



**Smithsonian Institution  
Revitalization of the Historic Core**

**Revitalize Castle Phase 1**

**Commission of Fine Arts  
FINAL SUBMISSION**

February 2, 2023

EYP-Loring, LLC



## Project Name

Revitalization of the Historic Core (RoHC)

Smithsonian Institution Building  
1000 Jefferson Dr, SW  
Washington DC 20024

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Jensen Hughes – Fire Protection, Life Safety, Accessibility  
Sorba (f. Wiles Mensch) – Civil Engineering  
Axias (f. Hanscomb Consulting) – Construction Cost Analysis & Estimating  
Aerosol Monitoring & Analysis – HazMat Abatement and Analysis  
Culinary Advisors – Food Service Design  
Phase Shift Consulting – Audio-Visual, Electronic Security  
Applied Research Associates – Blast Engineering  
Gorove Slade Associates – Traffic Engineering, Materials Handling  
C.M. Kling & Associates – Lighting Design  
Saunders & Associates - Acoustics  
Michael Blades & Associates – Vertical Transportation Systems Design  
Building Conservation Services – Materials Conservation Services  
Haley & Aldrich – Geotechnical Engineering

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# INTRODUCTION

# INTRODUCTION

In October 2022, as part of the regular monthly Consulting Parties meetings, the Smithsonian Institution introduced a revised approach to the Section 106, NCPC and CFA review process, splitting the project consultation into two phases. The purpose of this split is to facilitate the approval of project elements related to an initial phase of construction that is scheduled to begin in the first quarter of 2023. This construction schedule is linked to opening the building to the public during the summer of 2026 in support of the celebration of the nation’s Semiquincentennial.

This initial phase of construction will be focused on below grade construction. This excavation is related to excavation under the Castle to create a new mechanical equipment and systems routing level; excavation to the south, east, and west of the Castle for the SIB Extension which will link the Castle to the existing Quadrangle Building loading dock at the B1 level; and excavation to lower the existing basement floor three feet in support of accommodating visitor amenities.

This submission includes the design components that must be finalized prior to the start of the below grade construction. Consultation through the Section 106 review process will continue in 2023 on the design components related to the above grade construction on the Castle and the site, managed by a Programmatic Agreement. In the fall of 2023, a separate submission will be made for approval of these design components.

Status of Review by CFA  
At the CFA meeting of June 17, 2021, the Commission approved the concept submission for the Revitalization of the Historic Core project with the following comments and requests:

- Exterior interventions should not detract from the existing character of the building
- Requested more detail regarding the design and visual impact of rooftop mechanical structures
- Suggested further study to minimize the size of the egress connector on the roof of the East Range
- Requested further consideration of how new areaway walls would be finished

At the CFA meeting of February 17, 2022, 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. The Commission members commented favorably on the revisions to the proposed roof alterations, landscape design, treatment of barrier-free access, and development of the expanded areaways.

At the CFA meeting of September 15, 2022, the Commission approved, based on its prior review of the submission materials, the revised concept design proposal for the renovation of and addition to properties in its historic core, and associated perimeter security elements.

As noted in Section 2 of this submission, Outreach and Coordination, the Smithsonian Institution has continued to consult with the DC SHPO, the NPS, and the consulting parties. This has included three online meetings in October, November, and January, and a site visit at the Castle in November to review mock-ups of perimeter security and the seismic joint cover.

# INTRODUCTION

Invited Consulting Parties

Public Agencies

- National Capital Planning Commission
- U.S. Commission of Fine Arts
- DC State Historic Preservation Office
- Advisory Council on Historic Preservation
- Architect of the Capitol
- DC Department of Transportation
- DC Office of Planning
- DC Water
- National Archives and Records Administration
- National Gallery of Art
- National Park Service – National Mall and Memorial Parks
- National Park Service – National Historic Landmarks Program
- Department of Agriculture
- General Services Administration
- Washington Metropolitan Area Transit Authority
- DC Department of Energy and Environment
- Department of Energy
- Department of Health and Human Services
- Federal Aviation Administration
- Department of Justice
- Environmental Protection Agency

Interested Parties

- American Institute of Architects, DC Chapter
- Committee of 100 on the Federal City
- Cultural Landscape Foundation
- DC Preservation League
- Destination DC
- Docomomo US and DC Chapter
- Historic Anacostia
- National Association of Olmsted Parks
- National Mall Coalition

- National Trust for Historic Preservation
- Society of Architectural Historians
- Society of Architectural Historians, Latrobe Chapter
- US Capitol Historical Society
- Victorian Society in America
- Victorian Society New York
- Southwest BID
- Southwest Neighborhood Assembly
- National Civic Art Society
- American Society of Landscape Architects
- Garden Club of America

Local Elected Representatives

- Advisory Neighborhood Commission 2C
- Advisory Neighborhood Commission 6D

Participation from 10 individual citizens

# 1. PROJECT OVERVIEW

# 1. PROJECT OVERVIEW

## 1.1 SUBMISSION SUMMARY

The project site is located on the south side of the National Mall in Washington, D.C., within an area that is identified by the Smithsonian Institution as the South Mall Campus. The project site is bounded by the Arts and Industries Building on the East, the below-ground Quadrangle Building (Quad) on the South, and Jefferson Drive on the North. The Quad is connected to the Freer Gallery and contains the Ripley Center, the Arthur M Sackler Gallery, and the Smithsonian National Museum of African Art.

The total area of the site is approximately 2.50 acres. The project site includes one existing building, the Smithsonian Institution Building (SIB/Castle).

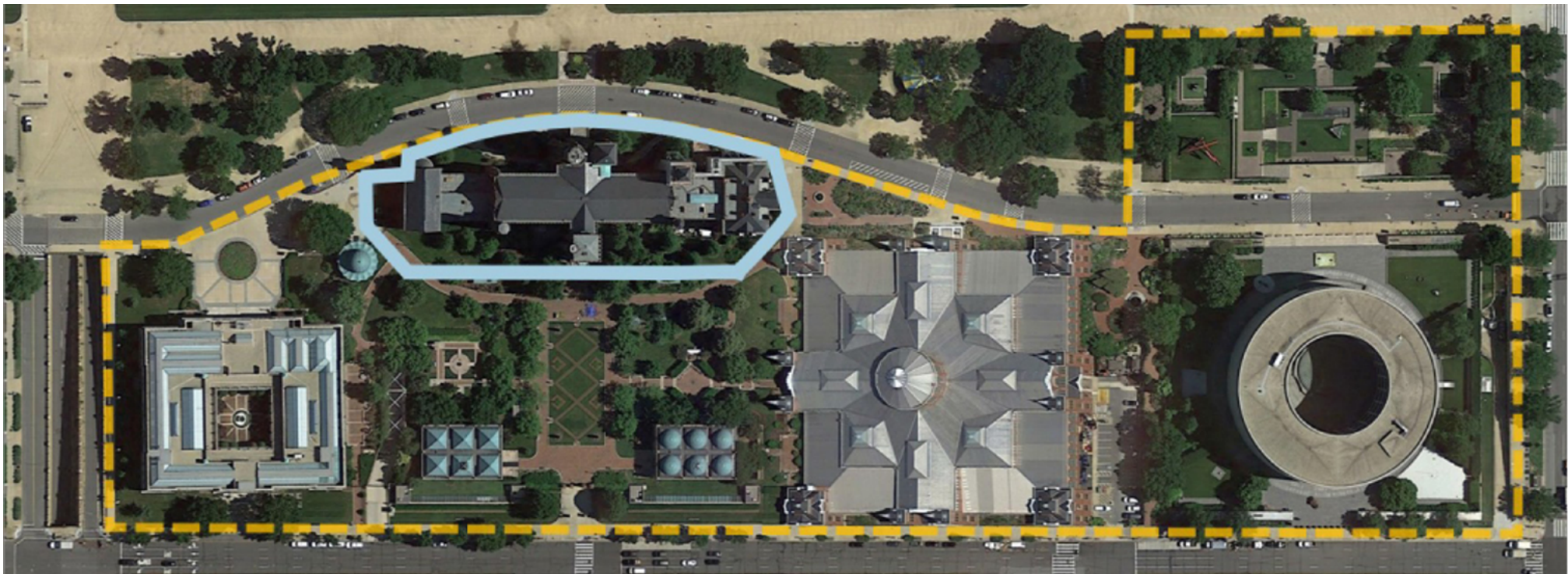


Figure 1.1.a - Project site.

