



Smithsonian Institution

Revitalization of the Historic Core (RoHC)

Concept Review Presentation

U.S. Commission of Fine Arts
17 June 2021

EYP-Loring LLC



Smithsonian Institution Building (SIB) – “The Castle”:

- State-of-the-art visitor services and amenities
- Restoration of exterior and significant historic interiors
- Life safety and security upgrades
- Installation of energy efficient building systems

Arts and Industries Building (AIB) :

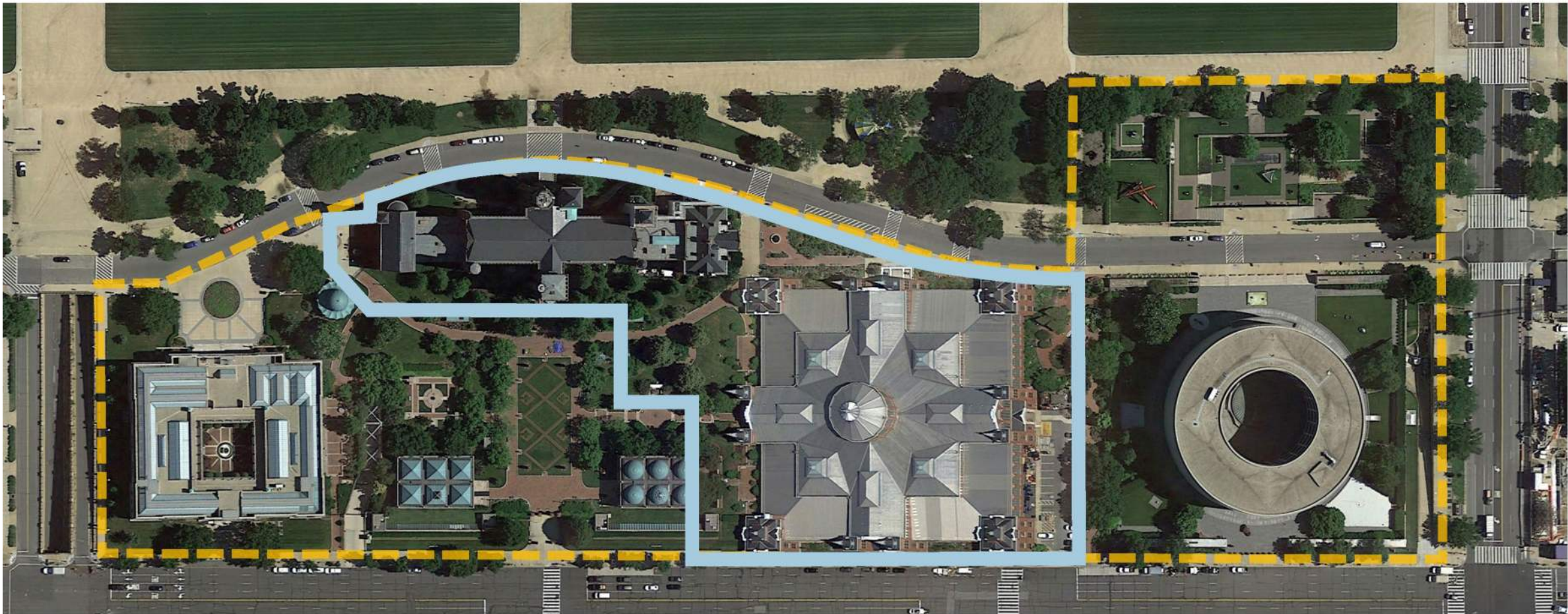
- Reopen building to the public full-time
- Restoration of significant historic interiors
- Life safety and security upgrades
- Installation of energy efficient building systems

Central Utility Plant (CUP):

- Capacity for the entire South Mall Campus
- High efficiency and sustainable systems
- Self-sufficiency, redundancy, and resiliency
- Service and support to maximize public use of historic spaces





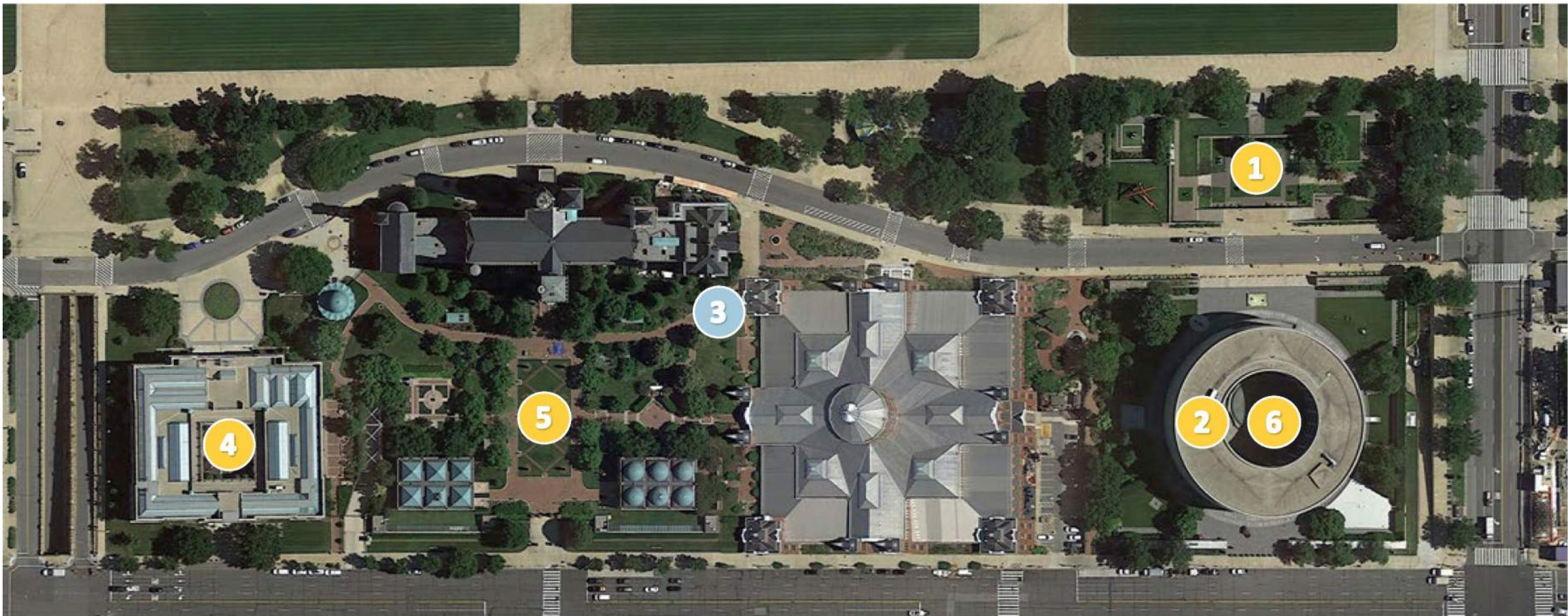


The “Historic Core” is comprised of the Smithsonian Institution Building (the “Castle”) and the Arts and Industries Building. These buildings are the two oldest in the Smithsonian portfolio located on the National Mall.

- SMITHSONIAN INSTITUTION HISTORIC CORE
- SOUTH MALL CAMPUS



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

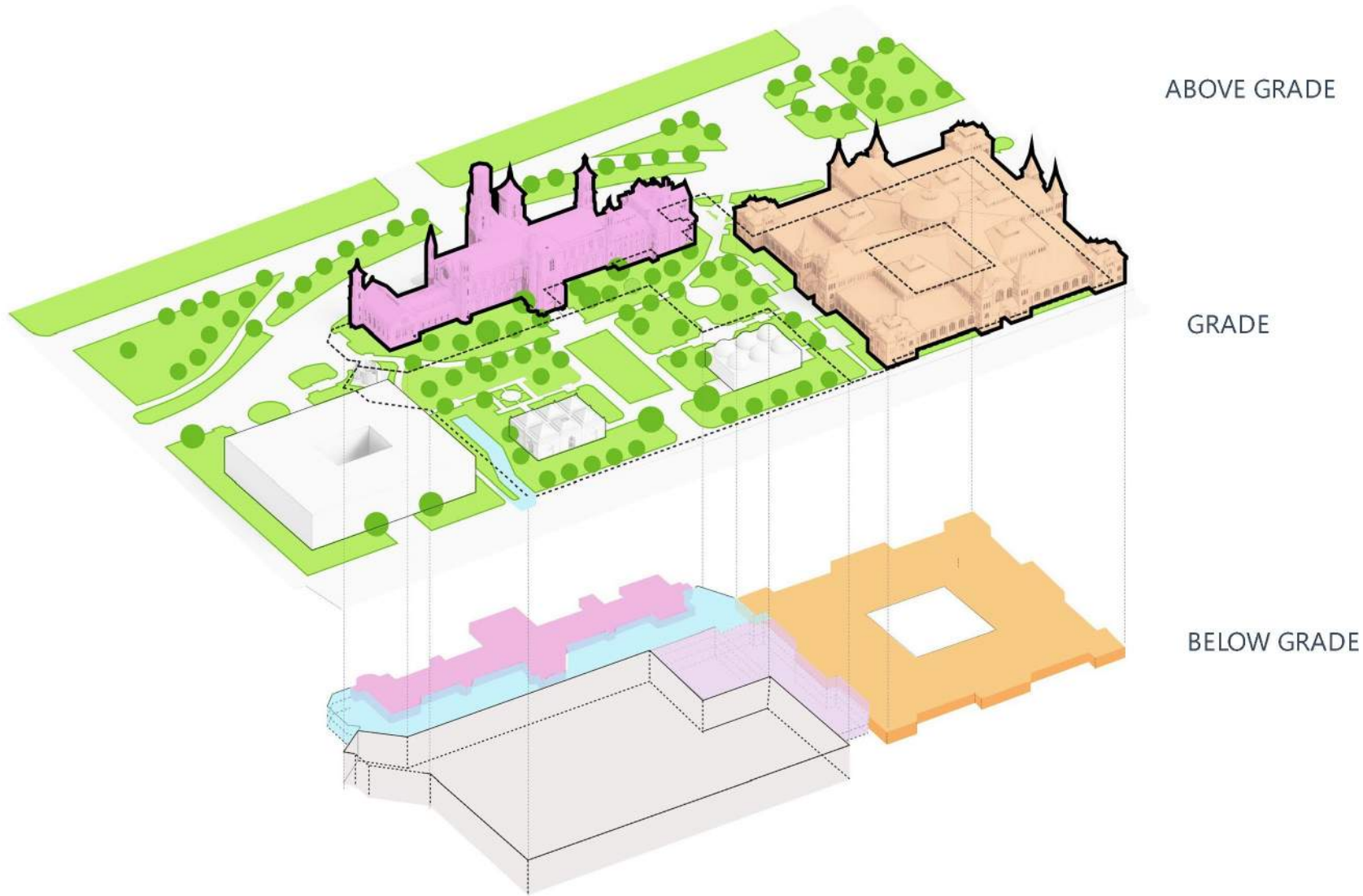
SMITHSONIAN INSTITUTION
HISTORIC CORE

OTHER SOUTH MALL
CAMPUS PROJECTS

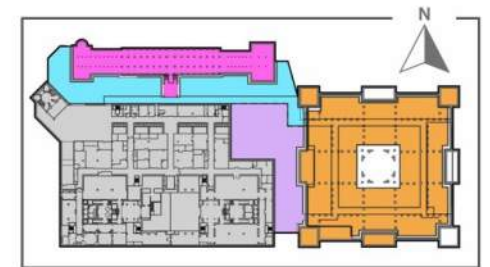


PROJECT OVERVIEW RoHC MASTER PLAN ALIGNMENT

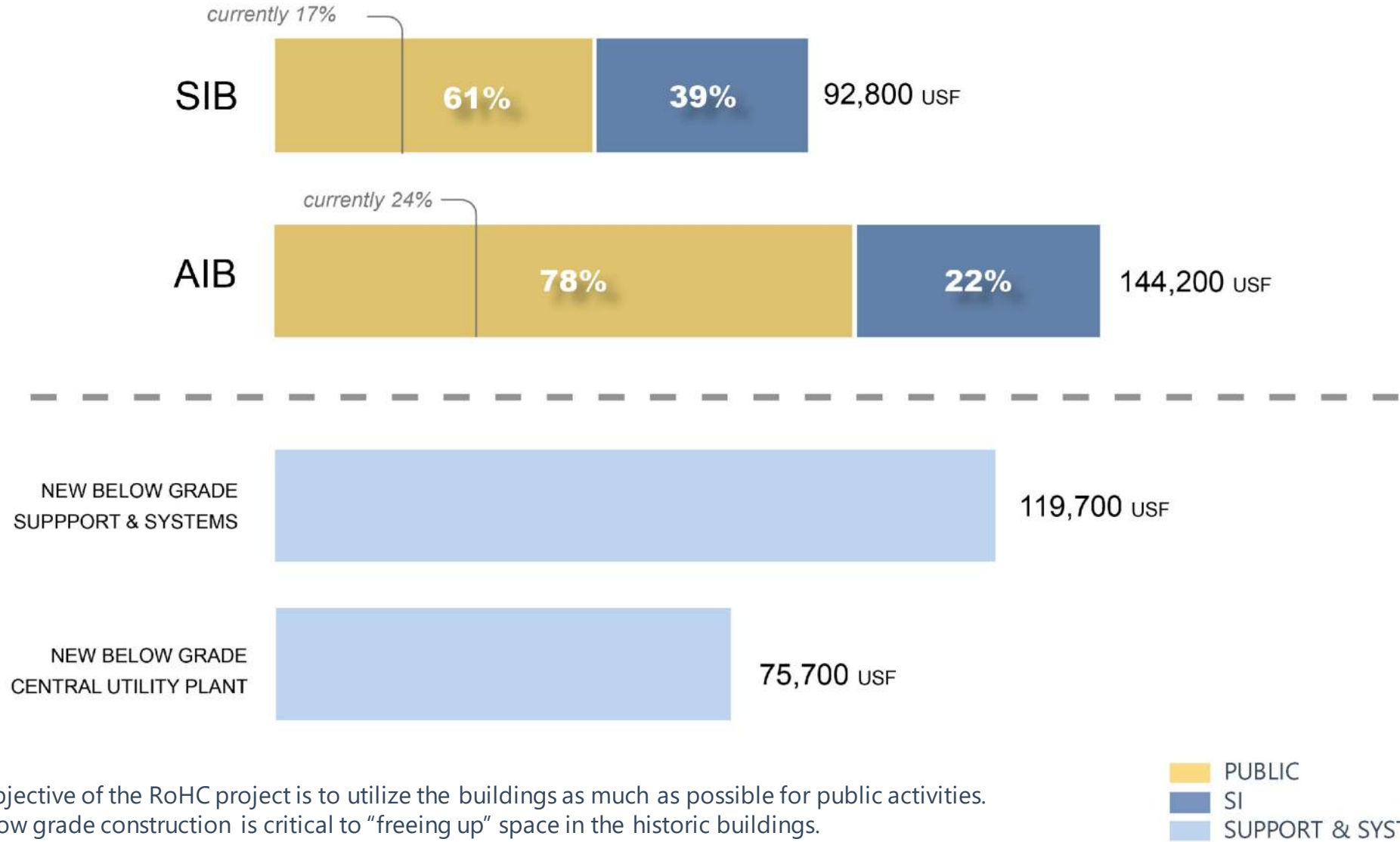
MODIFICATIONS TO THE SMITHSONIAN INSTITUTION BUILDING AND ARTS & INDUSTRIES BUILDING, BASEMENT LEVEL EXPANSION AND CENTRAL UTILITY PLANT



- 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 Central Utility Plant will initially serve the Historic Core but is sized to eventually serve all buildings in the South Mall Campus.
- CUP layout is still pending, likely will be 2-3 stories below grade.
- Possibility of a public connection from the SIB to the Quad on the B2 level.

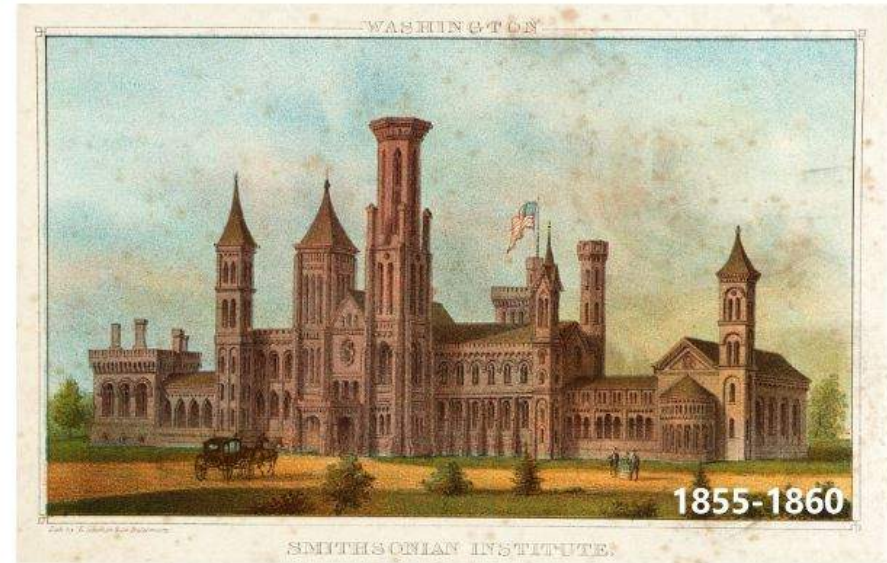


PROJECT OVERVIEW PROGRAM

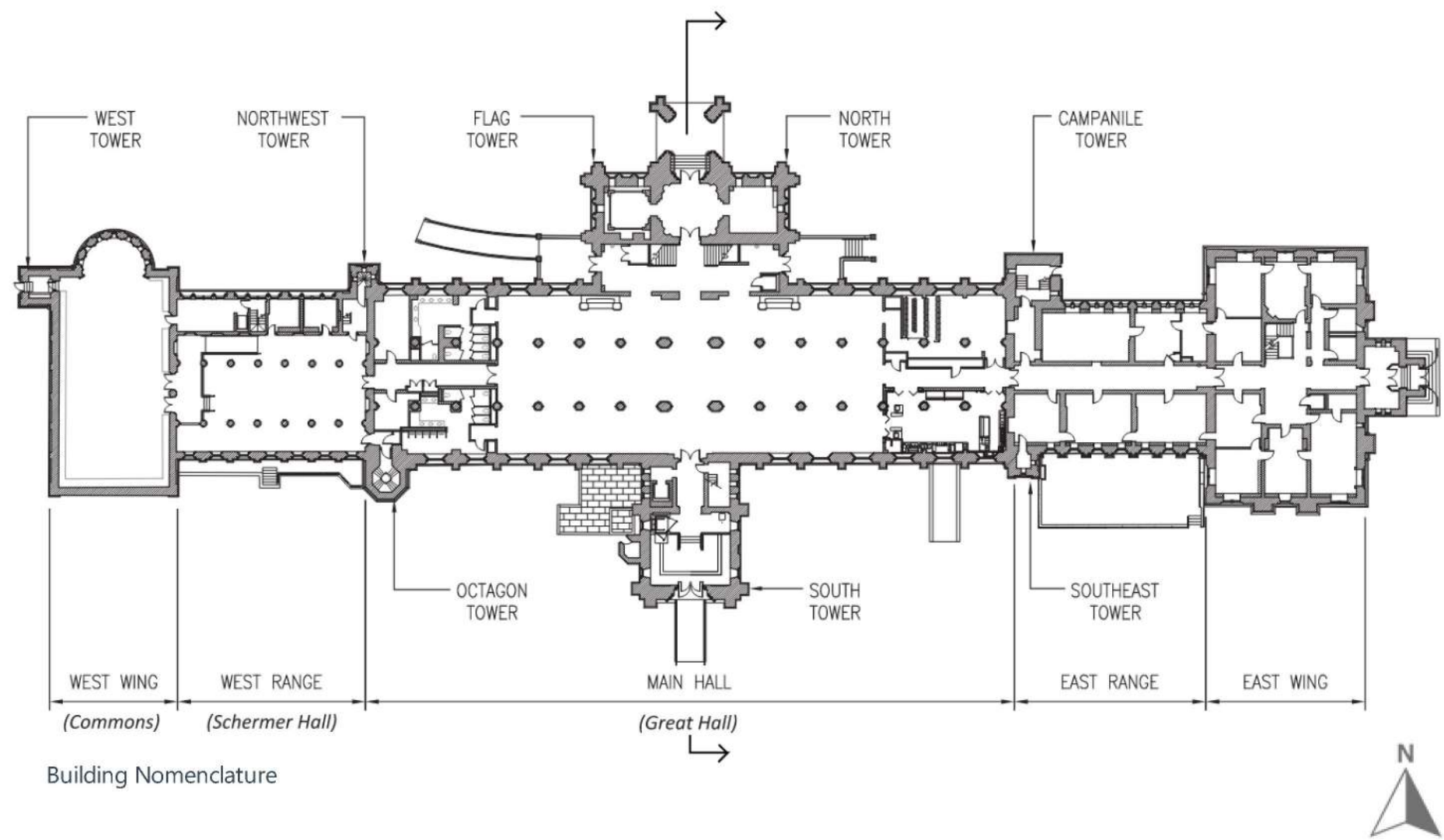


- A primary objective of the RoHC project is to utilize the buildings as much as possible for public activities.
- The new below grade construction is critical to “freeing up” space in the historic buildings.

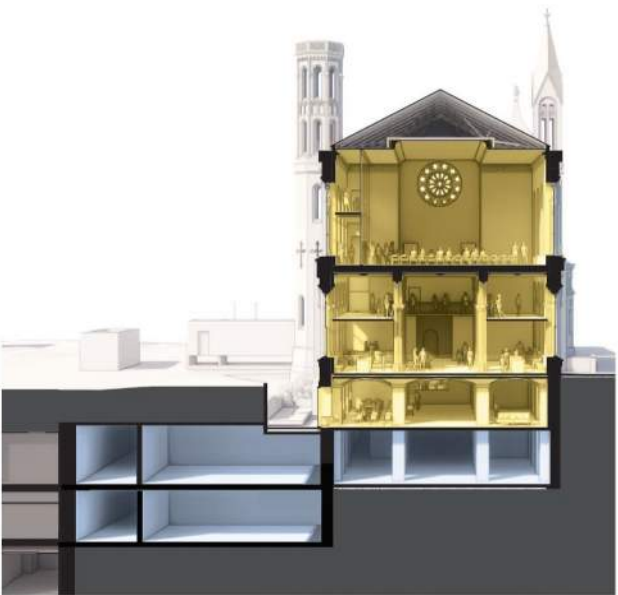
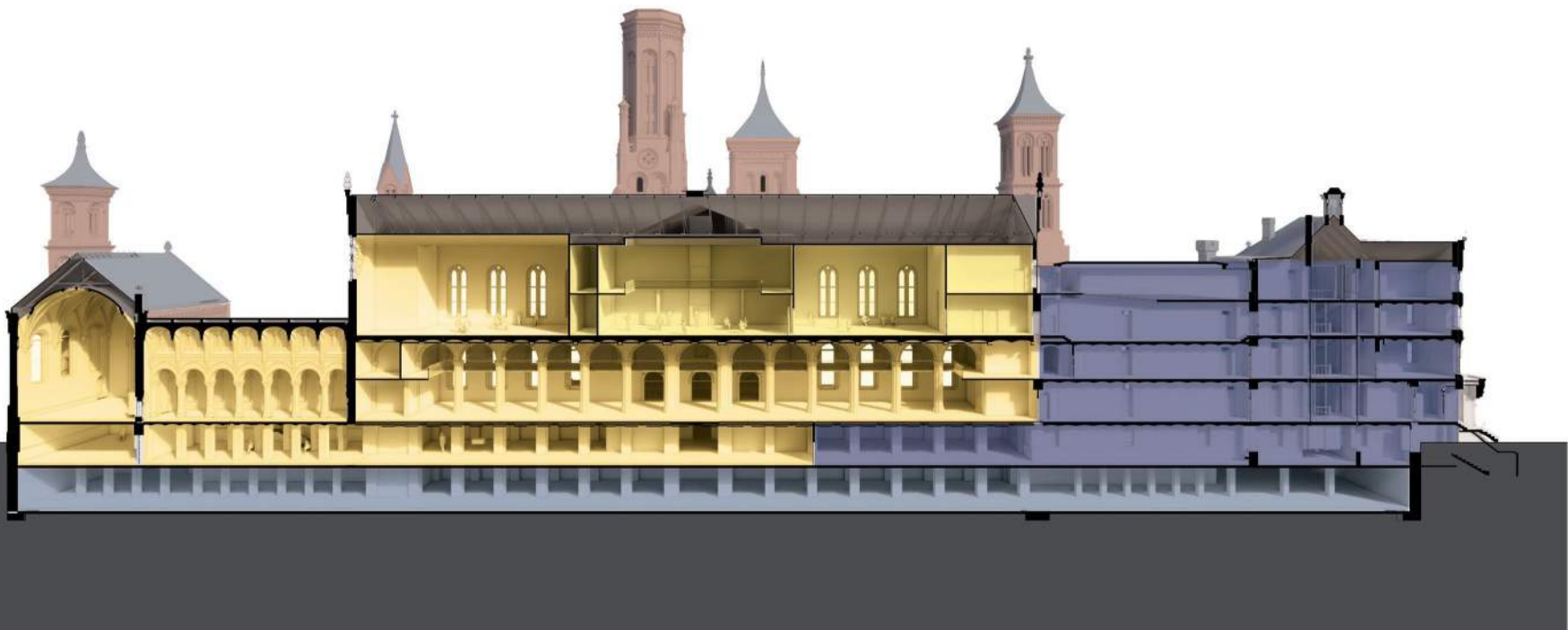
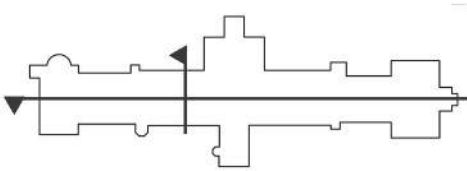
SMITHSONIAN INSTITUTION BUILDING (SIB) HISTORY



SMITHSONIAN INSTITUTION BUILDING (SIB) HISTORY



SMITHSONIAN INSTITUTION BUILDING (SIB) FUTURE PROGRAM



Longitudinal and transverse sections through the building illustrate the areas devoted to Public functions and Smithsonian Institution activities. The East Wing and East Range (shown in blue) have traditionally housed leadership offices for the Institution and will continue to do so.

- PUBLIC
- SI
- SUPPORT & SYSTEMS

SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

MASONRY AND BUILDING ENVELOPE



Biological Growth Staining Concentrated at Horizontal Projections



Masonry Damage Below Horizontal Projections



Loose Stone on Octagon Tower (Has Since Been Removed)

Project Scope

- Clean masonry to reduce staining (biological growth and manganese).
- Masonry restoration.
- Provide flashing at horizontal surfaces to reduce water absorption and infiltration.
- Plan for future access to masonry around the building to allow regular observation and maintenance.

SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

MASONRY AND BUILDING ENVELOPE



Previous Repairs on Masonry, Including Sealant in Joints and Surface-Applied Mortar Repairs



Typical Damaged Stone



Existing Cracked Masonry



Off-Site Seneca Sandstone Stockpile

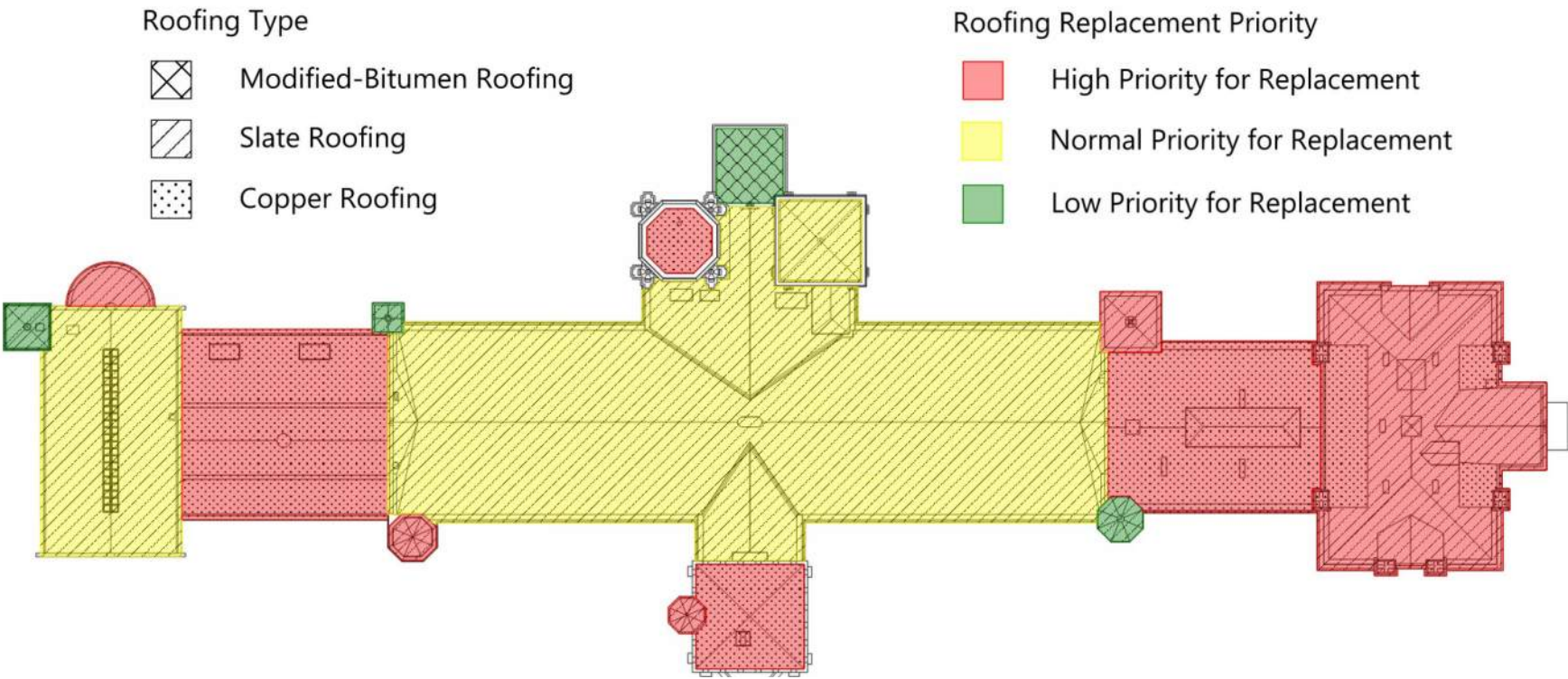
Project Scope

- Repair damaged masonry, including whole unit replacement, Dutchman repair, and crack repair.
- Remove and replace failed previous repairs.
- Repair cracks in mortar and masonry units, including stabilizing masonry as required.
- Repoint exterior and interior joints with eroded or missing mortar.



SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

ROOFING



Project Scope

- Replace failing roofing with new roofing similar in appearance.
- Improve roof drainage and increase capacity to better accommodate heavy rainfall events.
- Coordinate with other project objectives to identify synergies with roofing replacement.



Typical Copper Roofing



Typical Slate Roofing



SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

ROOFING



Typical Broken, Missing, or Loose Slate Shingles



Typical Deterioration of Slate Shingles



Typical Thin Solder at Seams in Copper Seams



Water Below Copper Roofing, Typical


Project Scope

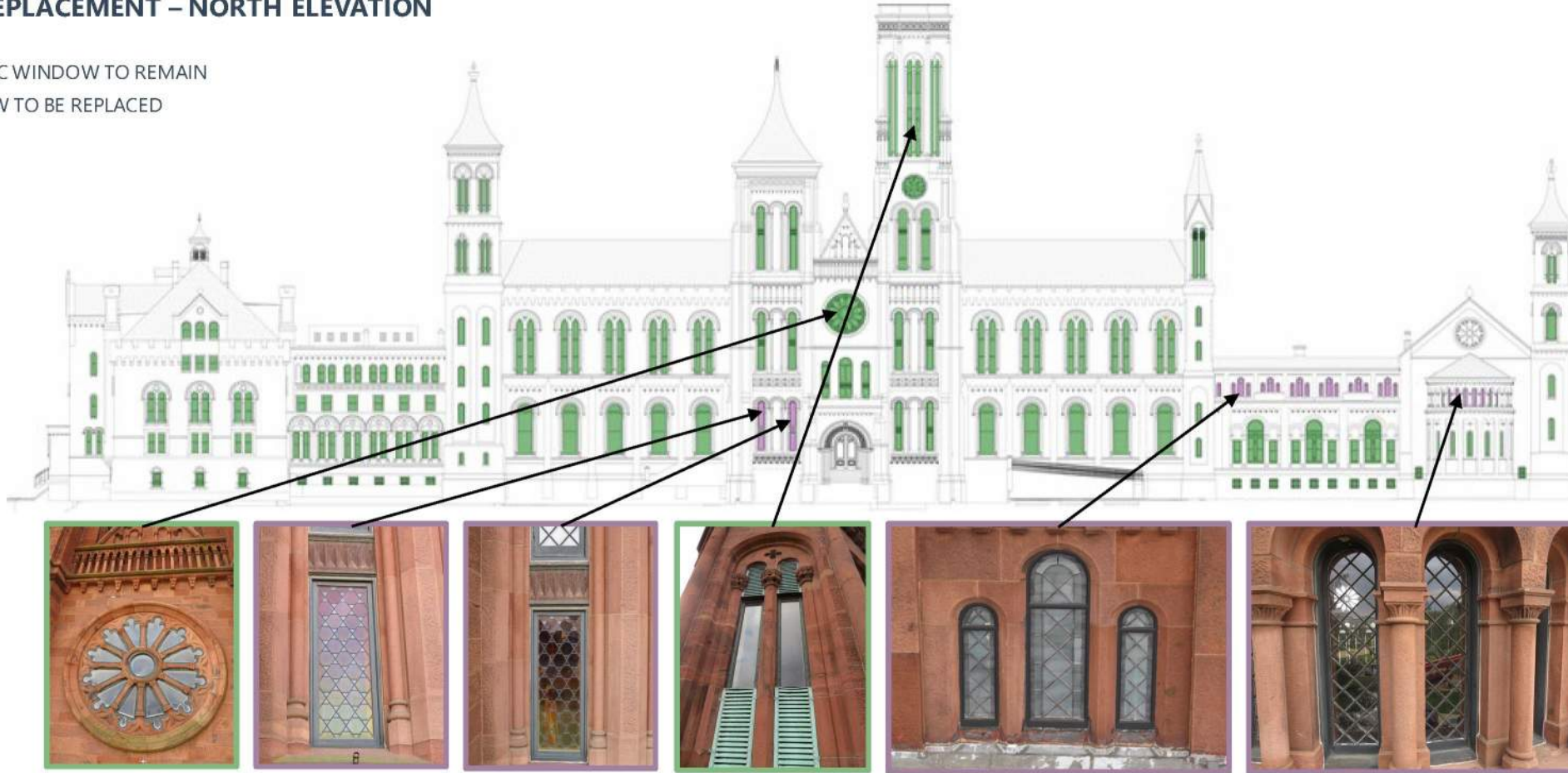
- Provide new underlayments and metal flashing at all replacement roofing.
- Replace existing lead-coated copper roofing with new zinc-tin-coated copper roofing.
- Replace existing slate roofing with new slate roofing.
- Add insulation above the roof deck where possible.



SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

WINDOW REPLACEMENT – NORTH ELEVATION

-  HISTORIC WINDOW TO REMAIN
-  WINDOW TO BE REPLACED



Project Scope

- Windows in green are scheduled to be replaced. The majority of these were replaced between 1987 and 1992.
- Wall strengthening associated with the seismic design and security upgrades will be done on the interior to avoid an adverse effect on the exterior of the building.
- SI will retain a representative example of the limited early windows at the West Range and North Tower.



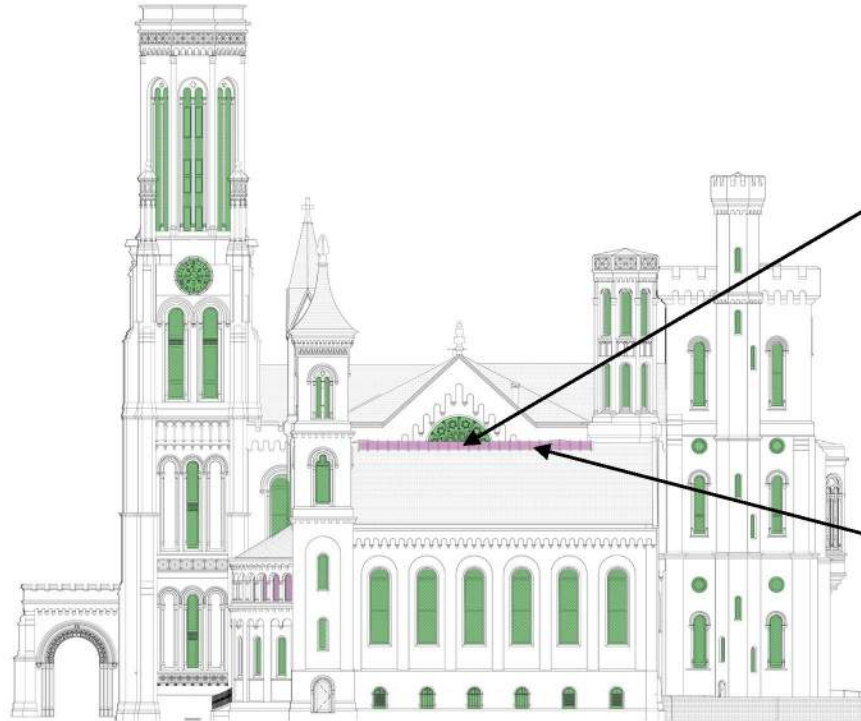
SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

WINDOW REPLACEMENT – WEST ELEVATION

-  HISTORIC WINDOW TO REMAIN
-  WINDOW TO BE REPLACED



Example blast window from AIB



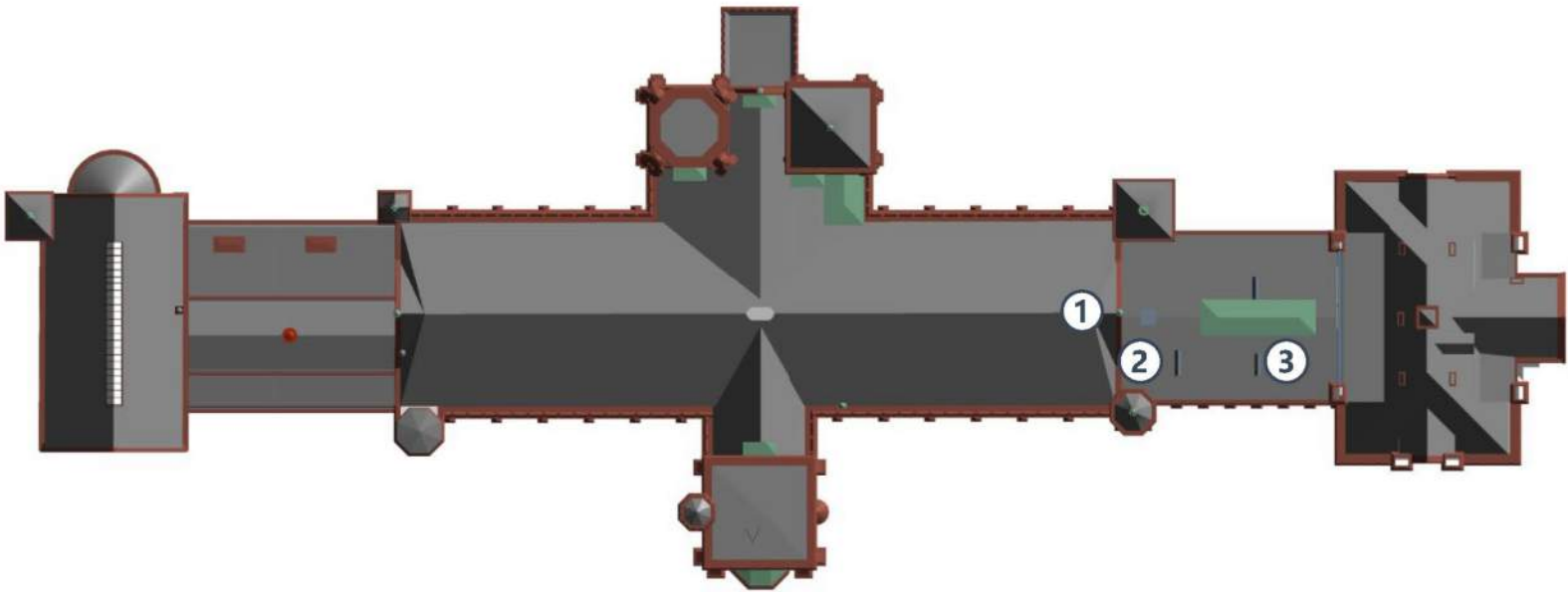
Project Scope

- Windows in green are scheduled to be replaced. The majority of these were replaced between 1987 and 1992.
- Wall strengthening associated with the seismic design and security upgrades will be done on the interior to avoid an adverse effect on the exterior of the building.
- SI will retain a representative example of the limited early windows at the West Range and North Tower.



SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

MECHANICAL SYSTEMS - EXISTING CONDITIONS



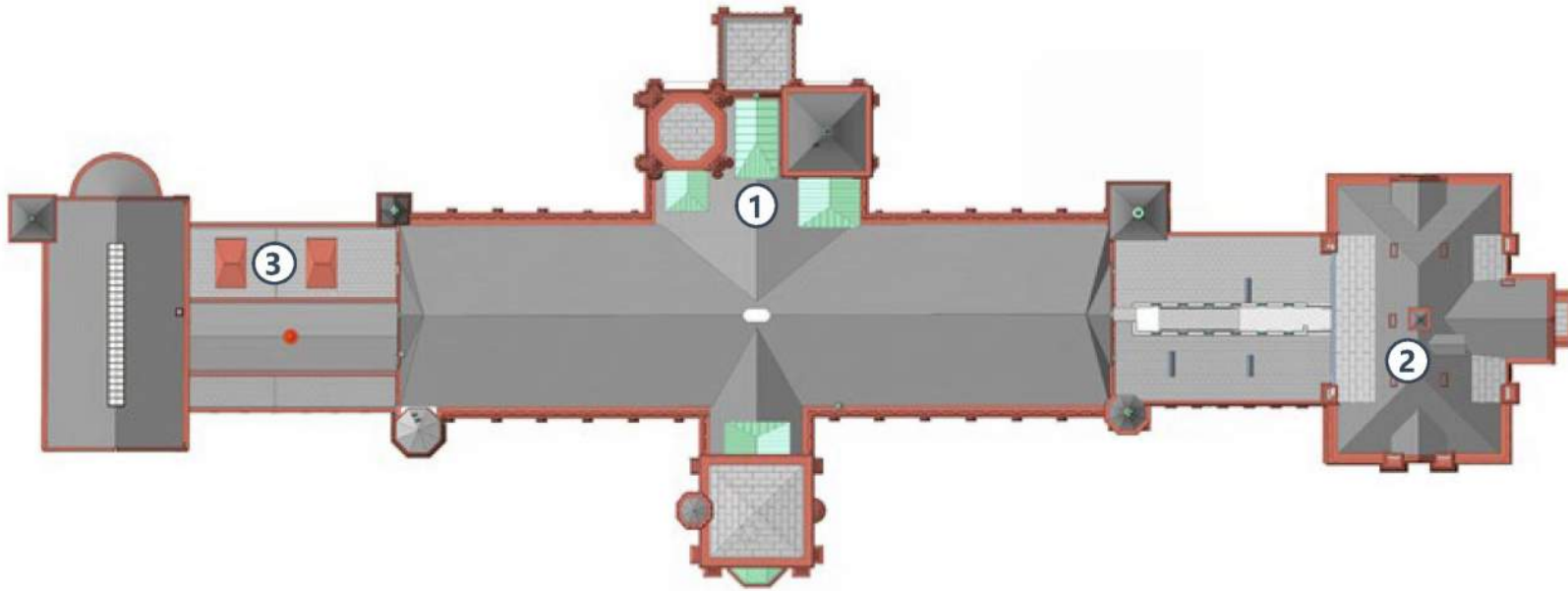
Project Scope

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.



SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

MECHANICAL SYSTEMS - PROPOSED OUTSIDE AIR AND EXHAUST



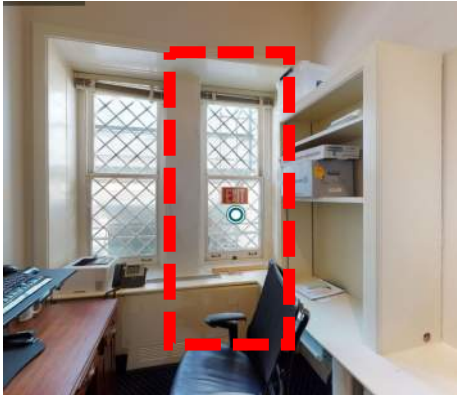
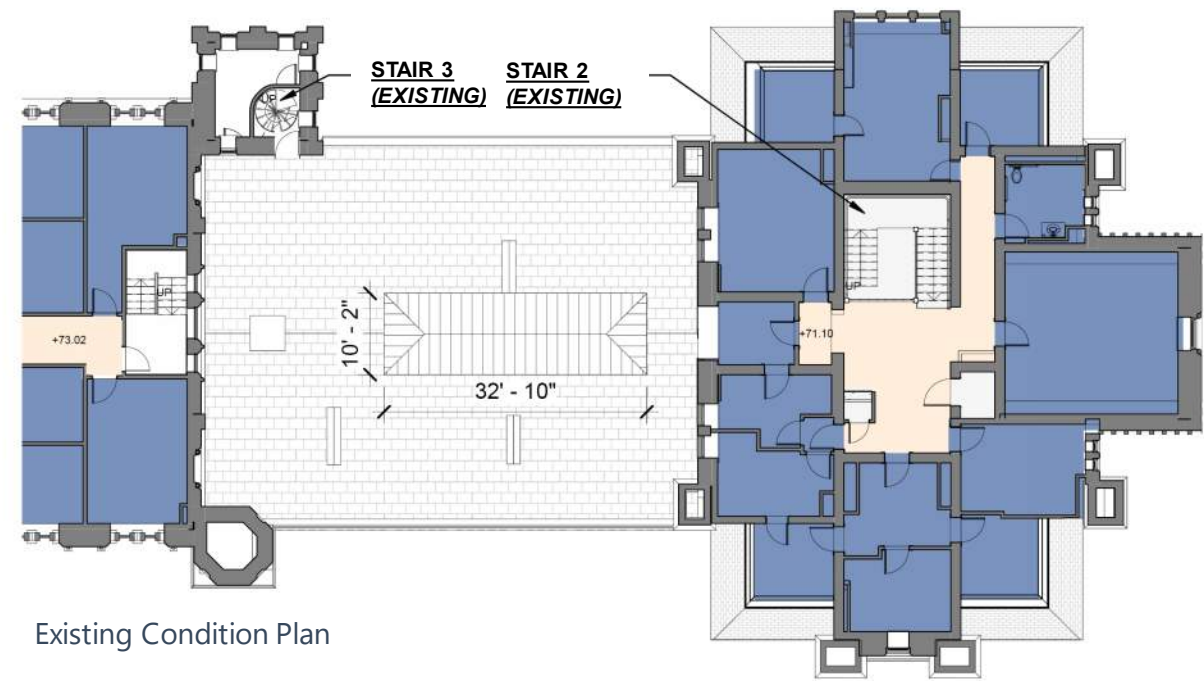
Project Scope

1. Maximize areas of louvered penthouses concealed behind towers and pediments by expanding them without increasing their visibility to serve Main Hall and East Range.
2. Make use of existing historic cupola and associated intakes and exhausts to serve the East Wing.
3. Expand existing louvered penthouses South to maximize their useable area without increasing visibility to serve the West Range and West Wing.

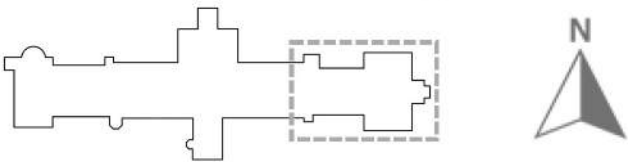


SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

EAST RANGE 4TH FLOOR CORRIDOR

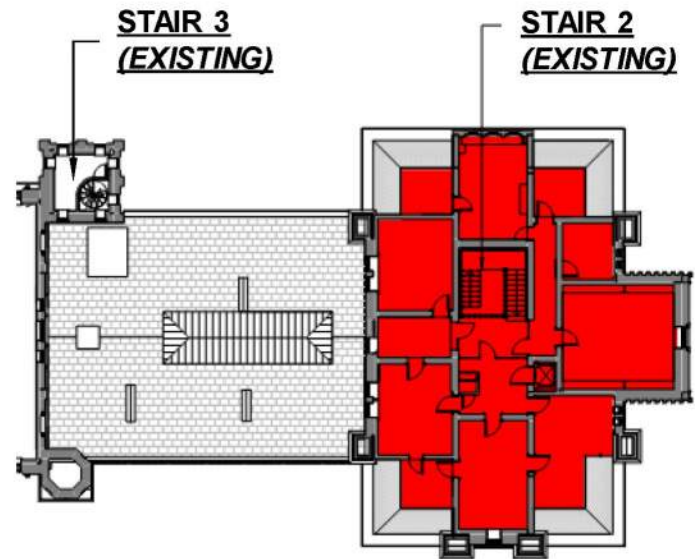


Current Egress Path and Existing Mechanical Penthouse

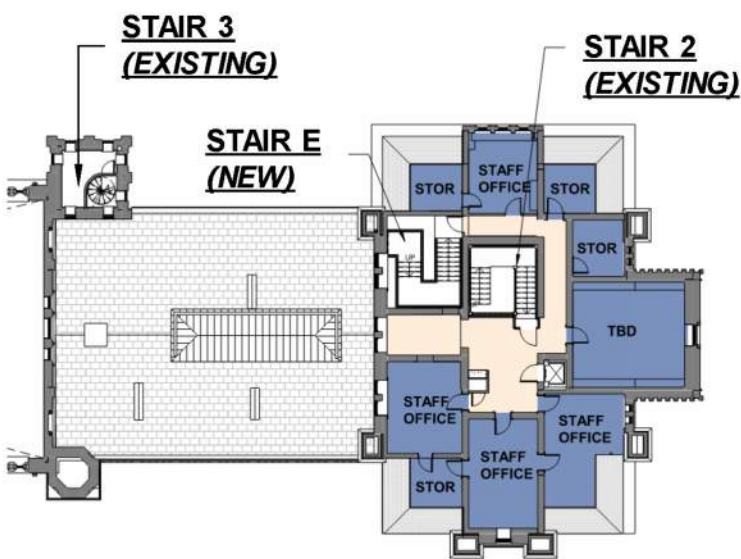


SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

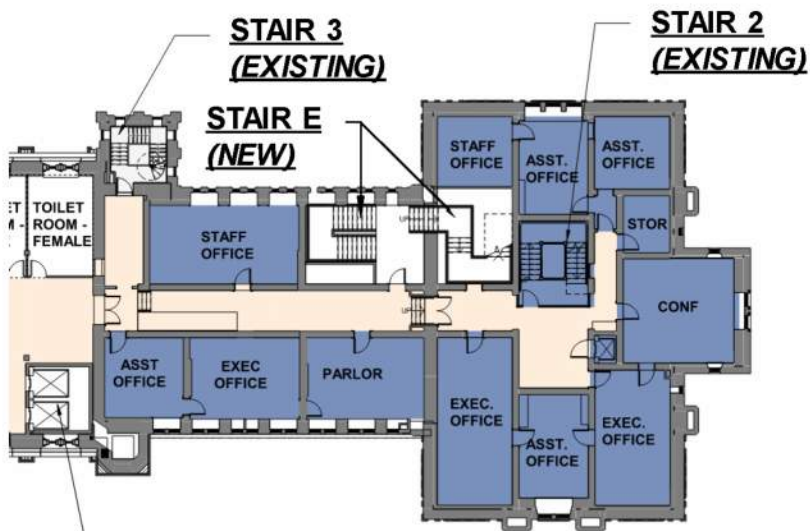
EAST RANGE 4TH FLOOR CORRIDOR



4th Floor, Existing Condition Plan. Red indicates the portion of the floor that cannot be occupied by code without an additional means of egress.



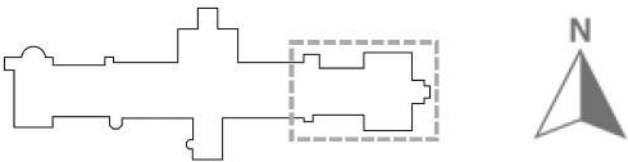
4th Floor, Internal Stair Analysis. Stair E is a new insertion that would impact a historic room.



3rd Floor, Internal Stair Analysis. Stair E is a new insertion that would impact a historic room on this level and each other level down to the Basement.

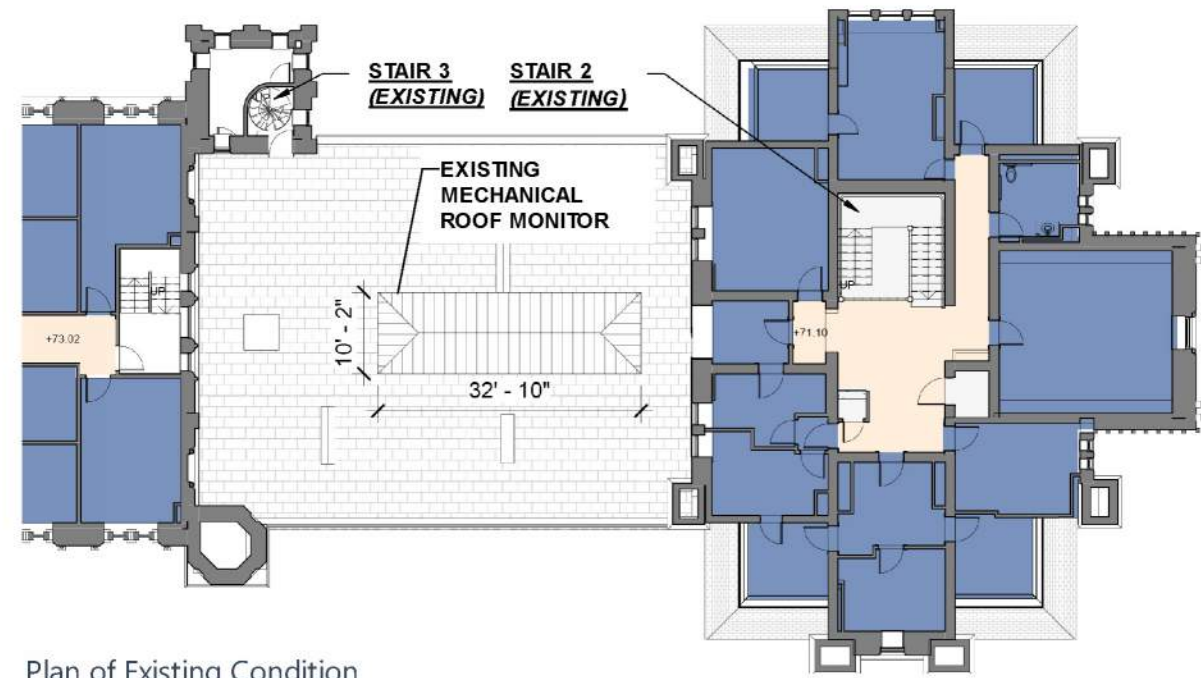
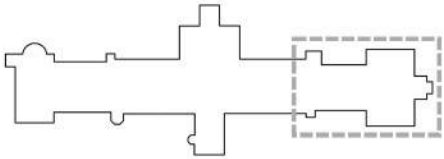
Project Scope

- 4th floor of the East Wing has one means of egress. A second means of egress is required for occupancy.
- The existing stairs in the building have the capacity to accommodate the East Wing 4th floor population.
- Adding stairs in the East Wing or East Range would reduce program space and negatively impact historic interior spaces.
- The rooms impacted by Stair E are Adolf Cluss designed historic rooms.

