Executive Director's Recommendation
Commission Meeting: March 3, 2022

PROJECT
South Mall Campus Historic Core Revitalization
Smithsonian Institution Building, Arts and Industries Building
1000 Jefferson Drive, SW
Washington, DC

SUBMITTED BY
Smithsonian Institution

REVIEW AUTHORITY
Federal Projects in the District per 40 U.S.C. § 8722(b)(1) and (d)

APPLICANT'S REQUEST
Approval of preliminary site and building plans

PROPOSED ACTION
Approve preliminary site and building plans with comments

ACTION ITEM TYPE
Staff Presentation

PROJECT SUMMARY
The Smithsonian Institution (SI) has submitted preliminary site and building plans for the project called the Revitalization of the Historic Core or “RoHC”. The project scope includes improvements to the Smithsonian Institution Building (SIB), also known as the Castle, and the Arts and Industries Building (AIB). Other major components include new underground facilities, a new central utility plant, new cooling towers, accessibility improvements, garden rehabilitation and new perimeter security. The applicant states there is a need for a comprehensive rehabilitation of the Castle and AIB in order to address physical deterioration, obsolete systems, and non-compliance with construction, accessibility, and life-safety codes. Construction of a central utility plant and enhanced loading dock will link and serve the Castle and AIB buildings. Both buildings are National Historic Landmarks (NHLs), listed in the National Register of Historic Places, and part of the National Mall Historic District. The RoHC is located within SI’s South Mall Campus and the project will implement several components of the South Mall Campus Master Plan, which was approved in 2018.

The Commission reviewed the concept plans for the project in July 2021. Since that time, the applicant has continued to develop the design in response to comments received from the review agencies as well as consulting parties through the Section 106 process. The major components of the proposal have not changed.

Much of the project involves rehabilitation of the Castle and AIB, to include updates to windows, doors, venting, and egress. In addition, the proposal includes excavation below and adjacent to the two buildings to provide an enhanced loading facility and a central utility plant that will serve the Castle, AIB, and in the future, the Freer Gallery and Quadrangle Building. The loading facility will permit appropriate segregation of art and non-collections delivery and the handling of waste and recycling. The central utility plant will allow the disconnection of General Services
Administration (GSA) steam and chilled water services which, according to SI, will result in significant cost savings and a reduction in the carbon footprint. Cooling towers for the plant are proposed to be located on the site of the National Museum of Natural History (NMNH), which is across the National Mall to the north. Underpinning, blast mitigation and seismic reinforcement of the Castle and AIB will be integrated into the construction of these new facilities.

**KEY INFORMATION**

- The South Mall Campus is located on the National Mall, generally between Independence Avenue, Jefferson Drive, 12th Street and 7th Street, SW in Washington, DC. The campus includes the Smithsonian Institution Building (SIB or the Castle) and Arts and Industries Building (AIB), among others.
- The Commission approved the South Mall Campus Master Plan in 2018. The proposed master plan is a guide for the development of the South Mall Campus over the next 20 to 30 years.
- The revitalization of the Castle and AIB were identified in the master plan, along with the proposed new central utility plant, seismic protection, and perimeter security.
- SIB, also known as “the Castle”, was designed by James Renwick, Jr., and was completed in 1855.
- The last major revitalization of the Castle, including upgrades of heating, cooling and ventilation systems, electrical and plumbing systems, was completed in 1968.
- AIB was designed by Adolf Cluss and Paul Schulze. It was built between 1879 and 1881. AIB is considered by some to be the nation’s best-preserved example of nineteenth century world’s fair or exposition architecture.
- The last revitalization of AIB was completed in 2014. The project included structural enhancements, replacement of the roof and windows, and restoration of the masonry exterior.
- The Castle and AIB are National Historic Landmarks. The Quadrangle Historic District was added to the District of Columbia Inventory of Historic Sites in 2017. The entire campus is within the National Mall Historic District.
- A Programmatic Agreement (PA) was prepared in 2018 that outlines the process for subsequent consultation of individual projects implemented under the master plan, pursuant to Section 106 of the National Historic Preservation Act.
- SI has initiated the Section 106 review process for the RoHC project pursuant to the PA. Three series of consulting party meetings have been held to date, most recently on November 16 and December 14, 2021.
- Construction is expected to last through 2027.
RECOMMENDATION

The Commission:

Approves the preliminary site and building plans, with the exception of the perimeter security, cooling towers and proposed elevator overrun at the Castle, each of which requires design development or further coordination.

Notes the Revitalization of the Historic Core (RoHC) project includes several components, specifically revitalization of the Castle, revitalization of AIB, a new central utility plant (CUP), and perimeter security improvements, each of which are generally identified in the South Mall Campus Master Plan.

Notes the current project does not include improvements to the Quadrangle Building (located underneath the Haupt Garden), new entry pavilions or the removal and replacement of the Haupt Garden.

Notes SI will undertake separate planning for the revitalization of the Quadrangle Building and Haupt Garden in approximately five years, at which time the South Mall Master Plan will be updated to reflect any changes.

Perimeter Security

Notes the proposed perimeter security design is based on the overall security requirements that have been established by the Smithsonian Institution. The proposal seeks to provide vehicle barrier protection along the perimeter of the project area.

Notes that unlike many other museums along the National Mall, the Castle and AIB do not have large setbacks or building yards.

Notes the building placement and proximity of adjacent streets creates spatial constraints for the placement of streetscape and perimeter security elements, requiring careful consideration of the impacts to pedestrian access, views of the historic landmarks, and the perceived openness of the campus.

Jefferson Drive

Notes the applicant proposes new perimeter security in front of the Ripley Garden, the Arts and Industries Building, the Castle, and the Ripley Center pavilion, from east to west.

Notes the applicant has prepared three alternative designs for perimeter security in front of the Castle and a single design for the segment in front of AIB. Alternative 1 is the applicant’s preferred approach, which includes a combination of bollards and raised planters in front of the Castle. Alternative 2 includes a single line of bollards along the curb line. Alternative 3 includes a series of bollards that follows along the curb before returning into planters in front of the Castle.
Finds there are tradeoffs between each approach, including impacts to viewsheds, the setting and landscape of the Castle and AIB, pedestrian circulation; and the perception of public space along Jefferson Drive.

Requests the applicant evaluate a holistic approach that considers the entire length of Jefferson Drive in front of the Castle and AIB that: minimizes long stretches of bollards; minimizes the number of locations where bollards cross sidewalks; minimizes alterations in grade adjacent to the National Historic Landmarks; and considers using the existing building yards where possible.

Requests the following as part of the next review:

- Additional plans and renderings of any new alternatives to understand the potential visual and functional impacts as well as limitations. Views and renderings should include both the Castle and AIB.
- Information on any future perimeter security in front of the Freer Gallery on Jefferson Drive.
- Further coordination with NPS regarding any proposed improvements along Jefferson Drive.

Independence Avenue

Notes the applicant proposes a line of bollards in front of AIB along Independence Avenue at the curb. The bollards would return to the Ripley Garden walls at the east and the Quadrangle Garden walls to the west. No changes are proposed to the Quadrangle Garden walls.

Notes that AIB has minimal building yards along Independence Avenue and the entry pavilion and corner pavilions have no setback from the sidewalk. The sidewalk is seventeen feet wide and only accommodates small tree boxes.

Requests the applicant provide rendered perspectives of the proposed bollard line along Independence Avenue to understand any visual impacts, in conjunction with the proposed accessibility improvements, and show further details regarding how the bollards will cross the sidewalk.

Requests the applicant coordinate further with DDOT regarding any proposed installations within public space.

Cooling Towers

Notes the applicant proposes to locate the cooling towers for the South Mall Campus at the west end of the Natural History Museum site which is currently parking. They will mirror the location of the cooling towers on the east end of the site.
Notes the applicant has provided massing studies that show the proposed installation will have visual impacts on the setting of the Natural History Museum.

Requests the applicant submit a more detailed architectural design of the enclosure that can help reduce visual impacts of the towers as seen from the National Mall.

Requests the applicant coordinate further with the District Department of Energy and Environment given the proposed cooling towers appear to be located in a flood hazard area and identify any implications resulting from the proposed siting.

Egress Connector and Elevator Overrun at Castle

Notes the applicant proposes and new walkway that would allow egress from the fourth floor of the east range of the Castle. The applicant also proposes a new elevator overrun in the east range.

Finds the applicant has responded to the Commission’s request to develop an egress approach that further minimizes visual impacts.

Notes the applicant also proposes to relocate an elevator overrun as part of the egress improvements.

Finds additional information is necessary to evaluate the impacts of the proposed elevator overrun.

Requests the applicant provide additional design details, including material selections, renderings and perspectives of the elevator overrun, minimizing the height and profile where possible.

Other Project Components

Requests the applicant provide for review details, renderings or photo-simulations of the roof vents, screens, and railings as they are further refined to avoid or minimize adverse effects.

Requests the applicant continue to work with District of Columbia State Historic Preservation Office, the National Park Service, and other consulting parties to first avoid then minimize potential adverse effects.

PROJECT REVIEW TIMELINE

<table>
<thead>
<tr>
<th>Previous actions</th>
<th>June 2018 – Approval of South Mall Campus Master Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>July 2021 – Concept Review of RoHC proposal</td>
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<td>Remaining actions (anticipated)</td>
<td>– Final review of site and building plans</td>
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PROJECT ANALYSIS

Executive Summary

The Revitalization of the Historic Core (RoHC) project includes several components, specifically revitalization of the Castle, revitalization of AIB, a new central utility plant (CUP) and perimeter security improvements, each of which are generally identified in the South Mall Plan. The details of each component have been further defined and developed since the concept review in July 2021. In some cases, SI has explored several alternative approaches.

Overall, staff finds the project is generally consistent with the goals and objectives of the South Mall Master Plan. The applicant’s intent to restore the two NHLs and increase public access is critical to the long-term function and use of the buildings. However, there are a few project components that require additional design development and coordination, including perimeter security, the cooling towers, and some Castle egress improvements. The applicant has completed significant work and further design work and coordination will help ensure the best approach for the important historic setting of the South Mall Campus. Therefore, staff recommends the Commission approve the preliminary site and building plans with the exception of the perimeter security, cooling towers and the proposed elevator overrun at the Castle, each of which requires design development or coordination.

Analysis

The analysis that follows first focuses on the major component that may require additional study or consideration. Later sections in the report include summaries of other project components as well as any changes since concept review.