# 1. PROJECT OVERVIEW

## 1.2 DESCRIPTION OF THE PROPOSED PROJECT

### 1.2.1 SCOPE

There is a need for comprehensive rehabilitation of the Smithsonian Institution Building (SIB or “the Castle”) in order to address physical deterioration, obsolete systems, and non-compliance with construction, accessibility, and life-safety codes. The Castle is a National Historic Landmark, listed in the National Register of Historic Places, part of the National Mall Historic District, and is included in the DC Quadrangle Historic District.

The Smithsonian Institution Building (SIB), familiarly known as “the Castle”, is located on the National Mall in Washington, D.C. It was designed by James Renwick, Jr., under the direction of the Smithsonian’s first Secretary, Joseph Henry, and the Board of Regents. When completed in 1855, the building housed all the Smithsonian’s operations including research and administrative offices, lecture and exhibition halls, a library and reading room, chemical laboratories, storage areas for specimens, and living quarters for Joseph Henry and his family. As each successive Secretary has redefined the Smithsonian’s mission and managed its growth, the Castle’s interior spaces have undergone many modifications. While the building’s stewards do their best to maintain and repair it, continuing decay and piecemeal remodeling threaten the integrity of the building. In order to prevent impending catastrophic failure of structural, environmental, mechanical, and electrical systems, the building needs a full system revitalization.



Figure 1.2.1.a - Overall scope.

# 1. PROJECT OVERVIEW

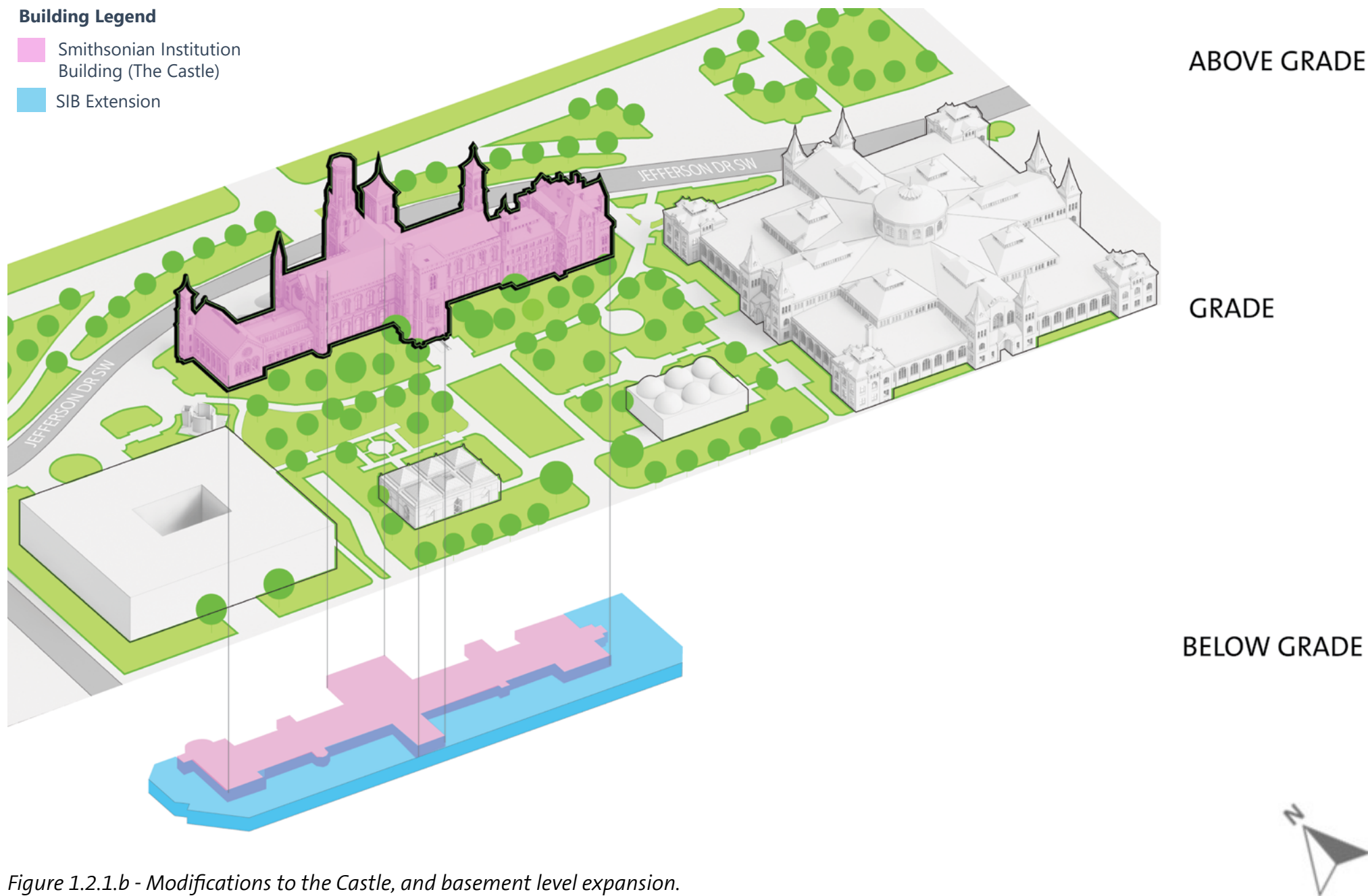
## 1.2 DESCRIPTION OF THE PROPOSED PROJECT

### 1.2.1 SCOPE (CONTINUED)

Implementation of the South Mall Campus Master Plan, approved in 2018, included excavation below and adjacent to the Castle to create a mechanical distribution level and increase floor to ceiling height in the basement level. This project will implement these design actions, installs seismic base isolation, and creates a B1 level service extension, which is called the SIB Extension.

The B1 SIB Extension aligns with the B1 level of the adjacent Quadrangle Building and the existing loading dock and provides space for non-public support functions. The SIB Extension will facilitate the use of the historic interiors of the Castle for public programming by providing space for SI building operations and support. The SIB Extension will not be used for public programming.

This project will excavate but not enable a future B2 level connection between the Castle and the Quadrangle. This project will not provide any public circulation between any South Mall Campus buildings.



# 1. PROJECT OVERVIEW

## 1.2 DESCRIPTION OF THE PROPOSED PROJECT

### 1.2.2 PHASES

#### PHASE 1

During the design development process, a review of the overall construction process identified a required pause in site construction activities during the summer of 2026 to allow the Castle to be made available to the public in support of the celebration of the nation’s Semiquincentennial. An initial phase of construction will be completed prior to the spring of 2026 which will focus on work below grade. This will include the seismic retrofit of the Castle foundations, excavation under the Castle to create the new mechanical equipment and systems routing level, lowering the basement level three feet to accommodate visitor amenities and public programming, and excavation to the south, east, and west of the Castle to create the SIB extension which will link the Castle to the existing Quadrangle Building loading dock on the B1 level.

Prior to the start of this initial phase of construction final approval will be required on five design components. The components are listed in Figure 1.2.2a and were the focus of Consulting Parties Meeting #8 which was held on Wednesday, November 16, 2022. Section 3 of this submission includes detailed information on each of these five components.

| Phase 1 (Baseline Project)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Introduction of New Areaways and Window Wells (Locations and Dimensions)</li><li>• Installation of Seismic Control Joint Around the Castle Perimeter (Location and Width)</li><li>• Extent of Excavation Adjacent to Castle<ul style="list-style-type: none"><li>• SIB Extension (B1 Level)</li><li>• B2 Level Cistern</li></ul></li><li>• Excavation Beneath the Castle<ul style="list-style-type: none"><li>• Base Isolation</li><li>• Lowering of the Basement Level</li><li>• Mechanical Distribution Level</li><li>• Future Quadrangle Building B2 Connection</li></ul></li><li>• Creation of Alternate Pedestrian Routes for Circulation Around the Castle</li></ul> |

Figure 1.2.2.a – Phase 1 - Components of Review

# 1. PROJECT OVERVIEW

## 1.2 DESCRIPTION OF THE PROPOSED PROJECT

### 1.2.2 PHASES (CONTINUED)

#### PHASE 2

Phase 2 of the Section 106 Consultation will continue through 2023 with a final submission on the design components related to that work occurring later in 2023. The components are listed in Figure 1.2.2b. Initial presentations on a number of these components has already occurred, but additional design refinements and reviews in future Consulting Parties meetings will occur. Construction on the majority of these elements will start after the celebrations in 2026.