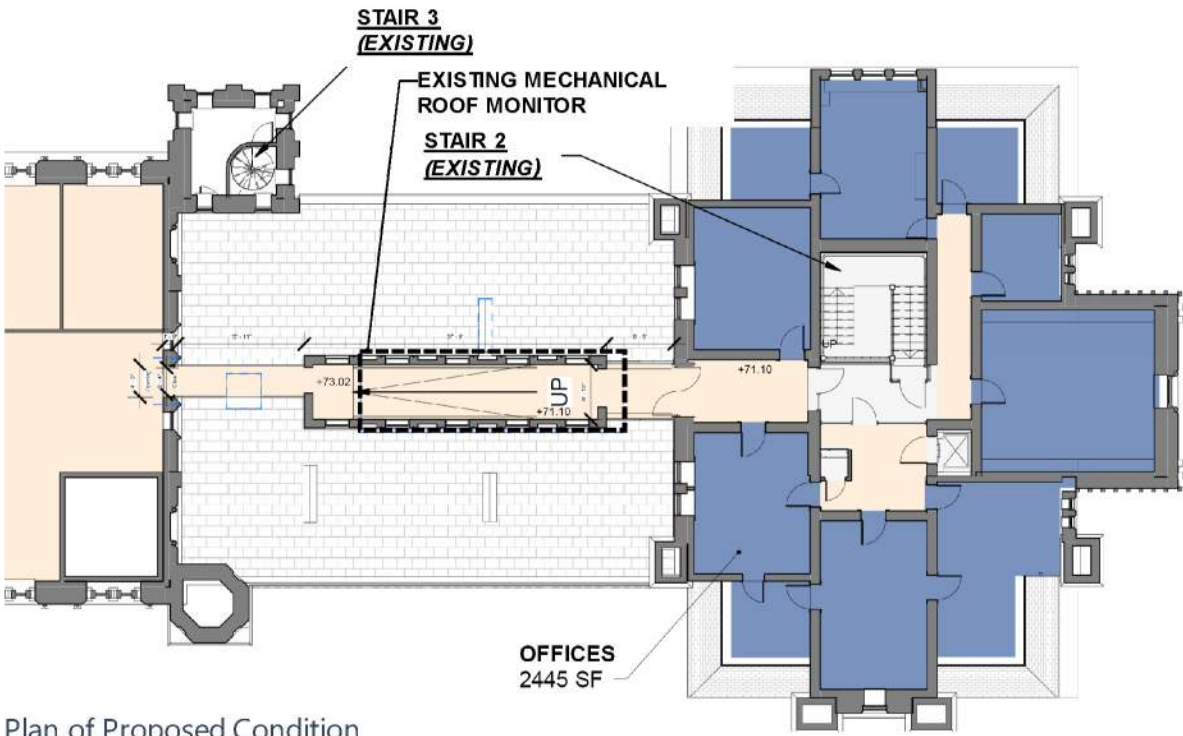


SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

EAST RANGE 4TH FLOOR CORRIDOR



Plan of Existing Condition



Plan of Proposed Condition



SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

EAST RANGE 4TH FLOOR CORRIDOR



Traditional Massing Connector Study



Modern Massing Connector Study



SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

EAST RANGE 4TH FLOOR CORRIDOR



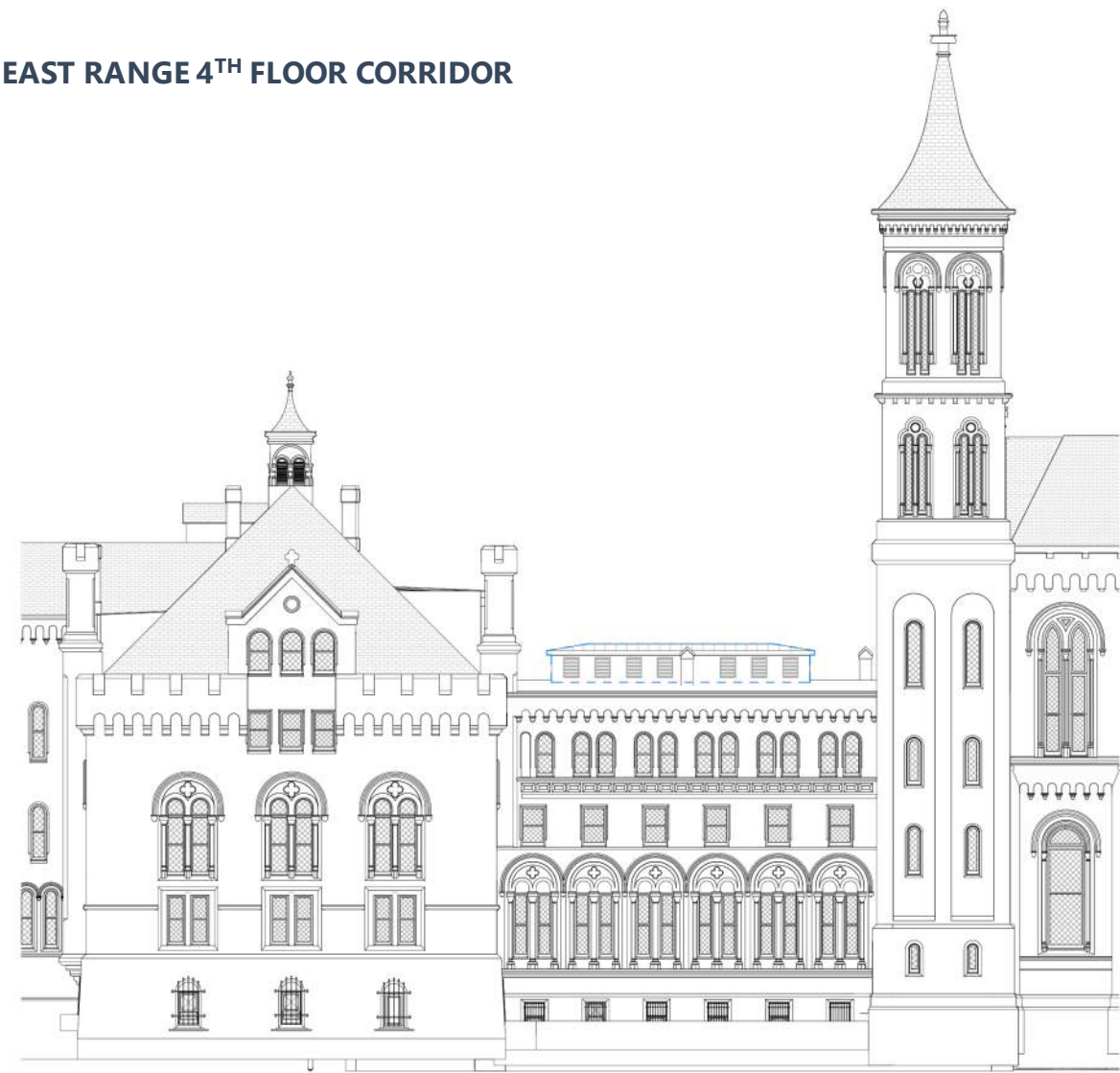
View from Southeast of Existing Condition



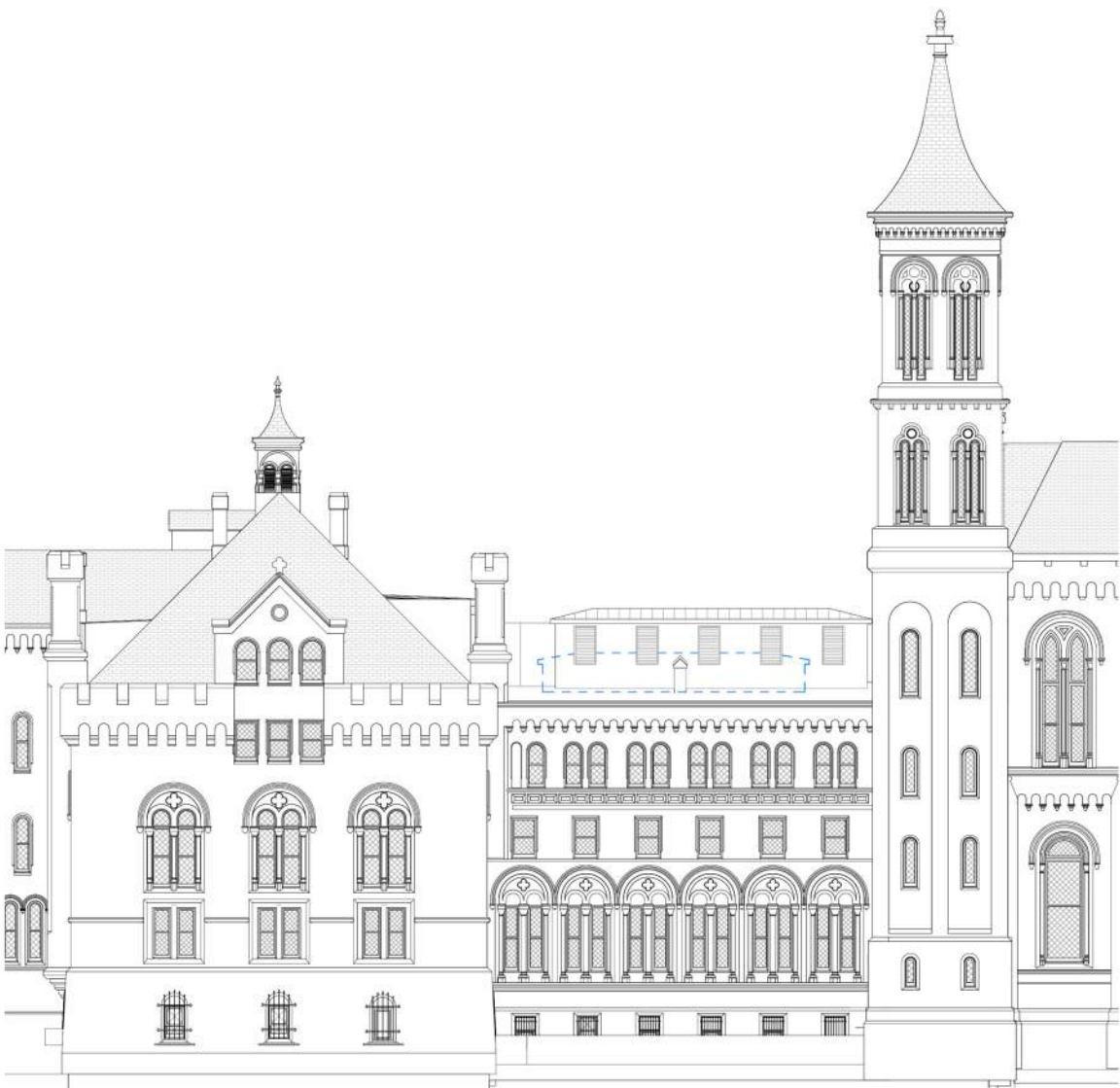
View from Southeast of Proposed Condition

SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

EAST RANGE 4TH FLOOR CORRIDOR



NORTH ELEVATION OF EXISTING CONDITION



NORTH ELEVATION OF PROPOSED CONDITION

SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

EAST RANGE 4TH FLOOR CORRIDOR



View of Existing Condition from Northeast at Grade



View of Proposed Condition from Northeast at Grade

SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

EAST RANGE 4TH FLOOR CORRIDOR



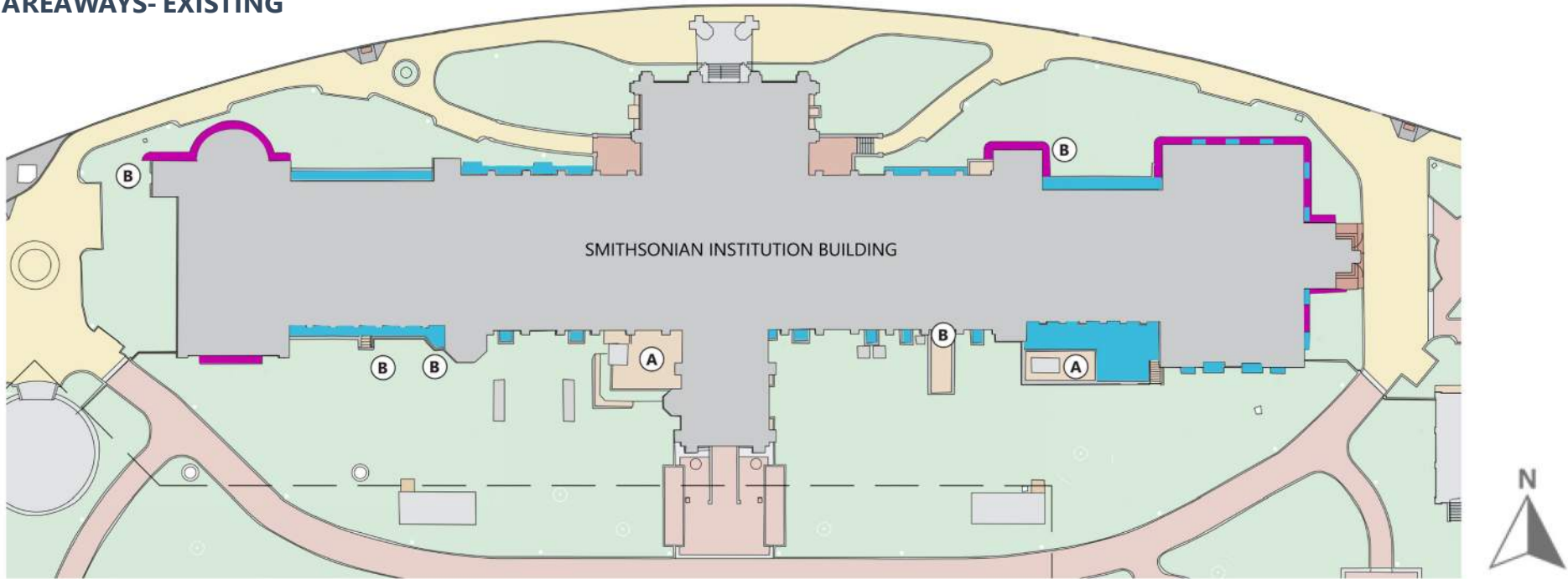
Photo of Existing Condition from Southwest at Grade



View of Proposed Condition from Southwest at Grade

SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

AREAWAYS- EXISTING



South Areaway



North Areaway



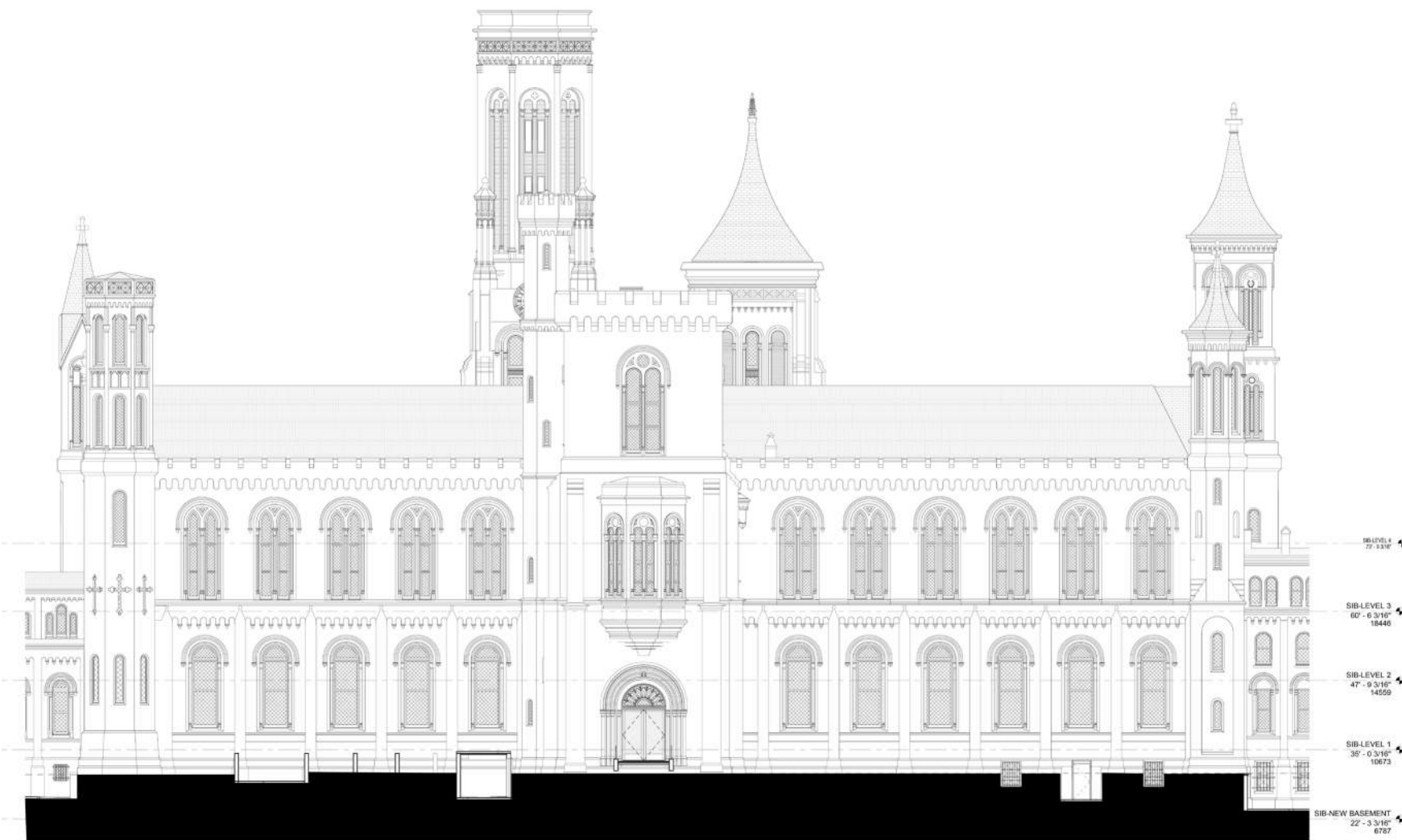
Mechanical and SI Gardens South Areaway



Window in South Areaway Converted to a Door

SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

AREAWAYS – EXISTING



South Elevation of Great Hall Showing Existing Areaways



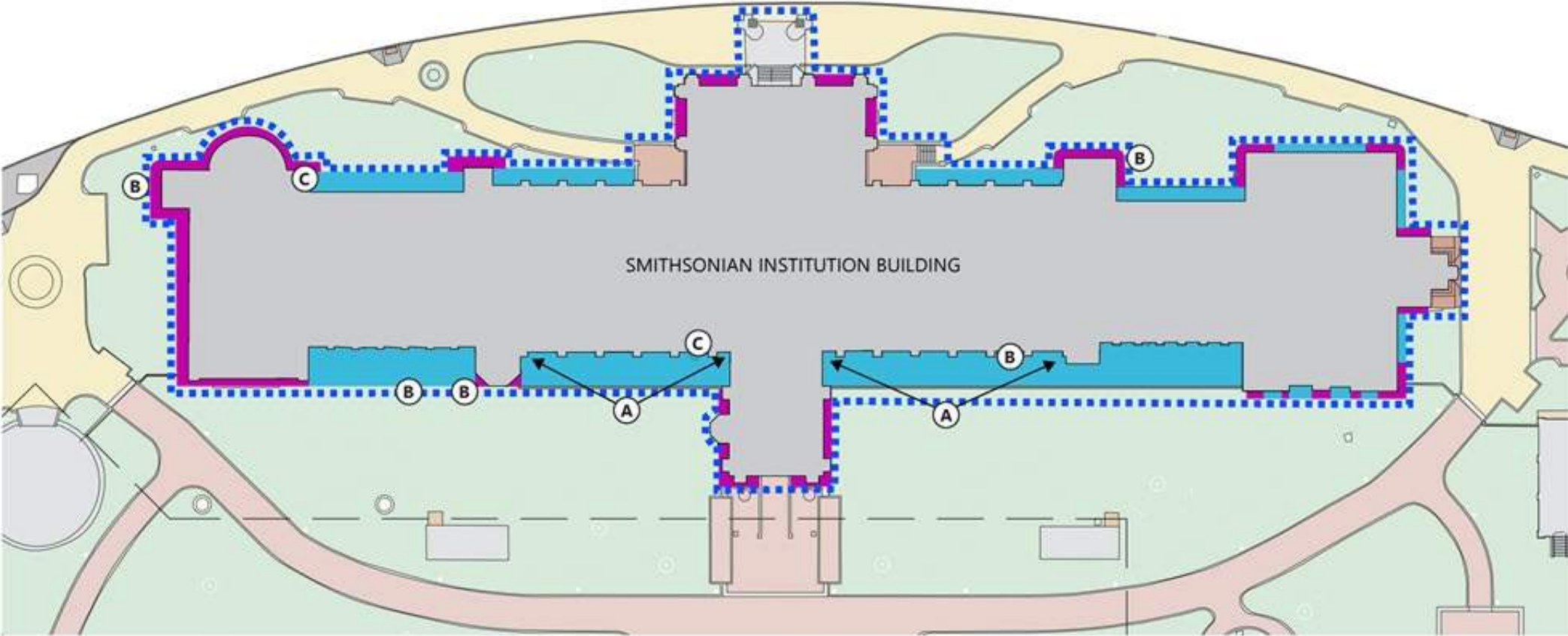
South Elevation of East Range from Haupt Garden



South Elevation of SIB from Haupt Garden

SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

AREAWAYS - PROPOSED



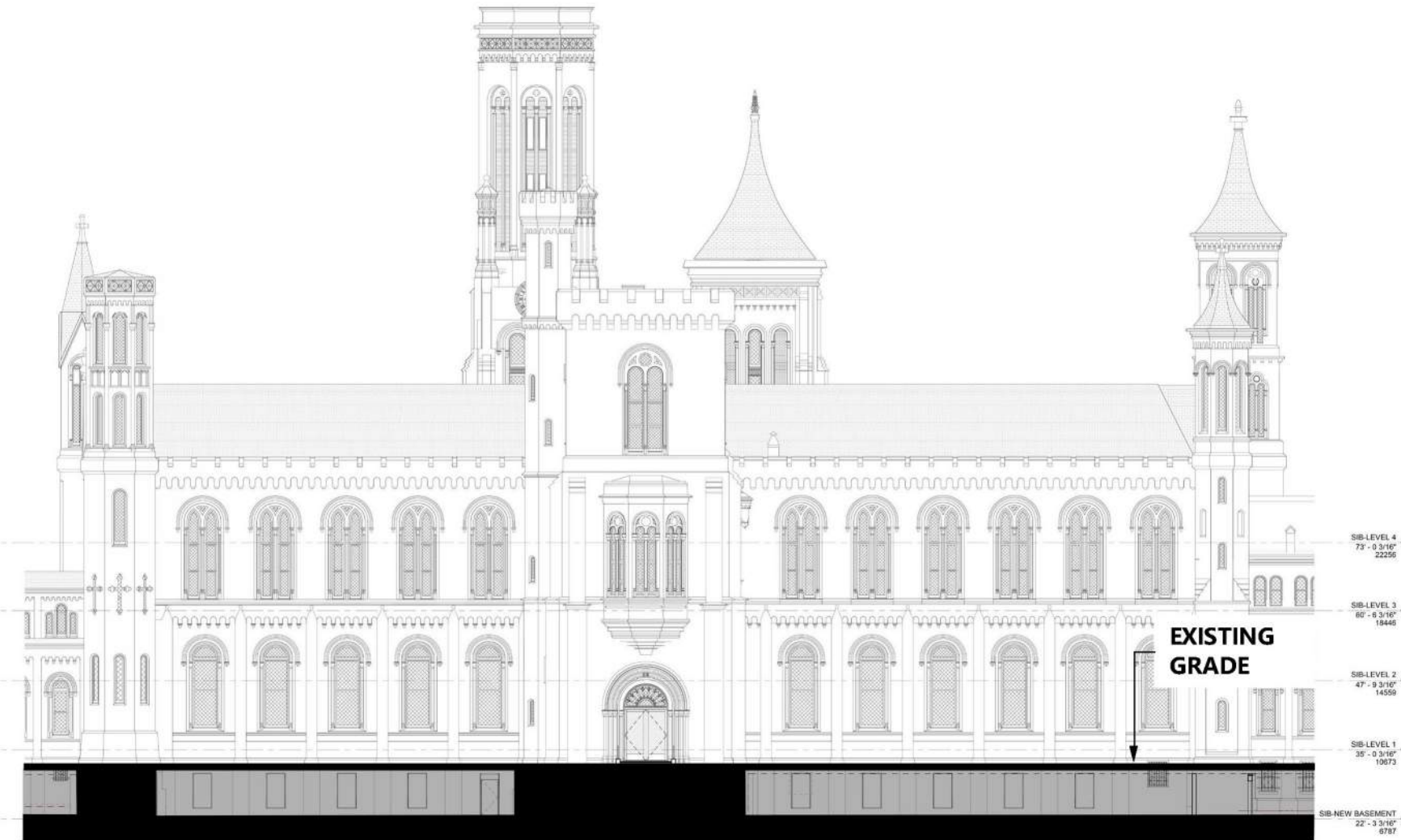
- Ⓐ NEW WINDOWS
- Ⓑ EXISTING EGRESS DOOR (5)
- Ⓒ NEW EGRESS DOOR ON EXTERIOR (2)
- FUTURE AREAWAY (RECESSED WELL)
- FUTURE APRON (AT GRADE ELEMENT)
- ■ ■ PRELIMINARY SEISMIC JOINT LOCATION

Future linear feet of areaways = 575'
Future linear feet of apron = 640'



SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

AREAWAYS - PROPOSED



South Elevation of Great Hall Showing Proposed Areaways

Project Scope

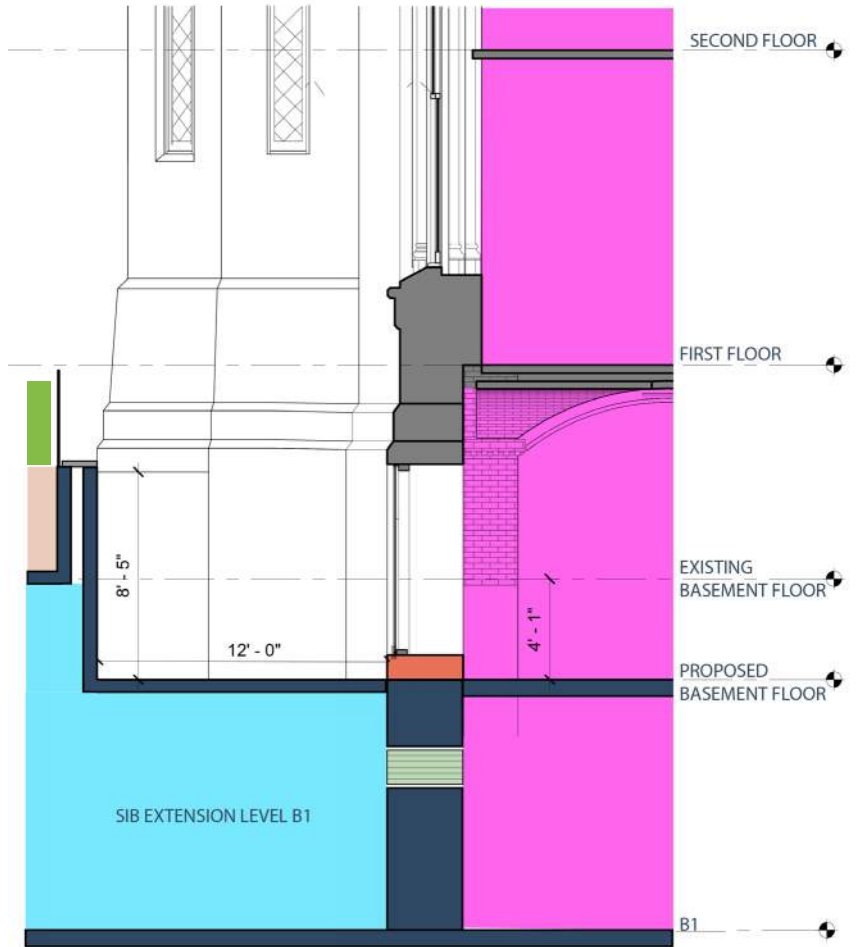
- Areaways combine and regularize the existing areaways along the south side of the building.
- The areaways are screened from view by vegetation and will be obscured from public paths in the Haupt Garden.
- New windows would be added to the basement level to provide natural light to new functions in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



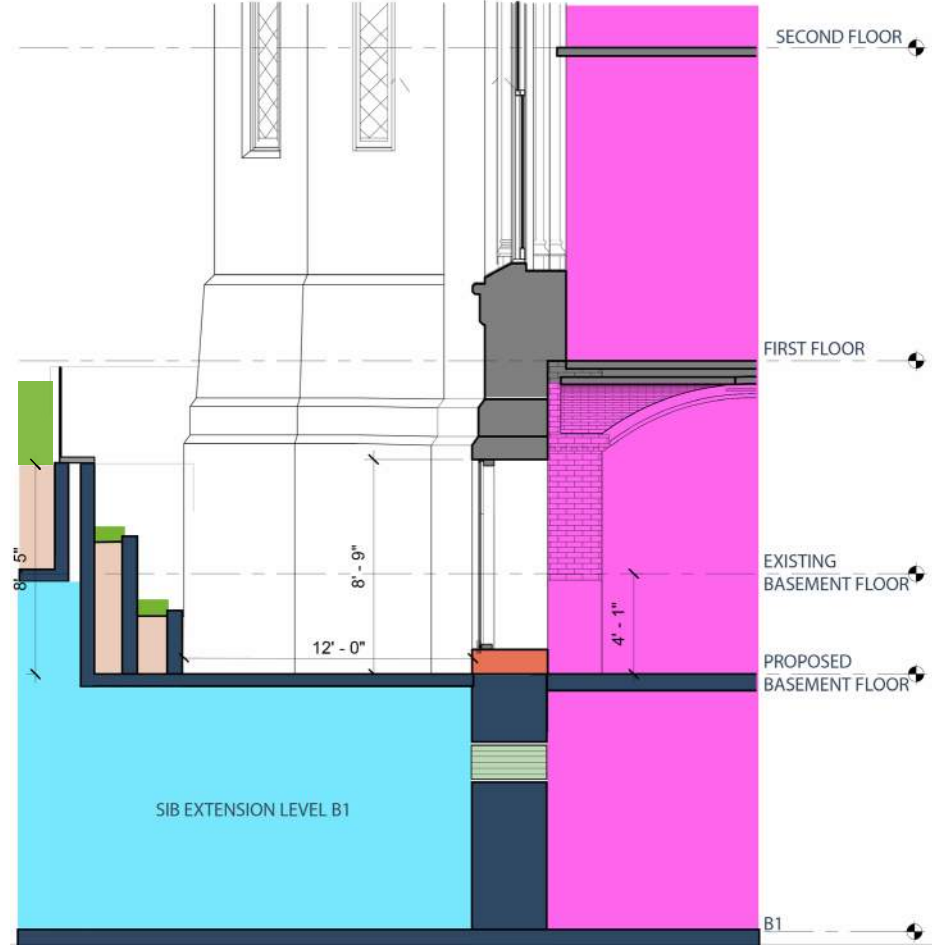
Landscape at West Range screening existing areaways

SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

AREAWAYS – PROPOSED SECTIONS



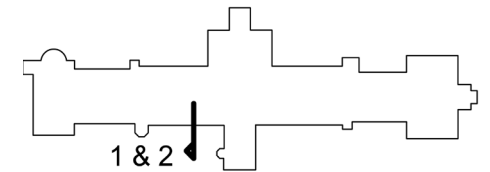
Areaway Option 1



Areaway Option 2

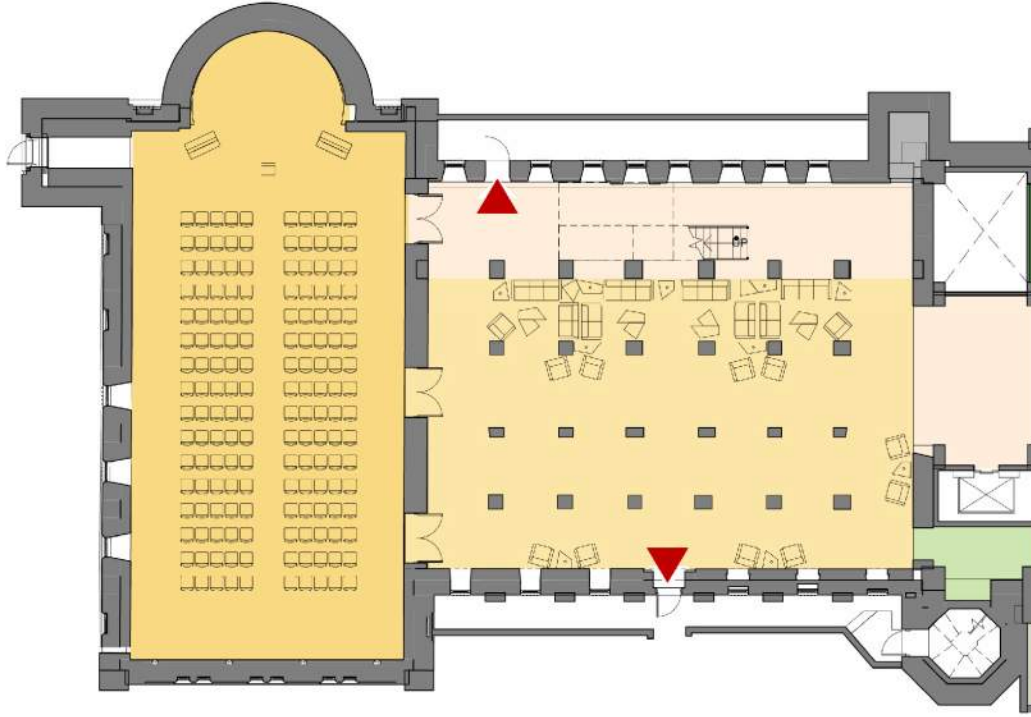
Project Scope

- The floor of the areaway is the roof of the new B1 level below grade.
- Areaway retaining wall flush or stepped.
- Railings for fall protection.
- Daylight studies will be done to show the impact of natural light in the basement.
- Seismic joint is conceptually incorporated into the areaway wall – there are a variety of ways to integrate and conceal the joint that will be studied in future phases.



SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

NEW BASEMENT EGRESS DOORS



Window in South Areaway



Window in South Areaway Converted to a Door

Project Scope

- Several egress doors will be required at the basement level of the SIB. Exact locations are still pending.
- Windows on the building have been converted to doors through past projects. We anticipate following the same strategy for any new egress doors on the SIB.
- Treatment of the exterior wall will be reviewed at the next submission.

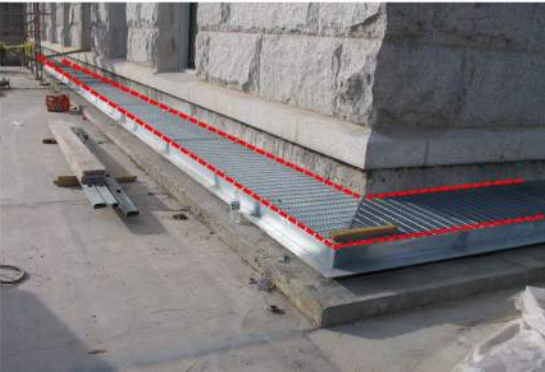


SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

SEISMIC BASE ISOLATION



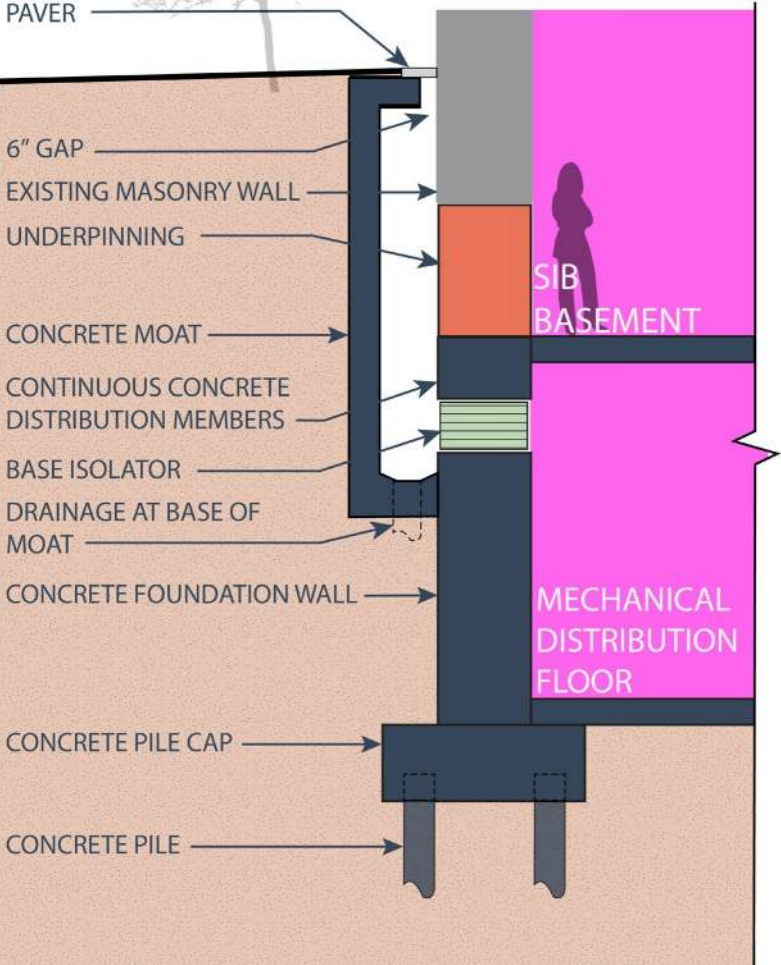
Utah Capitol Building, Salt Lake City



Integrated Seismic Joint Cover Examples

Project Scope

- Seismic joint cover will be visible at grade, but there are a variety of options to minimize the visual impact and incorporate it into the site conditions.
- Many joint cover examples shown are for areas of the country that experience a large amount of seismic movement.
- The RoHC project will only require a 6-inch seismic joint.



Section Through Foundation Showing Base Isolation Strategy

--- SEISMIC JOINT

SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

SEISMIC BASE ISOLATION



Salt Lake City County Building



Integrated Seismic Joint Cover Examples



--- SEISMIC JOINT

Project Scope

- Seismic joint cover will be visible at grade, but there are a variety of options to minimize the visual impact and incorporate it into the site conditions.
- Many joint cover examples shown are for areas of the country that experience a large amount of seismic movement.
- The RoHC project will only require a 6-inch seismic joint.



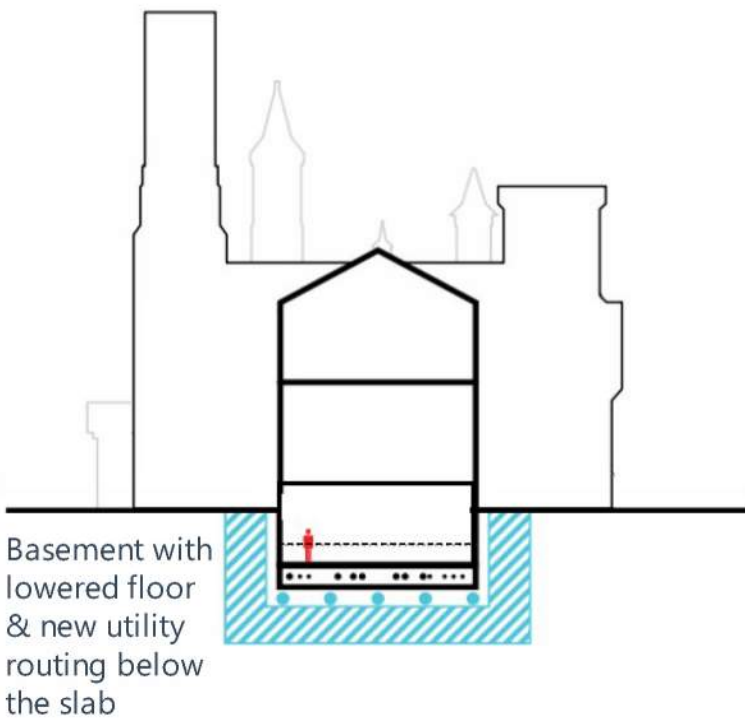
SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

UNDERGROUND CONSTRUCTION - BASEMENT AND B1 FLOOR LEVELS

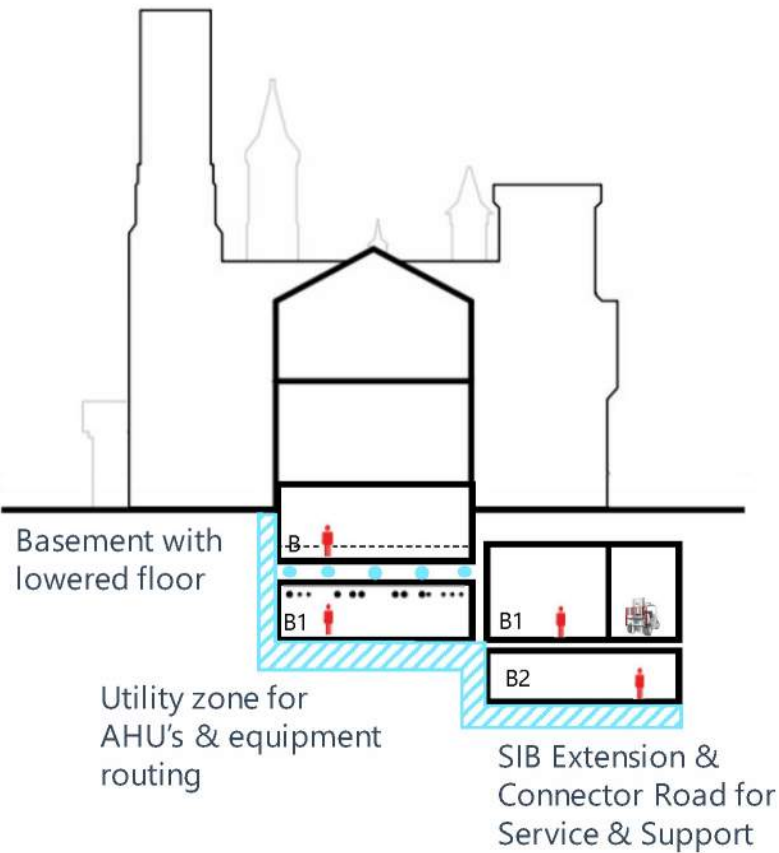
SOUTH MALL MASTER PLAN EXISTING



SOUTH MALL MASTER PLAN PROPOSED

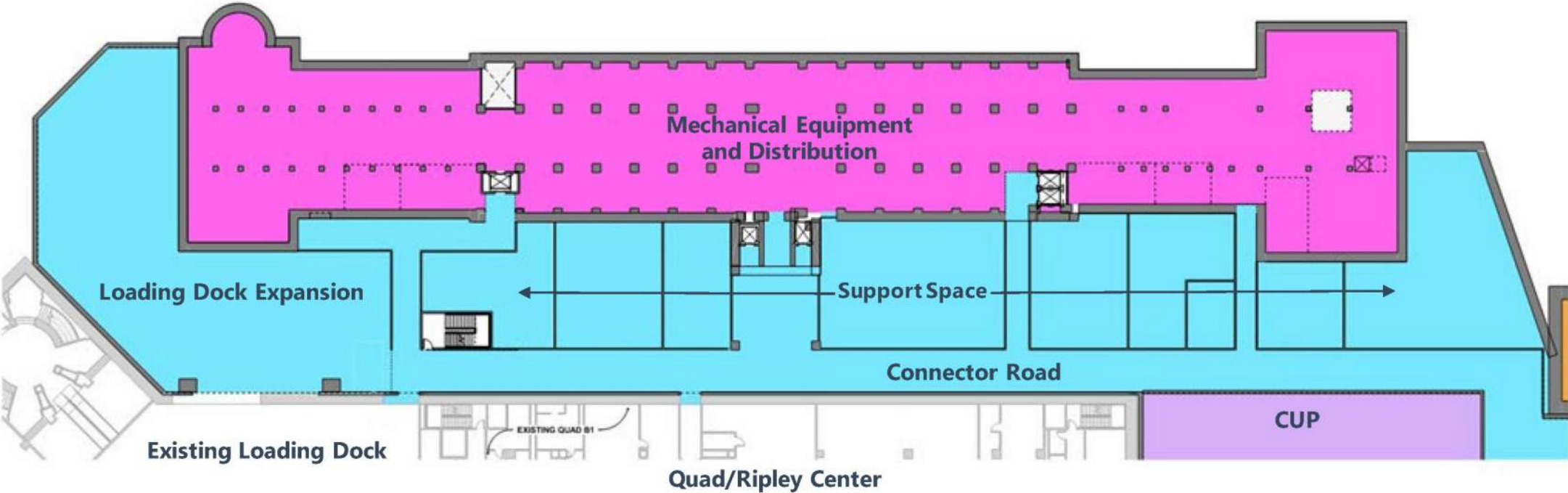


RoHC PROJECT



SMITHSONIAN INSTITUTION BUILDING (SIB) KEY DESIGN ISSUES

UNDERGROUND CONSTRUCTION - LEVEL B1 MECHANICAL FLOOR

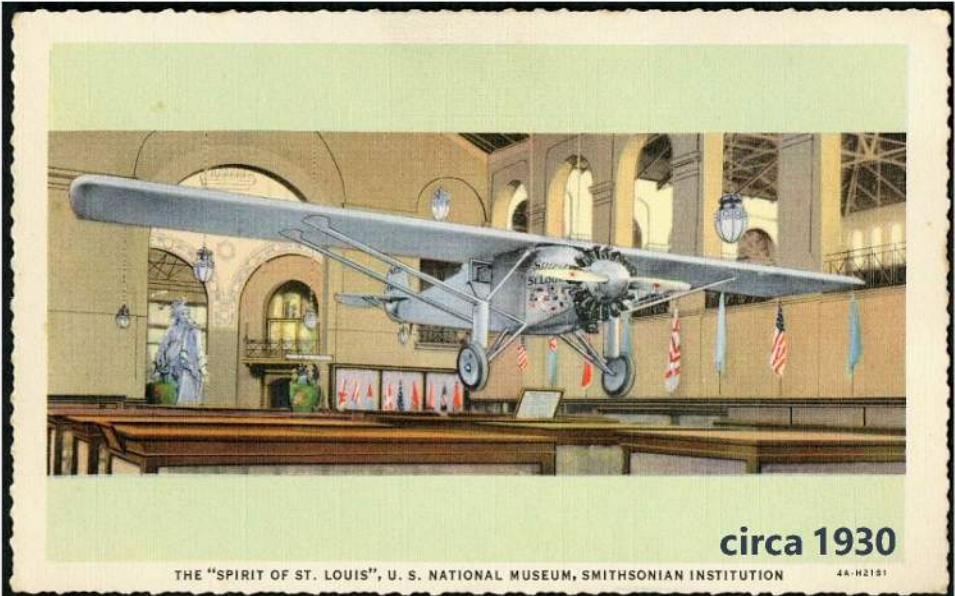


Project Scope

- Full height mechanical floor below SIB Basement.
- Limits crossing seismic isolation joint with ductwork, piping, conduit.
- Floor aligns with SIB extension and Quad level B1- simplifies access for construction and maintenance.



ARTS & INDUSTRIES BUILDING (AIB) HISTORY



ARTS & INDUSTRIES BUILDING (AIB) HISTORY

1881-1896

Period of Significance – A Museum for the Public

1896-1902

Period of Significance – Growth of Collections

1902-



1881 Ground Floor Plan



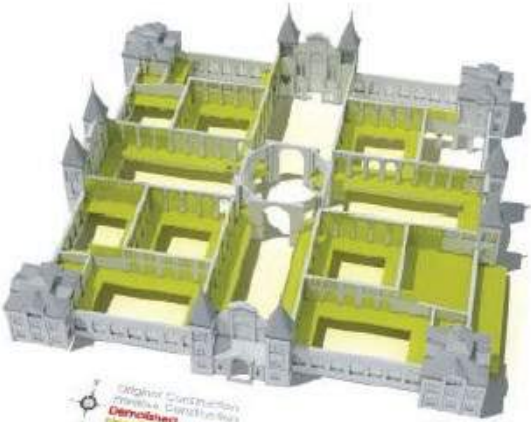
1902 Ground Floor Plan



1976 Ground Floor Plan



1881 Second Floor Plan



1902 Second Floor Plan & Galleries



1976 Second Floor Plan & Galleries

As originally envisioned the Arts and Industries Building (AIB) had an open plan, allowing a visitor to create their own path through the building. The galleries were added to provide critically 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.

ARTS & INDUSTRIES BUILDING (AIB) EXISTING CONDITIONS

PREVIOUS EXTERIOR WORK



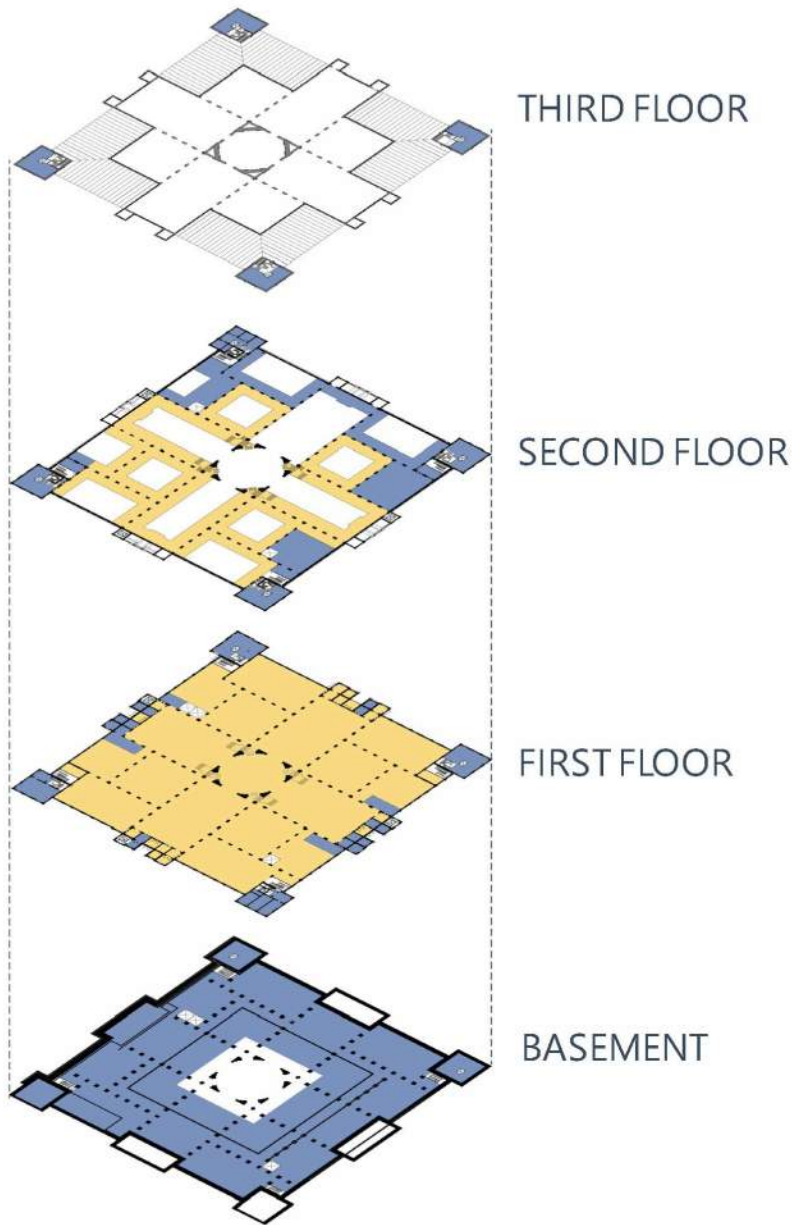
Exterior work in progress, 2014



Completed exterior work

ARTS & INDUSTRIES BUILDING (AIB) FUTURE PROGRAM

GENERAL PROGRAM GOALS



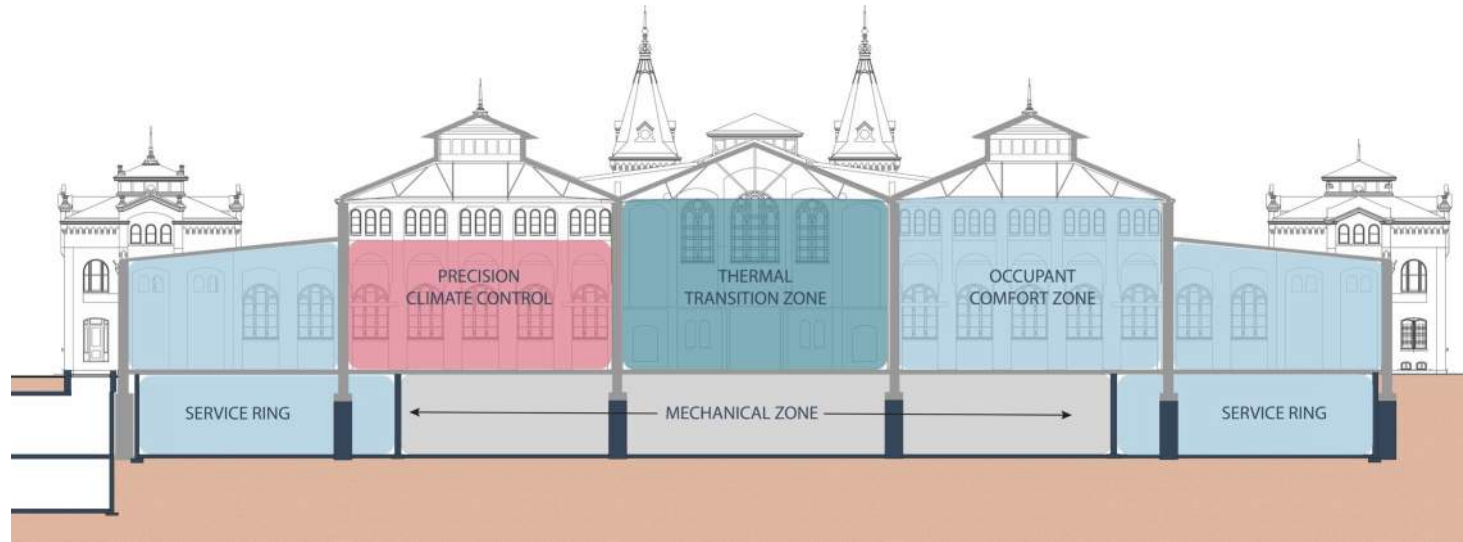
The new basement level will create space for mechanical/electrical equipment and support space for Smithsonian staff. This will allow the historic spaces on the 1st and 2nd floors to be utilized primarily for public functions.

PUBLIC
SI



ARTS & INDUSTRIES BUILDING (AIB) FUTURE PROGRAM

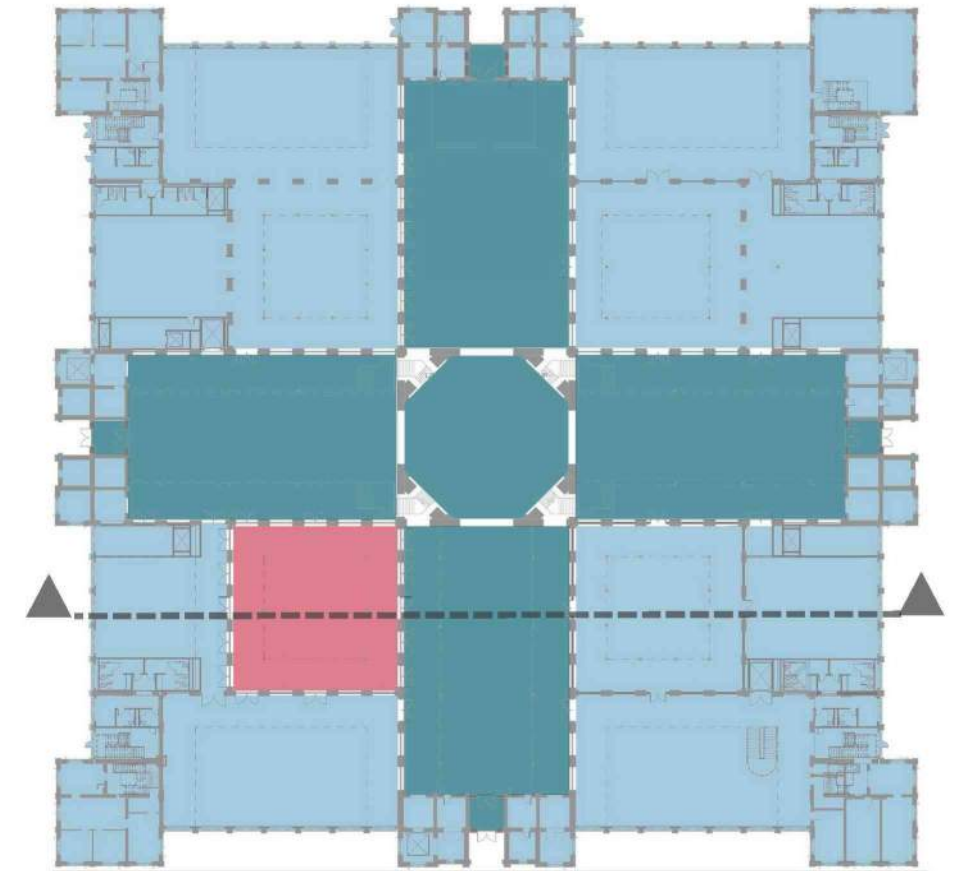
CLIMATE CONTROL DIAGRAMS



Diagrammatic Section

Zoning

- Providing precision climate control (“exhibit environmental requirements”) throughout the building would require significant changes to the historic building envelope.
- 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.

