Welcome!
The meeting will begin momentarily.

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Revitalization of the Historic Core (RoHC)

SIB and AIB

Consulting Parties Meeting 3

16 November 2021
PANEL OF SPEAKERS

MODERATOR
Carly Bond, Historic Preservation Specialist, Smithsonian Facilities

PRESENTERS / PANELISTS
Sharon Park, FAIA, Assoc. Director of Historic Preservation, Smithsonian Facilities
Marisa Scalera, RLA, ASLA, Landscape Architect Smithsonian Gardens
Brenda Sanchez, FAIA, Sr. Design Manager, Smithsonian Facilities
Christopher Lethbridge, Architect/Program Manager, Smithsonian Facilities
Matthew Chalifoux, FAIA, Senior Historic Preservation Architect, EYP-Loring, LLC
Faye Harwell, FASLA, Director/Landscape Architect, RHI (Rhodeside Harwell)
Kirk Mettam, PE, Senior Principal, Silman
Hallah Abodaff, PE, MEP Project Manager, EYP-Loring, LLC
Michael Galway, PE, Sr. Mechanical Engineer, EYP-Loring, LLC
AGENDA

PROJECT OVERVIEW
ASSESSMENT OF EFFECTS
SCHEMATIC DESIGN
  • SITE
  • BELOW GRADE CONSTRUCTION
  • COOLING TOWERS
  • ARTS AND INDUSTRIES BUILDING (AIB)
  • SMITHSONIAN INSTITUTION BUILDING (SIB/ CASTLE)
  • SCHEDULE AND NEXT STEPS
PROJECT OVERVIEW
The goals of the Revitalization of the Historic Core (RoHC):

1. To revitalize the Smithsonian Institution Building (SIB, “The Castle”) to provide efficient and accessible space for visitors and staff and restore the building and its principal interior spaces to their period of significance.

2. To revitalize the Arts and Industries Building (AIB) as a non-collecting venue for public exhibitions, programs, and events.

3. To construct a new below grade Central Utilities Plant to serve the buildings of the South Mall Campus.
PROJECT OVERVIEW

PROJECT AREA

[Map showing the location of the Project Area within the historic core of Washington, D.C., highlighting key sites such as the U.S. Capitol, Washington Monument, and Smithsonian Institution HISTORIC CORE.]
The “Historic Core” is comprised of the Smithsonian Institution Building (the “Castle”) and the Arts and Industries Building. These buildings are the two oldest in the Smithsonian portfolio located on the National Mall.
PROJECT OVERVIEW  RoHC OVERALL SCOPE

REHABILITATION OF THE HISTORIC SMITHSONIAN INSTITUTION BUILDING AND ARTS & INDUSTRIES BUILDING

Rehabilitation of the historic buildings will address historic preservation issues, provide increased visitor access and use, and create interior environmental conditions that are appropriate for the programmed uses.

The rehabilitation of the buildings will focus on their periods of significance
SIB (Castle): 1847-1910
AIB: 1881-1902
The below grade construction will create areas for building systems and support spaces that will free up areas in the historic buildings for public uses.

The basement floor of the SIB (Castle) will be lowered approximately three feet to provide better space for public functions. Below the basement a mechanical level for equipment and systems routing will be created that aligns with the adjacent loading dock and B1 level.

The Central Utility Plant (CUP) will initially serve the Historic Core but is sized to eventually serve all buildings in the South Mall Campus. The CUP will have two levels below grade with a smaller third level housing a rainwater harvesting cistern.

A future public connection is enabled from the SIB (Castle) to the Quad on the B2 level.
A primary objective of the RoHC project is to utilize the buildings as much as possible for public activities.

The new below grade construction is critical to “freeing up” space in the historic buildings.
### Section 106 Initiation | October 2020
---|---
Consulting Parties Meeting #1 – Project Scope | January 13, 2021
Consulting Parties Meeting #2 – Concept Design | May 26, 2021
| May 27, 2021
Schematic Design | August – December 2021
Consulting Parties Meeting #3 – Schematic Design and Draft Assessment of Effects | November-December 2021

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**Step 1**
Initiate the Process
- Define the Undertaking
- Initiate Section 106
- Identify Consulting Parties
- Involve the Public

**Step 2**
Identify Historic Properties
- Define Area of Potential Effects (APE)
- Identify Historic/Cultural Resources

**Step 3**
Assess Adverse Effects
- Assess Effects on Historic Resources
- Apply Criteria of Adverse Effect

**Step 4**
Resolve Adverse Effects
- Avoid, Minimize, and/or Mitigate Adverse Effects
- Notify ACHP of Adverse Effects
- Create Resolution Document (MOA/PA)

- WE ARE HERE - Consultation with Consulting Parties
### Consulting Parties Meeting #3 – Held in Two-Parts

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SOUTH MALL PROGRAMMATIC AGREEMENT

Area of Potential Effects
## Identified Design Actions

### Site

- Landscape
- Perimeter security
- Site Lighting
- AIB
  - Areaways (NW, SW, SE)
  - NE Building Egress - Ripley Garden
  - Surface Parking Area East of AIB
- SIB
  - Areaway Planting Strategies
  - Seismic control joint