Perimeter Security

A significant component includes the addition of perimeter security to areas around the Castle and AIB. Perimeter security has been contemplated for the campus for many years, going back to the Mall-Wide Concept Design developed in 2004. The South Mall Campus Master Plan also indicated the need for such improvements. The need focuses on blast and vehicle protection for the two NHLs. The measures will also protect gathering areas where substantial number of visitors may gather, particularly near entrances. The goal is to enhance perimeter security along Jefferson Drive and Independence Avenue within the RoHC project area.

Staff notes the landscape of the South Mall Campus has evolved over time, and while the landscapes and settings of the Castle and AIB are not identified as contributing resources, they do impact the visitor perception of the buildings, particularly as viewed from the National Mall. The campus should remain as visually open and inviting as possible for visitors. This is particularly important at the entrance of the Castle. Further, unlike many other museums along the National Mall, the Castle and AIB do not have large setbacks or building yards.
The project uses the contextual and unified approach recommended by the 2004 Mall-Wide Concept Design. A variety of perimeter security measures will be integrated within the site’s existing features and concealed to the greatest extent possible.

**Jefferson Drive**

Along Jefferson Drive, new perimeter security will extend from just west of the Castle to the east side of AIB. The applicant has prepared three alternative designs for perimeter security in front of the Castle and a single design for the segment in front of AIB. Alternative 1 is the applicant’s preferred approach, which includes a combination of bollards and raised planters in front of the Castle. Alternative 2 includes a single line of bollards along the curb line. Alternative 3 includes a series of bollards that follows along the curb before returning into planters in front of the Castle. The applicant notes that hardened light poles and signs may also be used in some areas, and retractable bollards may be employed at certain locates for maintenance vehicle access.

Staff appreciates the applicant has considered several alternative approaches for the perimeter security in front of the Castle. Based on the renderings, it appears that each alternative has potential benefits and drawbacks. Staff recommends the Commission find there are tradeoffs between each approach, including impacts to viewsheds, the setting and landscape of the Castle and AIB, pedestrian circulation; and the perception of public space along Jefferson Drive.

Further, staff recommends the Commission request the applicant evaluate a holistic approach that considers the entire length of Jefferson Drive in front of the Castle and AIB that: minimizes long stretches of bollards; minimizes the number of locations where bollards cross sidewalks; minimizes alterations in grade adjacent to the NHLs; and considers using the existing building yards where possible. Related to this, the Commission requests as part of the next review:

- Additional plans and renderings of any new alternatives to understand the potential visual and functional impacts as well as limitations. Views and renderings should include both the Castle and AIB.
- Information on any future perimeter security in front of the Freer Gallery on Jefferson Drive.
- Further coordination with NPS regarding any proposed improvements along Jefferson Drive.

**Independence Avenue**

Along Independence Avenue, the applicant proposes a line of metal bollards to the located along with curb in front of AIB. The bollards would return to the meet Ripley Garden walls at the east and the Quadrangle Garden walls to the west. At the Ripley Garden, the perimeter security elements will take the form of a 30 inches tall, reinforced masonry wall with pedestrian gates. At the AIB parking lot, a guard booth and retractable bollards will serve as perimeter security in this immediate area. At the eastern extent of the RoHC project area, the existing Hirshhorn Museum perimeter wall will provide
perimeter security. the west end of the RoHC project area, the existing perimeter wall to the south of the Haupt Garden will remain. No changes to that wall are intended as part of this project.

Staff notes that AIB has minimal building yards along Independence Avenue and the entry pavilion and corner pavilions have no setback from the sidewalk. The sidewalk is seventeen feet wide and only accommodates small tree boxes. In the future, if the cross-section of Independence Avenue changes, it may allow for additional public space and other security approaches. However, currently the area is relatively constrained.

As part of the next review, staff recommends the Commission requests the applicant provide rendered perspectives of the proposed bollard line along Independence Avenue to understand the visual impacts, in conjunction with the proposed accessibility improvements, and show further details regarding how the bollards will cross the sidewalk. Further staff recommends the Commission request the applicant coordinate further with DDOT regarding any proposed installations requiring public space permits.

New Cooling Towers

The project includes a new Central Utility Plant (CUP) that will be located between the Quadrangle Building and AIB. The CUP will allow the disconnection of General Services Administration (GSA) steam and chilled water services which, according to SI, will result in significant cost savings and reduction in carbon footprint. As initially proposed in the South Mall Campus Master Plan, the CUP will initially serve the Castle and AIB but will be designed to serve all buildings within the South Mall Campus. The CUP will have two levels below grade. A third level is identified as a potential cistern for stormwater management purposes.

New cooling towers are required as part of the CUP facilities. These towers serve to exchange heat with the outside environment and are generally open to the sky. The applicant has identified a preferred location at the site of the National Museum of Natural History. The cooling towers are proposed be located on the southwest corner of the property, mirroring existing cooling towers which are found on the southeast corner. The towers are proposed to be screened in a way that matches the existing cooling towers. Today, the site is a parking area which is located below the adjacent elevation of the National Mall. Landscaping screens the area from view.

Per the Commission’s request at concept review, the applicant has provided views and massing studies of the proposed cooling towers as seen from locations on the National Mall and around the National Museum of Natural History. The studies that show the proposed installation will have some visual impacts on the setting of the museum. The applicant has prepared detailed sections that show that landscaping could be used to help screen the new facility. However, further details of the actual design of the enclosure are necessary. As such, staff recommends the Commission requests the applicant submit a more detailed architectural design for the enclosure that reduces visual impacts of the towers as seen from the National Mall.

Finally, staff notes the submission materials show the proposed cooling towers are located within a flood hazard area. While this does not necessarily preclude the location of new facilities, the
applicant should further explain the implication of siting the infrastructure in this location. The applicant should also coordinate further with the District Department of Energy and Environment (DOEE) regarding this issue. Therefore, staff suggests the Commission requests the applicant coordinate further with the DOEE given the proposed cooling towers appear to be located in a flood hazard area and identify any implications resulting from the proposed siting.

As noted previously, the new cooling towers will need to be connected to the South Mall Campus CUP. At this time, the applicant has indicated that a new direct connection is preferred. The applicant has also indicated they are continuing discussion with NPS regarding the necessary tunnel, per the Commission’s previous request for coordination.

Egress Connector and Elevator Overrun at Castle

The applicant proposes to add a new hallway “connector” at the roof of the East Range. Currently, egress from the fourth floor of the East Wing includes one interior stair and an emergency pathway across the East Range roof. This egress is not compliant with current code requirements, and therefore without improvements, the fourth floor cannot be occupied. According to the applicant, two means of egress are required by code.

SI originally proposed a fully enclosed connector. At concept review, the Commission found the addition had the potential to cause physical and visual adverse effects to the Castle, and requested the applicant provide several different renderings of the Castle and proposed connector to understand the potential visual impacts of the addition. In response to those comments and those from consulting parties, the design of the fourth-floor egress connector has been revised and is now an open walkway with metal guardrails. As such, the connector is much less visible from locations on the National Mall and around the Castle. Therefore, staff suggests the Commission finds the applicant has responded to the Commission’s request to develop an egress approach that further minimizes visual impacts.

The applicant also proposes to relocate an elevator overrun as part of the egress improvements. An existing elevator penthouse, built in the 1970s, will be removed and a new overrun will be added in a different location. Staff understands the need for the elevator, however, the current submission provides only general massing of the overrun size and location. As such, staff recommends the Commission find that additional information is necessary to evaluate the impacts of the proposed elevator overrun and further, requests the applicant provide additional design details, including material selections, renderings and perspectives of the elevator overrun, minimizing the height and profile where possible.

* * * * *
The following sections describe other project components, including any updates or changes since concept review. The scope of major elements have not changed since the previous review.

The Castle Revitalization

The primary program goals of the Castle revitalization include increased public access to the significant historic spaces, including the Commons, Schermer Hall and Great Hall; providing public meeting space in the Upper Great Hall; activating the basement level with public function; and providing an enhanced visitor center on the first and basement levels. The SI administration will also remain housed in the East Wing and East Range of the Castle, where they have traditionally been located. Overall, SI expects the Castle will go from 17 percent public space to 61 percent public space as a result of the revitalization project.

Masonry and Building Envelope

This project will require a variety of improvements to the building envelope and systems. Regarding the envelope, the masonry will include cleaned and restored to reduce staining. Flashing will be provided at horizontal surfaces to reduce water absorption and infiltration. Damaged masonry will be repaired or replaced as necessary, and mortar will also be repaired or replaced.

Roofing

Areas of failing roofing will be replaced with new roofing similar in appearance. Roof drainage will also be improved and capacity increased to better accommodate heavy rainfall events. In particular, existing slate roofing will be replaced with new slate roofing. Existing lead-coated copper roofing will be replaced with new zinc-tin-coated cooper roofing. Insulation will be added where possible. The applicant has determined that the roof assembly thickness may increase up to five inches to accommodate increase fire protection and energy performance. Staff understands the need for these changes, but requests the applicant continue to work to minimize any visual changes to the roof, particularly where the roof profile would be most visible along the gutters.

Window Replacement

The project will also include window replacement. According to the applicant, most of the existing windows were installed in the 1980s-1990s. New windows will be installed to meet thermal performance criteria and security criteria. Historic windows will be retained in place in the West Range Clerestory and the North Apse of the Commons. Window designs developed by James Renwick will be referenced as a basis for the overall design.

Updated Mechanical Systems

The project seeks to provide the amount of outside air and exhaust required to provide interior environments that are appropriate for the proposed program, including meeting spaces and the
visitor center. The overall goal is to minimize visual impacts of such changes, particularly as viewed from the ground. Currently, there are existing louvered penthouses on the roof of the Main Building, the East Range and the West Range, as well as a louvered cupola on the East Wing. However, these do not provide sufficient capacity to properly serve the building. As such the applicant is proposing to utilize existing roof features, including louvered penthouses and the cupola, to provide air intake and exhaust locations. Existing elements will be altered to increase the louver area but limit visual impact of the changes. Staff advises the applicant should provide further design details as they are developed for review.

**Areaways**

Existing areaways around the Castle provide light into basement windows. Currently, many are partially or fully obscured by landscaping. The existing basement level of Castle is approximately six feet below grade. The basement currently has low ceilings and numerous mechanical and other systems that obscure the historic brick arches and vaults.