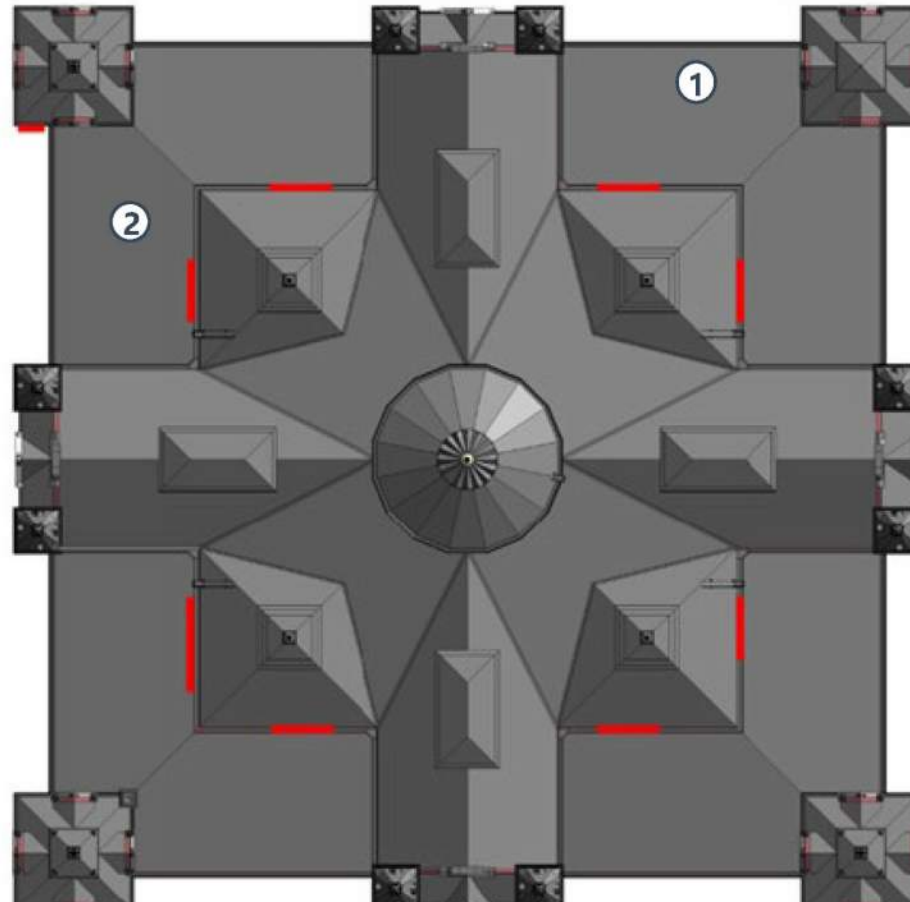


- TIER 1 **Thermal Transition Zone**
- TIER 2 **Occupant Comfort**
- TIER 3 **Precision Climate Control**



ARTS & INDUSTRIES BUILDING (AIB) KEY DESIGN ISSUES

MECHANICAL SYSTEMS – LOUVERS EXISTING CONDITIONS



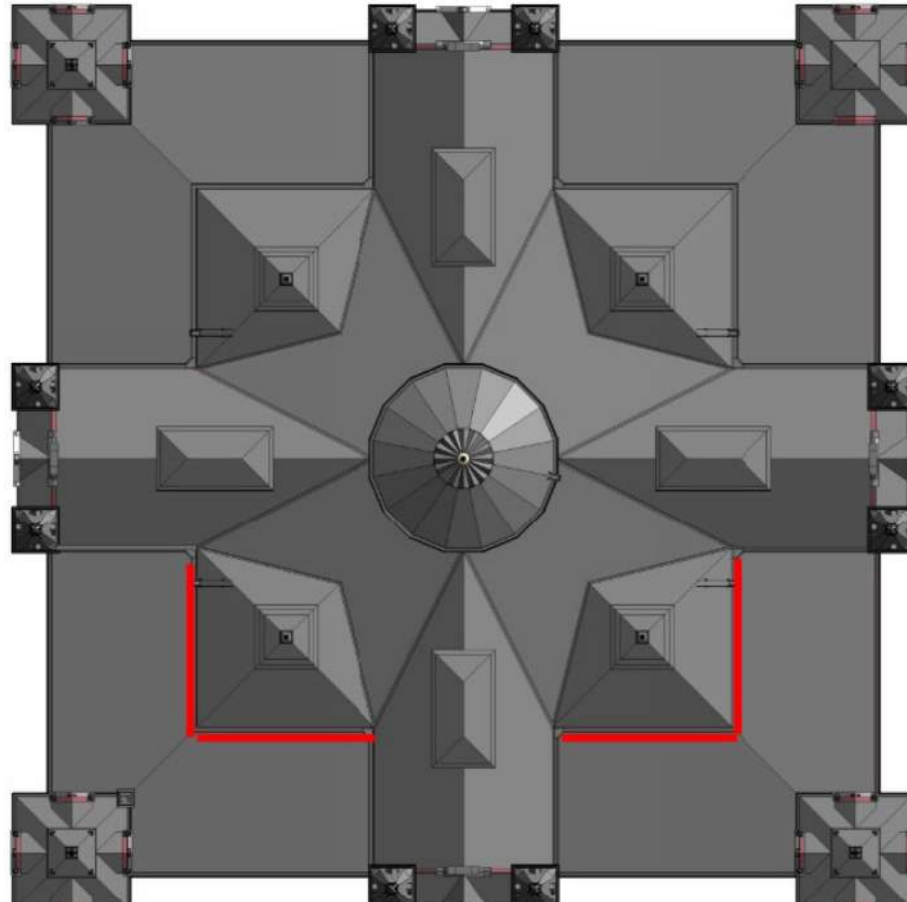
Project Scope

- The building has louvers in historic window openings for air intake/exhaust (indicated in red).



ARTS & INDUSTRIES BUILDING (AIB) KEY DESIGN ISSUES

MECHANICAL SYSTEMS – LOUVERS PROPOSED OUTSIDE AIR INTAKE/EXHAUST



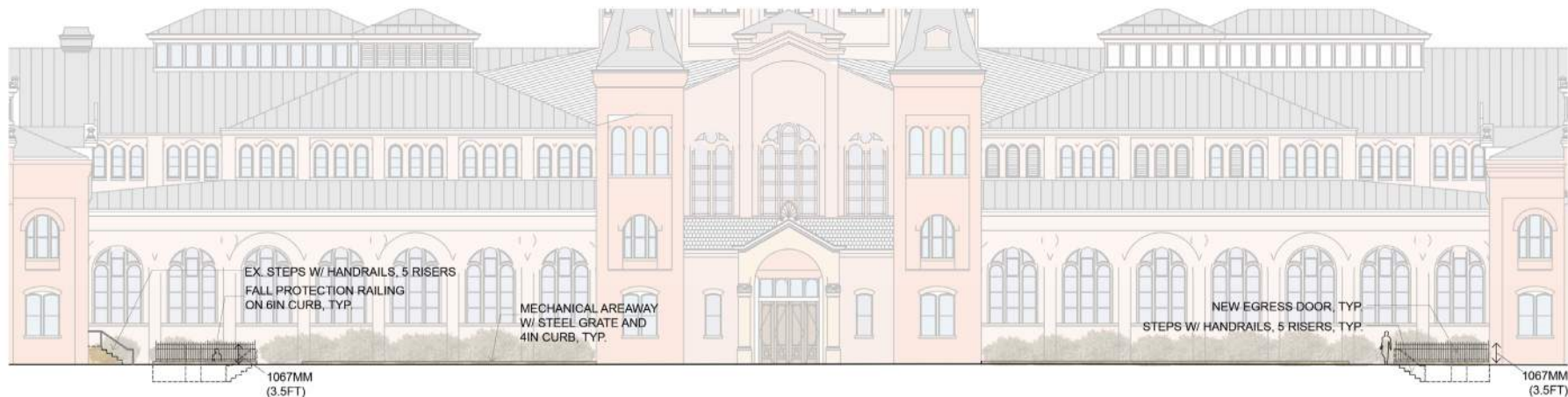
Project Scope

- We will be using the same strategy, but the louvers will be grouped in the SE and SW Courts (indicated in red).

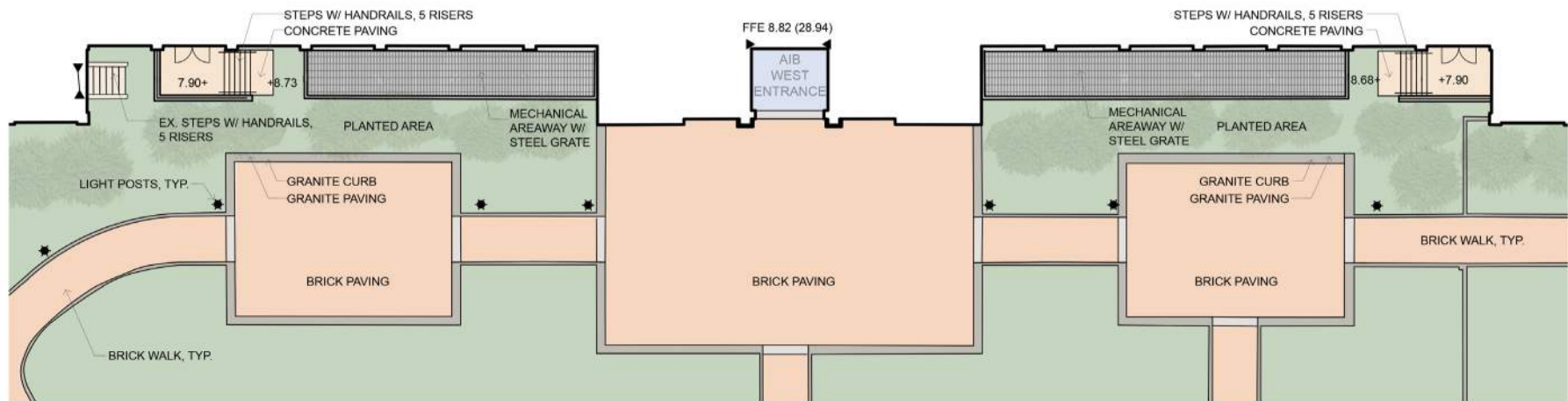


ARTS & INDUSTRIES BUILDING (AIB) KEY DESIGN ISSUES

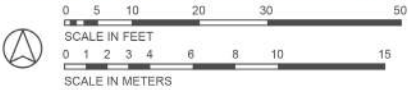
MECHANICAL SYSTEMS - AREAWAYS PROPOSED OUTSIDE AIR INTAKE/EXHAUST



ELEVATION LOOKING EAST

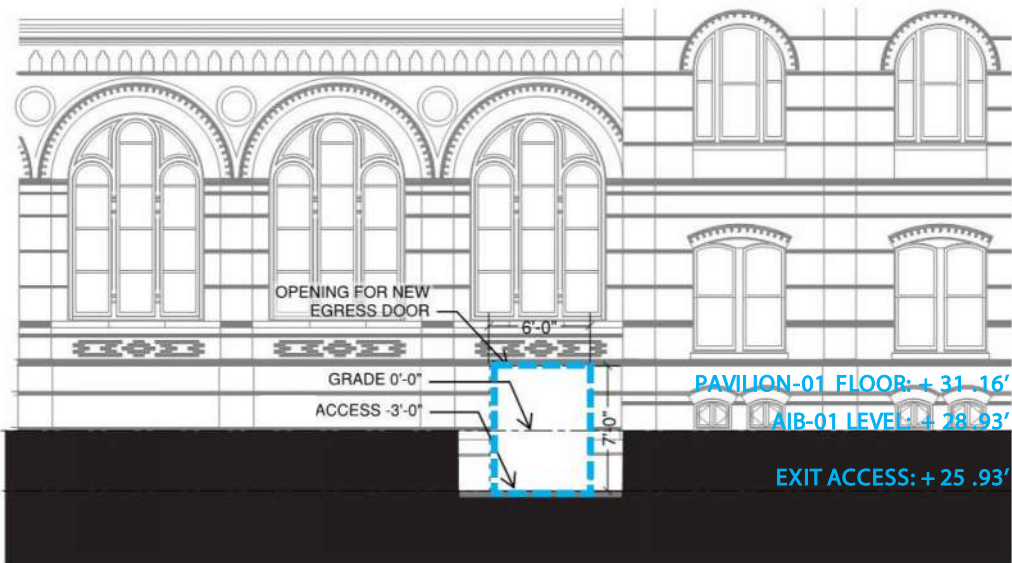


PLAN



ARTS & INDUSTRIES BUILDING (AIB) KEY DESIGN ISSUES

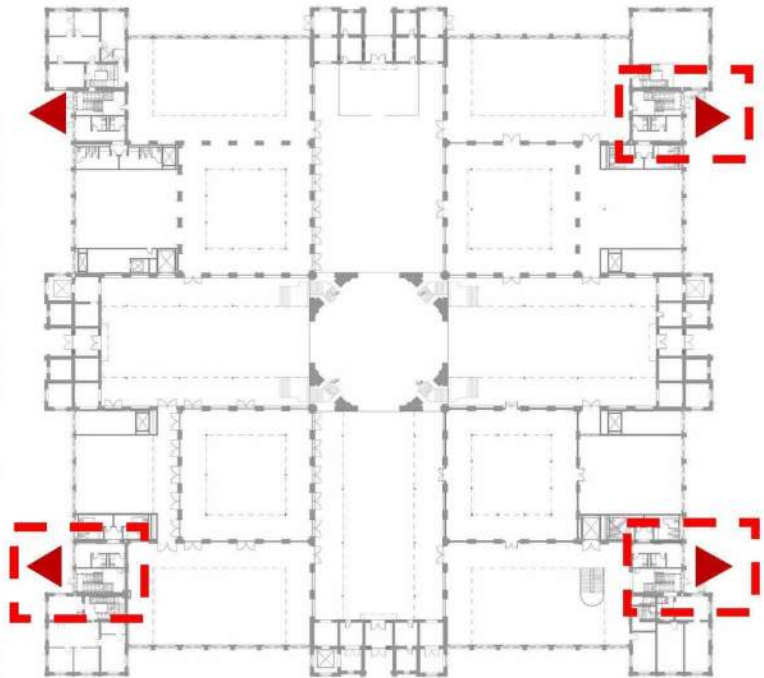
NEW EGRESS DOORS AT SOUTHWEST AND EAST FACADES



Partial Exterior Elevation at Southwest Annex



Existing Condition



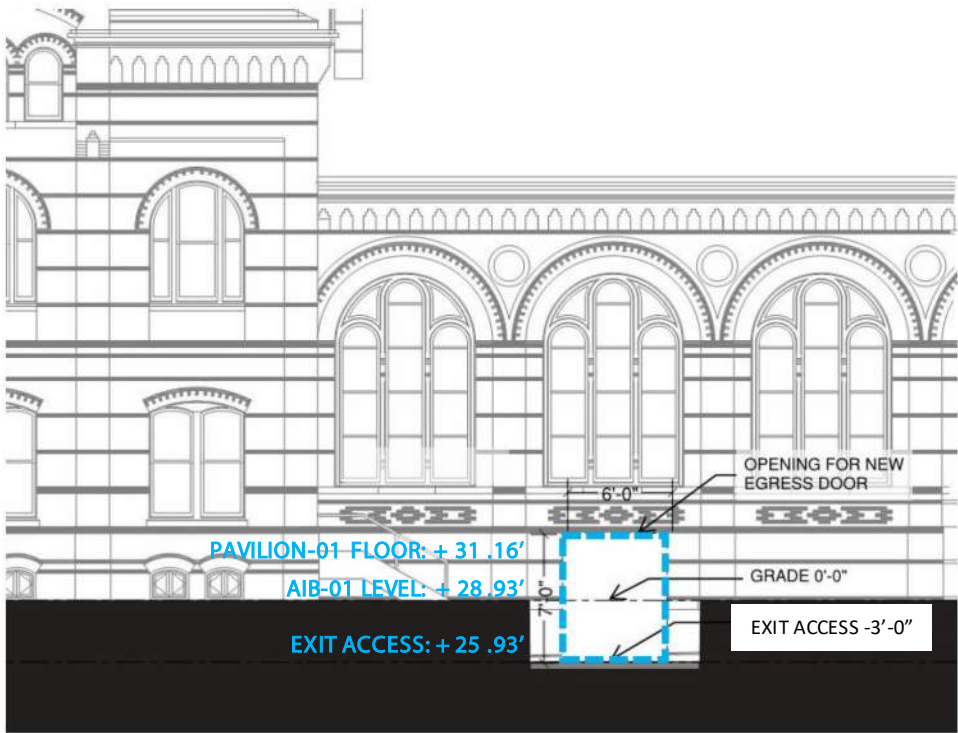
Key Plan of New Egress Door

Project Scope

- Create code compliant egress with new stairs and exterior doors adjacent to the four Pavilions.
- Create the door openings below the decorative banding.

ARTS & INDUSTRIES BUILDING (AIB) KEY DESIGN ISSUES

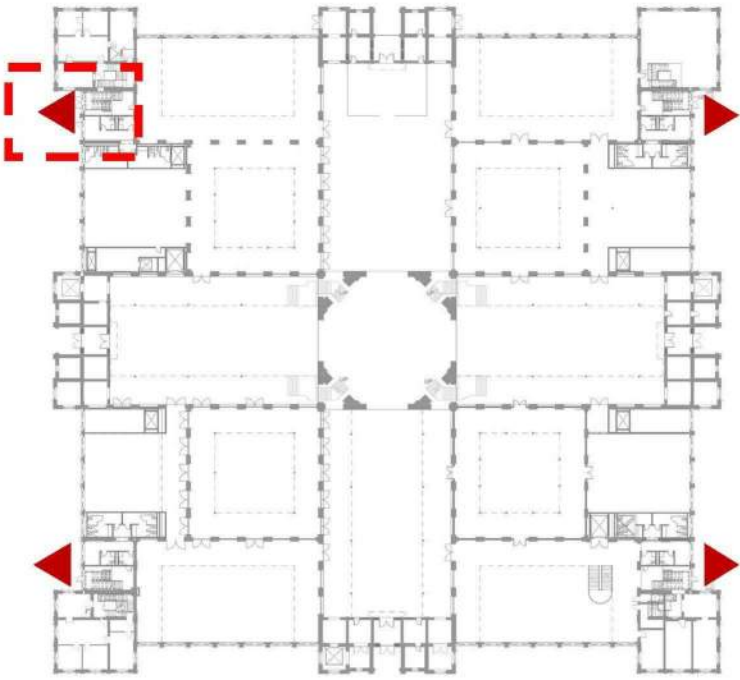
NEW EGRESS DOOR AT NORTHWEST ANNEX



Partial Exterior Elevation at Northwest Annex



Existing Door, NW Pavilion



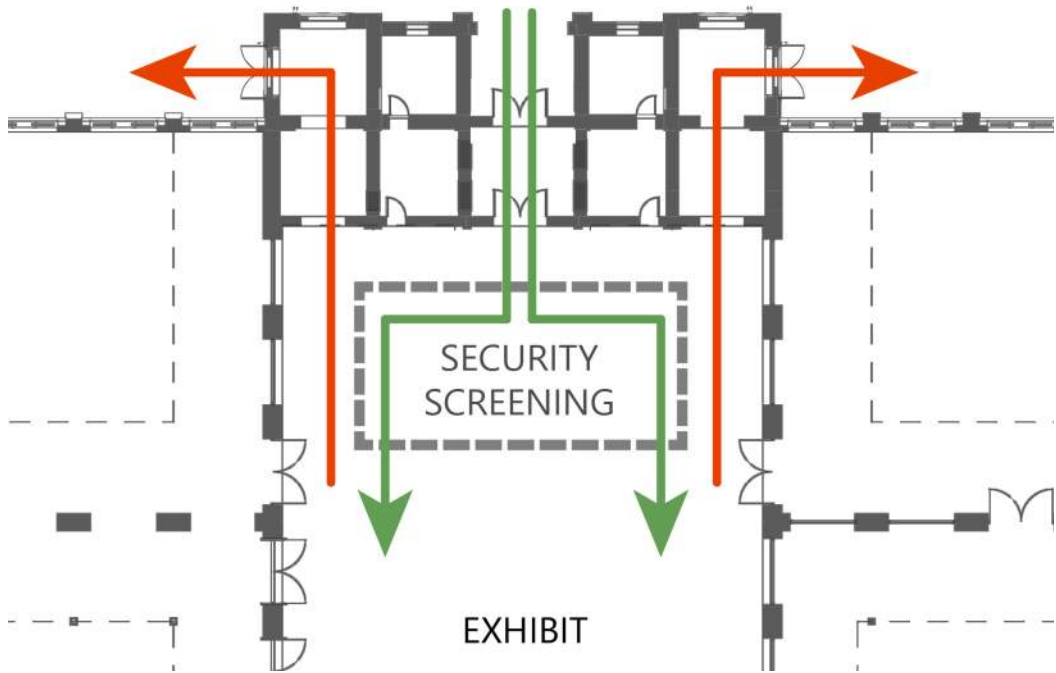
Key Plan of New Egress Door

Project Scope

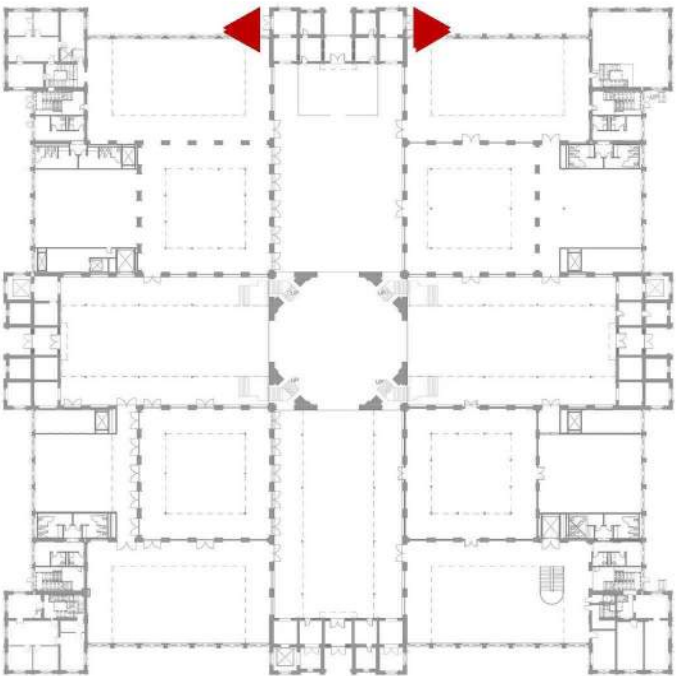
- Create code compliant egress with new stairs and exterior doors adjacent to the four Pavilions.
- Create the door openings below the decorative banding.

ARTS & INDUSTRIES BUILDING (AIB) KEY DESIGN ISSUES

NEW EXIT DOORS AT NORTH TOWER



Enlarged Plan of New Entry-Exit Sequence



Key Plan of New Exit Doors

Modifications to Insert New Exit Door

- New Entry-Exit Sequence to accommodate Public Circulation & Security.



ARTS & INDUSTRIES BUILDING (AIB) KEY DESIGN ISSUES

NEW EXIT DOORS AT NORTH TOWER



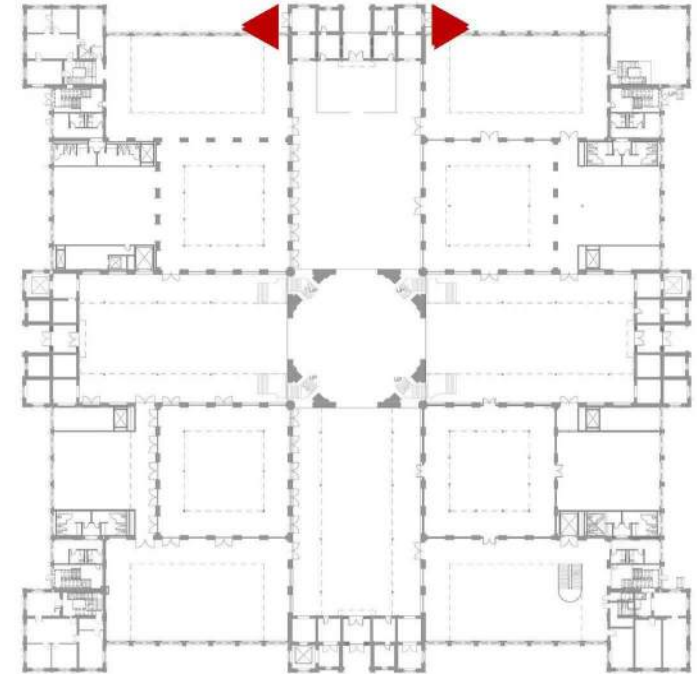
Existing Condition – North Tower



Insert New Exit Door



Existing Door Precedent, NW Pavilion



Key Plan of New Exit Doors

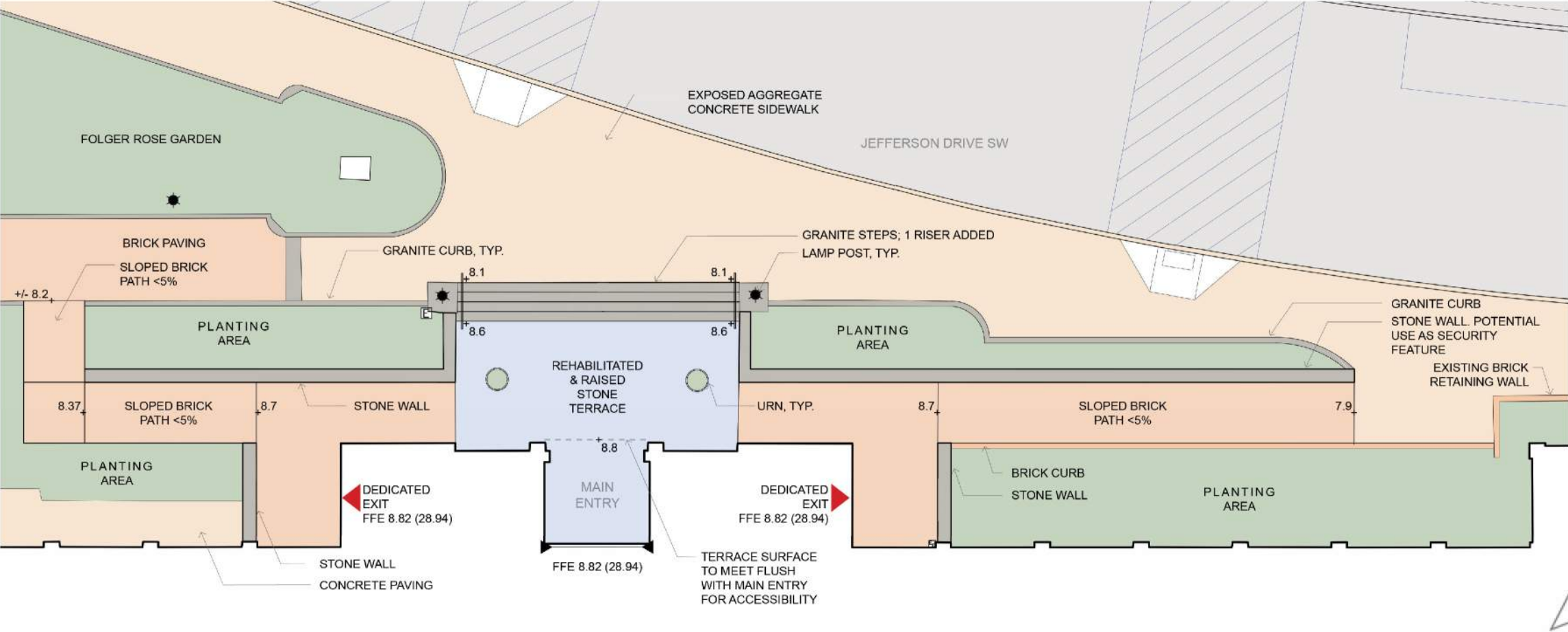
Modifications to Insert New Exit Door

- Remove existing window (installed as part of the exterior rehabilitation).
- Remove existing sill.
- Remove and salvage brick below window opening.
- Install new exit door (modeled on existing historic exterior doors).
- Install new transom window, shortened version of existing.