### Below-Grade Central Utility Plan – Castle Expansion (Level B1)

- Central Utility Plant Excavation
- Visual Impacts Above Grade - Exhaust
- Extent of Excavation - Adjacent to Castle
- Penetrations at Basement Level or Foundations

### Cooling Towers

- Enclosure
  - Visual impact to NMNH and the National Historic Mall Historic District
  - Cross National Mall Connection to the South Mall Campus (Below-Grade)
DRAFT ASSESSMENT OF EFFECTS
Identified Design Actions

**AIB**
- Excavation of Basement Level (B1)
- Louvers at Court Clerestory Windows
- Rooftop Mechanical Vents
- Egress doors (west and east elevations)
- Areaways (NW, SW, SE)
- South Entrance - Accessibility
- North Entrance - Accessibility
- Rehabilitation of the Historic Interiors

**SIB**
- Roof Modifications
  - Materials - Reuse and In-Kind Replacement
  - Energy Improvements
  - Accessibility - Elevator Penthouse
- Rooftop Mechanical Vents
- East Wing 4th Floor Egress Windows
- Exterior Masonry Restoration
- Areaways
- Seismic control joint
- New basement windows
- New basement doors
- South Entrance - Accessibility
- North Entrance - Accessibility
- Excavation Beneath the Castle
  - Base Isolation
  - Mechanical Systems and Distribution
- Rehabilitation of Historic Interiors

**Cumulative Effects**
- SIB
- AIB
- National Mall Historic District
DESIGN ACTIONS
LANDSCAPE UPDATES

The landscape approach:

- Minimize impacts to the historic setting using existing landscape character and elements as a reference.
- The new design should be fitting and should seamlessly integrate additions into the setting as sensitively as possible.
PERIMETER SECURITY
SCHEMATIC DESIGN UPDATES
South Mall Master Plan Perimeter Security Plan (2014)

- Bollards at curb to maximize security distance
- Utilize new and existing walls at Ripley Garden and SIB (Castle) North
- Retractable bollards at key locations to facilitate maintenance and emergency vehicle access
SCHEMATIC DESIGN UPDATES
Perimeter Security - Historic Architectural Details

- Details from the site and historic architecture used as inspiration and to inform new design features
SCHEMATIC DESIGN UPDATES

Perimeter Security Materials & Forms

- Steel security bollards to have unified language of color, form and texture
- A combination of steel and stone-clad security bollards will provide a hierarchy of materials at select locations
- Stone is used for walls as a more tactile feature, and is also focused at building entries, framing of crosswalks and other areas where people might gather
- Metal is the connective language along edges and in areas where retractable features are required
- Generally, security features are 30"-34" tall. Clear spacing between features is 4'
SCHEMATIC DESIGN UPDATES

Perimeter Security Jefferson Drive: East End of SIB (Castle) to S. Dillon Ripley Center

• Provides an appropriate offset of security features from historic resources
• Integrates low security walls into landscape
• Allows open pedestrian circulation throughout
• Provides access points for garden and facilities maintenance with retractable bollards at strategic locations
SCHEMATIC DESIGN UPDATES

Perimeter Security at SIB (Castle) North Entrance
SCHEMATIC DESIGN UPDATES

Perimeter Security Jefferson Drive: Hirshhorn Museum to East End of SIB (Castle)

- Provides an appropriate offset of security features from historic resources
- Existing walls at Ripley Garden used as security features
- Allows open pedestrian circulation throughout
- Provides access points for garden maintenance with retractable bollards at select locations
SCHEMATIC DESIGN UPDATES
Perimeter Security at Folger Rose Garden
**SCHEMATIC DESIGN UPDATES**

**AIB South Existing Conditions**

**Existing Conditions**
- Non-historic paving and steps at AIB South Tower entrance
- Currently not accessible due to grade change
SCHEMATIC DESIGN UPDATES
Perimeter Security Independence Avenue

- Maximum offset distance of security features from building face
- Integrates low security wall into Ripley Garden realm
- Allows open pedestrian circulation throughout
- Provides access points for garden and facilities maintenance with retractable bollards at select locations
- Adjustment of street trees and streetlights to align with new accessibility and security elements
AIB SOUTH ACCESSIBLE ENTRANCE
SCHEMATIC DESIGN UPDATES

AIB South Entrance
Option: Sloped Walk with No Stairs

Proposed Conditions
Sloped Walk with No Stairs
- Non-historic steps are removed
- In lieu of ramps, a sloped walk replaces the existing pavement, rising to the AIB finish floor elevation at vestibule
- Design maintains a 4-foot clear zone along curb
- A hardened wall extends the full length of the sloped walk, which eliminates the need for bollards at the curb
- Universally accessible
- Requires all pedestrians to go up to level of entrance and then down again

Key Plan

Smithsonian Institution
AIB South Entrance
Preferred: Symmetrical Ramps with Stairs

Proposed Conditions
6.5% / 8.3% Ramps with Stairs

- Non-historic steps are removed.
- Accessible ramps on both sides of the entrance are added. A stair on axis with the entrance will also provide access.
- Design maintains 6-foot clear zone along walk.
- A low stone seat wall is incorporated into the ramp.
- Allows normal circulation on the sidewalk and universal access

Key Plan
LANDSCAPE

**Approach**

- Minimize impacts to the historic setting using existing landscape character and elements as a reference
- New design should be fitting and seamlessly integrate additions into the setting as sensitively as possible
SCHEMATIC DESIGN UPDATES