The project proposes to lower the basement floor to increase the functionality of the space. The basement will then become publicly-accessible in support of the visitor center. All mechanical systems and other service areas will be relocated to a “B1” level beneath the basement. This work, in addition to the proposed seismic upgrades, will require the areaways around the exterior of the building be removed and reconstructed.

From a historic preservation perspective, the project seeks to minimize changes to the exterior, particularly as viewed from the ground level. Overall, the design will regularize the existing areaways to simplify the design of the seismic joint at the base of the building. This joint is what will separate the building from the ground plane, so each can move independently, thereby providing seismic protection to the Castle. The applicant also seeks to increase natural light to the occupied basement spaces utilizing existing window openings and creating new openings where appropriate.

The areaway design will combine and regularize the existing areaways along the south side of the building. The areaways will be screened from view by vegetation and not be visible from the public paths in the Haupt Garden. New windows will be added to the basement level to provide natural light to new functions in the basement. The floor of the areaway is the roof of the new B1 level below grade.

The applicant explored different options for the areaways, including a single retaining wall, or a stepped wall. The stepped wall is currently preferred by the applicant as it will allow more light into the basement level. Railings will be required for fall protection. Planting will be used to soften the hardscape elements and to provide visual interest from the Castle interior and other public spaces with views to the areaways. Overall, staff supports the approach and recommends the applicant continue to refine the areaway footprints to minimize their size where possible, which accommodating additional lighting.
New Basement Egress Doors

There are three existing doors from the basement to the exterior, all located on the south elevation. These connect to existing areaways with stairs or ramps to grade. The new basement-level program, including visitor center spaces, requires additional egress. As such, a total of 5 exterior doors are necessary in the basement to provide emergency egress. Two existing doors will be modified to align with the new floor levels and reused. One existing window will be modified to serve as a door. Two new door openings will be created in existing foundation walls. The applicant notes that the existing door and surround details will be used as a model for new openings.

Seismic Protection

According to the submission, the masonry construction of the Castle and the unreinforced masonry towers place the building at risk in the event of a seismic event. Previous SI analysis recommended seismic isolation paired with modest wall strengthening to achieve significant risk mitigation with the greatest sensitivity to the historic character of the building. The South Mall Campus Master Plan identified base isolation as the preferred approach for seismic protection, and the RoHC project will incorporate base isolation systems into the building foundation.

Base isolation is a means of uncoupling the movement of the structure (in this case, the Castle), from the movement of the ground, to minimize the damage during an earthquake. This is achieved by creating a separation between the superstructure and the foundations (also known as a seismic joint). The existing masonry walls and piers will be supported on new isolators sitting on the new foundations. This approach is preferred by SI due to the importance of the Castle as a historic building and iconic symbol. Because the seismic work occurs at the foundations, the detrimental impacts on historic fabric are expected to be reduced compared to structural reinforcement within the building. The project aims to minimize the visual impact of the seismic joint at grade around the base of the building.

Underground Work

As noted previously, the project includes lowering the Castle basement floor to create new public spaces as part of the enhanced visitor center. In addition, a new B1 level will be added beneath the basement to support mechanical systems. No habitable spaces are proposed in this new B1 level. To the south, between the Castle and the Quadrangle, a new expanded loading dock, connector road, and support spaces are also proposed below grade. The Programmatic Agreement (PA) prepared as part of the South Mall Campus Master Plan states that excavation beneath the Castle will be limited to the consolidated loading facility…, to increase the ceiling height of the Castle basement level, and excavation below the basement level to accommodate utility distribution, footings, and seismic measures (Stipulation 5.A).

The basement of the Castle has been significantly modified over time, resulting in multiple floor elevations. In addition, the routing of mechanical and other building systems through the basement has created challenges for access and functionality. Equipment occupies valuable historic spaces
in many parts of the Castle, and limited access to equipment results in challenging maintenance and reduced efficiency. Further, the routing of these systems has both obscured and damaged the 1855 brick groin vaults. Piecemeal renovations over time have not yielded a comprehensive building-wide design. Finally, the existing systems are not designed to provide the appropriate environmental controls for the proposed program, including the expanded visitor center.

The goals of this component of the project include providing sufficient space to allow the systems to properly serve the proposed program, including meeting space and the visitor center; locating mechanical spaces and equipment to meet current codes, providing energy efficiency; and supporting building operations and maintenance. Equipment will be located in attic and the level B1 mechanical floor to minimize impacts to historic fabric and to free up public and other potentially accessible spaces.

For the basement, the historic materials will be exposed and visible to the public. Restrooms and other visitor service functions will be located in the basement to avoid impacts to the Great Hall. This will help the Great Hall function as the “front door” to the Smithsonian and the visitor center.

At concept review, the applicant requested the applicant continue to refine the proposal to better describe the scope of the need, and if possible, reduce the amount of excavation. In response, the design for the below-grade support spaces has been further refined and the extent of excavation has been reduced, particularly adjacent to the Castle.

**Arts and Industries Building Revitalization**

As originally envisioned, AIB has an open plan, allowing a visitor to create their own path through the building. Galleries were later added to provide much-needed exhibit space. In the later 20th Century, modifications were focused on creating office space, resulting in the loss of many of the grand, open spaces. Like the Castle revitalization, one of the main goals of the project is to increase public access to the building. Currently, 24 percent of the building is publicly accessible. The project will increase that to 78 percent. A new basement level is proposed to create space for mechanical/electrical equipment and support space for Smithsonian staff. This will allow the historic spaces on the first and second floors to be utilized primarily for public functions.

The project also includes restoration of the floors and wall finishes in the four primary Halls. Non-historic systems and materials that were inserted will be removed. New systems and technology will be integrated to support the programming needs. Mechanical equipment and restrooms will be removed from three of the Courts. Surviving elements of the historic galleries will be retained and missing elements will be reconstructed where appropriate. The floor infill within the Ranges will also be removed.

Providing precision climate control, particularly exhibit-quality environmental requirements throughout the building, would require significant changes to the historic building envelope. Therefore, a limited zone of precision climate control will be created to accommodate special objects or exhibit loans. Thermal transition zones in the Halls will be utilized to save energy and eliminate condensation risk at the exterior building envelope. Like the Castle, this will require
targeted improvements to the building envelope and interiors. Excavation beneath AIB is also proposed to accommodate mechanical systems and other kinds of support spaces. These kinds of uses would not be compatible with the open spaces of the historic building.

Overall, staff believe the goal of increasing public access and use of AIB is laudable, and consistent with the South Mall Campus Master Plan.

**New Basement Level**

AIB currently has limited basement areas under some of the raised floors of the Northeast, Northwest, and Southwest pavilions. The existing basement floor is approximately 8 feet below grade. Additional crawl spaces connecting to piping tunnels also exist in some locations. As part of the project, the basement will be expanded to accommodate equipment and support spaces allowing historic spaces above to be used for public functions. The basement will be donut-shaped and not under the Rotunda structure to avoid adverse impacts. The extent of the basement matches the programmatic need for mechanical equipment and support spaces for the upper floors of the building. The new basement level will be lower than the existing basement to align and connect with the new below-grade construction, including the CUP and the Quadrangle loading area.

At concept review, the Commission requested the applicant provide further information about the amount of excavation proposed underneath AIB. In response, the submission details the proposed excavation for basement space. The extent of this space is based on the need to provide mechanical and support spaces to serve the building, while maximizing the number of historic spaces available for public use. Staff notes there are some limited existing basement spaces, primarily under the pavilions.

*Mechanical Systems – Louvers and Rooftop Mechanical Elements*

The mechanical systems in the building need to be upgraded to meet the new program needs. As such, air intake and exhaust requirement must be accommodated. The proposed design strategy locates all the mechanical louvers on the south side of the building, away from the primary National Mall entrance, with the goal of minimizing any changes visible from the ground. The building currently has louvers in historic window openings for air intake/exhaust. The proposal uses the same design strategy, however the louvers will be grouped in the southeast and southwest Courts.

Exhaust for toilets, kitchen, and emergency generators will be located at the roof level of the east and west Ranges. This locates the exhaust directly over the spaces served, for efficient ductwork and vent piping runs inside the building. The application notes that additional design and analysis is necessary for these elements. As such, staff recommends the applicant provide additional views and renderings to verify the improvements will have minimal visual impacts.
Mechanical Systems – Areaways

The applicant also proposes to create additional intake and exhaust louvers for AIB basement equipment rooms and central utility plant. These are necessary to meet the needs of the upgraded mechanical systems. Like the other building improvements, the design goal is to minimize changes to the historic building fabric as well as minimize visual impacts. The areaways would be located against the building and will require curbing and steel grates.

New Egress and Exit Doors

As part of the project, four new emergency egress doors will be added to the east and west ranges of AIB. The doors will be lowered three feet from grade to not impact the decorative colored brick elements below the range window sills. With the construction of new stair areaways for the egress doors, the existing gneiss foundation below the white granite base course will be exposed in new areas. The depth of the gneiss foundation typically is higher than the new stair landings and the new basement foundation underpinning walls below will also be slightly exposed.

The main entry to AIB is located at the North Tower, facing the National Mall. Visitor projections anticipate 6,000 visitors on a busy day. Therefore, separating the incoming visitor traffic from those exiting will be necessary to prevent confusion and possible issues in the security screening process. As such, the applicant proposes to modify the existing windows on the east and west elevations of the North Tower to serve as exit door locations. The door will be located at grade, and ramps will be created at the exterior to connect the exit doors to the sidewalk. The new doors are intended to facilitate the security screening process provide separate entry and egress pathways at the main entrance.

Landscape

The landscape of the South Mall campus is one that has evolved since it was first established in the 19th Century. Although the Castle and AIB are both individually listed in the National Register of Historic Places, the accompanying gardens are not so-designated and do not fall within the period of significance attributed to their respective buildings. For the National Mall Historic District, the gardens are documented as part of the landscape setting of the buildings and objects, they are not counted as contributing resources. Anticipated changes to the landscape to support the project are intended to be minimal with an emphasis on rehabilitation of the site, while accommodating new program elements and related improvements. The applicant intends to replace the existing vegetation in the spirit of the existing character while accommodating new below-grade improvements. Tree plantings adjacent to the Castle will be coordinated for improved façade maintenance. SI has also indicated they will coordinate with NPS on the eventual siting of the Downing Urn.