The Smithsonian, DC State Historic Preservation Office, NCPC, National Park Service, and the Advisory Council on Historic Preservation have drafted a Programmatic Agreement to oversee the entire project scope.

| Phase 2<br>Section 106 Consultation Continues through 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• New Landscape Planting Plan</li><li>• Perimeter Security</li><li>• Lighting</li><li>• South Tower Elevator - Exterior Alterations</li><li>• South Tower Elevator - Interior Effects</li><li>• Emergency Generator</li><li>• In-kind Replacement of Roof Materials</li><li>• Roof Modifications – Energy Improvements, Including Increases in Roof Thickness</li><li>• Modifications to Rooftop Mechanical Penthouses</li><li>• Installation of New East Wing 4<sup>th</sup> Floor Egress</li><li>• Replacement and Restoration of Windows</li><li>• Replacement and Restoration of Windows – Interior Effects</li><li>• Exterior Masonry Restoration</li><li>• New Basement Windows</li><li>• Basement Egress Doors</li></ul> | <ul style="list-style-type: none"><li>• Basement Level Interior Alterations<ul style="list-style-type: none"><li>• Lowering of the Basement Floor</li><li>• New Basement Window Openings</li><li>• Egress Paths to Basement Level Egress Doors</li></ul></li><li>• Alterations at the South Entrance to Improve Accessibility</li><li>• Accessible Walkways at the North Entrance</li><li>• Cumulative Effects on the Castle</li><li>• Cumulative Effects on the National Mall Historic District</li></ul> |

Figure 1.2.2.b – Phase 2 - Components of Review

## 2. OUTREACH AND COORDINATION

# 2. OUTREACH AND COORDINATION

## 2.1 PUBLIC ENGAGEMENT

The South Mall Campus Master Plan Programmatic Agreement provides the framework for and reinforces the importance of ongoing and future public consultations as part of the implementation of the Master Plan in compliance with the National Historic Preservation Act. As part of the Section 106 review process Consulting Parties meetings have been held in alignment with the milestone progress of the project, initiated during Concept Design. In parallel with the public meetings the project has been submitted for review to the National Capital Planning Commission (NCPC) and the Commission of Fine Arts (CFA). All of these formal review processes incorporate public input.

The Smithsonian has coordinated review of the RoHC in accordance with the Programmatic Agreement Stipulation 1 – Preliminary Project Consultation. The Signatories were convened for preliminary consultation in October 2020, April 2021, October 2021, and May 2022.

The Smithsonian, DC State Historic Preservation Office, NCPC, National Park Service, and the Advisory Council on Historic Preservation have drafted a Programmatic Agreement as its Signatories. The Programmatic Agreement oversees both phases on the project, and describes adverse effects on historic resources, and how the Smithsonian will continue to conduct Section 106 consultation on Phase 2 of the project.

The Section 106 process was initiated in October 2020, and the following meetings have been held virtually:

- 2021-1-13: RoHC Consulting Parties Meeting #1 (Description of the scope of the project and the historic significance of the Castle and the Arts & Industries Building)
- 2021-5-26: RoHC Consulting Parties Meeting #2a (Presentation of the concept design - focus on the rehabilitation of the Castle and AIB)
- 2021-5-27: RoHC Consulting Parties Meeting #2b (Presentation of the concept design - focus on the central utility plant, cooling towers, and landscape)
- 2021-11-16: RoHC Consulting Parties Meeting #3 Part 1 (Presentation of an overall project update during the schematic design phase)
- 2021-12-14: RoHC Consulting Parties Meeting #3 Part 2 (Presentation of the draft Assessment of Effects on Historic Resources)
- 2022-6-15: RoHC Consulting Parties Meeting #4 (Revitalize Castle Scope)
- 2022-08-24- RoHC Consulting Parties Meeting #5, Part 1 online
- 2022-09-07- RoHC Consulting Parties Meeting #5, Part 2, site visit
- 2022-09-28- RoHC Consulting Parties Meeting #6, online
- 2022-10-26- RoHC Consulting Parties Meeting #7, Part 1, online
- 2022-11-15 RoHC Consulting Parties Meeting #7, Part 2, joint cover and perimeter security mock-ups on site
- 2022-11-30- RoHC Consulting Parties Meeting #8, including review of Assessment of Effects report and draft of proposed Programmatic Agreement
- 2023-01-25- RoHC Consulting Parties Meeting #9, review of Programmatic Agreement

On August 12 and September 16, 2021, the Smithsonian met with the National Park Service to discuss the elements of the project that impact NPS property and the Smithsonian’s comprehensive construction schedule for the Smithsonian projects on the Mall. The Smithsonian has set a recurring monthly Consulting Parties meeting to facilitate consultation.

On May 12, 2022, the Smithsonian met with the National Park Service to discuss the Revitalize Castle scope and perimeter security. Consultation and coordination with the National Park Service will continue through 2023.

The Smithsonian Institution has created and maintains a project specific webpage for the RoHC for Section 106 consulting parties and the public: [www.sifacilities.si.edu/historic-core](http://www.sifacilities.si.edu/historic-core)

## 2. OUTREACH AND COORDINATION

### 2.1 PUBLIC ENGAGEMENT

Figure 2.1.a represents the status of the Section 106 Consultation process for the Phase 1 portion of the project. The Assessment of Effects report has been created and reviewed with the Consulting Parties. A Programmatic Agreement has been created and issued to the Consulting Parties for review and comment. The final Programmatic Agreement was presented on January 25, 2023, in Consulting Parties Meeting #9.

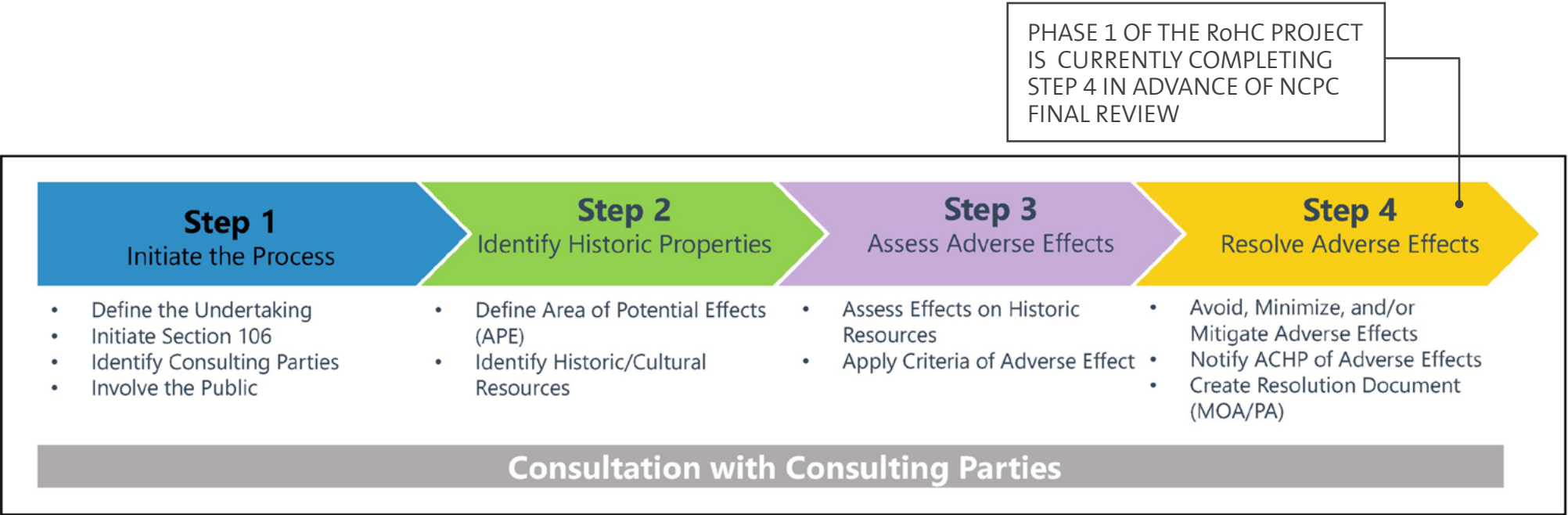


Figure 2.1.a - Section 106 process overview – Phase 1

Figure 2.1.b represents the status of the Section 106 Consultation process for the Phase 2 portion of the project. Public consultation will continue through 2023 with monthly Consulting Parties meetings and additional on-site meetings to review samples and mock-ups. These will be completed in 2023. The Assessment of Effects will be updated during Phase 2 of consultation, with an amendment to the Programmatic Agreement or a separate Memorandum of Agreement.