Sasaki Planting Plan (1987)

- Previous design plans (Sasaki / Lester Collins) used to inform planting strategies
SCHEMATIC DESIGN UPDATES

SIB Existing Plant Hierarchy Analysis

- Character and structure of existing planting is used to inform proposed planting design strategy
Schematic Design Updates

SIB Existing Plant Hierarchy Analysis

- Character and structure of existing planting is used to inform proposed planting design strategy
- Layering to create hierarchy in scale, texture, and color

KEY
1. LARGE STRUCTURAL PLANTING 25-30’
   - EVERGREEN TREES
   - DECIDUOUS TREES
2. MED/LARGE SHRUBS & SMALL TREES 12-25’
3. LOW SHRUBS / PERENNIALS 4-10’
4. GROUND COVER 1-3’
   - TURF
   - STEPPABLES
SCHEMATIC DESIGN UPDATES
SIB Existing Plant Hierarchy Analysis

- Existing character and structure of existing planting is used to inform proposed planting design strategy
- Layering to create hierarchy in scale, texture, and color
SCHEMATIC DESIGN UPDATES

Preliminary Planting Schematics at Castle

Planting Strategy

- Provides diversity and hierarchy of plantings
- Provide adequate screening of existing Quad egress structures and new areaways around Castle base
- Allows open areas to facilitate access for garden and façade maintenance
- Preserves (2) existing ginkgo trees near south entrance
- New plantings will provide more visibility of the historic Castle facade
SITE LIGHTING
SCHEMATIC DESIGN UPDATES

Existing Site Lighting

- There are three typical light fixtures that dominate the site. These include the Mall street fixtures on Jefferson Drive, the DDOT fixtures on Independence Avenue and the site fixtures surrounding the buildings.
- The project will focus on refurbishing existing fixtures or adding new fixtures matching the existing where needed to accommodate revised site conditions.
SCHEMATIC DESIGN UPDATES

Site Lighting on Independence Avenue

- The existing fixtures on Independence Avenue will be relocated to coordinate with the new South Entrance accessibility design.
SCHEMATIC DESIGN UPDATES

EXISTING SITE LIGHTING

Existing Site Lighting at Haupt Garden

Existing Lamp Post at Haupt Garden

- The existing fixtures in the Haupt Garden and around the site will be refurbished. Only a portion of the existing fixtures are within the scope of the RoHC project.
SCHEMATIC DESIGN UPDATES

REFURBISH EXISTING FIXTURES

- Existing Site Lighting at AIB North Entrance
- Existing Pendant at SIB
- Existing Site Lighting at SIB

- Other existing fixtures, such as the standards flanking the AIB North entrance will also be refurbished.
SPECIAL OBJECTS / COLLECTIONS COORDINATION
SCHEMATIC DESIGN UPDATES
Special Objects Coordination

Historic Resources

- Restoration of Folger Rose Garden after perimeter security and AIB accessibility ramps construction
- Considerations for temporarily relocating, preserving and replacing the Downing Urn
- Fountain Garden temporary relocation, restoration and repair
SCHEMATIC DESIGN UPDATES

ARTS & INDUSTRIES BUILDING
SITE IMPACT & VISIBLE MATERIALS
AIB NORTH ACCESSIBLE ENTRANCE
Existing Conditions

- Accessible ramp with handrails was added in 1993 to provide access to main entrance
- Short entry ramp and handrails was added to provide universal access to vestibule
SCHEMATIC DESIGN UPDATES

AIB North Entrance Proposed Conditions

- Sloped accessible walkways <5% added both sides to terrace. No handrails required by code.
- One (1) step is added to stairs to raise stone terrace elevation to be flush with main entry threshold.
- Marble paving at terrace rehabilitated to match existing.
- New low walls added to conceal sloped access walks.
- Universally accessible.

Key Plan
SCHEMATIC DESIGN UPDATES
Permanent Impacts to Folger Rose Garden

Proposed Conditions
Sloped, accessible walkways each side

- Sloped accessible walkways <5% added both sides to terrace. No handrails required.
- One (1) step is added to stairs to raise stone terrace elevation to be flush with main entry threshold
- Marble paving at terrace rehabilitated to match existing
- New low walls added to conceal sloped access walks
- Universally accessible

Key Plan

As-Planted Rose Plan
The Smithsonian Folger Rose Plan was drawn to scale and plotted using digital blueprints of the Smithsonian buildings on the National Mall in Washington, DC. The proposed plan is given without an elevation scale to indicate the relative size of the various plantings and building components. The proposed scale of 1:120 is shown in the plan and is intended to be used as a reference for the design and construction of the planting beds.

Altering the exterior landscape of the Rose Garden will require variances from the exterior conditions as shown on the As-Planted Rose Plan. These variances include: the alteration of existing vegetation and hardscape for accessibility, the alteration of the existing vegetation and hardscape, and the alteration of the existing fence.