Accessibility Improvements
The project includes improvements to enhance accessibility at the Castle and AIB with the goal of providing universal access to the buildings. The applicant seeks to retain the historic fabric to the extent practicable and integrate accessibility improvements into the landscape and buildings in a sensitive manner. Changes are proposed at the north and south entrance of the Castle, as well as the north and south entrances of AIB. The south entrance improvements at AIB would include new ramps that would be placed in the sidewalk zone. The design of the proposed steps and ramps have been revised since concept review to reduce the overall impact while still meeting accessibility requirements. In general, staff find the approach relatively sympathetic to the historic building.

Central Utility Plant

As noted previously, the project includes a new Central Utility Plant (CUP) that will be located between the Quadrangle Building and AIB. The CUP will allow the disconnection of General Services Administration (GSA) steam and chilled water services which, according to SI, will result in significant cost savings and reduction in carbon footprint. At concept review, the Commission requested further information about how the CUP will meet sustainability goals. In response, the applicant has indicated they rely on SI’s Climate Change Adaptation Plan (CCAP) and the Strategic Sustainability Performance Plan (SSPP) to identify design strategies to be incorporated into the project. The project will pursue certification under LEED, with separate scorecards for the Castle, the AIB and the CUP. As a campus the shared components of the CUP will be evaluated and then will be applicable to all buildings within the campus. Initial evaluation indicates that both the Castle and AIB will achieve LEED Gold certification. The CUP is currently proposed to be LEED Silver.

Given the underground location of the CUP, at concept review, the Commission requested the applicant clarify whether sufficient soil depth will be provided above the CUP to accommodate trees and other plantings. In response, SI confirmed the roof slab of the CUP will be at the same level as the existing roof slab of the Quadrangle Building which will allow for a soil depth to support plantings similar to those that currently exist in the Haupt Garden.

Regarding venting and other elements, the applicant notes the majority of connections and vents for the CUP have been accommodated in the new areaways proposed for the west side of the AIB. Flues from the CUP which must discharge high enough above grade to avoid negative impact to pedestrians are proposed to be located in a new shaft adjacent to an existing freestanding wall on the east side of the entry pavilion to the National Museum of African Art. As such, any impacts to the garden appear to be negligible.

**CONFORMANCE TO EXISTING PLANS, POLICIES AND RELATED GUIDANCE**

**Comprehensive Plan for the National Capital**

Staff reviewed policies from the Urban Design, Historic Preservation, Parks and Open Space, and Visitors & Commemoration Elements. The analysis and recommendations described above are intended to support consistency with the Comprehensive Plan.
South Mall Campus Master Plan

The major project components included in the RoHC are generally identified in the South Mall Campus Master Plan. Staff notes the current project does not include improvements to the Quadrangle Building (located underneath the Haupt Garden), new entry pavilions or the removal and replacement of the Haupt Garden. SI has indicated in correspondence that they will undertake separate planning for the revitalization of the Quadrangle Building and Haupt Garden in approximately five years, at which time the South Mall Master Plan will be updated. A memorandum from SI describing this process is attached.

National Historic Preservation Act

The Smithsonian Institution and NCPC each have independent responsibilities to comply with Section 106 of the National Historic Preservation Act (NHPA). To fulfill the Section 106 requirements for the South Mall Master Plan, a Programmatic Agreement (PA) was prepared in 2018. Both SI and NCPC are signatories to the PA.

The Smithsonian Institution has initiated the Section 106 process for this project pursuant to the PA. Three consulting parties have been held to-date, on January 13, 2021; May 26, 2021 and May 27, 2021; and November 16, 2021 and December 14, 2021. A draft assessment of effects was released on November 19, 2021, and the applicant has since updated it to reflect consulting party comments. The Smithsonian has engaged with the NCPC, CFA, DC SHPO, NPS, and the Advisory Council on Historic Preservation (ACHP) as required by the South Mall Master Plan Programmatic Agreement. SI also maintains a project website at https://www.sifacilities.si.edu/historic-core

Staff notes that several consulting parties have questioned whether SI should conduct consultation on the interior improvements proposed as part of the project. SI is consulting with the ACHP regarding this inquiry. As a reminder, NCPC does not have review authority over interiors.

National Environmental Policy Act

NCPC is the lead agency for compliance with the National Environmental Policy Act (NEPA). The project components of the RoHC were identified in the Environmental Impact Statement (EIS) prepared as part of the South Mall Master Plan. Staff will continue to evaluate the proposal to determine if any supplemental analysis is necessary prior to final review.

CONSULTATION

Coordinating Committee

The Coordinating Committee reviewed the project at their February 9, 2022 meeting. Without objection, the Committee forwarded the proposed comments on concept plans to the Commission with the statement that the proposal has been coordinated with all participating agencies, with
comments. Participating agencies included the National Park Service, General Services Administration, Washington Metropolitan Area Transit Authority, the District of Columbia State Historic Preservation Officer (DCSHPO), the District Department of Transportation, and the District Department of Energy and the Environment (DOEE).

DOEE noted that the applicant should contact DOEE to discuss compliance with District stormwater regulations. DOEE also noted that the proposed cooling towers should comply with applicable federal guidance regarding flood risk management standards, referring to EO 13690 and EO 11988. NPS noted that the applicant should contact them regarding the sidewalk along Jefferson Street, noting questions about ownership. NPS also requested discussions regarding the proposed tunnels under the National Mall. DCOP and DDOT noted that the project extends into public space along Independence Avenue and will need review and approval by the Public Space Committee. DDOT also noted that the proposal should seek to use as few bollards as possible, consider alternative perimeter security features, and ensure accessibility in public space.

The DC SHPO stated they generally support the project and is coordinating conditioned upon further consultation as outlined in the most recent correspondence with SI, as summarized in the revised Assessment of Effects Report dated January 2022; and as required to avoid, minimize and mitigate adverse effects in accordance with the South Mall Plan Programmatic Agreement.

**U.S. Commission of Fine Arts**

The U.S. Commission of Fine Arts approved the concept design with comments at their June 17, 2021 meeting. On February 17, 2022, the Commission approved a revised concept and provided comments regarding the perimeter security and cooling towers. A copy of the action is attached.

**ONLINE REFERENCE**

The following supporting documents for this project are available online at [www.ncpc.gov](http://www.ncpc.gov):

- Submission Package
- Project Summary

Prepared by Matthew Flis
02/25/2022

**POWERPOINT (ATTACHED)**
South Mall Campus Historic Core Revitalization
Smithsonian Castle, Arts and Industries Building and New Central Utility Plant

1000 Jefferson Drive, SW, Washington DC

Approval of Preliminary Site and Building Plans

Smithsonian Institution
Site Location
Existing Conditions
Project Site and Boundaries

PROJECT OVERVIEW  SOUTH MALL CAMPUS PROJECTS

Projects Underway or in Current SI Capital Plan

1. Hirshhorn Sculpture Garden Revitalization
2. Hirshhorn Museum Envelope Repair Project
3. Revitalization of the Historic Core
4. Freer Gallery of Art Improve Accessibility
5. Haupt Garden Roof In-Kind Replacement
6. Hirshhorn Museum Major Revitalization
Project Scope

Figure 1.3.1.b - Modifications to the Castle, the AIB, basement level expansion, and CUP.
Master Plan Alignment and Schedule

1. PROJECT OVERVIEW

1.4 ALIGNMENT WITH SOUTH MALL CAMPUS MASTER PLAN

The South Mall Campus Master Plan was undertaken by the Smithsonian Institution to develop a comprehensive, long-term plan for the entire South Mall Campus. The Master Plan was completed in 2018 with final approval from the National Capital Planning Commission. As part of the completion of the Master Plan, a Record of Decision (ROD) was issued dated June 7, 2018, which included Mitigation Commitments that are applicable to all projects executed as part of the Master Plan. In addition to the ROD, a Programmatic Agreement (PA) dated 31 May 2018, concluding the Section 106 consultation process, was signed by the Smithsonian Institution, the DC Historic Preservation Office, The National Capital Planning Commission, the National Park Service, and the Advisory Council on Historic Preservation. The PA includes stipulations including specific mitigation measures that will be implemented.

The revitalization of the Historic Core (RoHC) project is one component of the South Mall Campus Master Plan. This project meets the goals of the South Mall Campus Master Plan with some variations that have been outlined in a separate memorandum.

1.5 PROPOSED SCHEDULE

The following are key milestones for the project based on the current schedule:

- Schematic Design: March 2022
- CSA-Refined Concept Design Review: February 2022
- NCPA Preliminary Design Review: March 2023
- Design Development: Winter 2022
- Construction Documents [start]: Winter 2022
- Section 106 Consultation: Ongoing through 2023
- NCPA and FA Final Approvals: Winter 2023
- Early Construction [start-site utilities]: Spring 2023
- Early Construction [start-foundation]: Fall 2023
- Construction Documents [complete]: Winter 2023
- Substantial Completion: Spring 2027
- Opening: Fall 2027
Perimeter Security
Perimeter Security Forms and Materials
Alternative 1 - Plan

Figure 3.1.1 - Proposed Castle north entrance site plan, preferred.

Figure 3.1.1.m - Proposed Castle north entrance elevation, preferred.
Alternative 1 - Perspective
Alternative 2 - Plan
Alternative 2 - Perspective

Figure 3.1.1.q - Proposed Castle north entrance visualization, option with bollards at curb.
Alternative 3 - Plan

Figure 3.1.1.r - Proposed Castle north entrance site plan, option with additional planting.

LEGEND
- 10' STONE BOLLARD
- 6' METAL BOLLARD
- RETRACTABLE BOLLARD
- 30' HT SECURITY WALL
Figure 3.1.11 - Proposed Castle north entrance visualization, option with additional planting.
Perimeter Security – AIB North

Figure 3.1.1.u - Proposed AIB north entrance site plan.

LEGEND

- 10” STONE BOLLARD
- 6” METAL BOLLARD
- RETRACTABLE BOLLARD
- 30” HT SECURITY WALL
Perimeter Security – AIB South

Figure 3.1.1.w - Proposed AIB south entrance site plan.

LEGEND
- 10” STONE BOLLARD
- 6” METAL BOLLARD
- RETRACTABLE BOLLARD
- 30” HT SECURITY WALL
Accessibility Improvements - AIB South Entrance - Existing
Accessibility Improvements - AIB South Entrance - Proposed
Castle Landscape Approach

SMITHSONIAN INSTITUTION BUILDING (CASTLE) PRELIMINARY PLANTING STRATEGY

The goal for planting at the RoHC project areas is to replace the existing plant materials with a planting plan that respects the current and historic planting strategies while accommodating new improvements and interventions. Figure 3.1.3.e is a preliminary study for trees, shrubs, and groundcover at the Castle. Arrows indicate views of the Castle that will be enhanced through the selective siting of plant materials.