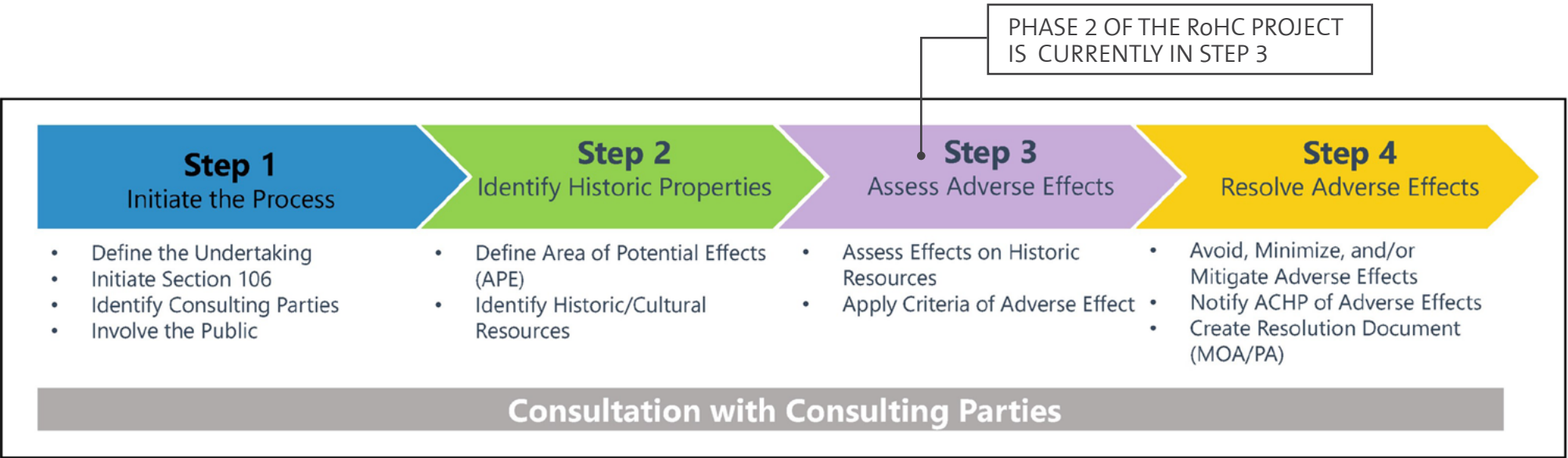


Figure 2.1.b - Section 106 process overview – Phase 2

# 3. DETAILED PROJECT INFORMATION



# 3. DETAILED PROJECT INFORMATION

## 3.1 NEW AREAWAYS AND WINDOW WELLS

### 3.1.2 EXISTING CHARACTER

The existing areaways and window wells vary in size and finish materials. Some are finished with Seneca Red Sandstone matching the above grade walls. Others, where rubble stone foundations were exposed, have been finished with pigmented concrete parging.

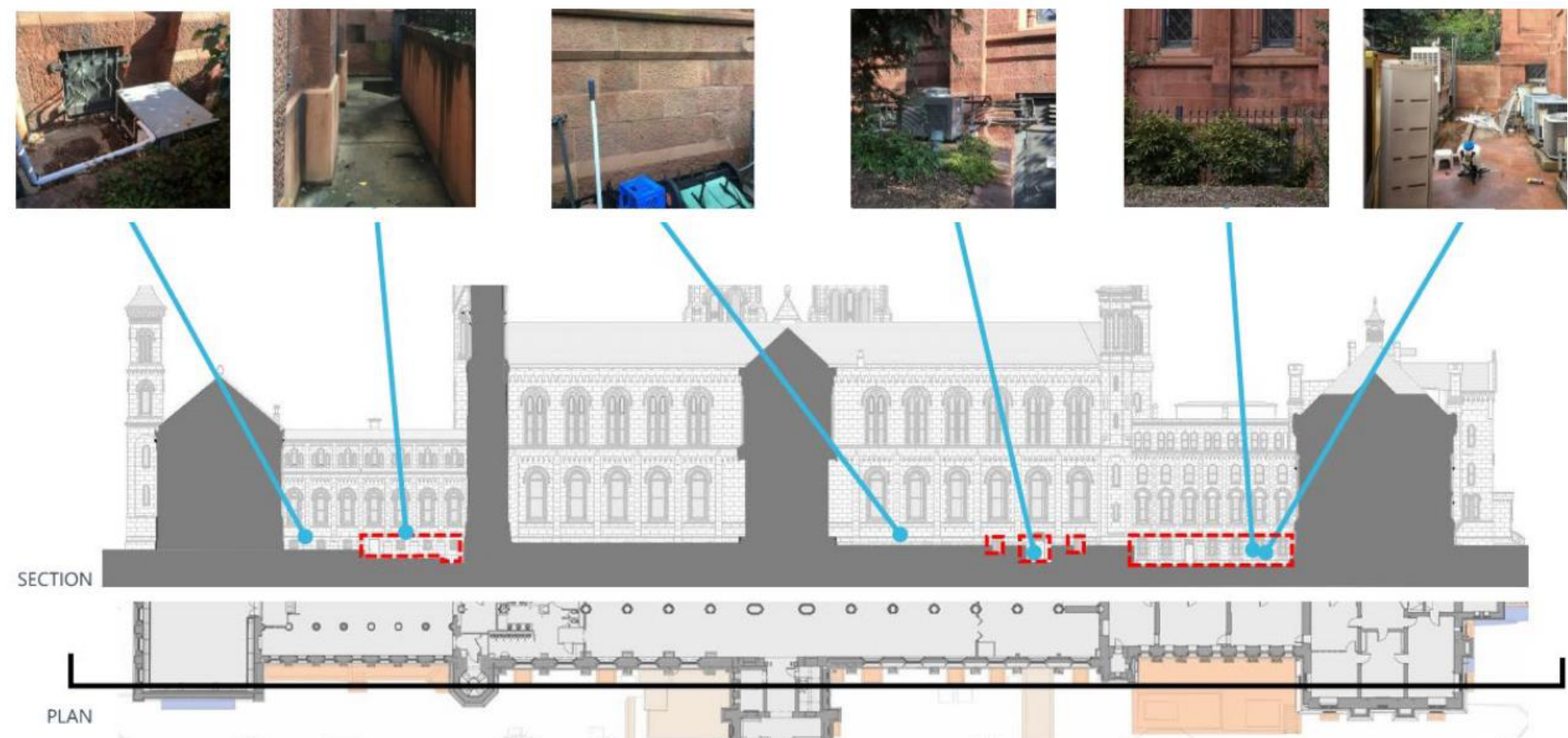


Figure 3.1.2.a – Existing character of south areaways

# 3. DETAILED PROJECT INFORMATION

## 3.1 NEW AREAWAYS AND WINDOW WELLS

### 3.1.2 EXISTING CHARACTER (CONTINUED)

Areaways on the south side of the building were modified to accommodate egress from basement areas as well as storage and mechanical equipment.