Smithsonian Institution

SMITHSONIAN REVITALIZATION OF THE HISTORIC CORE 50
AIB WEST AREAWAYS
SCHEMATIC DESIGN UPDATES
AIB West Egress & Areaways Existing Conditions

Existing Conditions

• Existing Stair and historic door at Northwest Pavilion will be retained

• Configuration of hardscape and planting dates to the Sasaki plan for the Haupt Garden

Key Plan
SCHEMATIC DESIGN UPDATES
AIB Pedestrian Egress and Mechanical Areaways

Proposed Condition
- Pedestrian steps with retaining walls will be added north and south to provide emergency egress access from lower level of AIB.
- Two (2) mechanical intake areaways with steel grate covers will be flush to grade.
- Central brick paved area will be replaced in kind with Spencer Fullerton Baird statue replaced to existing location.
- Potential location for exhaust vents for Central Utility Plant incorporated into existing wall adjacent to National Museum of African Art.

Key Plan
SCHEMATIC DESIGN UPDATES

Preliminary Planting Schematics at AIB West

Proposed Condition

• Plantings will provide adequate screening of new stairs, areaways and potential exhaust vents

• Minimize impacts to setting – utilize existing features and planting strategies to integrate potential exhaust into the landscape
RIPLEY GARDEN & PARKING LOT IMPROVEMENTS
SCHEMATIC DESIGN UPDATES

Ripley Garden Existing Conditions

Existing Conditions

- Mary Livingston Ripley Garden designed by Hugh Newell Jacobsen and installed in 1978
- Asphalt parking area is over-sized for existing and future uses
- Plant material is reaching maturity

Key Plan
SCHEMATIC DESIGN UPDATES

AIB NE Existing Conditions

Existing Conditions

• Three-foot-tall retaining wall provides soil volume for raised planters in the north part of the garden

• Layered shrub and groundcover plantings originally designed for sensory delight

Key Plan
SCHEMATIC DESIGN UPDATES

AIB NE Proposed Egress

Proposed Condition

- New door and paving added to provide emergency egress from AIB.
- Existing Ripley Garden walls will be sensitively modified to connect door to Ripley Garden paths.
- Design and character of new wall modification to be in keeping with existing brick garden walls.
- Planting will be carefully considered to reflect and respect the existing character

Key Plan
SCHEMATIC DESIGN UPDATES

AIB Southeast Existing Conditions

**Existing Conditions**

- Area adjacent the AIB SE Range is used for storage and staging
- Asphalt parking area is over-sized for existing and future uses

**Key Plan**

- Area adjacent the AIB SE Range is used for storage and staging
- Asphalt parking area is over-sized for existing and future uses
**SCHEMATIC DESIGN UPDATES**

**AIB Southeast Areaway - Proposed**

**Proposed Condition**
- New pedestrian door and stair added to provide emergency egress from AIB lower level.
- New mechanical intake areaways with steel grate covers will be flush to grade

**Key Plan**
Ripley Garden Expansion Considerations

• Reduced parking and service area size allows expansion of Ripley Garden. Expansion will be in keeping with original design.

• Incorporates perimeter security and new pedestrian fencing to secure garden and parking/service area.

• Preserves the existing Ripley Garden walks, walls, and planting and new spaces reflect the character of the existing.
SIB AREAWAY PLANTING STRATEGIES
SCHEMATIC DESIGN UPDATES
Areaways at the South Side of the SIB (Castle)

- Areaways are occupiable spaces
- Visual and functional connections between interior and exterior spaces
- Exterior becomes garden space

Material Legend
- Parged Concrete (Color TBD)
- Existing Seneca Sandstone
- Cast Stone
- Soil / Landscaping
- Base Isolation
SCHEMATIC DESIGN UPDATES
SIB S Areaway Preliminary Planting

- Plantings are pulled away from areaway walls to allow air circulation and adequate access for maintenance.
- This planting location allows vegetation to be closer to the walkway, creating more immediate screening.
BELOW GRADE CONSTRUCTION FOOTPRINT AND DEPTH
SCHEMATIC DESIGN UPDATES

Below Grade Construction
Concept Phase – May 2021
SCHEMATIC DESIGN UPDATES
Below Grade Construction
Schematic Design Layout
Below Grade Construction Adjacent to the Castle

Schematic Design Layout

Program Legend
- Smithsonian Offices
- Smithsonian Building Services
- Restrooms
- Circulation

- Excavation adjacent to the Castle will be limited to one level below grade (B1 level of the Quad Building)
- This area will create a link to the existing loading dock and will connect the Castle, AIB, and the Quad Building providing a below grade pathway for servicing all the buildings.
**SCHEMATIC DESIGN UPDATES**

**UNDERGROUND CONSTRUCTION – SECTION THROUGH LEVEL B1**

**MECHANICAL EQUIPMENT AND DISTRIBUTION**

- Floor of Castle basement will be lowered 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 Quad level B1 to facilitate maintenance and operations.
QUESTIONS

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Hallah Abodaff, PE, MEP Project Manager, EYP-Loring, LLC
Michael Galway, PE, Sr. Mechanical Engineer, EYP-Loring, LLC
COOLING TOWERS
DIRECT BORE VS. EXISTING STEAM TUNNEL
SCHEMATIC DESIGN UPDATES

Cooling Towers

- NMNH has available space within parking lot
- South Mall Campus does not have available space without affecting buildings or gardens
- Connection from NMNH will not impact existing utilities or landscapes

Vicinity Map

- The existing GSA steam tunnel is approximately 10 feet above the proposed bore
SCHEMATIC DESIGN UPDATES