At the north side of the Castle, the insertion of new alignments of the pedestrian approaches to the east and west doors at the North Tower will result in a slightly different planting plan than exists currently. Existing lawn areas will be reduced in size, planted with ornamental shrubs and groundcover. The eventual design of plantings in the immediate vicinity of the Castle will be somewhat different than what is present today due to the proposed layout of new areaways and aprons, because of the new seismic moat, and in response to the goals of increasing visual appreciation of the building and to facilitate maintenance activities. Additionally, due to the insertion of the below-grade CUP and SIB extension, the new plant material will be planted on-structure as opposed to its current planting in terra

Figure 3.1.3.e - Preliminary planting strategy site plan around the Castle.

Legend:
- Deciduous Tree
- Shrub (4-10 ft)
- Groundcover (1-3 ft)
- Lawn / Steppes (>11 ft)
- Selective Views Through Vegetation
- Existing Gingko to Remain
Existing Site Lighting

3.1.4 SITE LIGHTING

EXISTING SITE LIGHTING

Jefferson Drive
The site along Jefferson Drive is illuminated on the north (outside of project scope) by pole lighting referred to as The Olmsted Pole dating back to 1936, with retrofit amber colored LED light engines. On the south side (within project scope), adjacent to the Smithsonian Institution Building (Castle) and the Arts and Industries Building (AIB), Victorian style poles installed beginning in 1976 provide general illumination. These fixtures show wear, surface rust, and UV damage to the globe elements. The light sources vary from pole to pole, having been retrofitted from the original High-Pressure Sodium, resulting in inconsistent lighting levels and color temperature.

Independence Avenue
The site along Independence Avenue is illuminated by the DC Department of Transportation Washington Upright Pole Twin-20. These fixtures show wear, surface rust, varied color temperature, and varied optical distribution. The light sources vary including High Pressure Sodium, Metal Halide, and multiple versions of LED. Some fixtures have been recently updated to new globes and LED sources.

Haupt and Ripley Gardens
Throughout the Haupt Garden and Ripley Garden, Victorian style poles provide general illumination. These fixtures show wear, surface rust, and UV damage to the globe elements. The light sources vary from pole to pole, giving inconsistent lighting levels and color temperature. The Ripley Garden includes string lights between some poles, and non-functioning step lights integrated into planters and seating.

Figure 3.1.4.a - Street lamp typology site plan diagram.

Figure 3.1.4.b - Street lamp typology diagram.
Proposed Site Lighting

PROPOSED SITE LIGHTING

Jefferson Drive
The goal of the site lighting design along Jefferson Drive is to create a cohesive experience for visitors on the National Mall as they approach the Smithsonian Institution Building (Castle) and the Arts and Industries Building (AIB). Lighting should provide illuminance levels that achieve a balance of safety and security as well as remain in concert with established standards at adjacent SI and NPS domains.

The existing Victorian poles along Jefferson Drive shall be removed. New Olmsted poles to match those on the North Side along The Mall shall be utilized along the project side of Jefferson Drive. The pole layout will be adjusted to react to the layout on the north side and provide an alternating placement. Additional low level lighting such as bollards or path lights will be integrated into some planting beds to provide proper illumination on pathways close to the buildings. Handrail lighting shall be used for ramps and stairs.

Independence Avenue
The goal of the site lighting design along Independence Avenue is to provide general illumination at the sidewalk, while continuing to meet the street lighting requirements set forth by the DC Department of Transportation.

The existing Washington Upright Pole Twin-20 fixtures within the scope of work will be maintained in accordance with DC Department of Transportation requirements. Poles should be removed, cleaned, and upgraded to LED, then reinstalled in adjusted locations based on new perimeter security design.

![Figure 3.1.4.c - Street lamp typology enlarged site plan diagram.](image)

![Figure 3.1.4.d - Image of site lighting at AIB along Independence Ave.](image)
Haupt and Ripley Gardens

The goal of the site lighting design in the Haupt and Ripley Gardens is to provide general illumination for safety and security, as well as provide wayfinding through the site.

The existing Victorian poles will be recreated by a historic restoration specialty contractor. Poles will be removed and used for castings and development of new components. Spare parts and molds will be turned over to SI for future use on other similar poles. Wiring and other electrical components will be new LED light engines for improved photometric performance, consistent color temperature, and long life. Globes will be UV resistant polycarbonate and glass.

Figure 3.1.4 e - Image of existing site lighting at Haupt Garden.

Figure 3.1.4 f - Image of lamp post at Haupt Garden.
3.1.5 SPECIAL OBJECTS/COLLECTIONS COORDINATION

At the RCHC project area, numerous items (benches, tables and chairs, urns, pots, and other common furnishings) associated with the Smithsonian Gardens Horticultural Artifacts Collection will be salvaged, stored, and brought back to the site. Additionally, special items located in the Haupt Garden will require extra measures of care. All these items will be removed for the demolition/construction sequence and then replaced in their current locations. These include the Andrew Jackson Downing Urn and its pedestal, the Spencer Fullerton Baird sculpture and pedestal, and affected segments of the Fountain Garden (chadar, runnels, walls, and paving elements). Because only segments of the Fountain Garden are being removed, extreme care must be taken to ensure that segments to remain are protected in place and that those that are removed can be returned to their current conditions at the end of the project. At the northeast corner of the Castle (not pictured), the existing Voyage and Pluto exhibit stanchions will be removed for the demolition and constructions sequence and then returned to their current locations. Affected plants and furnishings in the Folger Rose Garden will be protected in place or removed temporarily.
3.1.6 AIB NORTH ENTRANCE ACCESSIBILITY IMPROVEMENTS

ARTS AND INDUSTRIES BUILDING (AIB) NORTH ENTRANCE EXISTING CONDITIONS

Public access to the Arts and Industries Building (AIB) from Jefferson Drive and the National Mall has historically been through the central door at the North Tower, which is raised from the sidewalk grade at Jefferson Drive. Three white marble steps from the sidewalk provide access to a forecourt paved with red, white, and black marble slabs. The marble units are in deteriorated condition. From the marble paving, a short stone entry ramp with handrails on both sides provides universal access to the vestibule, which is slightly higher than the marble paving. In 1996, an accessible ramp was inserted on the west side of the marble forecourt to provide access to the main entrance. This concrete ramp is in two sections at right angles to one another and is flanked by concrete cheek walls that support metal handrails.

Figure 3.1.6.a - Existing AIB north entrance partial site plan.

Figure 3.1.6.b - Images of the AIB north entrance site.
ARTS AND INDUSTRIES BUILDING (AIB) NORTH ENTRANCE PROPOSED CONDITIONS

At the North Tower, two new accessible walks will take the place of the existing one to better accommodate Universal Access and in anticipation of increased public visitation. These new walks will have a slope of less than 5 percent, therefore handrails will not be required. An additional one (1) step riser will be added to the granite steps to raise the finished elevation of the stone terrace landing to make it flush with the AIB main entry threshold. The existing marble paving, which is in poor condition, will be rehabilitated with compatible materials to match the existing. The existing granite steps are flanked by cast concrete piers that support historic lighting standards. These will be protected in place and will remain. The existing cast iron fence, installed in 1981, will be salvaged with the intention to reuse it in this location. Additional fences to match may be required to fit with the current design.

Figure 3.1.6.c - Proposed AIB north entrance partial site plan.

Figure 3.1.6.d - Proposed AIB north entrance elevation.
PERMANENT IMPACTS ON FOLGER ROSE GARDEN

The insertion of the two new accessible walks will require the permanent modification of parts of the Folger Rose Garden. The insertion of two new, low site walls will conceal the sloped access walks. These new walls will have a slope of less than 5 percent, therefore handrails will not be required.

Figure 3.1.6.e - Existing Folger Rose Garden partial site plan.

Figure 3.1.6.f - Proposed Folger Rose Garden partial site plan.
3.1.7 AIB WEST AREAWAYS

ARTS AND INDUSTRIES BUILDING (AIB) WEST EGRESS & AREAWAYS
EXISTING CONDITIONS

Bordering the annexes and ranges between the Northwest Pavilion, the West Tower, and the Southwest Pavilion, the existing landscape alongside the AIB west elevation consists primarily of low groundcover plants, perennials, and small shrubs. Silverbell trees are also present, lining the brick-paved walk and smaller patios with granite curbing. The configuration of hardscape and planting dates to the circa-1983 Sasaki plan for the Haupt Garden. At the Northwest Annex, a stone stair with five risers provides egress to the west garden area. A historic door is present at the exterior of the Northwest Pavilion.

Figure 3.1.7.a - Existing AIB west entrance partial site plan.

Figure 3.1.7.b - Images of the AIB west entrance site.
AIB West Areaways - Proposed

ARTS AND INDUSTRIES BUILDING (AIB) PEDESTRIAN EGRESS & MECHANICAL AREAWAYS

Along the entire length of the west side of the AIB, the existing landscape and vegetation will be removed as far west as the edge of the Quadrangle Building to accommodate excavations for the Central Utility Plant (CUP).

Two (2) new mechanical areaways will be inserted adjacent to the ranges on the west side of the AIB. These will be flush to grade with steel grate covers on four-inch-tall concrete curbs.

Additionally, new emergency egress doors will be inserted into the exterior walls of the two western ranges of the AIB. The landings for these are approximately three feet below grade, requiring exterior cast-in-place concrete steps and walk as well as handrails and decorative metal fall protection fences. From these points of emergency egress to adjacent paved areas, stabilized decomposed aggregate paths may be required.

The brick walks and patios, as well as the granite curbing, will be replaced in-kind; however, the north and south patios will be slightly reduced from their present size to provide additional planting area and soil volume between the walk and the AIB. The Spencer Fullerton Baird statue will be replaced in its existing location.

At the freestanding granite-clad feature wall that lies to the east of the National Museum of African Art pavilion, a new enclosure will be constructed to house mechanical exhaust vents from the CUP. The enclosure will be of materials compatible with the existing wall and will be of similar height, although its final dimensions are still being studied.
AIB Northeast Pavilion - Existing

ARTS AND INDUSTRIES BUILDING (AIB) NORTHEAST PAVILION EXISTING CONDITIONS

Adjacent to the AIB Northeast Pavilion, a three-foot-tall brick retaining wall provides soil volume for raised planters in the north part of the Ripley Garden. The landscaping consists of layered shrub and groundcover plantings originally designed for sensory delight.