Figure 3.1.2.b - Existing character of south areaways



Figure 3.1.2.c - Existing character of south areaways



Figure 3.1.2.d - Existing character of south areaways

# 3. DETAILED PROJECT INFORMATION

## 3.1 NEW AREAWAYS AND WINDOW WELLS

### 3.1.2 EXISTING CHARACTER (CONTINUED)

The existing areaways on the south side of the Castle are not visible from the garden due to their distance from the public pathway and existing vegetation.



A. SOUTH LANDSCAPE LOOKING NORTHEAST



B. SOUTH LANDSCAPE LOOKING NORTHWEST

Figure 3.1.2.e – Existing view of south areaway from public path

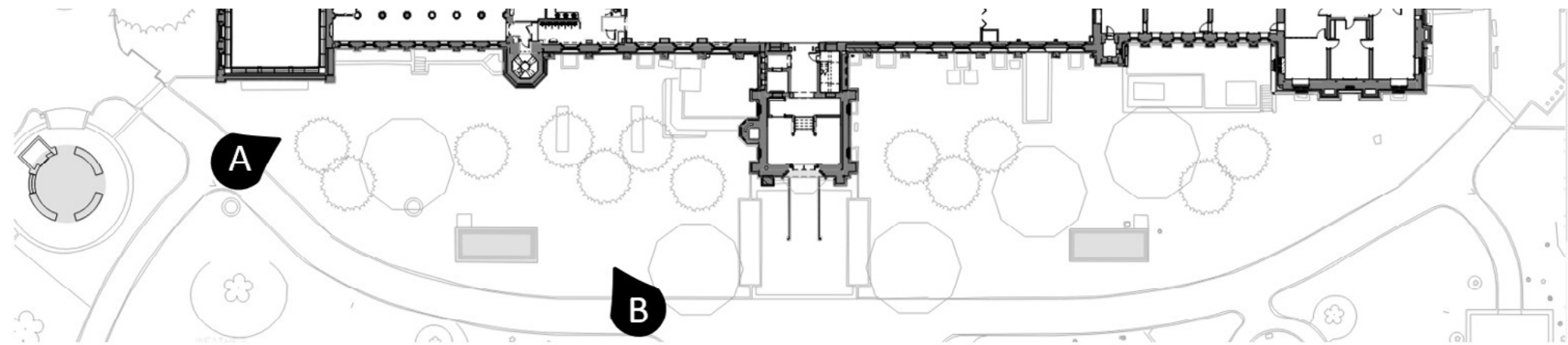


Figure 3.1.2.f – Existing site plan

# 3. DETAILED PROJECT INFORMATION

## 3.1 NEW AREAWAYS AND WINDOW WELLS

### 3.1.3 OVERALL PLAN

The proposed layout of the areaways and window wells regularizes the configuration around the building. This will help integrate and minimize the visual presence of the seismic control joint at the base of the building.

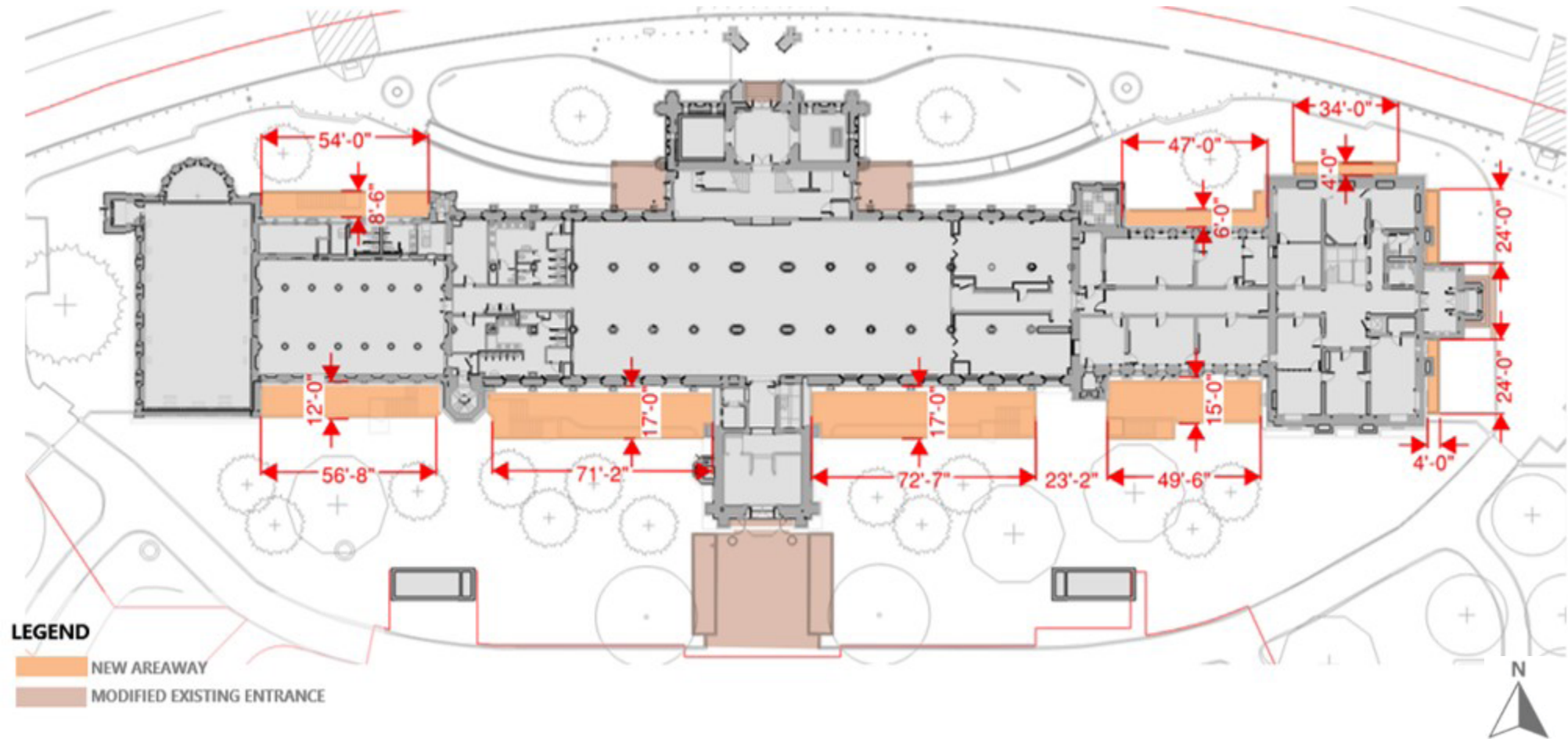


Figure 3.1.3.a – Proposed areaways and window wells

# 3. DETAILED PROJECT INFORMATION

## 3.1 NEW AREAWAYS AND WINDOW WELLS

### 3.1.4 ELEVATIONS

The existing window wells on the north elevation of the building date from the early periods of construction of the Castle.

