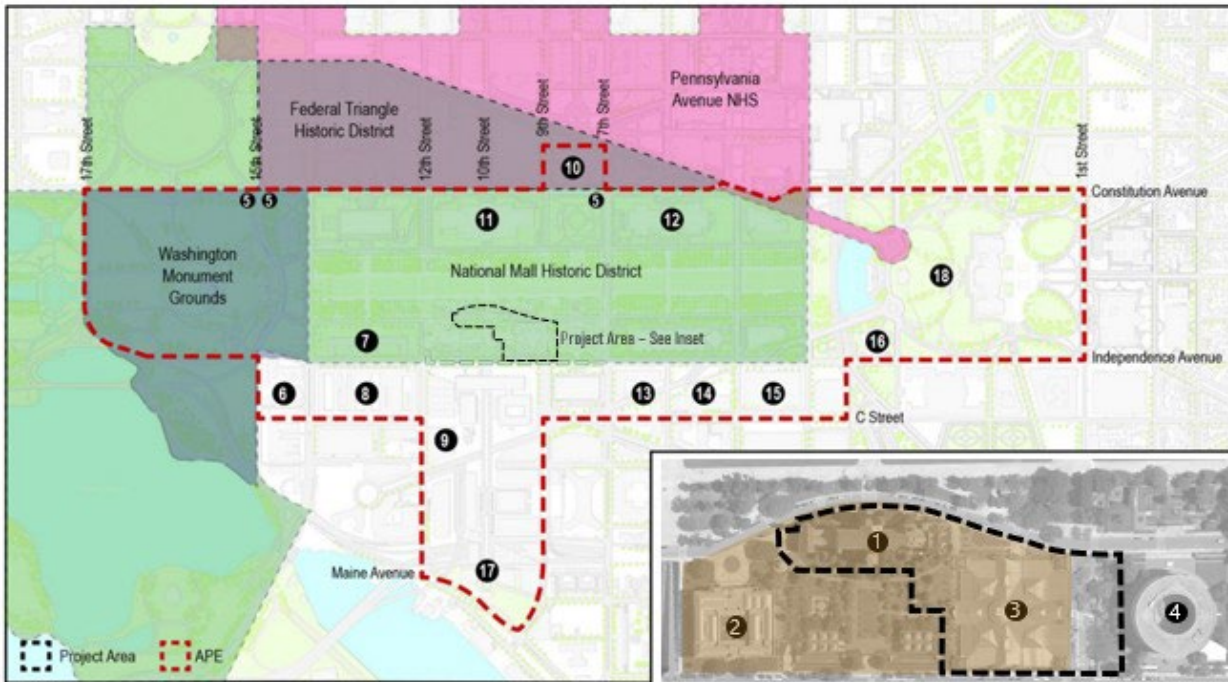
**Proposed Effect Determination – No Adverse Effect**

<b>Smithsonian Institution Building</b>	
<b>Feature/Action</b>	<b>Design Details</b>
<p>Cumulative Effects on the Castle</p>	<ul style="list-style-type: none"> <li>- For Phase 2, the following actions were identified with an adverse effect determination:                             <ul style="list-style-type: none"> <li>• Perimeter Security</li> <li>• South Tower Elevators – Exterior Alterations</li> <li>• South Tower Elevators – Interior Effects</li> <li>• Installation of Rooftop Fall Protection</li> <li>• Modifications to Rooftop Mechanical Penthouses</li> <li>• Installation of New East Wing 4<sup>th</sup> Floor Egress</li> <li>• Replacement and Restoration of Windows</li> <li>• New Basement Windows</li> <li>• Basement Egress Doors</li> <li>• Basement Level Interior Alterations</li> </ul> </li> <li>- Following actions were identified with an adverse effect determination in Phase 1:                             <ul style="list-style-type: none"> <li>• Areaways and Window Wells (Locations and Dimensions)</li> <li>• Seismic Control Joint (Location and Width)</li> </ul> </li> <li>- Project Limit of Disturbance and construction fencing will affect a significant area around the entire Castle, including part of Jefferson Drive, Folger Rose Garden, and the Haupt Garden for the duration of construction (5-6 years).</li> </ul>
<b>Images</b>	<b>Additional Information</b>
 <p>Mock-up of bollards inside the porte cochere.</p>	<ul style="list-style-type: none"> <li>- Haupt Garden, Folger Rose Garden, and landscape building settings will be restored in all disturbed areas related to construction.</li> <li>- Cumulative adverse effects from excavation work, construction fencing, and alternate pedestrian routes are temporary, provided the site is restored after construction is complete, including reinstallation of salvaged hardscape pavers and plantings.</li> <li>- Perimeter Security has a cumulative adverse effect on the Castle’s Setting, a character defining feature.</li> <li>- Consensus on material and metal finishes for the Seismic Control Joint cover plate minimizes adverse effects on the Castle and National Mall settings.</li> <li>- Consensus on utilitarian finishes for the areaways does not call undue attention and will not intensify the adverse effects from these installations on the Castle and National Mall settings.</li> <li>- New Basement Windows, Egress Doors, Replacement and Restoration of Windows, Installation of Rooftop Fall Protection, 4<sup>th</sup> Floor Egress, and Rooftop Mechanical Penthouses, result in a cumulative adverse effect on the Castle exterior, affecting character defining features and overall exterior appearance: Building Massing, Roof Profile, North and South Towers, and façade configurations.</li> <li>- Interior effects from the South Tower Elevators alter historic fabric in significant interior spaces including the Children’s Room, Great Hall, and on upper floors. Interior effects at the Basement Level alter the space’s volume and character. Cumulative effects of interior alterations are adverse on the Castle’s historic interiors.</li> </ul>
<b>Proposed Effect Determination – Adverse Effect</b>	