Figure 3.19.b - Enlarged existing site plan of Ripley Garden at AIB Northeast Pavilion.

Figure 3.19.c - Images of Ripley Garden at AIB Northeast Pavilion.
ARTS AND INDUSTRIES BUILDING (AIB) NORTHEAST
PROPOSED EGRESS

A new emergency egress door will be added to the AIB east exterior wall adjacent to the AIB Northeast Pavilion. The grading of the existing site is such that the threshold of the new door will be at approximately the same grade as the existing brick paved areas of the adjacent Ripley Garden. While stairs will not be required, an incision through the existing raised planted area and brick retaining wall will be needed. Existing Ripley Garden walls will be sensitively modified to connect the door with existing brick garden pathways. This will require the insertion of new retaining walls of compatible materials and the installation of new paving to the egress door. Planting will be carefully considered to reflect and respect the existing character.

Figure 3.19.d - Proposed egress plan at AIB Northeast Pavilion.
ARTS AND INDUSTRIES BUILDING (AIB) AREAWAYS
EXISTING CONDITIONS

The area adjacent to the AIB South-East Range is used for storage and parking. The asphalt parking area is oversized for existing and future uses.

Figure 3.1.9.e - Existing partial site plan at AIB east parking lot.

Figure 3.1.9.f - Images of AIB east parking lot.
AIB Southeast Range - Proposed

ARTS AND INDUSTRIES BUILDING (AIB) AREAWAYS

A new emergency egress door will be added to the AIB east exterior wall adjacent to the AIB Southeast Pavilion. Like those on the west side of AIB, the landing is approximately three feet below grade, requiring exterior cast-in-place concrete steps and walls as well as handrails and decorative metal fall protection fences.

A new mechanical areaway will be inserted north of the egress stair, adjacent to the AIB South-East Range. The areaway will be flush to grade with steel grate covers on four-inch-tall concrete curbs.

Figure 3.1.9.g - Proposed site plan at AIB east areaways.

Figure 3.1.9.h - Proposed elevation at AIB east areaways.
Ripley Garden Expansion

RIPLEY GARDEN EXPANSION CONSIDERATIONS

The existing parking lot to the east of the Arts and Industries Building (AIB) is oversized for the current and predicted needs. Thus, it will be redesigned as a more integrated, gardenesque space that relates to the original design of the Ripley Garden.

The parking lot will be reduced in scale to accommodate minimal vehicles parking spaces and the occasional delivery truck. The existing asphalt paving, and its curb, gutter, and drainage system will be demolished. The new lot will be paved with a permeable paver system, which will require new stormwater infrastructure. A new guard booth will be sited adjacent to the AIB Southeast pavilion, slightly north of the location of the current guard booth. A new dock lift is being studied for installation in the parking area.

The design will incorporate perimeter security and new pedestrian fencing to secure garden and parking/service areas. To the east of the new parking lot, the existing brick, serpentine pedestrian walk that extends from Independence Avenue north to an axis with the AIB East Tower entrance will be enlarged with additional brick paving and brick curbing to match. Additional brick paving from the serpentine walk to the AIB East Tower will create an enlarged forecourt at this entrance. The design preserves the existing Ripley Garden walls, walls, and planting and new spaces reflect the character of the existing.
3. DETAILED PROJECT INFORMATION
3.2 BELOW GRADE CONSTRUCTION

3.2.1 CENTRAL UTILITY PLANT (CUP) AND SMITHSONIAN INSTITUTION BUILDING (CASTLE) EXTENSION

FOOTPRINT AND DEPTH – CONCEPT PHASE – MAY 2021

The concept design included a two-level underground construction containing the following elements:
- Quad Loading Dock Expansion
- Service Connector Road
- SIB Extension
- AIB New Basement
- Central Utility Plant (CUP)

A third basement level (B3) provided a location for cistern and thermal storage.

FOOTPRINT AND DEPTH – SCHEMATIC DESIGN LAYOUT

The schematic design for below-grade construction reduces the Central Utility Plant (CUP) footprint at the B2 level and maintains a third basement level (B3) for cistern and thermal storage.
Below-Grade Adjacent to Castle

BELOW GRADE CONSTRUCTION ADJACENT TO THE SMITHSONIAN INSTITUTION BUILDING (CASTLE)

Excavation adjacent to the Castle will be limited to one level below grade, aligned with the existing B1 level of the Quad Building. This area will create a link to the existing loading dock and will connect the Castle, the Arts and Industries Building (AIB), the Central Utility Plant (CUP), and the Quadrangle Building, providing a below-grade pathway for servicing all the buildings.

Figure 3.2.1.c - B1 level plan.

Figure 3.2.1.d - B2 level plan.
Below-Grade Adjacent to Castle

The floor of the Castle basement will be lowered three feet to accommodate public functions. A new mechanical level below the basement will house much of the equipment serving the Castle and horizontal distribution, reducing the impact of new systems on the historic spaces. The new mechanical level is aligned with the existing loading dock and the Quadrangle Building level B1 to facilitate maintenance and operations.

Figure 3.2.1.e - Section through the Castle Great Hall looking east showing the proposed mechanical space and extension at the B1 level.
3.3.1 CROSS MALL CONNECTION

The South Mall Campus does not have available space to locate the cooling towers in a spot that does not negatively affect the buildings and/or gardens. The National Museum of Natural History (NMNH) has available space within the existing parking lot for a new cooling tower for the RoHC.

In between NMNH and the RoHC site areas lies the National Mall, under the jurisdiction of the National Park Service. Given the new proposed location for the Cooling Towers at NMNH, a link is required to convey the chilled water between the two locations. One option is to jack and bore a new tunnel under the Mall. Doing so will require avoiding all existing infrastructure, including but not limited to, utilities, an SI steam tunnel, and the rainwater detention while protecting the health of the trees along the Mall. The other is to retrofit the existing utility tunnel between NMNH and the Smithsonian Institution Building (Castle).

Figure 3.3.1a graphically shows the two options for utility connection to the South Mall campus, both are being studied as possible solutions.

Figure 3.3.1a - Aerial photograph showing the existing steam tunnel and proposed directional boring route.

Figure 3.3.1b - Vicinity

Figure 3.3.1c - Cross section through proposed direct bore – in relationship to existing utilities along route.
Cooling Towers – Cross-Mall Connection

PROPOSED DIRECTIONAL BORE

The connection from NVNH will not impact existing utilities or landscapes on the National Mall. The direct bore is deep enough across the entire length to avoid impacts at grade. Figure 3.3.1.e is a section through the National Mall showing elevations of existing utilities at a minimum of 10 ft above the direct bore.

Section 3.3.1.d diagrammatically shows the directional bore starting at the Cooling Tower (approximately 28 ft below grade) and extending across the National Mall to the NVHC site. The receiving pit for the bore at the south side of the Mall (approximately 95 ft below grade) will be located under the loading dock extension, west of the Castle. The pipes will transite up to a trench below the B1 level and run between the Smithonian Institution Building (Castle) and the Quadrangle building from the receiving pit to the Central Utility Plant (CUP). The existing NVNH parking lot remains at an elevation of 34 feet below grade.

Figure 3.3.1.d - Section at NVNH – Direct bore shown entering into a receiving pit under the cooling tower enclosure.

Figure 3.3.1.e - Section at the loading dock west of the Castle – Direct bore shown entering into a receiving pit under B1 level.
Cooling Towers Location

3.3.2 VISUAL IMPACT FROM MALL AND 12TH STREET NW

EXISTING COOLING TOWERS

There are existing cooling towers in the southeast corner of the National Museum of Natural History (NMNH) site. The existing cooling towers and enclosure were constructed in 1991 and serve the NMNH building. The enclosure is clad in Milford Park granite and detailed to relate to the NMNH building. This custom cooling tower enclosure is visible at sidewalk grade from Madison Drive and from the Smithsonian Pollinator Garden adjacent to the 9th Street Expressway. The top of the existing cooling tower enclosure is approximately 7 feet 4 inches above the sidewalk at Madison Drive and is visible from the sidewalk and from the Smithsonian Pollinator Garden adjacent to the 9th Street Expressway.
Architecturally the height of the new cooling tower enclosure above grade will be minimized by constructing the structure partially below grade, with the top of the cooling tower enclosure approximately 9 feet 8 inches above the sidewalk at Madison Drive (compared to 7 feet 4 inches for the existing cooling tower enclosure). This takes advantage of the change in elevation between the National Museum of Natural History (NMNH) parking area and Madison Drive.

The cooling tower enclosure will connect with existing retaining walls at the edge of the parking lot. The design of the enclosure is in development.
Existing NMNH Cooling Towers

EXISTING COOLING TOWER ENCLOSURE

The Section 106 consultation process was completed in 1991 for the existing cooling tower enclosure at the southeast corner of the National Museum of Natural History (NMNH) site. There was a finding of no adverse effect with the following conclusions:

- Design of the new cooling tower enclosure complements the NMNH and has no negative visual impact on the National Mall.
- Design of the new cooling tower enclosure has repetitive granite arches that complement the design of the ground level of NMNH.
- Only the top of the structure is visible at eye level as viewed from the National Mall.
- Existing granite perimeter wall will be extended to mask visibility.
- Landscaped berms will minimize visual impact of the cooling tower enclosure and minimize perception of the parking lot below.

Figure 3.3.2.h - View of existing cooling tower at NMNH looking east from Madison Drive.

Figure 3.3.2.j - View of existing cooling tower at NMNH looking west from Madison Drive.

Figure 3.3.2.i - View of existing cooling tower at NMNH looking west from the Smithsonian Pollinator Garden.

Figure 3.3.2.k - View of existing cooling tower from NMNH south entrance.
Proposed Cooling Tower Visualizations

Figure 3.3.2.h - Preferred cooling tower option plan.

Figure 3.3.2.i - Preferred cooling tower option visualizations.
Proposed Cooling Tower Visualizations

Figure 3.3.2.j - Preferred cooling tower option plan.

Figure 3.3.2.k - Preferred cooling tower option visualizations.
Cooling Tower Landscape Treatment

3.3 COOLING TOWERS

The regraded slopes will eliminate safety hazards, improve drainage, and help conceal the cooling tower enclosure. The retaining walls will be reconstructed and increased in height as shown in Figures 3.3.3.c and 3.3.3.d. Guardrails will be installed along the top of the walls for safety and the perimeter security will continue to be integrated into the landscape.