Cooling Towers

- Direct bore is deep enough across the entire length to avoid any impact to plantings of landscape
- The receiving pit for the bore at the south side of the Mall will be located under the loading dock extension, west of the Castle.
- The route for the piping from the receiving pit to the CUP will be in the area between the Castle and the Quad Building.
NMNH Site Plan
Shows proposed routing to steam tunnel or direct bore
COOLING TOWERS
VISUAL IMPACT FROM MALL
AND 12TH STREET NW
SCHEMATIC DESIGN UPDATES

Cooling Towers

NMNH - Existing Southeast Cooling Tower & Enclosure Walls – Approximately 7ft Above Madison Drive

Proposed Cooling Tower Location Plan at NMNH

Existing Cooling Tower Location Plan at NMNH
SCHEMATIC DESIGN UPDATES

Cooling Towers

- Height of the new enclosure above grade is minimized by constructing partially below grade
- Takes advantage of the change in elevation between the NMNH parking area and Madison Drive

OPTION 1 – North/South Section

OPTION 1 – EAST/WEST SECTION
SCHEMATIC DESIGN UPDATES

Cooling Tower Options

- Layout options were studied to assess visual impacts and functionality of the NMNH parking and loading docks
- The Preferred option (Option 1) minimizes visibility from Madison Drive and visual impact on NMNH
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.
SCHEMATIC DESIGN UPDATES

Cooling Tower - Preferred

- The cooling tower enclosure will connect with existing retaining walls hidden by vegetation on Madison Drive and 12th Street NW. The design of the enclosure is in development.
SCHEMATIC DESIGN UPDATES

Cooling Tower Existing Planting

Existing Conditions

- Variety and diversity of plantings at edges provide screening
- Plantings are part of Smithsonian Gardens program and interpret natural environment
- Existing perimeter security is integrated and visible within planting edge along Madison Drive and 12th Street

1. Cestrum aestivalis, Prunus caroliniana ‘Cherry Ruffle’
2. Prunus caroliniana ‘Cherry Ruffle’, Ceanothus americanus, Ilex glabra
3. Ilex glabra, Ceanothus americanus, Morella cerifera
4. Ilex opaca ‘Maryland Dwarf’, Viburnum opulus var. americanum, Ilex glabra
5. Perennials
6. Ilex cornuta ‘Nucula’

Other shrubs observed: Aesculus parviflora, Dicentra spectabilis, Buxus sempervirens "Green Towers", Vaccinium corymbosum, Viburnum nudum "Winterthur"
SCHEMATIC DESIGN UPDATES

Cooling Tower Existing Planting

Existing Conditions

- Planting on steep slopes is difficult to maintain
- The existing retaining walls without guard rails are unsafe for garden maintenance.
SCHEMATIC DESIGN UPDATES

Cooling Tower Landscape Treatment

Proposed Condition:

- Replace landscape consistent with the existing character and species diversity for maximum screening
- Regrade slopes to eliminate safety hazards and improve drainage
SCHEMATIC DESIGN UPDATES

Cooling Tower Landscape Treatment

Proposed Conditions (south elevation):

- Increase existing retaining wall heights to reduce slopes of planting areas
- Add guardrails at top of walls for safety. Design under development.
- Preserve existing perimeter security integrated into landscape
SCHEMATIC DESIGN UPDATES

Cooling Tower Landscape Treatment

Proposed Conditions (west elevation):

- Increase existing retaining wall heights to reduce slopes of planting areas
- Add guardrails at top of walls for safety. Design in development
- Preserve existing perimeter security integrated into landscape
SCHEMATIC DESIGN UPDATES

AIB EXCAVATION OF NEW BASEMENT LEVEL
SCHEMATIC DESIGN UPDATES

AIB Basement

- Basement level will be created to accommodate equipment and support spaces allowing historic spaces to be used for public functions. The extent of the basement matches the programmatic need.
- Basement will not be created under the rotunda to avoid adverse impacts.

Program Legend

- Existing Usable Spaces

Program Legend

- Smithsonian Offices
- Smithsonian Building Services
- Restrooms
- Circulation

EXISTING BASEMENT PLAN

Smithsonian Institution

PROPOSED BASEMENT PLAN
SCHEMATIC DESIGN UPDATES

AIB Basement

- Basement floor will be aligned with the B1 level of the loading dock, the CUP and the Quad Building creating a below grade pathway for servicing the AIB
- The existing first floor slab of the AIB will be removed and reconstructed. The historic marble in the Halls will be salvaged and reinstalled

BELOW GRADE SECTION – QUAD, CUP AND AIB CONNECTION
SCHEMATIC DESIGN UPDATES

AIB AIR INTAKE/EXHAUST
LOUVERS AT COURT
CLERESTORIES
Arts & Industries Building (AIB)

Mechanical Systems – Louvers Existing Conditions

- Louvers are required to provide intake and exhaust for mechanical systems
- Louvers are currently located at all four Courts
ARTS & INDUSTRIES BUILDING (AIB)

MECHANICAL SYSTEMS – LOUVERS
PROPOSED OUTSIDE AIR INTAKE/EXHAUST

- Louvers will be concentrated at the two southern Courts. These will not be visible from the Mall side of the AIB and are in programmatic spaces that benefit from limited outside light.
SCHEMATIC DESIGN UPDATES

AIB ROOFTOP
MECHANICAL ELEMENTS
SCHEMATIC DESIGN UPDATES
AIB Rooftop Mechanical Elements

- Exhaust for toilets, kitchen, and emergency generators will be located in the Range roofs.
- The low slope of the Range roofs and the limited height of the exhaust components limit visibility from a view corridor along Independence Avenue.