ARTS & INDUSTRIES BUILDING (AIB) KEY DESIGN ISSUES

NEW EXIT DOORS AT NORTH TOWER



ARTS & INDUSTRIES BUILDING (AIB) DESIGN INTENT FOR KEY SPACES

NORTH HALL



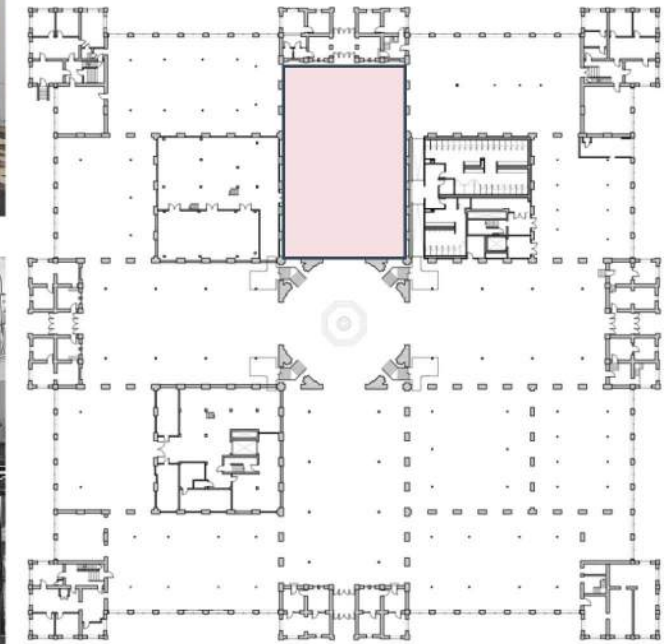
Rendering of Potential Space Use



Existing Condition



Historical Context (1903)



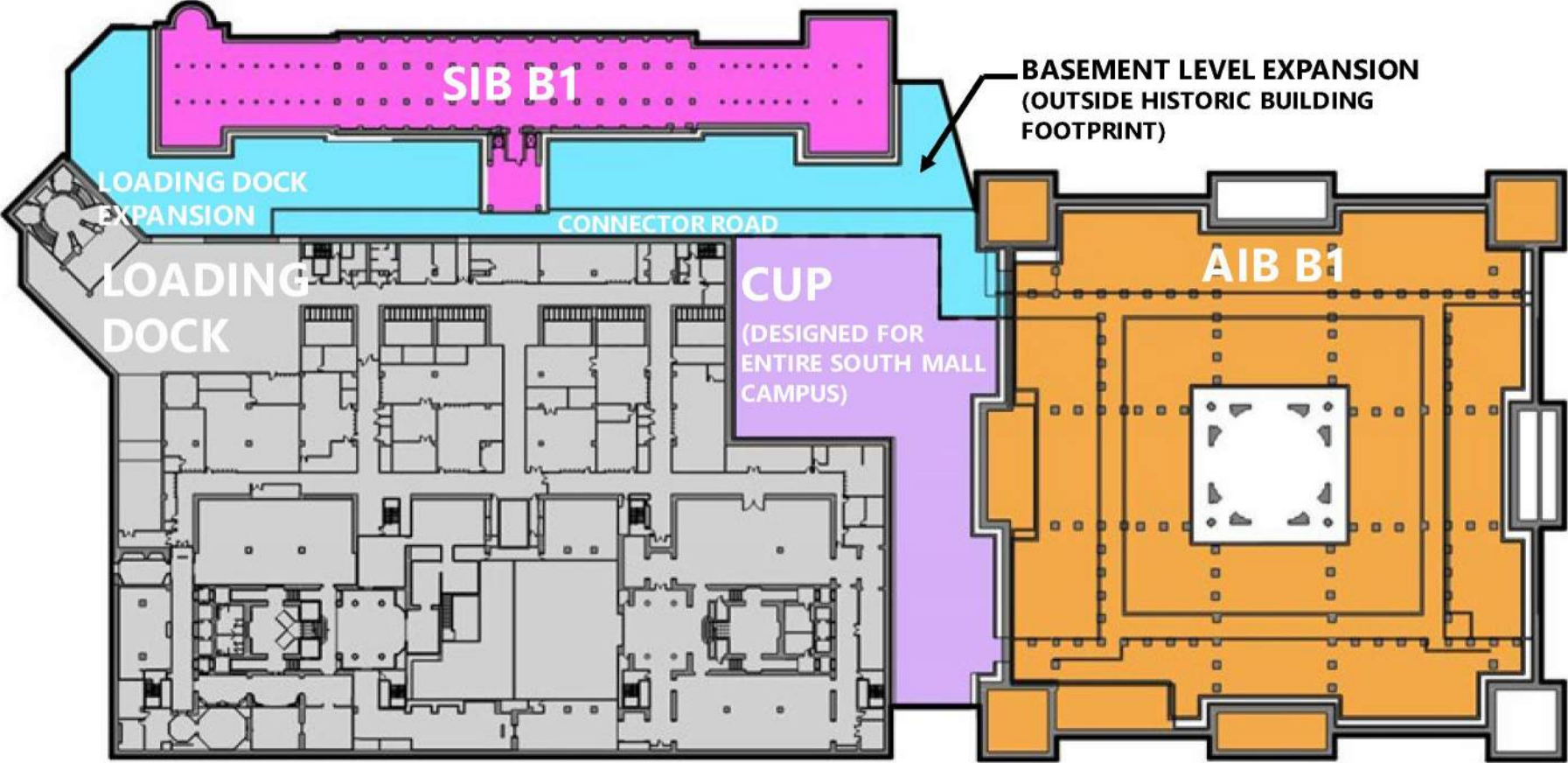
Existing First Floor

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.

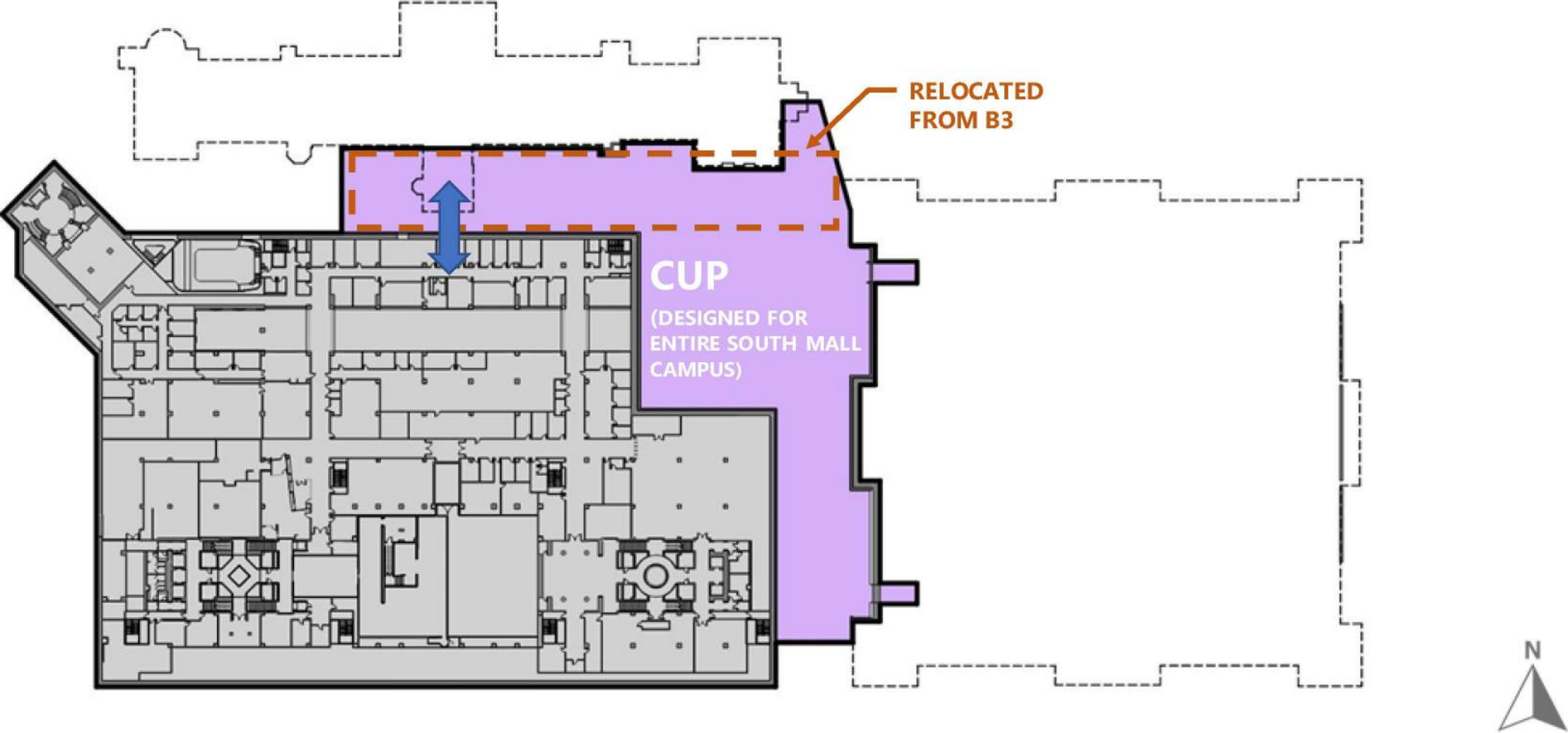
UNDERGROUND CONSTRUCTION FUTURE PROGRAM

UNDERGROUND CONSTRUCTION – OVERALL B1 PLAN



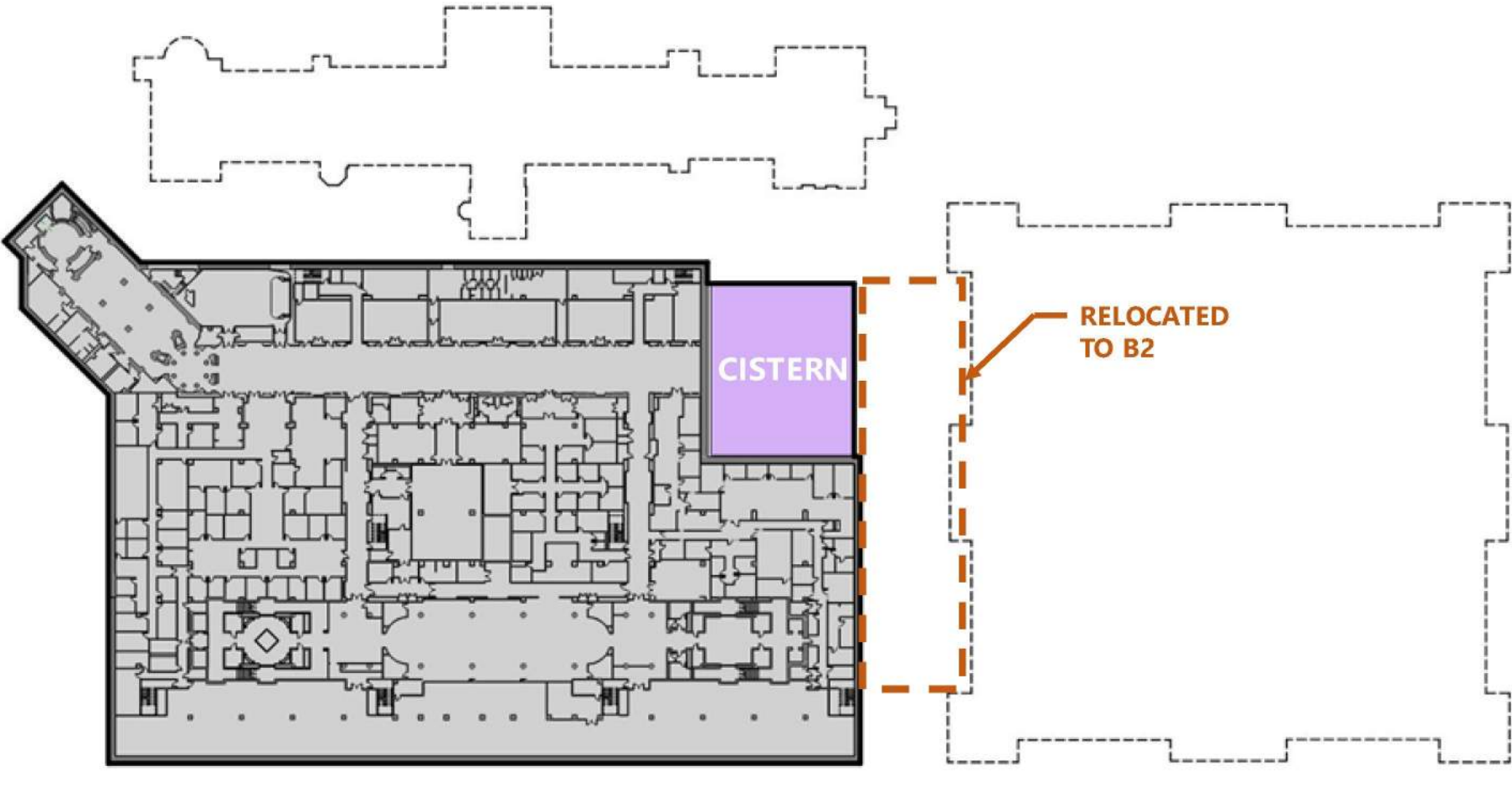
UNDERGROUND CONSTRUCTION FUTURE PROGRAM

UNDERGROUND CONSTRUCTION - OVERALL B2 PLAN



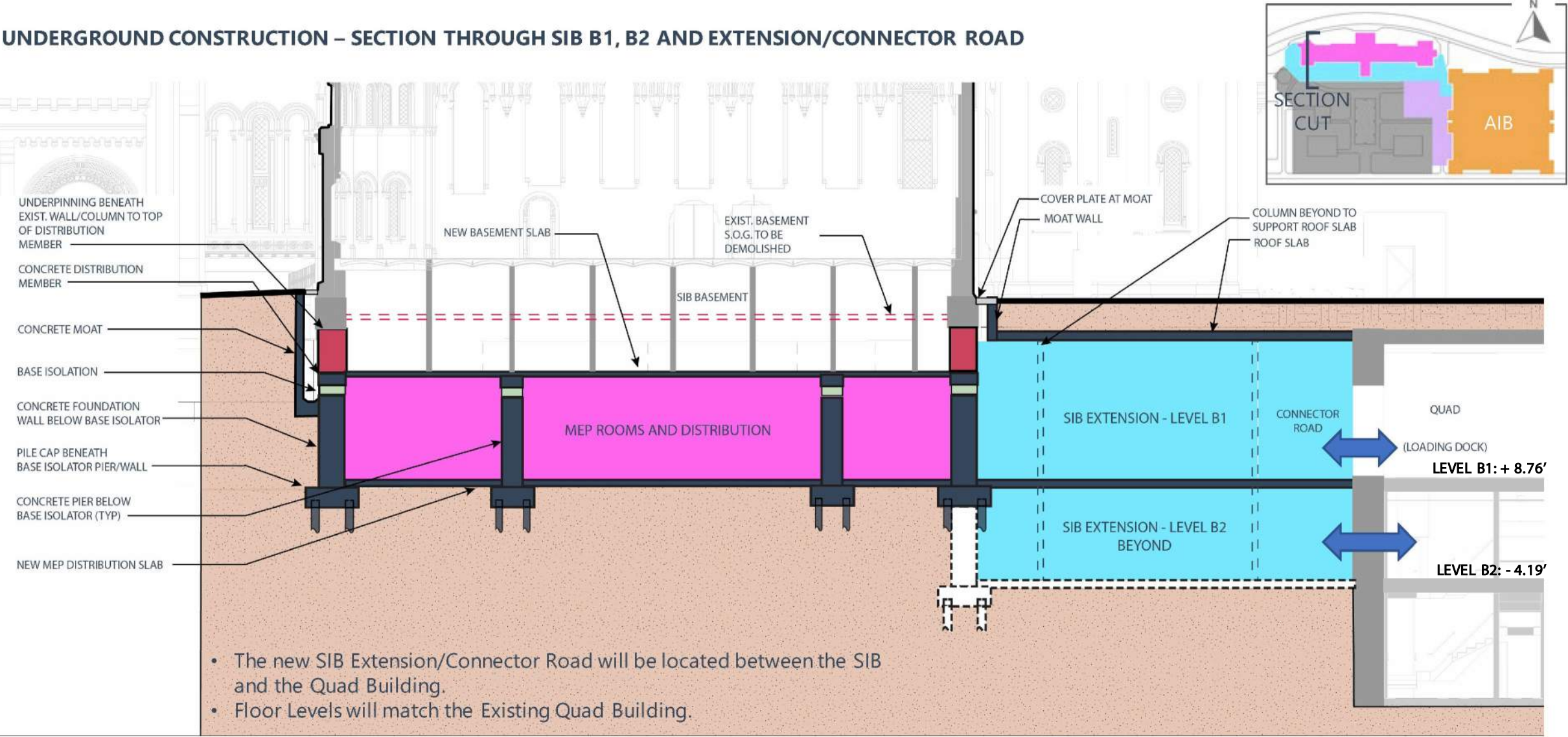
UNDERGROUND CONSTRUCTION FUTURE PROGRAM

UNDERGROUND CONSTRUCTION - OVERALL B3 PLAN



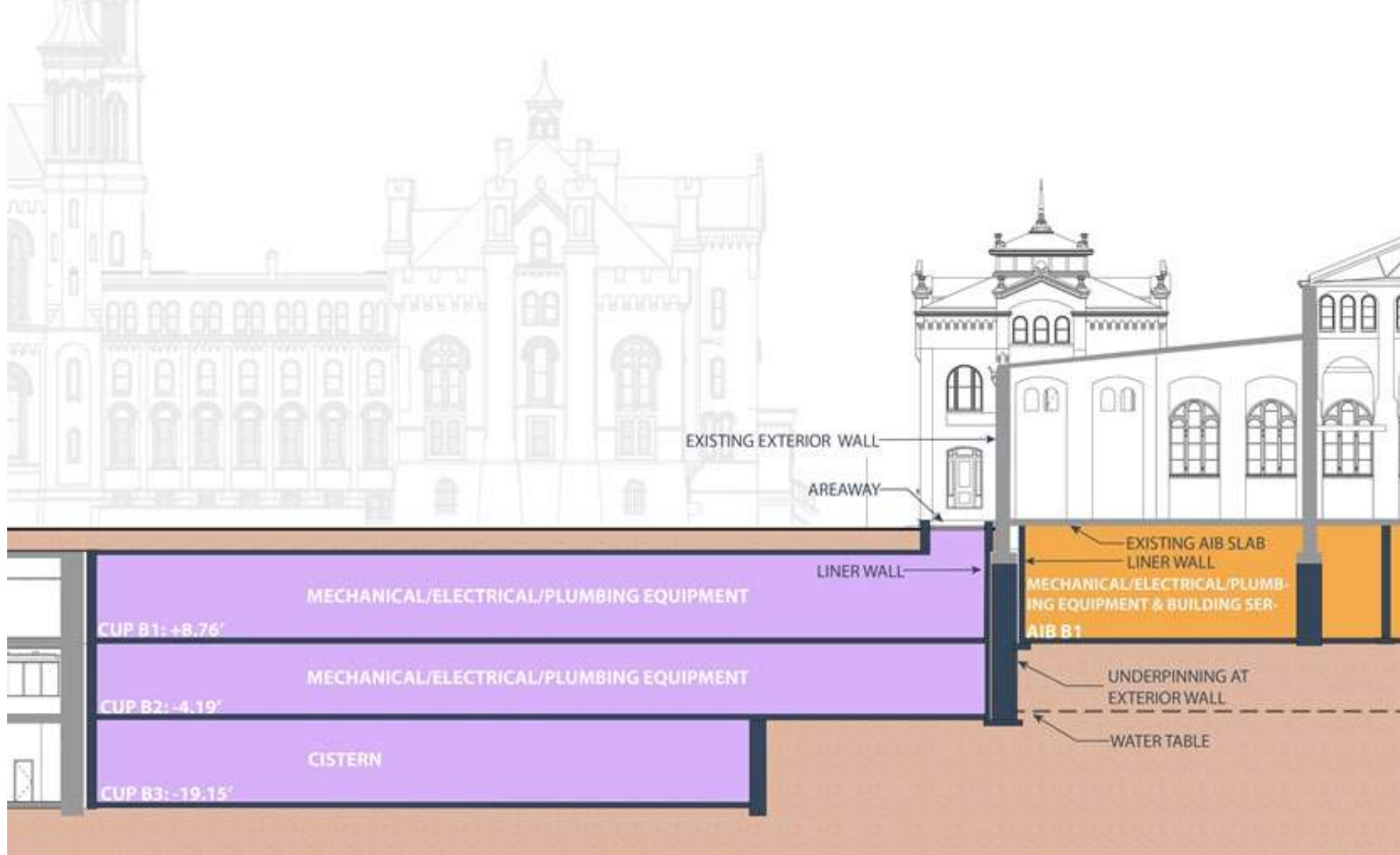
UNDERGROUND CONSTRUCTION FUTURE PROGRAM

UNDERGROUND CONSTRUCTION – SECTION THROUGH SIB B1, B2 AND EXTENSION/CONNECTOR ROAD

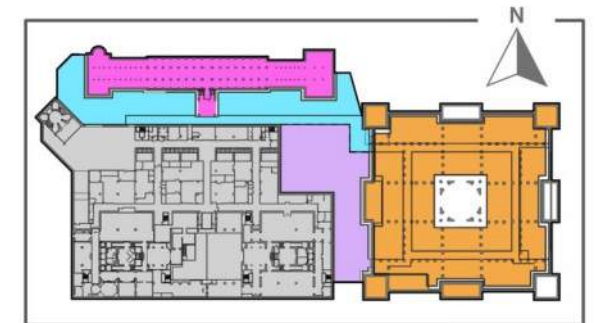


UNDERGROUND CONSTRUCTION FUTURE PROGRAM

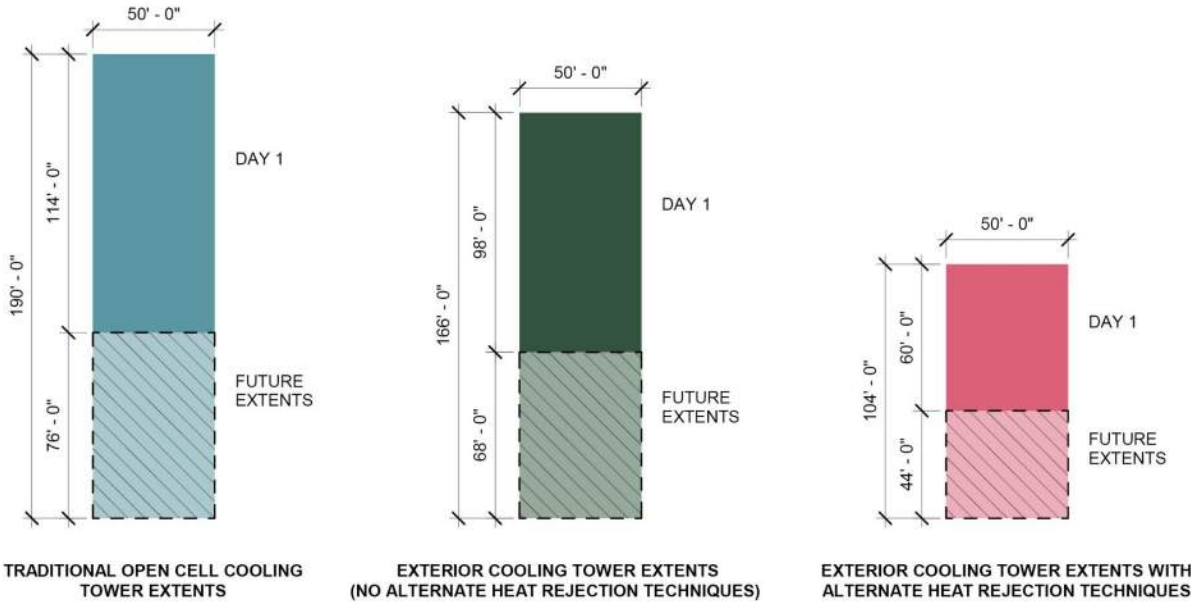
UNDERGROUND CONSTRUCTION – SECTION THROUGH CUP



- The new Central Utility Plant (CUP) will be located between the AIB and the Quad Building.
- The CUP will initially serve the SIB and AIB but is designed to serve all the buildings in the South Mall Campus.
- Floor Levels will match the Existing Quad Building.
- The lowest level of the CUP will be no lower than the Quad Building.

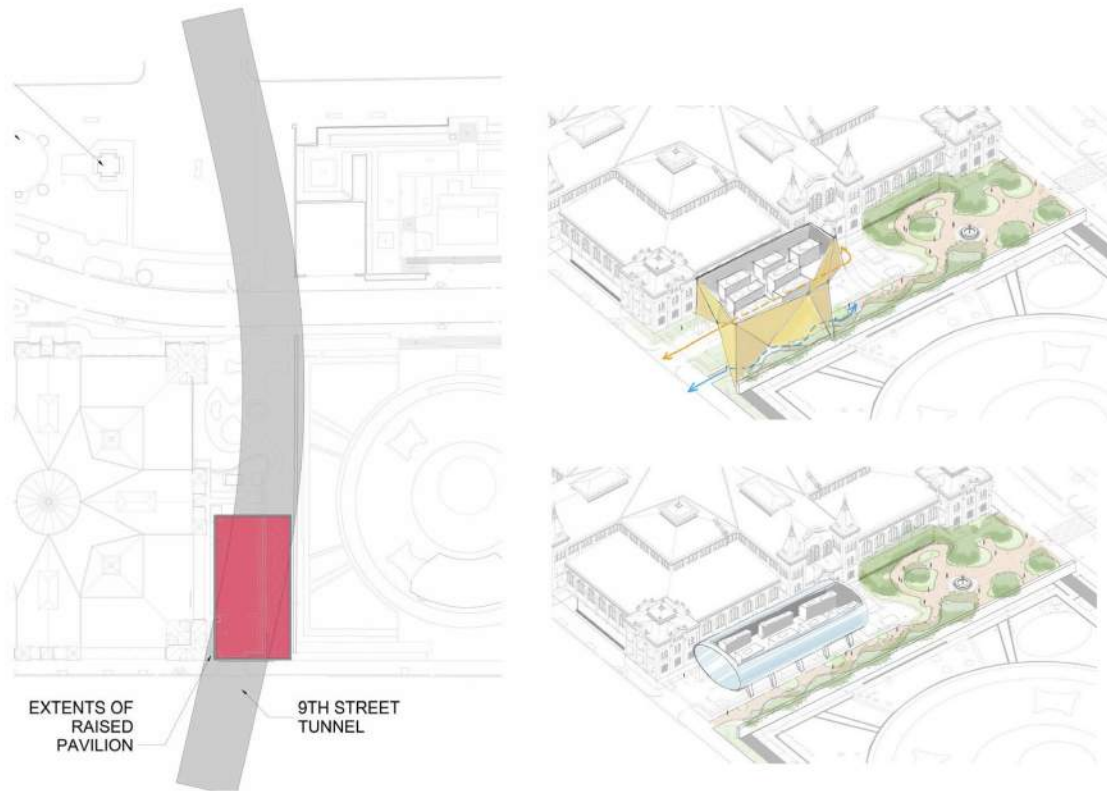


COOLING TOWERS STRATEGIES FOR REDUCING COOLING TOWER LOADS



| Cooling Tower Enclosure Size (Nominal Tons) | Enclosure Length | Enclosure Width | Enclosure Area | Percent of Total |
|--|------------------|-----------------|----------------|------------------|
| Only Cooling Towers (5000 - 0) | 166 | 50 | 8300 | 100% |
| Towers with SS Heat Reject. (5000 - 500) | 144 | 50 | 7200 | 87% |
| Towers with Thermal Ice Storage (5000 - 1000) | 125 | 50 | 6250 | 75% |
| Towers with SS and Ice (5000 - 1500) | 104 | 50 | 5200 | 63% |
| Towers with 750 Wells (5000 - 1500) | 104 | 50 | 5200 | 63% |
| Towers with SS, Ice, and 250 Wells (5000 - 2000) | 83 | 50 | 4150 | 50% |
| Towers with SS, Ice, and 750 Wells (5000 - 3000) | 59 | 50 | 2950 | 36% |
| Towers with 100% Geothermal | 0 | 0 | 0 | 0% |

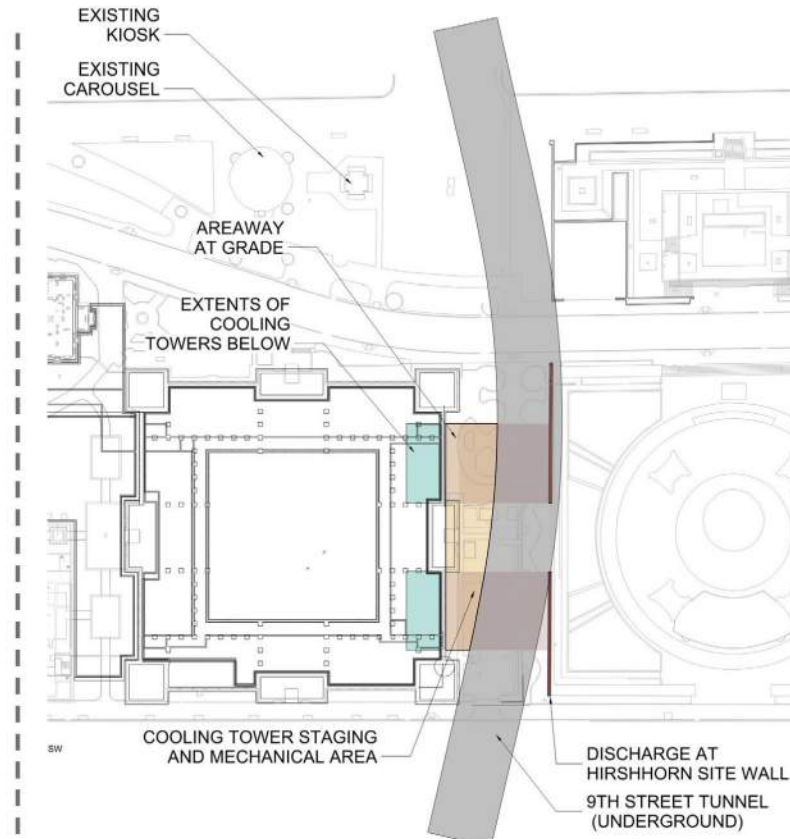
COOLING TOWERS SOUTH CAMPUS INVESTIGATION



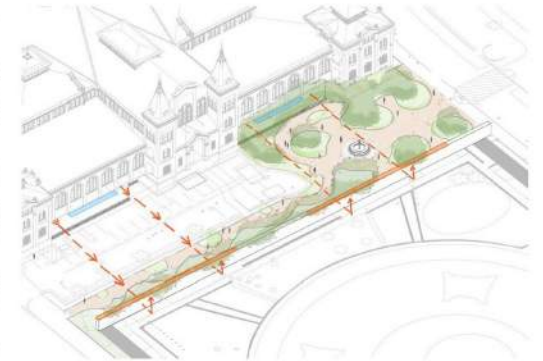
Above Grade Option on East Side of AIB

Design Objectives

- Potential above grade and below grade locations on South Campus were studied.
- Both would have a negative effect to the Ripley Garden.
- The above grade option would have a negative effect on the adjacent buildings would be constructed over the 9th Street tunnel.
- The below grade option would place the equipment under the AIB.