Figure 3.3.3.c - South elevation.

Figure 3.3.3.d - West elevation.
AIB Basement Level

The basement will be expanded under most of the Arts and Industries Building (AIB) to accommodate equipment and support spaces allowing historic spaces above to be used for public functions. The basement will be donut-shaped and not under the Rotunda structure to avoid adverse impacts. The extent of the basement matches the programmatic need for mechanical equipment and support spaces for the upper floors of the building. The new basement level will be lower than the existing basement to align and connect with the new below-grade construction, including the Central Utility Plant (CUP) and the Quad Building loading dock creating a below-grade pathway for servicing the AIB.

The existing first-floor slab-on-grade of the AIB will be removed and reconstructed.

Program Legend

- Smithsonian Offices
- Smithsonian Building Services
- Restrooms
- Circulation

Figure 3.4.1.b - Proposed basement plan.

Figure 3.4.1.c - Below-grade section - Quad, CUP, and AIB connection.
AIB Rooftop Louvers
AIB – New Egress Doors

PROPOSED CONDITIONS AT NEW EGRESS DOOR

Four (4) new emergency egress doors will be added to the east and west ranges of the Arts and Industries Building (AIB). The doors will be lowered 3' from grade to not impact the decorative colored brick elements below the range window sills. With the construction of new stair areaways for the egress doors, the existing gneiss foundation below the white granite base course will be exposed in new areas. The depth of the gneiss foundation typically is higher than the new stair landings and the new basement foundation underpinning walls below will also be slightly exposed.

At the new mechanical areaways serving the AIB basement and Central Utility Plant (CUP), the gneiss foundations and new basement foundation walls will also become exposed, but below the steel grating covers at grade.

Exposed gneiss foundations will be dressed to be flush with the wall above and the new basement foundation underpinning walls will be parged.

Figure 3.4.4.d - Key plan of new egress door.

Figure 3.4.4.e - Partial Exterior Elevation at Southwest Annex.

Figure 3.4.4.f - Existing condition.
AIB – New Areaways and Egress Stairs

Figure 3.4.4.g - Enlarged elevation at proposed AIB West Range areaways.

Figure 3.4.4.h - A - Wall section at proposed AIB mechanical areaway.

Figure 3.4.4.i - B - Wall section at proposed AIB stair areaway.
Castle – Roof Replacement/Details
3.5.2 ROOFTOP MECHANICAL VENTS

There are existing louvered penthouses on the roof of the Main Building, the East Range and the West Range. There is a louvered cupola on the East Wing. These do not provide sufficient capacity to properly serve the building.

The goal is to utilize existing roof features to provide air intake and exhaust by modifying the existing elements to increase the louver area but limit visual impact of the changes. The new louvered penthouses will be clad in copper similar to the existing.

Project Scope:
- Remove existing louvers on East Façade of Main Hall to allow for restoration of historic windows.
- Remove existing louvered penthouse on East Range Roof.
- Remove existing mechanical penthouses unsuitable for reuse, such as the dangerous confined space East Range Mechanical Penthouse.
- Maximize areas of louvered penthouses concealed behind towers and pediments by expanding them without increasing their visibility to serve Main Hall and East Range.
- Reuse the existing historic cupola and associated intakes and exhausts to serve the East Wing. No change in size is required.
- Expand existing louvered penthouses on West Range, north roof, by approximately 70%.

Figure 3.5.2.a - Overall roof plan, Existing Conditions.
Figure 3.5.2.b - Image of Great Hall roof louvers.
Figure 3.5.2.c - Image of East Range roof louvers.
Figure 3.5.2.d - Existing Image of East Range roof louvers.
Figure 3.5.2.e - Overall roof plan, Proposed outside air and exhaust.
Figure 3.5.2.f - Image of Great Hall roof louvers.
Figure 3.5.2.g - Image of East Wing roof louvers.
Figure 3.5.2.h - Image of West Range roof louvers.
Castle – East Wing Elevator

3.5.3 EAST WING ELEVATOR ROOF IMPACT

The existing elevators and wheelchair lifts in the building are older equipment in need of an upgrade to meet code and to provide vertical transportation based on the proposed programmatic uses. A larger elevator is required in the East Wing for code and accessibility requirements.

The impact to the roofscape is caused by the elevator overrun, similar to the existing. This is being further studied to minimize that impact as much as possible.

Figure 3.5.3.a - Visualization of southeast roof. Existing elevator penthouse to be removed (shown in dashed red lines).

Figure 3.5.3.b - Visualization of southeast roof. New rooftop penthouse required for elevator overrun (shown in blue).

Figure 3.5.3.c - Image of east wing from Haupt Garden.

Figure 3.5.3.d - Image of southeast roof. Existing elevator penthouse to be removed (shown in dashed red lines).

Figure 3.5.3.e - Visualization of southeast roof from Haupt Garden. New rooftop penthouse required for elevator overrun.
3.5.4 EAST WING 4TH FLOOR EGRESS

The existing egress from the 4th floor of the East Wing, one interior stair and an emergency pathway across the East Range roof, is not compliant with current codes. Two means of egress are required from the 4th floor of the East Wing in order for it to be occupied.

New construction will be visible from the exterior, the goal is to minimize the negative effect of the changes to the east elevation of the Main Building and the west elevation of the East Wing. Where the new construction intersects with the historic walls, the project will minimize the removal or modification of the historic materials and install new that are compatible with the existing building in materials, massing and detailing.

Figure 3.5.4.a - Partial fourth floor plan. Existing egress path.

Figure 3.5.4.b - Image of egress window from East Wing.

Figure 3.5.4.c - Image of egress across East Range roof.

Figure 3.5.4.d - Image of stair 3 egress window of Campanile tower from roof.
Castle East Wing Egress – Proposed

PREFERRED EGRESS CONNECTION

The preferred scheme includes a new raised exterior walkway with code compliant guardrails across the East Range roof. One window at either end of the new walkway would be converted to doors; stairs will be inserted in the interior to mitigate between the elevation changes between the East Wing and the Upper Great Hall. The existing louvered penthouse will be removed, it was built after the period of significance of the building. However, the new guardrail height would be at approximately the same height as the top of the existing louvered penthouse. This solution installs the walkway above the roof and maintains the integrity of the building envelope. The roof would tie into a new curb with industry standard flashing details.

The egress design study includes the following features:

- Removes existing louvered penthouse
- Creates an egress walkway +/- 12 inches above existing roof level with an exterior guardrail.
- Exterior guardrail is not a solid element which reduce its visibility from grade. The guardrail height is approximately the height of the current louvered penthouse roof.
- Roof flashing details will be done at the walkway curb.
- Water has positive drainage along roof and will slope to gutters/drains.
- No exterior stairs are required.

Figure 3.5.4.9 - Partial fourth floor plan. Preferred new egress connection.
Castle East Wing Egress – Proposed Sections
Castle East Wing Egress – Existing and Proposed

Figure 3.5.4.k - Visualization of southeast roof.
Existing egress path.

Figure 3.5.4.m - Visualization of southeast roof.
Preferred new egress connection.
Castle East Wing Egress – Proposed Railing Location
Castle East Wing Egress – Proposed Rendering

Figure 3.5.4.0 - Visualization of the preferred egress option. Viewed from ground level of the center of the Mall, looking south.
3.5.5 WINDOW REPLACEMENT AND UPGRADES

The majority of windows on the building date to the last major window replacement in 1990, although fabricated to provide the appropriate historic appearance. The condition of window units is generally poor and continues to deteriorate. While the HSR indicates that very few of the existing windows on the Castle are historically significant, the exterior of the Castle is a preservation zone that is impacted by the window selection.

All window openings require upgrades for compliance with current security standards. Surviving historic windows (primarily those in the West Range Clerestory, North Apse of the Commons, and the Crypt) will be retained and retrofitted with interior security glazing panels. All other windows will be replaced with security compliant windows, with the exterior appearance coordinated with the period of significance. Both aluminum and steel frames are being considered for the replacement windows. The design team will be working with window manufacturers in the design development phase to determine a basis of design product.

In coordination with SI, selected surviving examples of older window units will be salvaged and archived if they cannot be reintegrated into the building.
3.5.6 MASONRY REPAIR AND RESTORATION

The overall goals of the exterior masonry wall repair on the building are to improve the exterior envelope performance (including leakage mitigation, life safety from falling hazards, energy efficiency, and interior climate control), while maintaining the appearance and historic character of the building, retaining most of the historic materials, and conducting analysis to determine that any changes to the enclosure will do no harm to the remaining historic materials.

The project includes a comprehensive repair of the masonry walls above grade to address areas of remaining distress, particularly areas of damage adjacent to windows and the upper levels of the Flag Tower and North Tower. As part of the comprehensive repair, the masonry will also undergo localized targeted cleaning using specialized chemical detergents and overall general cleaning.
Castle Areaways and Seismic Joints

PROPOSED AREAWAYS

The site plan in Figure 3.5.7.f and associated photos indicate the proposed layout of areaways, aprons, and the seismic control joints around the base of the Smithsonian Institution Building (Castle). The areaways and/or aprons surround the entire building with future areaways shown in blue and future aprons in purple. The plan of the areaways has been regularized to create a consistent appearance along the base of the building and simplify the design of the seismic joint. All existing window wells, aprons, and areaways around the building will be removed to allow for the installation of the base isolation and underground construction. Areaways will increase natural light to occupied basement spaces utilizing existing window openings and creating new ones where appropriate.
Photographs of the Salt Lake City County Building and San Francisco City Hall all show different methods for integrating seismic joint covers around a building to minimize the appearance. The red lines over each photograph show the line of the seismic joint below the cover. In some cases, the joint is completely concealed and virtually undetectable.

Figure 3.5.7j - Image of areaway with vertical seismic joint at wall from San Francisco City Hall.

Figure 3.5.7k - Image of areaway with vertical seismic joint at wall from San Francisco City Hall.

Figure 3.5.7m - Image of seismic joint below bottom tread of stair from San Francisco City Hall.

Figure 3.5.7n - Image of seismic joint below bottom tread of stair from San Francisco City Hall.
3.5.8 AREAWAYS

AREAWAY TREATMENT

When the new areaways are constructed, a consistent approach to finishes will be utilized to regularize the appearance around the building. Any existing Seneca sandstone that is part of the building façade will be retained in place. The new foundations and retaining walls will be reinforced concrete with a parged finish that is colored to be compatible with the sandstone.