View looking NW of SE Range roof from Independence Avenue

Section at SE Range - Emergency Generator Exhaust
AIB AREAWAYS (NW, SW, SE)  
EGRESS DOORS & FOUNDATION TREATMENT
SCHEMATIC DESIGN UPDATES
AIB Areaways – Existing Foundation Materiality

Exosed gneiss foundation- east elevation at south corner
  • Exposed stone is undressed.

Exposed gneiss foundation- south elevation (Independence Ave.) at east corner
  • Stone has been dressed to align with the granite base course.

• Apron along perimeter wall of South Ranges (Independence Ave), varies in width to accommodate brick pilasters
**SCHEMATIC DESIGN UPDATES**

AIB Areaways

Proposed Conditions at New Egress Door

**Treatment of proposed exposed foundation:**

- Dress gneiss to be flush with the wall above and parge concrete
SCHEMATIC DESIGN UPDATES

AIB Areaways

Proposed Conditions at West Range

A - Wall Section at Stair Areaway

B - Wall Section at Mechanical Areaway
SCHEMATIC DESIGN UPDATES
AIB Areaways

Proposed Conditions at West Range

C- Elevation at Southwest Areaways
AIB REHABILITATION OF HISTORIC INTERIORS
SCHEMATIC DESIGN UPDATES
Design Intent for Key Spaces

NORTH HALL

Rendering of Potential Space Use

Existing Condition

Historical Context (1903)

Existing First Floor

Project Scope
- Restore the floors and wall finishes in the four primary Halls.
- Remove inserted systems and materials that visually compete with the historic materials and features.
- Provide systems and technology that are visually compatible and that provide flexibility for a range of future uses.
- Period of significance 1881-1902
SCHEMATIC DESIGN UPDATES
Design Intent for Key Spaces

RANGE

Project Scope
• Remove floor infill at Ranges to maximize the benefit of the arched windows.
• Retain the surviving elements of the historic galleries and reconstruct missing elements.
• Period of significance 1881-1902

Rendering of Potential Space Use

Existing Condition

Historical Context (1880)

Existing First Floor
QUESTIONS

MODERATOR
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Michael Galway, PE, Sr. Mechanical Engineer, EYP-Loring, LLC
SIB ROOF DETAILING & REPLACEMENTS
SCHEMATIC DESIGN UPDATES

SIB Roofs- Existing Conditions

- Existing roof materials including slate shingle and flat-seam copper will be replaced in kind. Details will be adjusted to improve performance and longevity.
SCHEMATIC DESIGN UPDATES

Roofing Upgrades

- The existing roofs include little or no insulation. Roof replacements will increase the depth to a maximum of 5 inches above the roof deck to improve thermal performance.

- Most roof edges are hidden by crenellated parapets and other features and are at least 30 feet above grade. The roof modifications will not be noticeable.

- The roof of the West Wing (the Commons) is an example where existing edge details cannot accept a thicker roof section. In this case the upgrades will be tailored to the geometry of that wing, improving energy performance in other ways.

- Specialty roofs, such as the high peaked tower roofs, will not be changed.

**Existing Gutter Detail** – Great Hall

**Proposed Gutter Detail** – Great Hall

**Existing Gutter Detail** – East Wing

**Proposed Gutter Detail** – East Wing

**Existing View Of Gutter** – Main Building Northwest

**Existing View of Gutter** – East Wing Southeast
ROOFTOP MECHANICAL VENTS
1. Remove existing louvers on East Façade of Main Hall to allow for restoration of historic windows.
2. Remove existing louvered penthouse on East Range Roof.
3. Remove existing mechanical penthouses unsuitable for reuse, such as the dangerous confined space East Range Mechanical Penthouse.
1. Maximize areas of louvered penthouses visually concealed behind towers and pediments.  
   Four existing louvered penthouse to serve main building
2. Reuse existing historic cupola and associated intakes and exhausts.  
   No change in size
3. Expand existing louvered penthouses on West Range, north roof  
   Two existing louvered penthouses each expanded by approximately 70%
SIB EAST WING ELEVATOR ROOF IMPACT
SCHEMATIC DESIGN UPDATES
SIB East Wing - New Elevator

- A larger elevator is required in the East Wing for code and accessibility requirements
- The proposed location minimizes negative impact to critical historic interior spaces.