Below Grade Option on East Side of AIB



COOLING TOWERS PROPOSED LOCATION



National Museum of Natural History Site Showing Potential Cooling Tower Location

Design Objectives

- Building cooling towers across the National Mall in SW corner of NMNH parking, one level below Mall.
- Location resolves difficult site constraints on South Campus.
- Reduces visual and noise negative impacts to Haupt Garden, Ripley Garden, and the historic buildings.
- Design of the new cooling tower enclosure would mimic the existing enclosure at the southeast corner of the site.



Existing Custom NMNH Cooling Tower



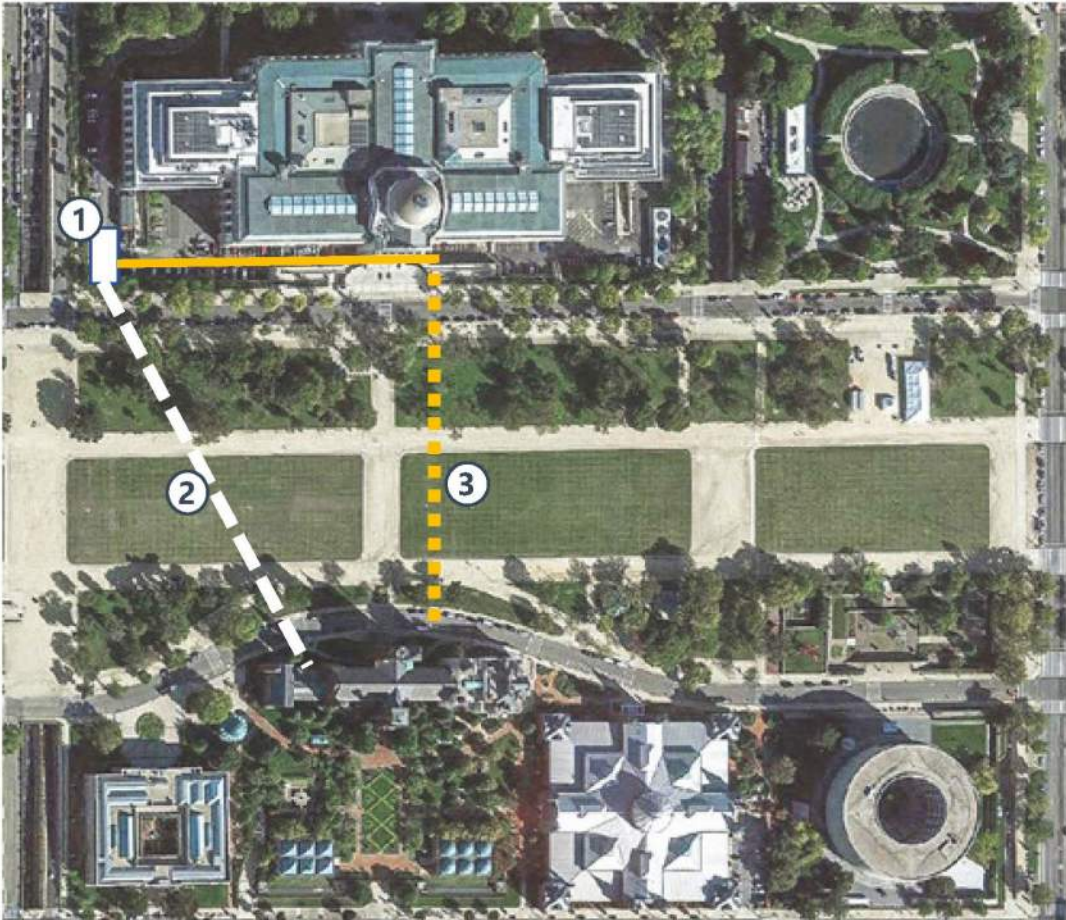
SW Corner of NMNH – Looking East



SW Corner of NMNH – Looking West

COOLING TOWERS PROPOSED LOCATION

CONNECTION OPTIONS DIRECT BORE AND EXISTING TUNNEL



Options for Utility Routing

1. New cooling tower plant to serve South Campus
2. Direct bore for condenser water routing from Cooling Towers to SIB
3. Existing steam tunnel. Potential route for condenser water piping - Cooling Towers to SIB

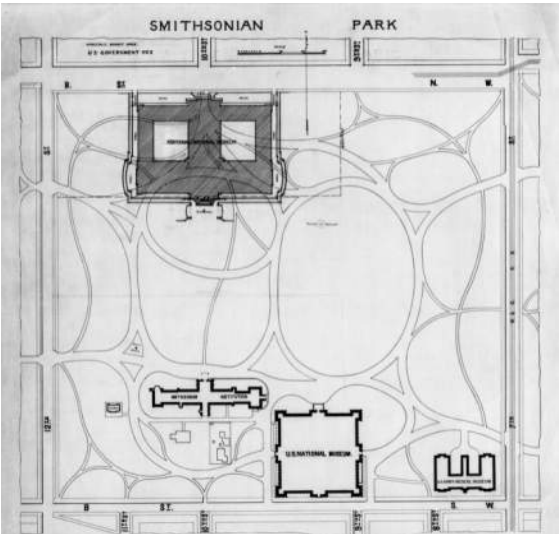
Design Objectives

- Connect to the South Campus CUP under the National Mall. This can be done in an existing steam tunnel or with a new direct bore.



GARDENS AND GROUNDS HISTORY

LANDSCAPE EVOLUTION



Smithsonian Institution Historic - 19th Century



Castle and South Yard, Facing Northwest (circa 1885)



National Museum, Facing East from South Yard (1880)



East Garden and AIB with the Downing Urn (1975)



Victorian Garden and AIB, Facing Southeast (1980)



Smithsonian Castle, Facing West (1975)

GARDENS AND GROUNDS EXISTING CONDITIONS



GARDENS AND GROUNDS EXISTING CONDITIONS



Castle and Haupt Garden, Facing Northeast



AIB and Ripley Garden, Facing Southwest



Downing Urn in the Haupt Garden, Facing South



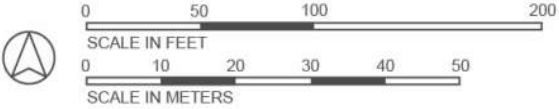
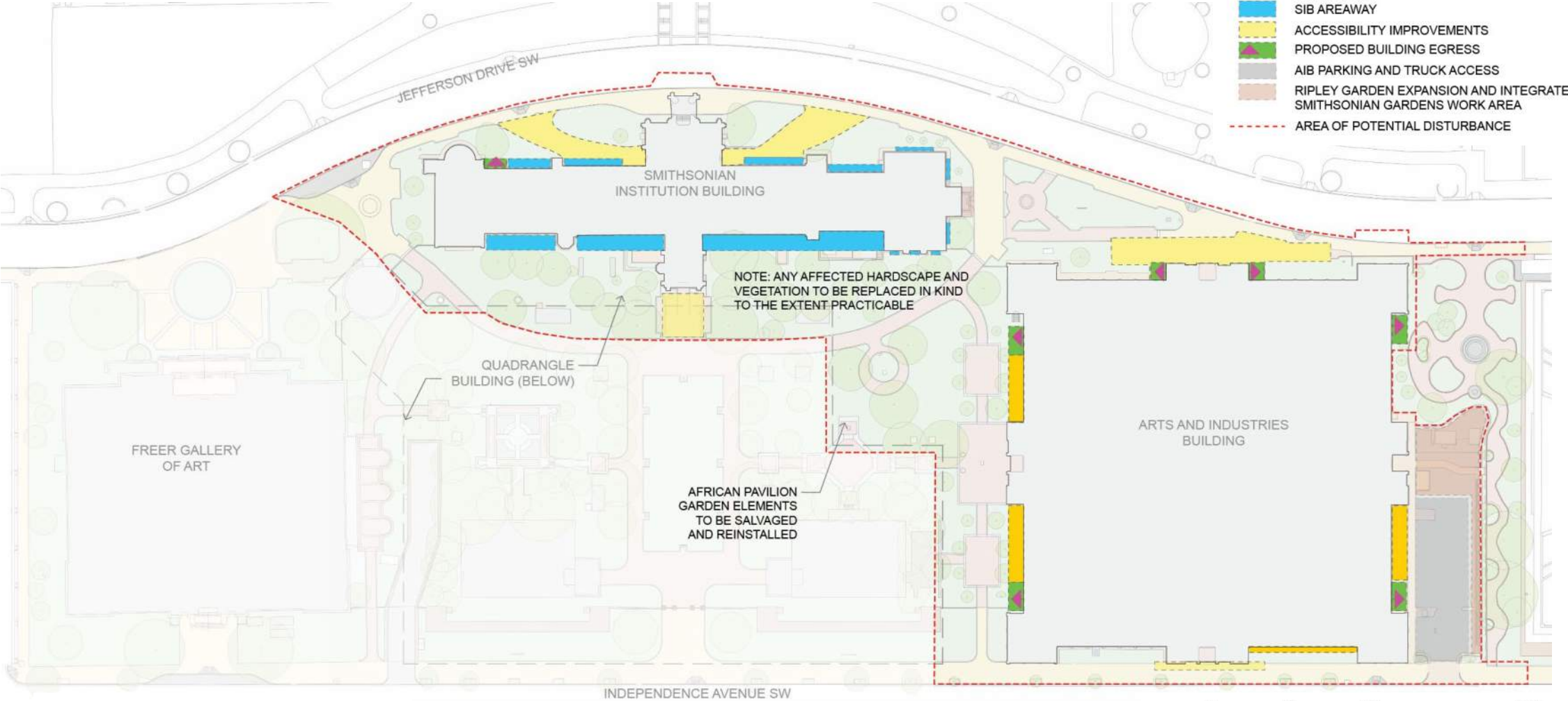
Haupt Garden and AIB, Facing Southeast



Smithsonian Castle, Facing West

GARDENS AND GROUNDS KEY DESIGN ISSUES

GOALS AND DRIVERS - REHABILITATION



GARDENS AND GROUNDS KEY DESIGN ISSUES

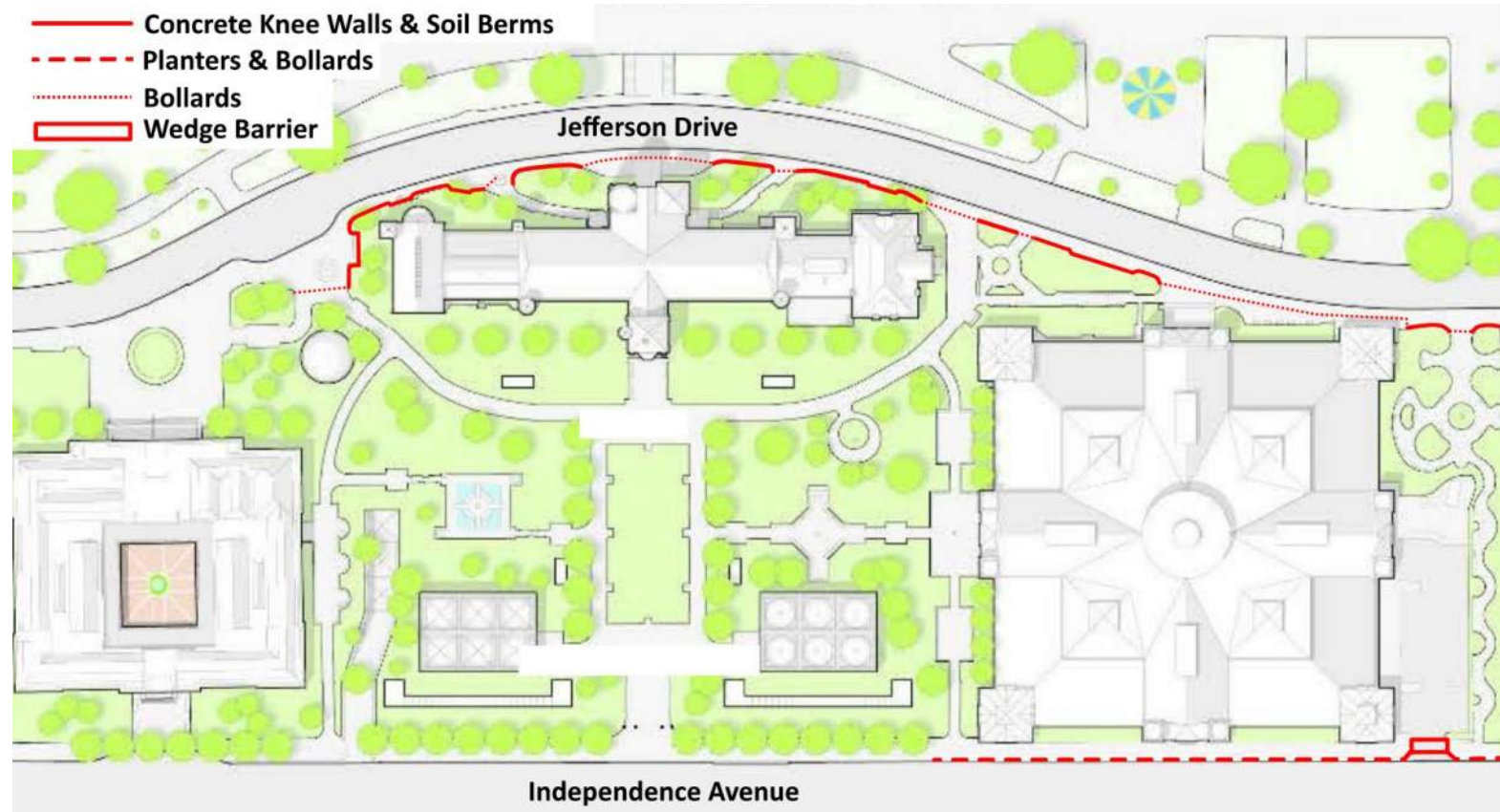
PERIMETER SECURITY

Background

- 2004 Mall-Wide Perimeter Security Concept Design developed by Beyer Blinder Belle.
- 2018 South Mall Campus Master Plan recommended following guidance from 2004.
- Smithsonian Institution and A/E Team collaborating to establish requirements and scope of perimeter security for the RoHC project.

Design Objectives

- Enhance Perimeter Security along Jefferson Drive and Independence Ave within RoHC project area.
- Follow Contextual and Unified Approach as recommended by the 2004 Mall-Wide Perimeter Security Concept Design.
- Integrate and conceal perimeter security measures within the site's existing features and landscape to the extent possible.
- Envision design approach as an extension applied Mall-Wide.

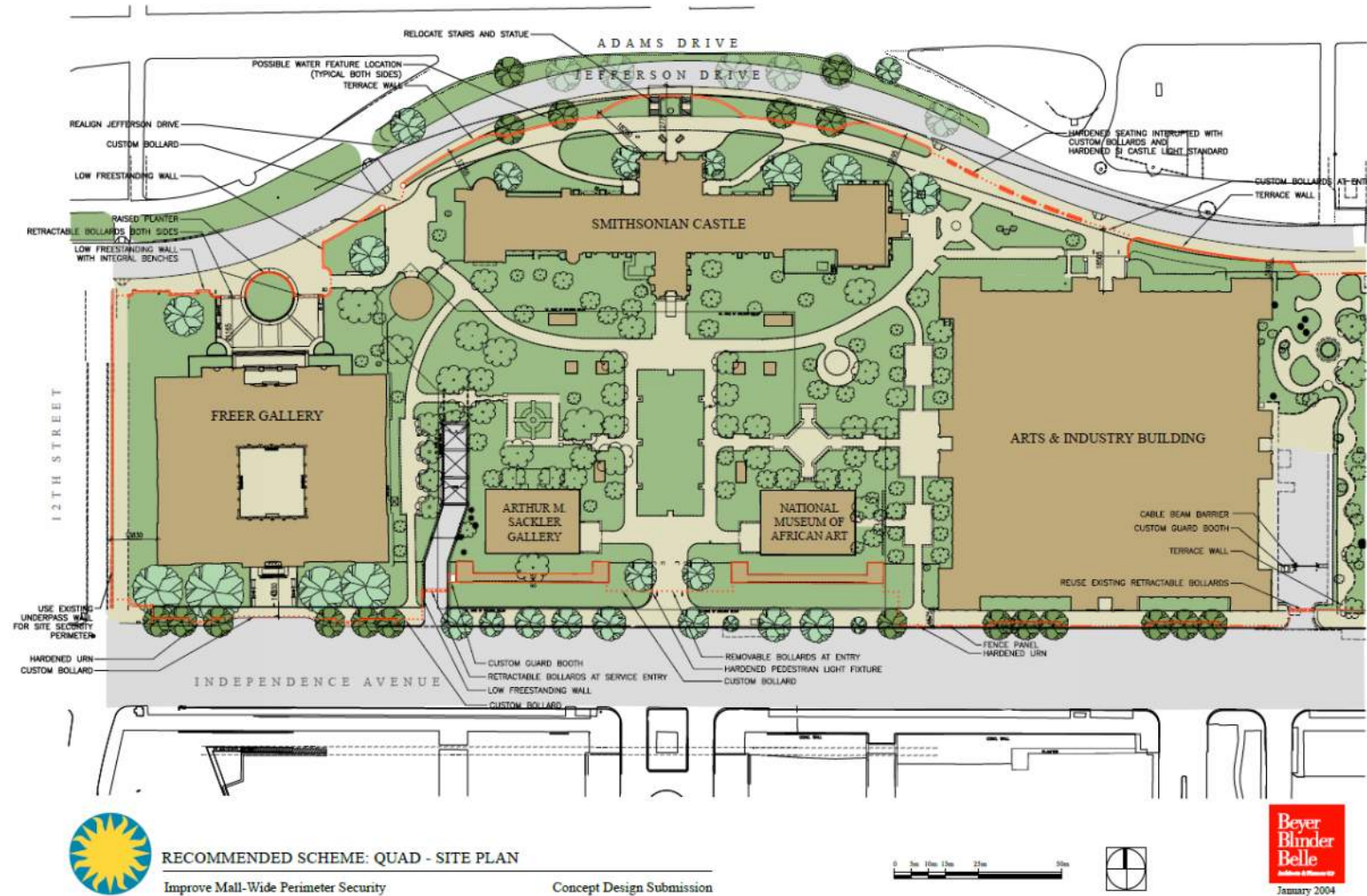


RoHC Perimeter Security Concept



GARDENS AND GROUNDS KEY DESIGN ISSUES

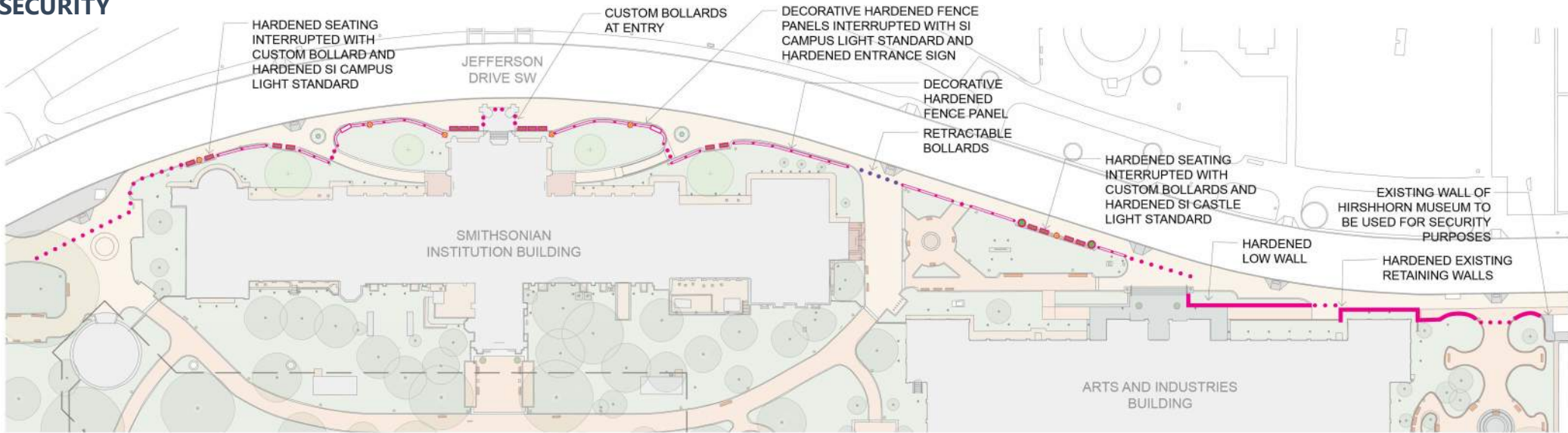
PERIMETER SECURITY



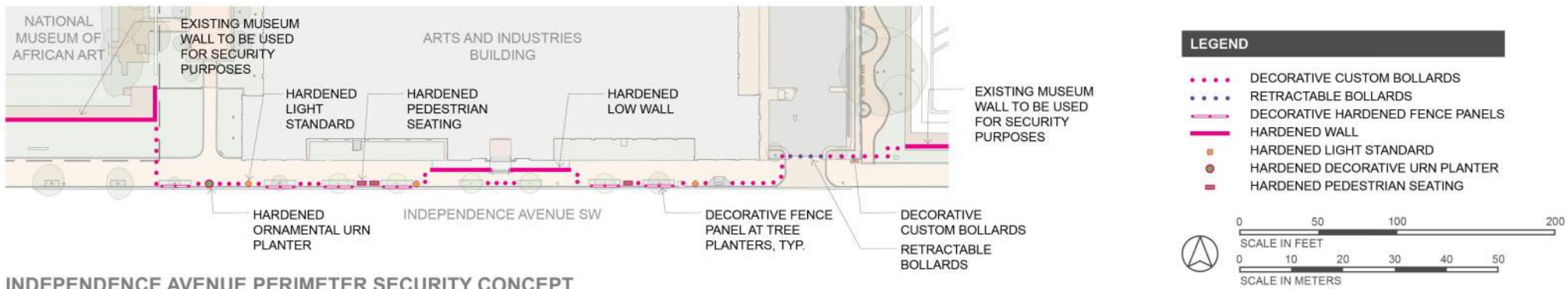
2004 Perimeter Security Concept Study

GARDENS AND GROUNDS KEY DESIGN ISSUES

PERIMETER SECURITY



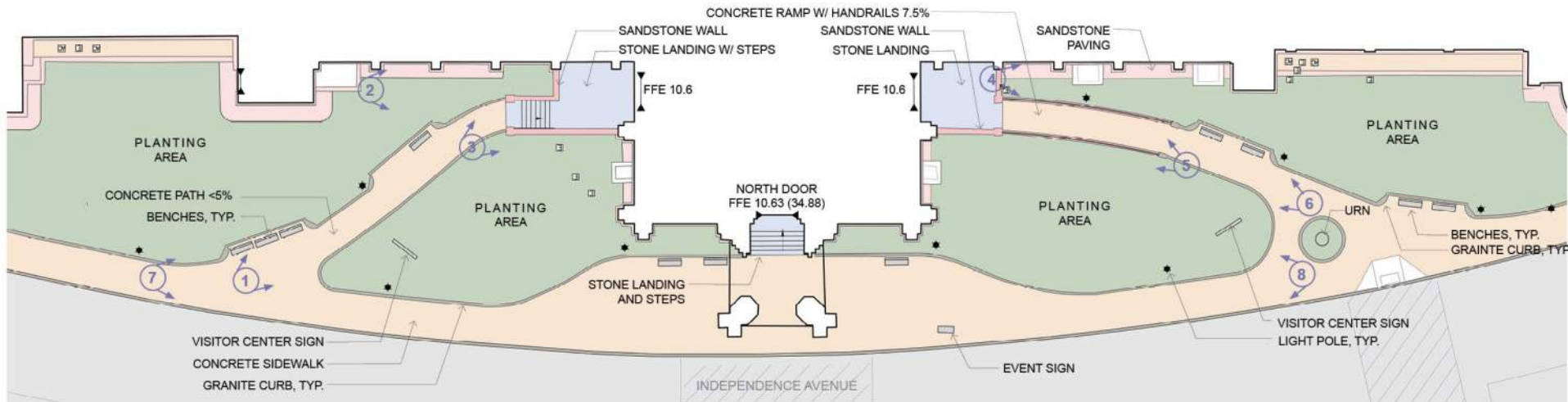
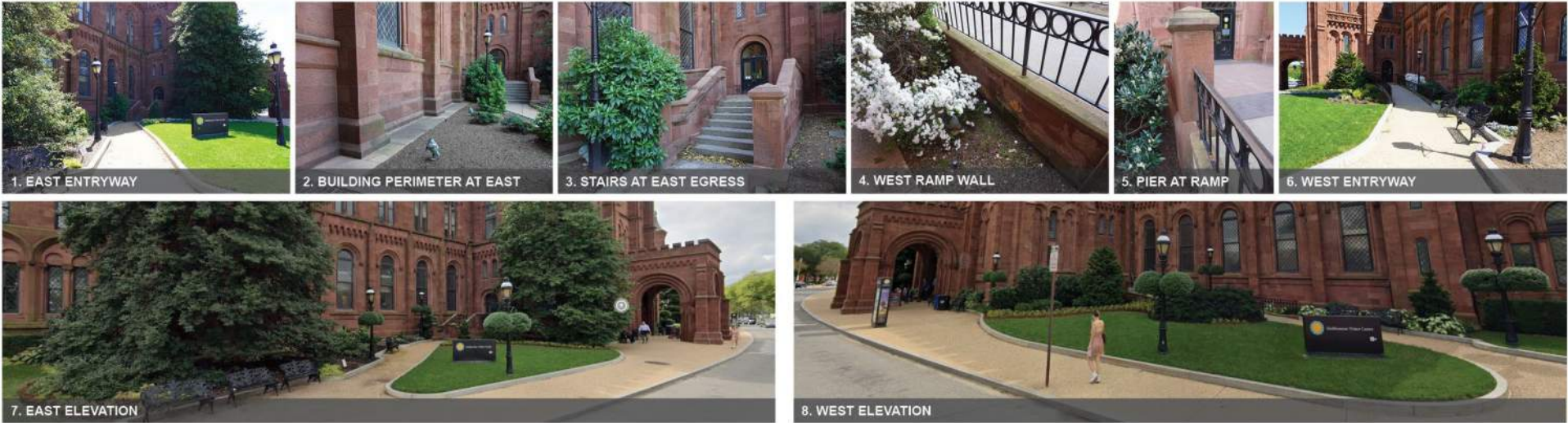
JEFFERSON DRIVE PERIMETER SECURITY CONCEPT