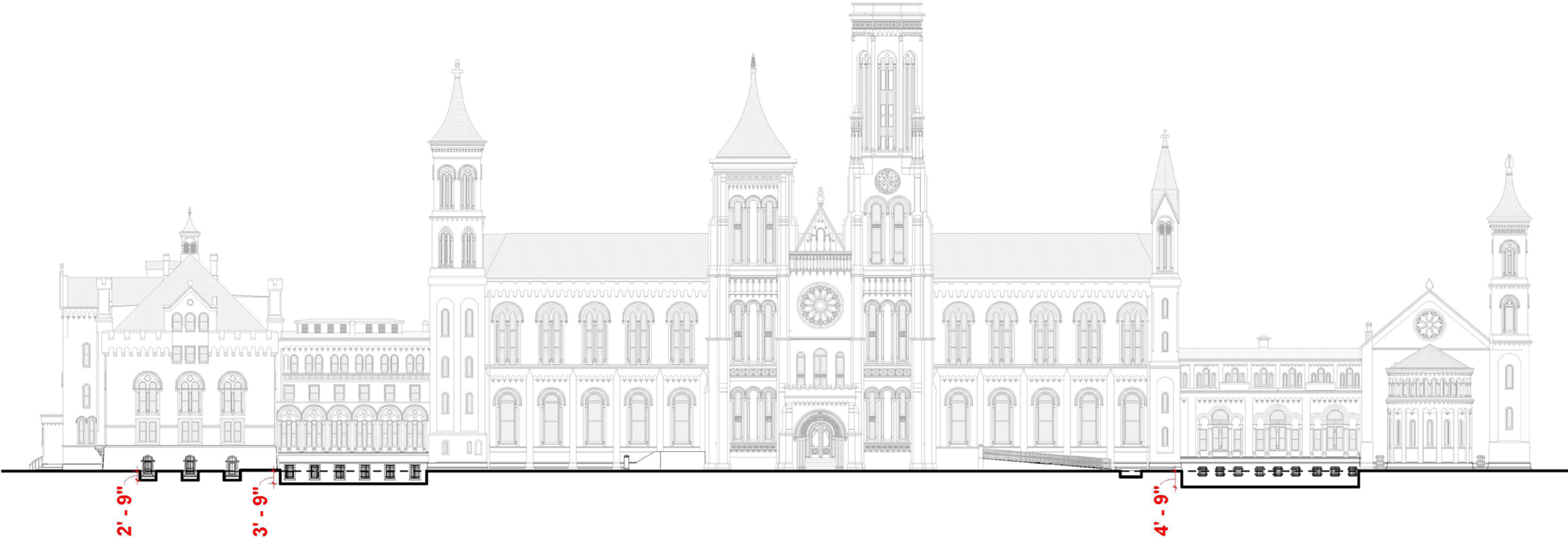


Figure 3.1.4.a – Existing north elevation

# 3. DETAILED PROJECT INFORMATION

## 3.1 NEW AREAWAYS AND WINDOW WELLS

### 3.1.4 ELEVATIONS (CONTINUED)

The proposed modifications to the window wells on the north elevation of the Castle include deepening the areaway at the West Range to provide egress from the basement.

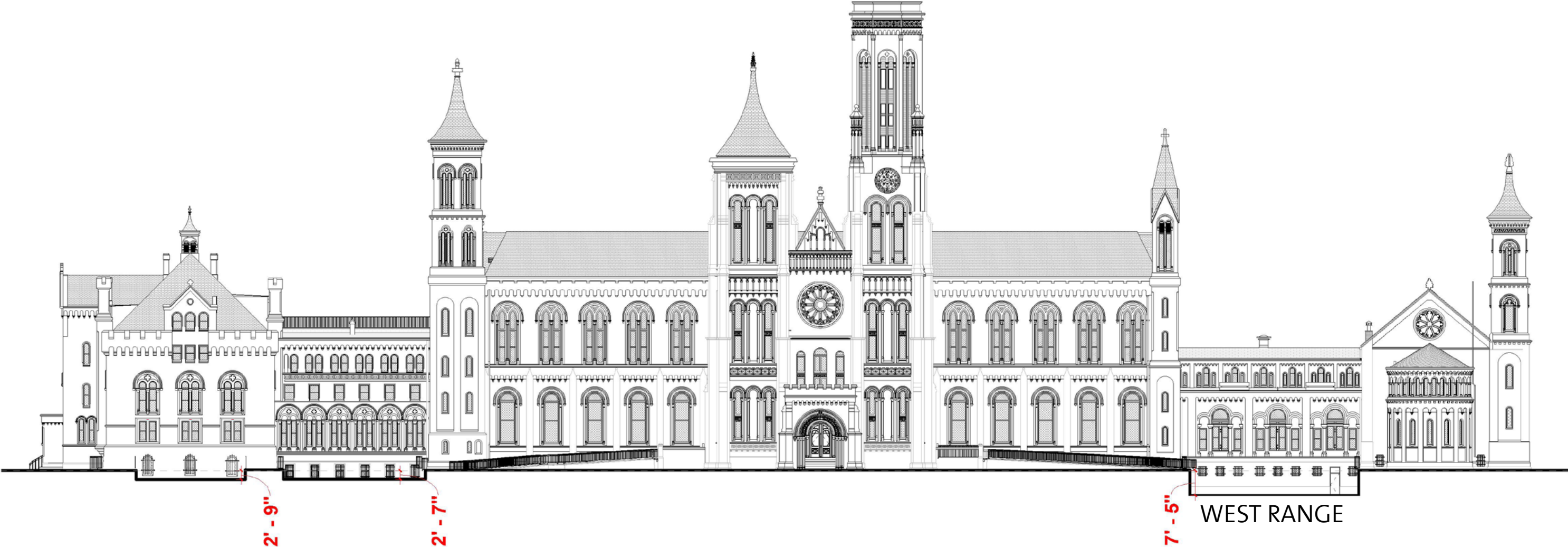


Figure 3.1.4.b – Proposed north elevation

# 3. DETAILED PROJECT INFORMATION

## 3.1 NEW AREAWAYS AND WINDOW WELLS

### 3.1.4 ELEVATIONS (CONTINUED)

The existing window wells and areaways on the south elevation have been added at various times to accommodate egress, building equipment, and maintenance storage.

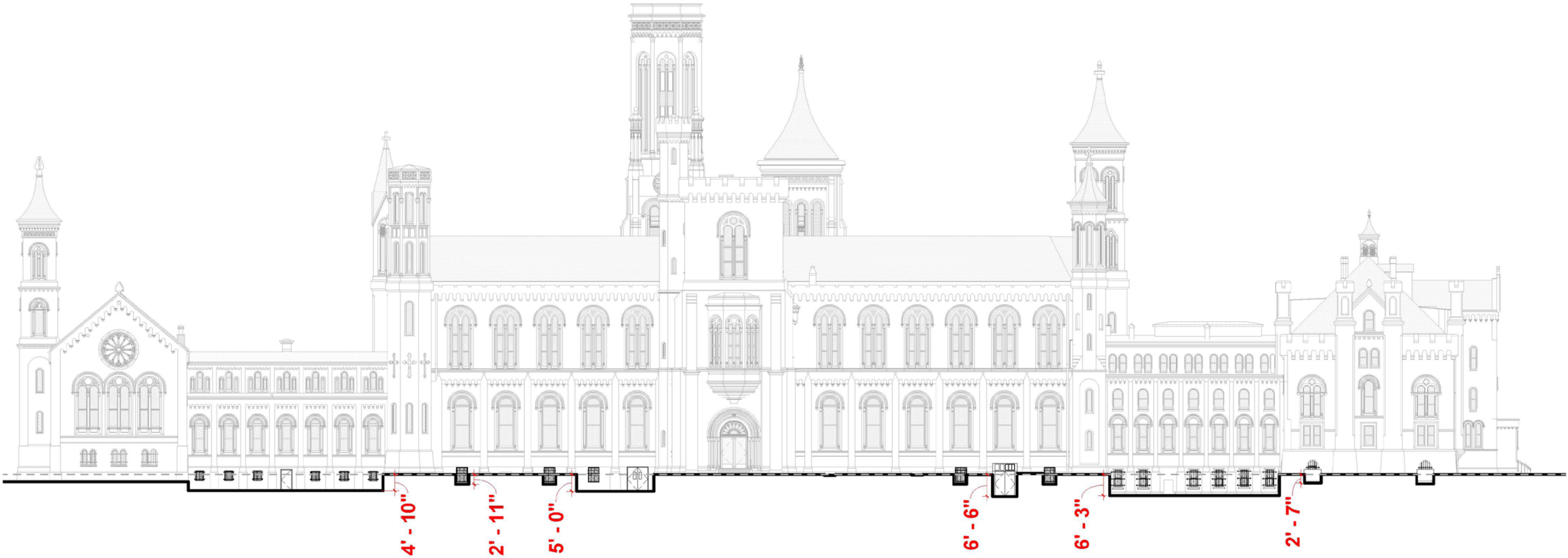


Figure 3.1.4.c – Existing south elevation

# 3. DETAILED PROJECT INFORMATION

## 3.1 NEW AREAWAYS AND WINDOW WELLS

### 3.1.4 ELEVATIONS (CONTINUED)

The proposed modifications on the south elevation will regularize the depth across the elevation and provide additional egress points from the basement. Some of these areaways will also provide functional space connected to basement programs.