First Floor Plan – Elevator D Proposed Location
SCHEMATIC DESIGN UPDATES

SIB East Wing - New Elevator

Visualization of Roof Impact – View of Southwest
New Rooftop Penthouse Required for Elevator Overrun

Visualization of Roof Impact – View of Southeast
Existing Elevator Penthouse to be Removed

Existing Elevator Penthouse
SIB 4TH FLOOR EGRESS
EAST RANGE AND WING
SCHEMATIC DESIGN UPDATES

SIB 4TH Floor Egress - Existing Conditions

Current Egress Path and Existing Mechanical Penthouse
SCHEMATIC DESIGN UPDATES

SIB 4TH Floor Egress
Previous Proposal – May 2021

Plan of Existing Condition

Plan of Proposed Condition

- STAIR 3 (EXISTING)
- STAIR 2 (EXISTING)
- EXISTING MECHANICAL ROOF MONITOR

- OFFICES 2445 SF

- EXTENT OF EXISTING ROOF MONITOR
- DEMOLISHED ROOF ELEMENTS
SCHEMATIC DESIGN UPDATES

SIB 4TH Floor Egress
Previous Proposal – May 2021

View from Southeast of Existing Condition

View from Southeast of Proposed Condition
SCHEMATIC DESIGN UPDATES

SIB 4TH Floor Egress

Plan of Existing Condition

Plan of Preferred Condition
SCHEMATIC DESIGN UPDATES
SIB 4TH Floor Egress - Preferred Option

View from Southeast of Existing Condition

View from Southeast of Preferred Option
SCHEMATIC DESIGN UPDATES

Study: Egress Path within Penthouse

Developed in Response to Comments from Consulting Parties

Plan - Open, Dropped to Existing Penthouse Level with Enclosure
SCHEMATIC DESIGN UPDATES

Study: Egress Path within Penthouse

- Minimizes visibility
- Penthouse roof is too low
- Recessed open walkway introduces a significant water infiltration risk
- Exterior stairs open to the weather are challenging in an emergency situation

East-West Section, View North – Open, Dropped to Existing
Penthouse Level with Enclosure
SCHEMATIC DESIGN UPDATES

Study: Egress Path within Penthouse

North-South Section, View West - Open, Dropped to Existing
Penthouse Level with Enclosure
SCHEMATIC DESIGN UPDATES

Study: Open Egress Path, Recessed

Developed in Response to Comments from Consulting Parties

**Plan** – Open, Dropped to Existing Penthouse Level
SCHEMATIC DESIGN UPDATES

Study: Open Egress Path, Recessed

- Minimizes visibility
- Recessed open walkway introduces a significant water infiltration risk
- Exterior stairs open to the weather are challenging in an emergency situation

East-West Section, View North – Open, Dropped to Existing Penthouse Level
SCHEMATIC DESIGN UPDATES

Study: Open Egress Path, Recessed

North-South Section, View West – Open, Dropped to Existing Penthouse Level
SCHEMATIC DESIGN UPDATES

Preferred Option

Plan – Open, Raised to Existing Window Sill
SCHEMATIC DESIGN UPDATES
Preferred Option

- Guardrail will be visible from grade- top rail aligns with peak of existing penthouse
- Walkway is on top of roof- maintains the integrity of the building envelope
- No exterior stairs

East-West Section, View North – Open, Raised
SCHEMATIC DESIGN UPDATES

Preferred Option

North-South Section, View West – Open, Raised to Existing Window Sill
SCHEMATIC DESIGN UPDATES

SIB 4TH Floor Egress

View of Preferred Option from Northeast at Jefferson Drive
SCHEMATIC DESIGN UPDATES
SIB 4TH Floor Egress

View of Preferred Option from Northeast at Middle of Mall
SCHEMATIC DESIGN UPDATES

SIB 4TH Floor Egress

Photograph of Existing Louvered Penthouse from Northeast at Middle of Mall
SCHEMATIC DESIGN UPDATES

SIB WINDOW REPLACEMENT & UPGRADES
SCHEMATIC DESIGN UPDATES

- Many of the existing windows are replacements dating from 1987-1992
- All window openings require upgrades for compliance with current security standards
- Surviving historic windows will be rehabilitated and interior security glazing panels installed
- All other windows will be replaced with security compliant windows
- Exterior appearance will match appearance from period of significance
SCHEMATIC DESIGN UPDATES

SOUTH ELEVATION

Replacement Window
Interior Blast Window

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SCHEMATIC DESIGN UPDATES

EAST ELEVATION

WEST ELEVATION

Replacement Window
Interior Blast Window
SIB AREAWAYS
SCHEMATIC DESIGN UPDATES

SIB Areaways

Proposed Condition:

- Two egress points at grade form areaways along south façade
- One-way egress gates at grade prevents travel down into areaways
- Maximize usable space in areaways with stairs outside perimeter of areaway
- Allows use of east areaway by staff lounge and/or OPS classroom
SCHEMATIC DESIGN UPDATES

SIB South Areaways

Proposed Condition:

- Terrace planting in areaway brings the garden toward the interior space.
- Plantings are pulled away from areaway walls to allow air circulation, maximize light into areaway and adequate access for maintenance.
SCHEMATIC DESIGN UPDATES

SIB Northwest Apron

Proposed Condition:

- Low plantings screen apron where space allows
SIB FOUNDATION WALL TREATMENT
SCHEMATIC DESIGN UPDATES

SIB Areaways

SIB Areaway Finishes
- Existing areaways have been finished in various ways.
- All existing areaways will be reconstructed to coordinate with base isolation construction.
- Historic Seneca sandstone will be retained.
- Exposed rubble stone foundations will be removed for base isolation.
- New exposed areas of concrete foundations will be parged and treated to be visually compatible with the sandstone.