INDEPENDENCE AVENUE PERIMETER SECURITY CONCEPT

GARDENS AND GROUNDS KEY DESIGN ISSUES

ACCESSIBILITY IMPROVEMENTS - SIB NORTH ENTRANCE EXISTING CONDITIONS

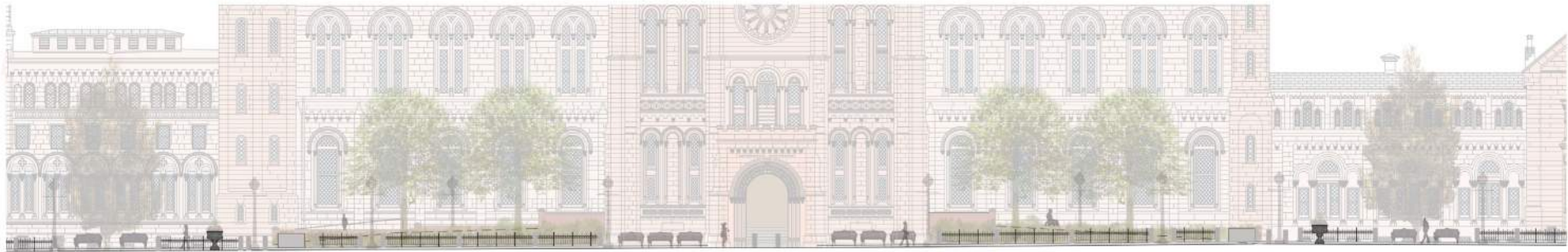


PLAN

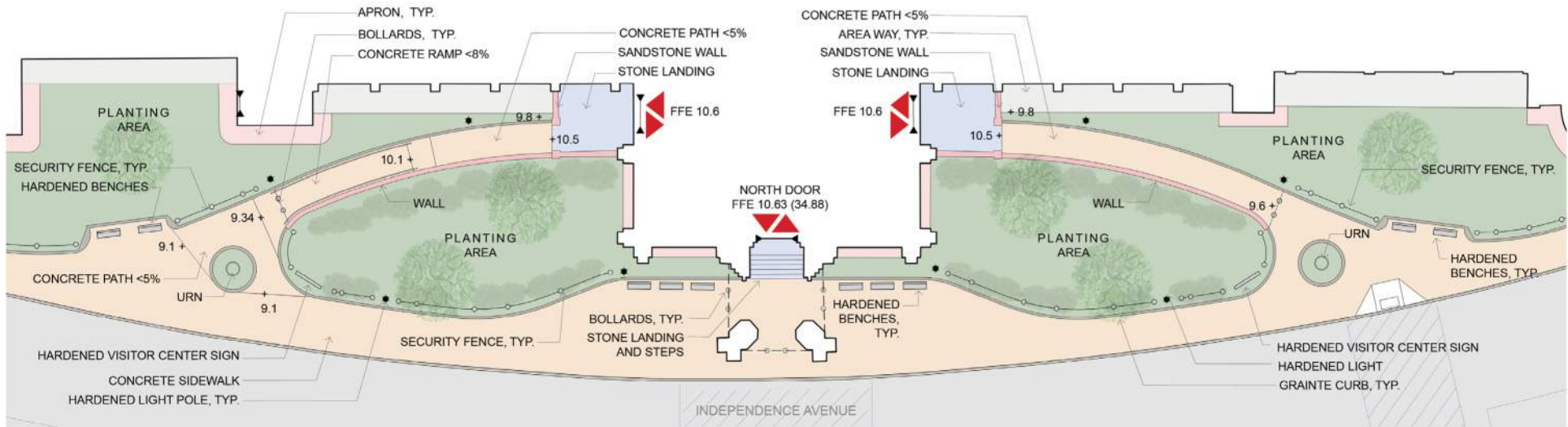


GARDENS AND GROUNDS KEY DESIGN ISSUES

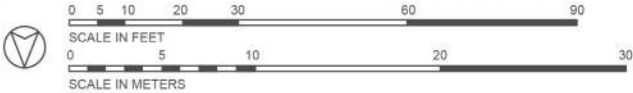
ACCESSIBILITY IMPROVEMENTS - SIB NORTH ENTRANCE PROPOSED CONCEPT



ELEVATION

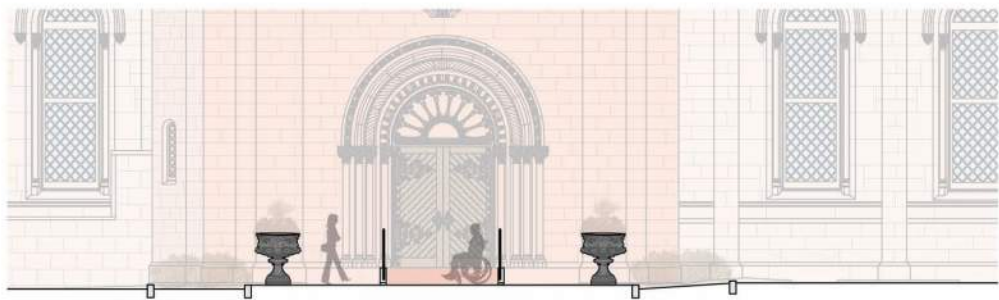


PLAN

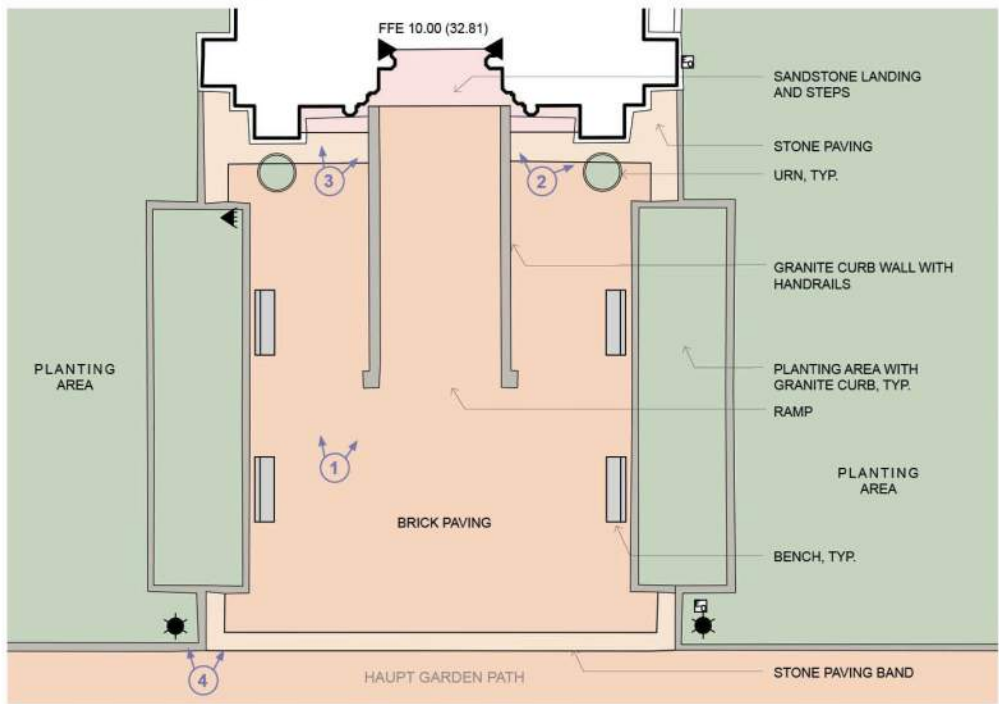


GARDENS AND GROUNDS KEY DESIGN ISSUES

ACCESSIBILITY IMPROVEMENTS - SIB SOUTH ENTRANCE EXISTING CONDITIONS



ELEVATION LOOKING NORTH



PLAN



1. RAMP TO BUILDING ENTRANCE



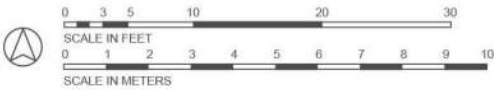
2. EAST CORNER DETAIL AT RAMP



3. WEST CORNER DETAIL AT RAMP

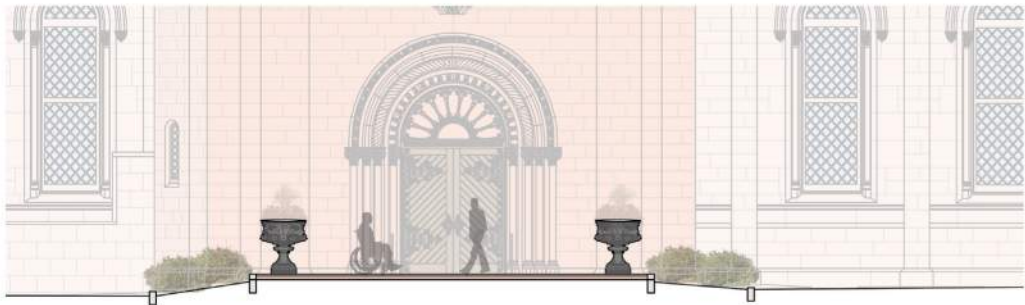


4. PLANTING AREA

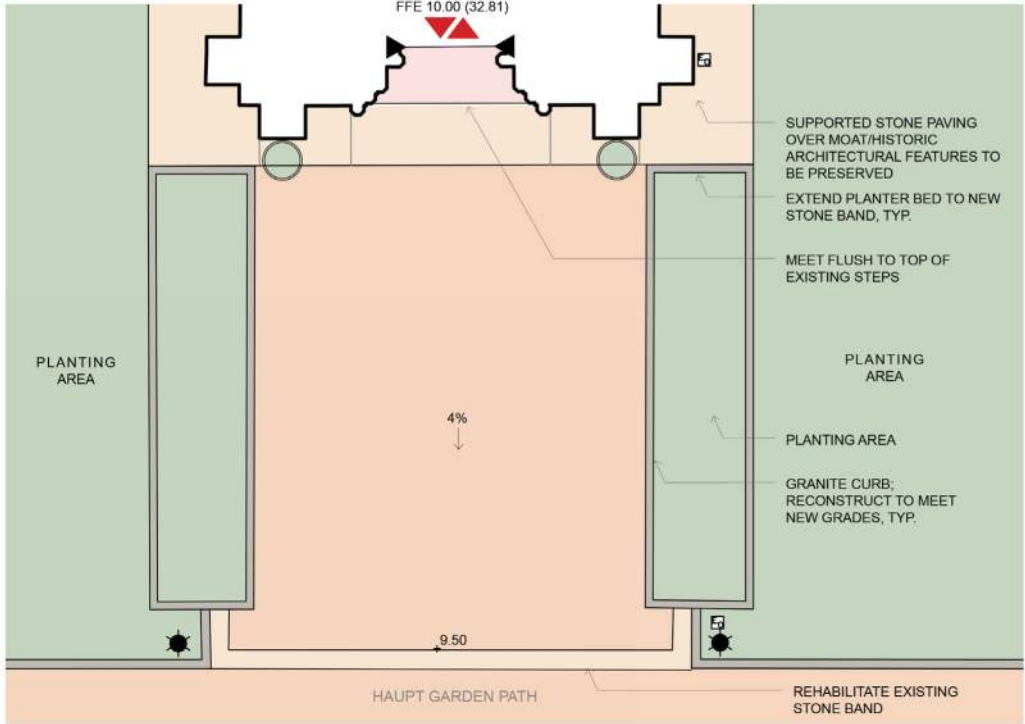


GARDENS AND GROUNDS KEY DESIGN ISSUES

ACCESSIBILITY IMPROVEMENTS - SIB SOUTH ENTRANCE PROPOSED CONCEPT



PROPOSED ELEVATION LOOKING NORTH

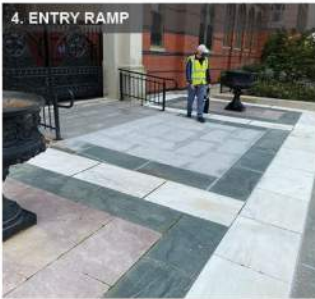
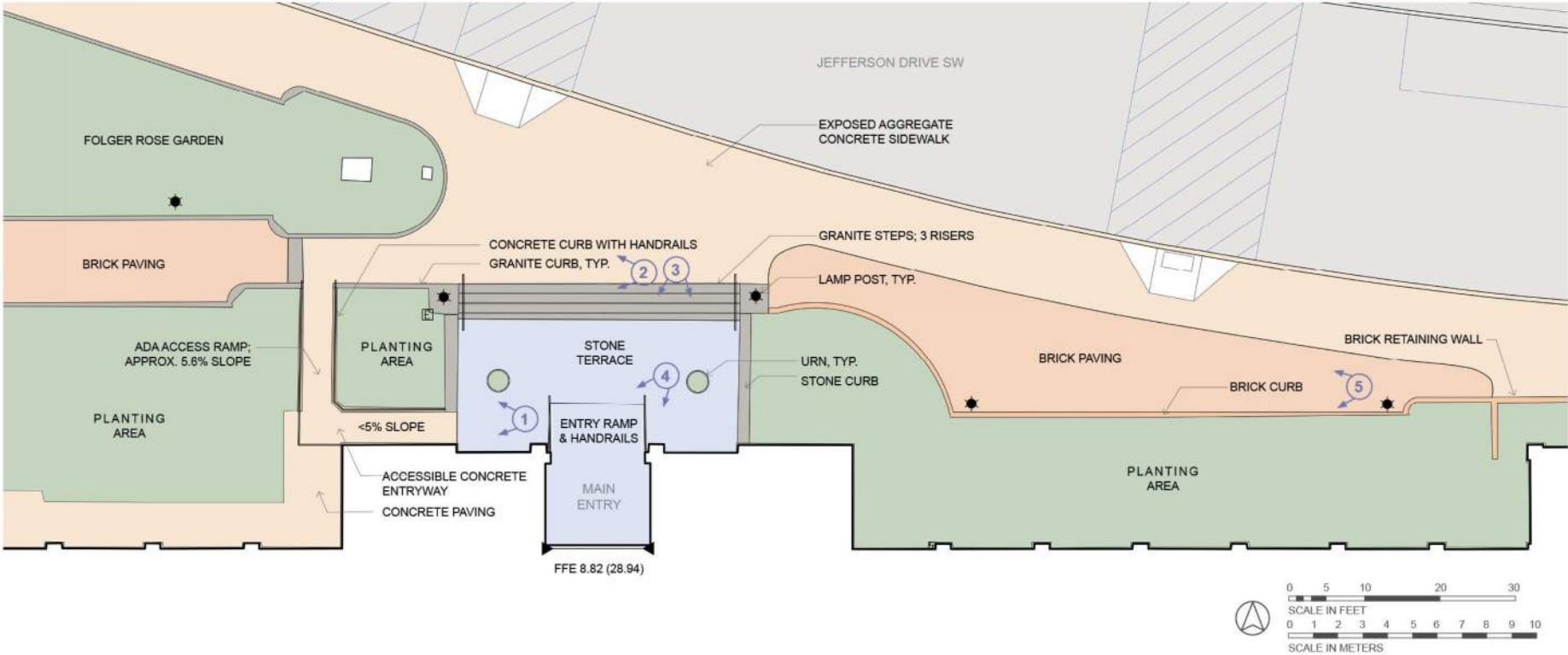


PROPOSED PLAN



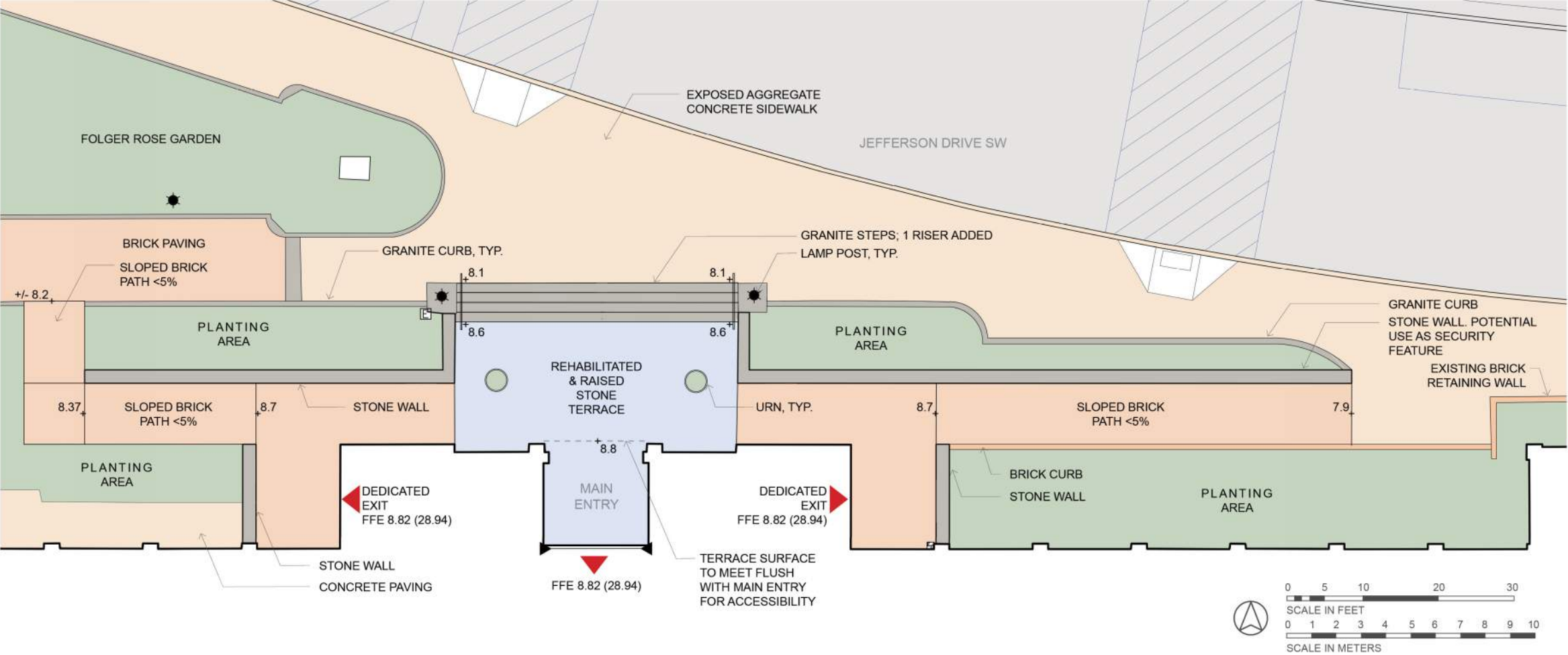
GARDENS AND GROUNDS KEY DESIGN ISSUES

ACCESSIBILITY IMPROVEMENTS - AIB NORTH ENTRANCE EXISTING CONDITIONS



GARDENS AND GROUNDS KEY DESIGN ISSUES

ACCESSIBILITY IMPROVEMENTS - AIB NORTH ENTRANCE PROPOSED CONCEPT

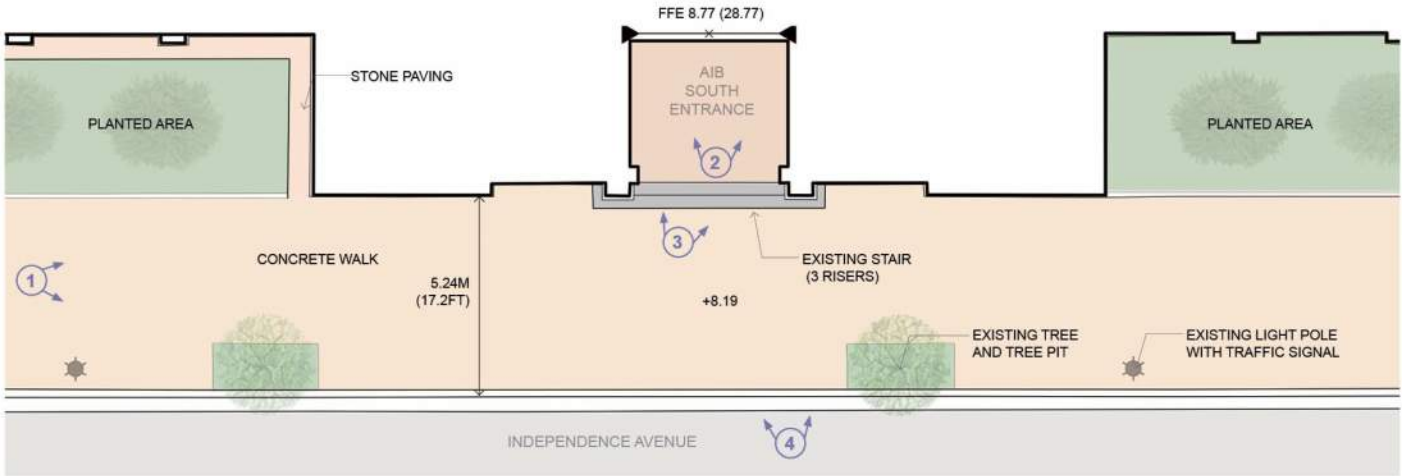


GARDENS AND GROUNDS KEY DESIGN ISSUES

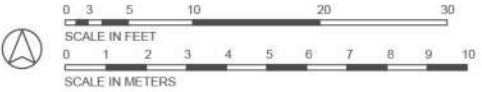
ACCESSIBILITY IMPROVEMENTS - AIB SOUTH ENTRANCE EXISTING CONDITIONS



ELEVATION LOOKING NORTH



PLAN

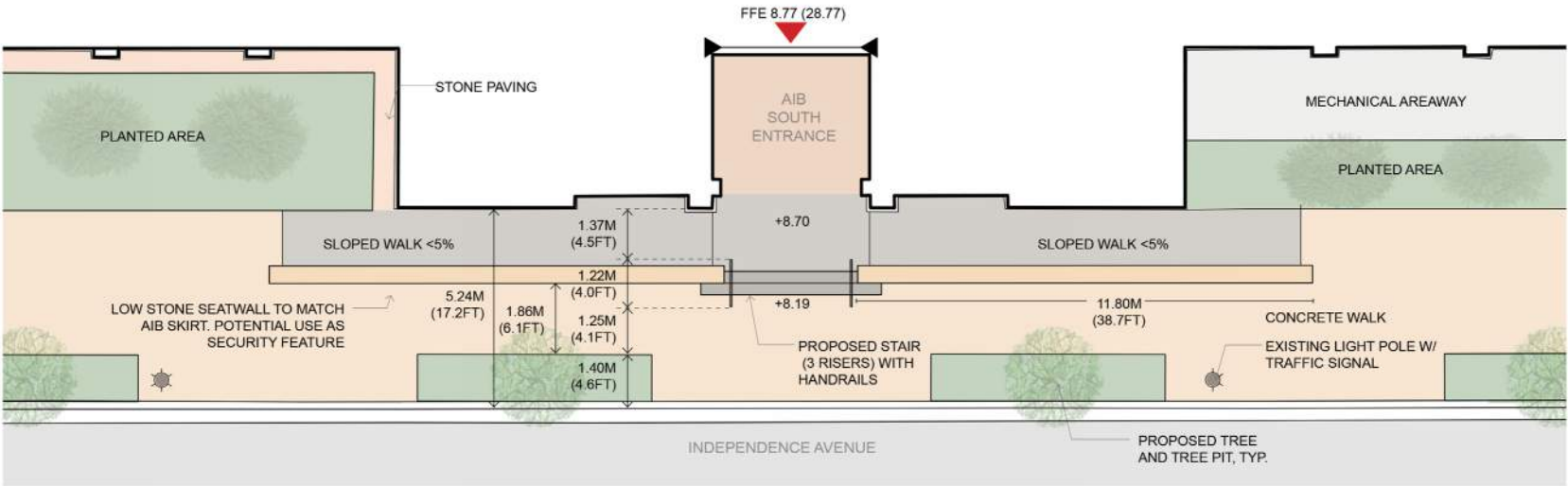


GARDENS AND GROUNDS KEY DESIGN ISSUES

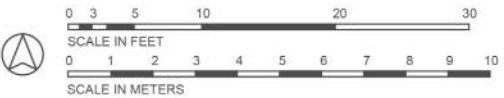
ACCESSIBILITY IMPROVEMENTS - AIB SOUTH ENTRANCE PROPOSED CONCEPT – SLOPED WALK



ELEVATION LOOKING NORTH

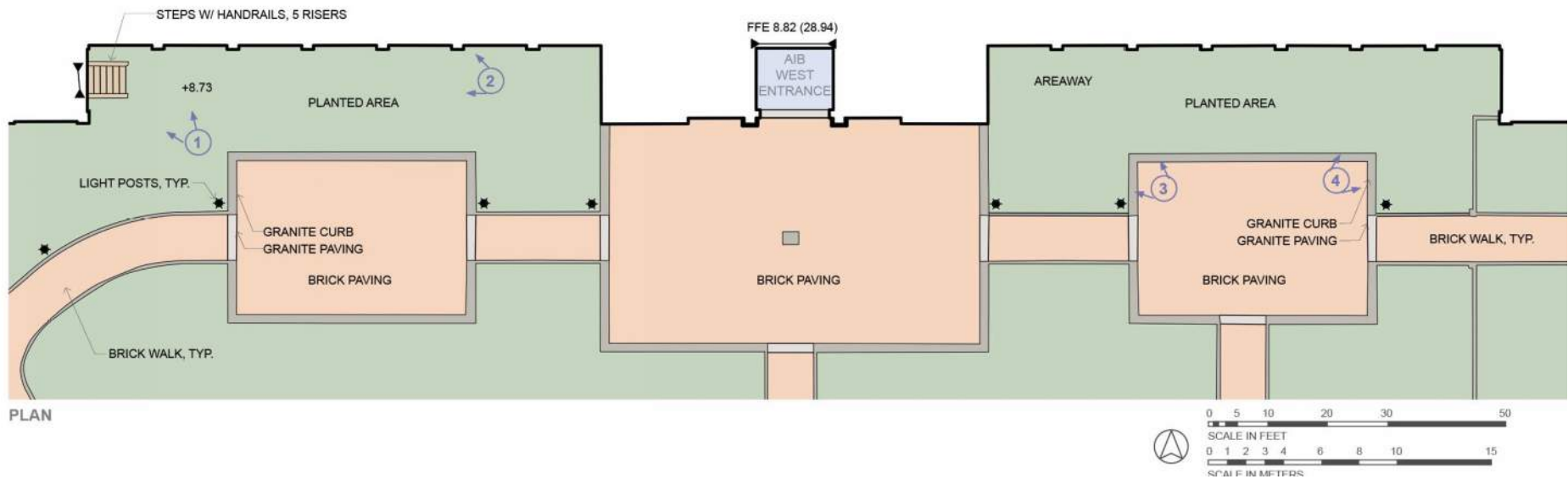


PLAN



GARDENS AND GROUNDS KEY DESIGN ISSUES

NEW EGRESS - AIB WEST EXISTING CONDITIONS

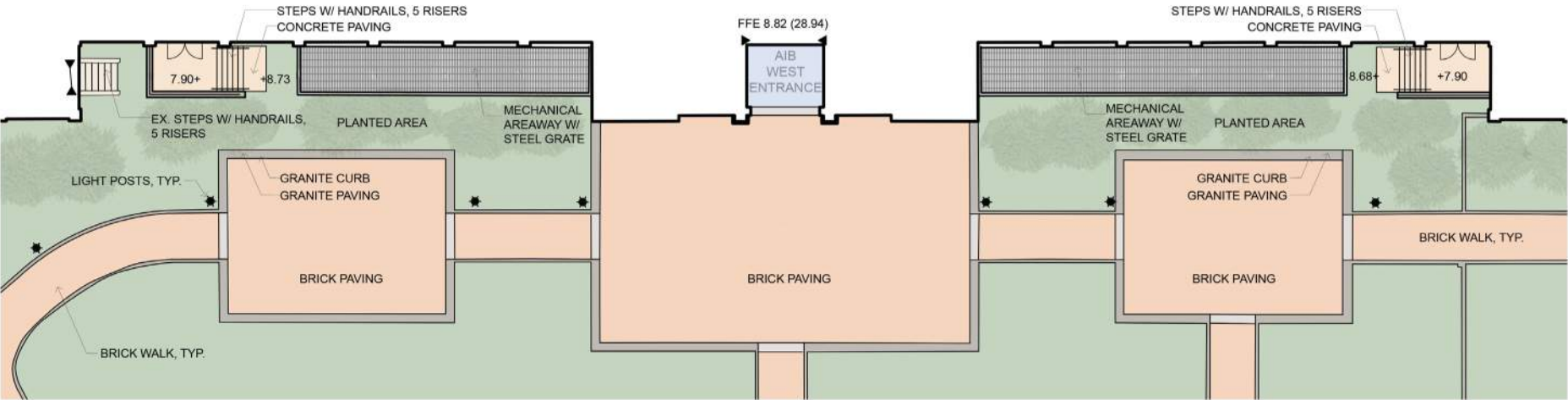


GARDENS AND GROUNDS KEY DESIGN ISSUES

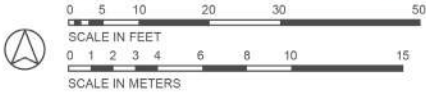
NEW EGRESS - AIB WEST PROPOSED CONCEPT



ELEVATION LOOKING EAST



PLAN



GARDENS AND GROUNDS SOUTH OF SMITHSONIAN INSTITUTION BUILDING

EVOLUTION



South Yard (c.1885)



South Yard (1960s)



Victorian Garden (1977)



Quadrangle Construction (1986)



GARDENS AND GROUNDS SOUTH OF SMITHSONIAN INSTITUTION BUILDING

AFRICAN ART MUSEUM PAVILION FOUNTAIN GARDEN



Design Objectives

- Carefully document Fountain Garden hardscape and water features; salvage and rehabilitate after insertion of CUP
- Replace existing vegetation in the spirit of the existing character while accommodating new below-grade improvements





Smithsonian Institution