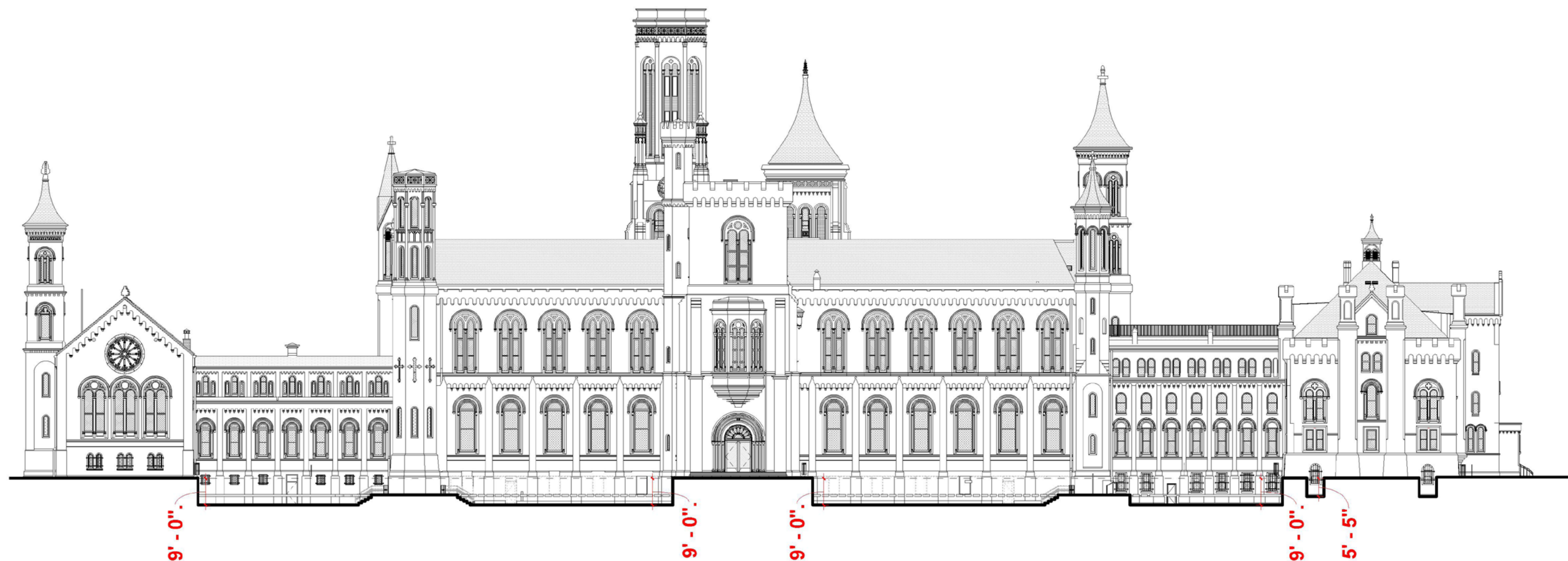


Figure 3.1.4.d – Proposed south elevation

# 3. DETAILED PROJECT INFORMATION

## 3.1 NEW AREAWAYS AND WINDOW WELLS

### 3.1.5 SOUTHWEST AREAWAY

The southwest areaway is comprised of two areaways that flank the Octagon Tower. This allows the tower to come down to grade matching its historic configuration. The retaining walls align with massing elements of the Castle (buttresses). The retaining walls will include a fall protection railing and access control gates. (These will be reviewed as part of Phase 2).

The west portion of the areaway provides egress from the basement, the SIB Extension, and the upper floors of the Castle through the Octagon Tower.

The east portion of the areaway provides egress from the basement and an outdoor seating area that is accessed from the building interior.

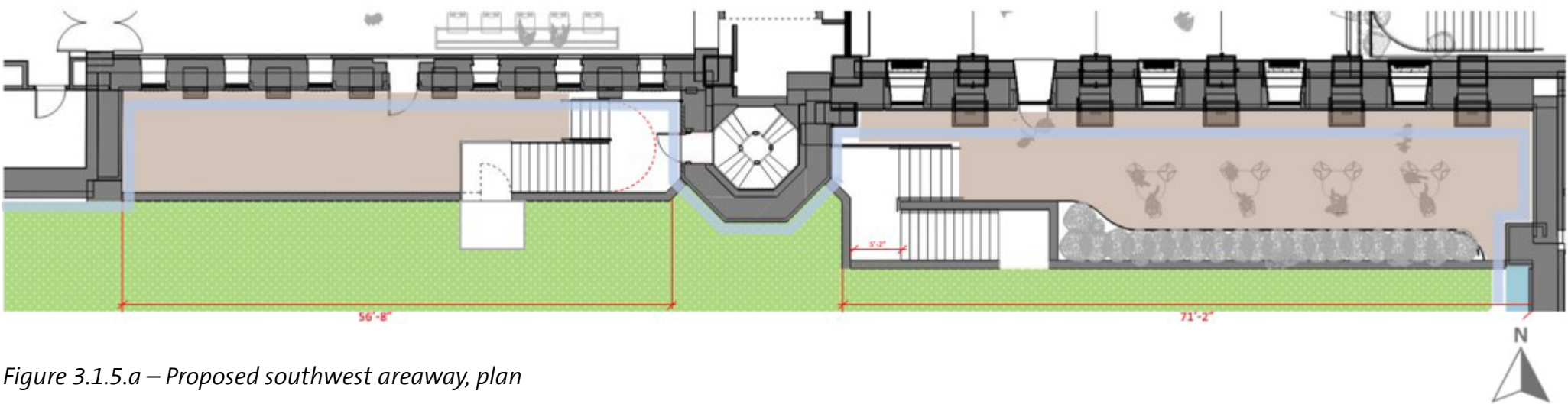


Figure 3.1.5.a – Proposed southwest areaway, plan

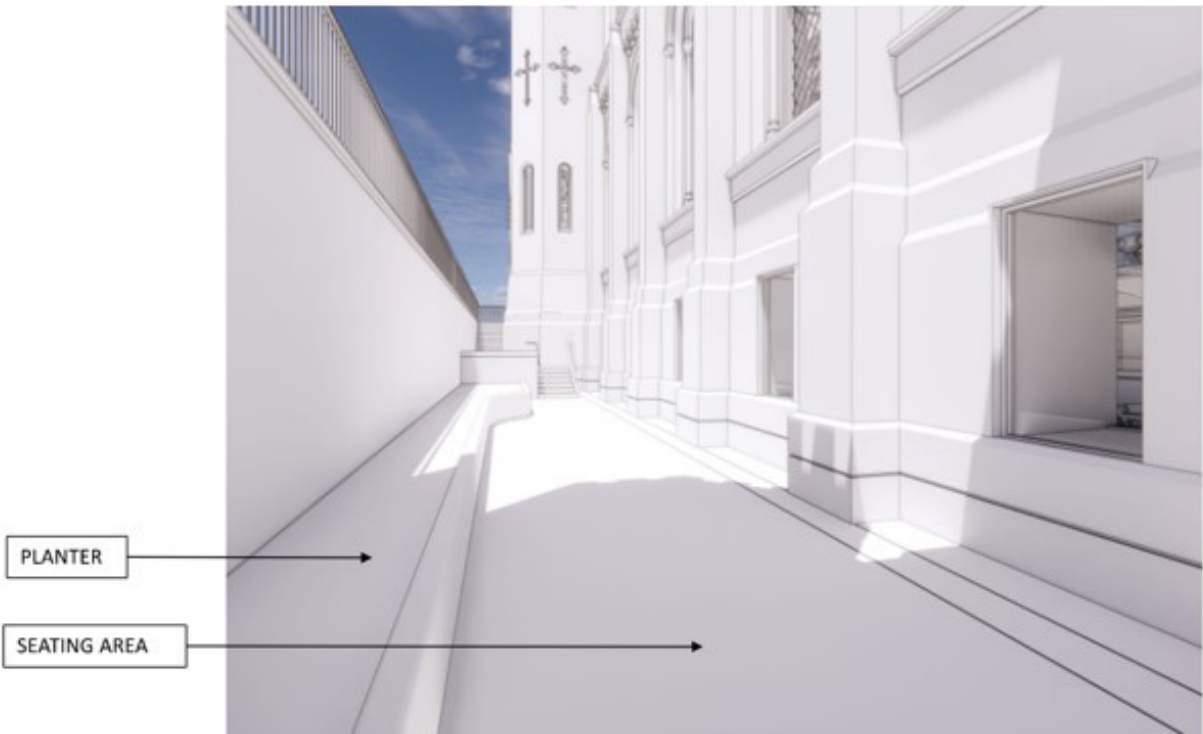
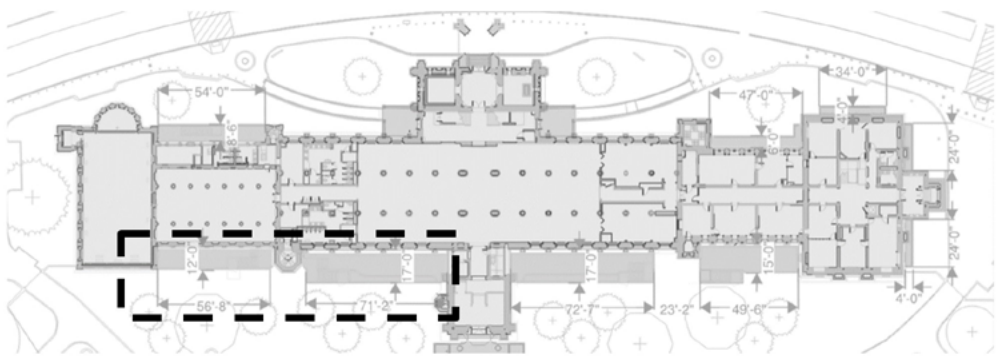