Material Legend
- Parged Concrete (Color TBD)
- Existing Seneca Sandstone
- Cast Stone
- Soil / Landscaping
- Base Isolation

View of SW areaway

View of SE areaway

Section of proposed SW areaway
SCHEMATIC DESIGN UPDATES

SIB SEISMIC CONTROL JOINT
SCHEMATIC DESIGN UPDATES

Existing Areaways and Aprons

A  MECHANICAL & SI GARDENS AREA
B  EXISTING EGRESS DOOR
  EXISTING AREAWAY
  EXISTING APRON

Existing Apron - East Wing North
Existing Areaway - North
SCHEMATIC DESIGN UPDATES

PROPOSED AREAWAYS, APRONS AND SEISMIC JOINT

INTEGRATED SEISMIC JOINT COVER EXAMPLE – SALT LAKE CITY COUNTY BUILDING

SAN FRANCISCO ART MUSEUM
SCHEMATIC DESIGN UPDATES SEISMIC JOINT EXAMPLES – SAN FRANCISCO CITY HALL

Example of Seismic Joint Below Bottom Tread of Stair

Example of Areaway With Vertical Seismic Joint at Wall

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SIB NEW BASEMENT
WINDOWS & DOORS
SCHEMATIC DESIGN UPDATES
Proposed Areaways & Egress Door at West Range

- 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 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

Door Strategy – New Solid Door Similar to Existing Solid Door at Areaway

Existing Solid Area Way Door – East Range Areaway South

Existing West Range Windows – Landscape Screening Existing Areaways

Proposed New Egress Doors at Existing Window Openings – West Range Basement Level
SCHEMATIC DESIGN UPDATES
Proposed Areaways & Egress Door at West Range

- The areaways are screened from view by vegetation and will be obscured from public paths.
- Solid egress door strategy as existing areaway doors not along the Great Hall.

North Elevation of West Range Showing Existing Windows

North Elevation of West Range Showing New Egress Door at Proposed Areaway
**SCHEMATIC DESIGN UPDATES**

Proposed Areaways & Egress Door at West Range

- Areaways combine and regularize the existing areaways along the south side of the building.
- The areaways are screened from view by vegetation and will be obscured from public paths in the Haupt Garden.
- Solid egress door strategy as existing areaway doors not along the Great Hall.
SCHEMATIC DESIGN UPDATES

Existing Areaways Windows & Doors at Great Hall South

South Elevation of Great Hall Showing Existing Areaways

South Elevation of East Range from Haupt Garden

South Elevation of SIB from Haupt Garden
Proposed Areaways and Windows & Doors at Great Hall South

- Areaways combine and regularize the existing areaways along the south side of the building.
- The areaways are screened from view by vegetation and will be obscured from public paths in the Haupt Garden.
- New windows would be added to the basement level to provide natural light to new functions in the basement.
- Width of the proposed basement windows are narrower than the width of the windows on the upper floors of this elevation.
SCHEMATIC DESIGN UPDATES
Great Hall South Areaway Windows & Door

- Several egress doors will be required at the basement level of the SIB.
- We propose a glazed door strategy for new egress doors along the Great Hall Areaways to maintain window pattern of the upper floors.

Door & Window Strategy – New Windows and Glass Door at Areaway to Align with the Width Of the Glazing on the Upper Floors

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SCHEMATIC DESIGN UPDATES

Accessibility – SIB North Entrance

Existing Conditions
• North entrance has non-historic paving at steps on the east side of North Tower and ramp on west side
• Existing stairs and ramp installed 1987-1989 over previous stairs installed between 1855-1865 on each side
SCHEMATIC DESIGN UPDATES

Accessibility – SIB North Entrance

Preferred Conditions:

- New sloped walks from Jefferson Drive sidewalk are added to provide universal access to both entrances in the North Tower
- Layout of planting beds and walks becomes more symmetrical and aligns with perimeter security interventions
SIB SOUTH ACCESSIBLE ENTRANCE
**SCHEMATIC DESIGN UPDATES**

Accessibility – SIB South Entrance

**Existing Conditions**

- Entrance at South Tower entrance has non-historic paving and steps
- Accessible walk recently added, overlapping but preserving the historic sandstone steps
- Existing ramp added 2005
SCHEMATIC DESIGN UPDATES
SIB South Accessible Entry

- Preserves integrity of existing historic stone steps and column bases
- Provides universal accessibility to entrance
- Pavement slope <5%. Eliminates the need for handrails
- Low bronze kick-rail added for edge protection
SIB REHABILITATION OF HISTORIC INTERIORS
SCHEMATIC DESIGN UPDATES

Design Intent for Key Spaces

BASEMENT

- Lower floor by approximately three feet to facilitate addition of public functions.
- Celebrate the historic materials and construction.
- Locate rest rooms and visitor services functions to avoid impact to Great Hall.
- Period of significance 1847-1910
SCHEMATIC DESIGN UPDATES

Design Intent for Key Spaces

COMMONS

- Lower floor to 1851 level eliminating the need for ramps in Schermer Hall.
- Preserve and restore the space.
- Provide technology for use as exhibit space and public functions.
- Period of Significance 1847 - 1910
SCHEDULE AND NEXT STEPS
**SCHEDULE MOVING FORWARD**

Written comments are welcome through **January 7, 2022** to BondC@si.edu.

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QUESTIONS

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