National Mall Historic District	
Feature/Action	Design Details
<p>Cumulative Effects on the National Mall Historic District</p>  <p>Project Limit of Disturbance noted with red hatch shading.</p>	<p>- Following actions were identified with a preliminary adverse effect for the National Mall Historic District:</p> <ul style="list-style-type: none"> <li>• Perimeter Security</li> <li>• Seismic Control Joint</li> </ul> <p>- Rooftop additions for egress and mechanical penthouses have some visibility and disrupt the Castle’s roofline within the National Mall setting.</p> <p>- Project Limit of Disturbance and construction fencing will affect a significant area around the entire Castle, including part of Jefferson Drive, Folger Rose Garden, and the Haupt Garden for the duration of construction (5-6 years).</p>
Images	Additional Information
 <p>Proposed perimeter security elements at north entry along Jefferson Drive.</p>  <p>Visualization of proposed seismic joint cover at the porte cochere.</p>	<p>- Castle is a contributing element to the National Mall Historic District, prominently sited in the Mall.</p> <p>- Haupt Garden, Folger Rose Garden, landscape building setting, and the Jefferson Drive roadbed and sidewalk will be restored in all disturbed areas related to construction.</p> <p>- The Andrew Jackson Downing Urn, a memorial and public artwork located in the Haupt Garden, will be temporarily relocated to a SI storage facility.</p> <p>- Cumulative adverse effects from excavation work, construction fencing, and alternate pedestrian routes are temporary, provided the site is restored after construction is complete, including reinstallation of salvaged hardscape pavers and plantings.</p> <p>- Seismic control joint and perimeter security will be visible immediately adjacent to the base of the Castle at-grade, and visible around the porte cochere in the sidewalk. This has a cumulative adverse effect on the Castle and National Mall Settings.</p> <p>- Consensus on material and metal finishes for the Seismic Control Joint cover plate minimizes adverse effects on the Castle and National Mall settings.</p> <p>- New Basement Windows, Egress Doors, Replacement and Restoration of Windows, Installation of Rooftop Fall Protection, 4<sup>th</sup> Floor Egress, and Rooftop Mechanical Penthouses, result in a cumulative adverse effect on the Castle exterior which changes how the Castle presents within the Historic District context.</p>
<p><b>Proposed Effect Determination – Adverse Effect</b></p>	

**Area of Potential Effects**

The area of potential effects is defined as the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. This Assessment of Effects on Historic Resources considered the effects of the Revitalization of the Historic Core project within the below mapped area. This area of potential effects was set by the Programmatic Agreement for the South Mall Campus Master Plan.



Area of potential effects map, noted with the red dotted line. The RoHC project area is noted with the black dotted line on the overall and inset maps.

WITHIN PROJECT AREA		WITHIN AREA OF POTENTIAL EFFECTS	
National Mall Historic District	Washington Monument Grounds	10	National Archives
Smithsonian Institution Quadrangle Historic District	Pennsylvania Avenue NHS	11	National Museum of Natural History
Plan of the City of Washington	Federal Triangle Historic District	12	National Gallery of Art (West Building)
1 Smithsonian Institution Building	2 Freer Gallery of Art	13	Federal Office Building 10B
3 Arts and Industries Building	4 Hirshhorn Museum and Sculpture Garden	14	Federal Office Building 6
	5 Bulfinch Gatehouses and Gateposts	15	Social Security Administration
	6 Auditor's Building Complex	16	United States Botanic Garden
	7 USDA Administration Building	17	Benjamin Banneker Park
	8 USDA South Building	18	U.S. Capitol and Grounds
	9 USDA Cotton Annex		

The historic properties identified in the above maps and table indicate properties that are individually listed in or have been determined as eligible for individual listing in the National Register of Historic Places.