Figure 3.5.8.a - Areaway section diagram.
3.1.10 CASTLE AREAWAYS PLANTING STRATEGY

SMITHSONIAN INSTITUTION BUILDING [CASTLE]
BASE ISOLATION STRATEGY

As part of the below grade expansion and base isolation of the Castle, along the north and south sides of the building, a consistent set of areaways will be constructed. Conceptual sections 3.1.10a & 3.1.10b shows how these areaways will provide light to public areas of the basement, allow exterior visitor/staff seating, serve as points of egress from the basement, and incorporate the seismic joint to minimize the visual impact of this feature.

Figure 3.1.10a - Section diagram showing base isolation strategy of typical areaway at the Castle.

Figure 3.1.10b - Section diagram showing preliminary planting strategy of typical areaway at the Castle.
Castle Areaways Planting Strategy

The eventual design of plantings at the Castle will be somewhat different than what is present today due to the proposed layout of new areaways and aprons, because of the new seismic need, and in response to the goals of increasing visual appreciation of the building and to facilitate maintenance activities. Additionally, due to the insertion of the below-grade CUP and Connector, the new plant material will be planted on structure as opposed to its current planting in terra firma. At the north side of the Castle, the insertion of new alignments of the pedestrian approaches to the east and west doors at the North Tower will result in a slightly different plant layout than there currently. Existing lawn areas will be reduced in size, planted with ornamental shrubs and ground cover.

At the south side of the Castle, an offset of 2.5-3.0 meters (8-10 feet) from the edge of the areaways will accommodate maintenance activities and will allow sunlight to permeate into the new basement spaces and areaways. The offset will be planted with turf. The new areaways on the south side of the Castle will have terraces, which will be planted to soften the hardscape interventions and to provide visual interest from the Castle interior and public conveyance spaces in the areaways. See the concept section in Figure 3.1.10.c. A daylight study was done to study the daylight available for plants at the terraced planter. The planter location receives only 3-5 hours of direct sunlight during summers and rest of the year the location is shaded from direct sun. Hence, the plants selection should be such that they can survive in shade but at the same being tolerable to 3-5 hours of afternoon direct sun during summers.

Figure 3.1.10.c - Preliminary planting plan south of the Castle.

Figure 3.1.10.d - Section diagram showing preliminary planting strategy at typical areaway south of the Castle.
3.5.9 NEW BASEMENT WINDOWS AND DOORS

The project envisions turning the existing basement into both an immersive visitor experience center and a staff amenity hub. The basement floor slab is being removed throughout due to the installation of base isolation. The floor of the basement will be lowered throughout to be uniform and the height will respond to the types of programs located in the space. All of the utility distribution will be done from the new B1 level below. New basement windows and exterior doors have been incorporated into the project to support this program.

As discussed in an earlier section, the areaways on the south side of the building are being designed with new windows in order to bring natural light into the basement spaces. The south side of the building will be screened from view by vegetation. The new windows are all inside the areaways themselves and will not be visible from public paths in the Haupt Gardens. The overall approach for new windows is to align with the width of the glazing on the upper floors. Window detailing will be simple so they do not compete with the intricate carved window surrounds on the upper floors.

Exterior egress doors leading from the basement into the new areaways are an essential component of the overall building egress strategy.

- A total of 5 exterior doors are required in the basement to provide emergency egress.
- Two existing doors (Range areaways, south elevation) will be modified to align with the new floor levels and reused.
- One existing window (North areaway) will be modified to serve as a door.
- Two new door openings will be created in existing foundation walls (Great Hall areaways, south elevation).
- Existing door and surround details will be used as a model for new openings.
Castle Areaway and New Basement Doors - Typical

Figure 3.5.9.e - North elevation, west range. Existing windows.

Figure 3.5.9.f - North elevation, west range. New egress door at proposed areaway.
Castle North Entrance - Existing

Figure 3.5.11.b - Images of site features around north entrance of the Castle.

Figure 3.5.11.c - Castle partial accessibility plan, north entrance. Existing conditions.
**Castle North Entrance - Proposed**

**Figure 3.5.11f** - North elevation. Proposed conditions.

**Figure 3.5.11g** - Castle partial accessibility plan, north entrance. Proposed conditions.
Castle South Entrance - Proposed

Figure 3.5.12.e - Castle partial accessibility plan, south entrance. Proposed conditions.

Figure 3.5.12.f - Visualization of accessible study at south entrance.
February 10, 2022

Marcel Acosta, Executive Director
National Capital Planning Commission
401 9th Street, NW, Suite 500N
Washington, DC 20004

Via email

RE: Update on South Mall Campus Plan – Revitalization of the Historic Core Preliminary Design

Dear Mr. Acosta:

This letter is to update the Commission and staff on the impact of design decisions made as part of the Revitalization of the Historic Core (RHC) project to the future revitalization of the Quadrangle Building and its green roof which forms the Enid A. Haupt Garden, along with plantings to the immediate south of the Castle and west of the Arts and Industries Building.

At its June 7, 2021, meeting, the Commission action included the following:

Advises the applicant that they should update the South Mall Campus Master Plan approved by the NCPC in 2018 to reflect recent decisions to simplify or eliminate the potential changes to the Quadrangle Building and the Haupt Garden.

The following summarizes the impacts of the current project:

- The RHC project will replace elements of the Haupt Garden disturbed by construction south of the Castle and west of the AIB with replacement plantings informed by the character and structure of the existing planting. These are described in further detail in Section 3.1.3 of the submission. Special elements in the construction area including the Downing Urn, portion of the Fountain Garden, and the Spencer Baird sculpture, will be removed during construction and replaced in their current locations.

- The Quadrangle Building revitalization will undergo a planning phase as part of the replacement of its roof which is expected to follow the RHC project. This planning phase will incorporate an update to the South Mall Plan and will be undertaken in approximately 5 years (FY27). We would expect to bring the roof replacement project to NCPC for review in the event the project involves changes and is not strictly “replacement in kind”. We expect to continue to maintain current garden features such as the central parterre.

- The RHC project addresses the need for improvements to loading differently than the South Mall Plan. Instead of adding a new driveway to the west of the Freer Gallery of Art and a larger underground loading area under the Ripley entry pavilion west of the
Castle, the one level below grade Castle expansion (outside the footprint of the Castle) enlarges the existing loading area and provides a service connection between the existing underground loading dock in the Quadrangle Building and the Freer Gallery of Art, the Quadrangle Building, the Arts and Industries Building and the Castle. As in the master plan, the Hirshhorn retains its own loading area.

- The RHC project does not make any changes to the three Quadrangle entrance pavilions. Because of the changes to the loading approach, the Ripley Center entrance pavilion can remain. Because a portion of the new Central Utility Plan occupies the unexcavated underground “notch” at the northeast corner of the Quadrangle, locating a smaller entrance pavilion with circulation to lower levels in this location for the National Museum of African Art is precluded. The planning phase anticipated for the Quadrangle would identify any changes to its above ground entrances, as well as to its above ground exit stairs, mechanical vents and skylights.

While some of the specifics of the plan are modified by the current RHC project, overarching goals remain consistent with those set out in the South Mall Campus Master Plan. Additional projects to achieve these goals are underway in various stages of planning, design and construction at the Hirshhorn Museum and Sculpture Garden and Freer Gallery of Art.

Sincerely,

Ann Trowbridge

cc: Nancy Bechtol, Director, Smithsonian Facilities
Derek Ross, Acting Director, Office of Planning, Design and Construction
Stephanie Felton, Deputy Director for Planning and Program Management
Sharon Park, Associate Director for Architectural History and Historic Preservation
Brenda Sanchez, Senior Architect/Design Manager, Office of Planning Design and Construction
Christopher Lethbridge, Program Manager, Office of Planning, Design and Construction
Michelle Spofford, Architect and Planning Manager, Office of Planning, Design and Construction
Carly Bond, Historic Preservation Specialist, Office of Planning, Design and Construction
Implementation of the Revitalization of the Historic Core
February 2022 through Fall 2028

ROHC
Revitalization of the Historic Core Project: FALL'22-FALL'28
- Smithsonian Institution Building (SIB)
- Arts and Industries Building (AIB)
- Central Utility Plant (CUP)

QUADRANGLE + HAUPT GARDEN
Quadrangle Planning Phase Including Update to South Mall
Campus Master Plan: 2027
Haupt Garden Roof Replacement: 2028

South Mall Plan locations of service ramp, and Quadrangle Entry Pavilions.

Existing locations of service ramp and Quadrangle Entry Pavilions unchanged by RHC Project.
Dear Mr. Gover:

In its public meeting of 17 February conducted by videoconference, the Commission of Fine Arts reviewed a revised concept design submission from the Smithsonian Institution for the renovation of and additions to properties in its historic core—the Smithsonian Institution Building (the Castle) and the Arts and Industries Building, located at 1000 and 900 Jefferson Drive, SW—and associated underground and site improvements. The Commission approved the revised concept, requesting the presentation of more information and potential alternatives for the proposed remote cooling tower facility, as well as further development of the design for the perimeter security elements.

Expressing appreciation for the design team’s responsiveness to their previous comments, the Commission members commented favorably on the revisions to the proposed roof alterations, the landscape design, the treatment of barrier-free access, and the development of the expanded areaways. For the perimeter security system along Jefferson Drive, they endorsed the presented option with raised planter beds, but recommended using only dark-colored metal bollards within the pedestrian paths as a less obtrusive treatment that would visually recede within the landscape context. Likewise, they recommended further development of the detailing and material character of the stone planter walls in order to clarify the design treatment for these elements, balanced with the historic building walls and other site walls in this important pedestrian space surrounding the Castle. They also suggested minimizing the presence of bollards at the Castle’s north porch to create a more welcoming appearance from the Mall. Finally, they raised concerns regarding the array of cooling towers proposed to be installed on the grounds of the National Museum of Natural History across the Mall, questioning whether this installation would be the most visionary and sustainable solution. Therefore, they requested an analysis of alternative solutions for this component of the project, including a geothermal well field or other options, potentially designed and sited in cooperation with other agencies.

The Commission looks forward to reviewing development of the design for the project’s perimeter security and cooling infrastructure systems. As always, the staff is available to assist you with the next submission.

Sincerely,

Thomas E. Luebke, FAIA
Secretary

Kevin Gover
Under Secretary for Museums and Culture
Smithsonian Institution
P.O. Box 37012
Washington, DC  20013-7012

cc: Matt Chalifoux, EYP/Loring
Faye Harwell, Rhodeside & Harwell