Figure 3.1.5.b – Proposed southwest areaway, conceptual massing



# 3. DETAILED PROJECT INFORMATION

## 3.1 NEW AREAWAYS AND WINDOW WELLS

### 3.1.5 SOUTHWEST AREAWAY (CONTINUED)

Figure 3.1.5.c illustrates the existing view of a pedestrian on the walkway in the Haupt Garden looking towards the Octagon Tower. The visualization (Figure 3.1.5.d) illustrates the proposed areaways flanking the Octagon Tower, allowing the Tower to visually connect to grade. This both maintains the Octagon Tower’s relationship with grade, and minimizes the visual presence of the areaways.

While no plantings are shown in the visualization there will be a planting program. The landscape design will be reviewed in Phase 2 of the Section 106 consultation process.



Figure 3.1.5.c – Existing condition

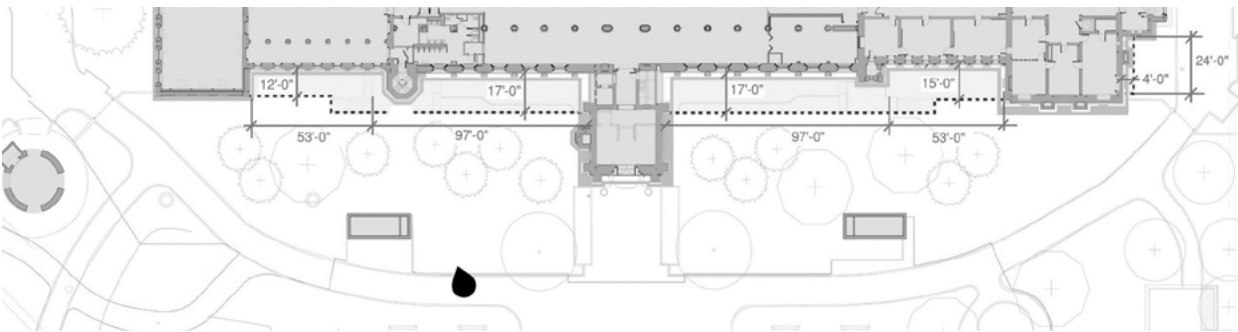


Figure 3.1.5.d – Proposed southwest areaway, conceptual visualization from public path



# 3. DETAILED PROJECT INFORMATION

## 3.1 NEW AREAWAYS AND WINDOW WELLS

### 3.1.7 AREAWAY AND WINDOW WELL DETAILS

#### EAST RANGE

This section through the East range of the Castle illustrates the relationship of the areaways and window wells to below grade construction and the base of the Castle. The width of the window wells on the north side of the building have remained narrower due to their visibility from Jefferson Drive.

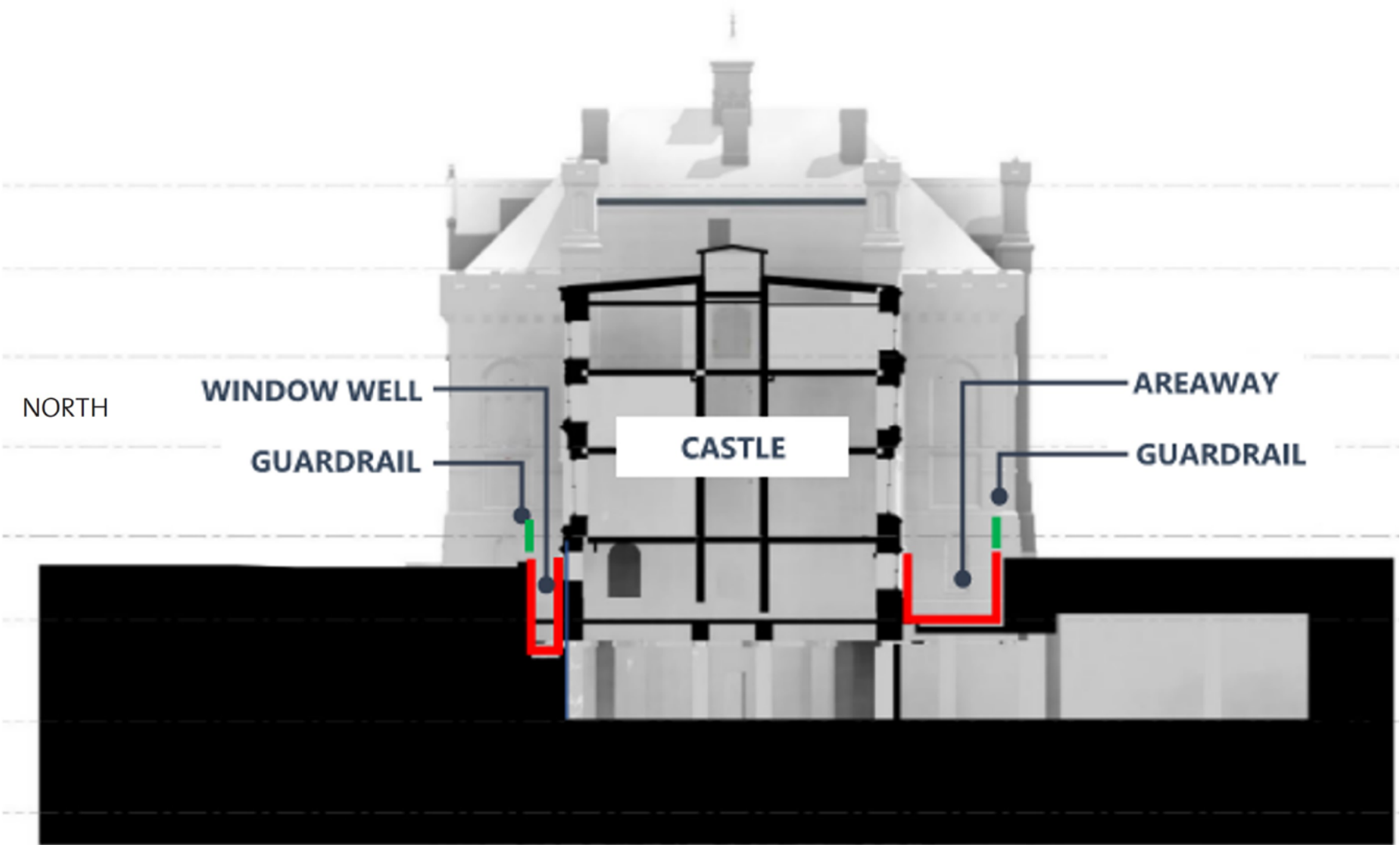
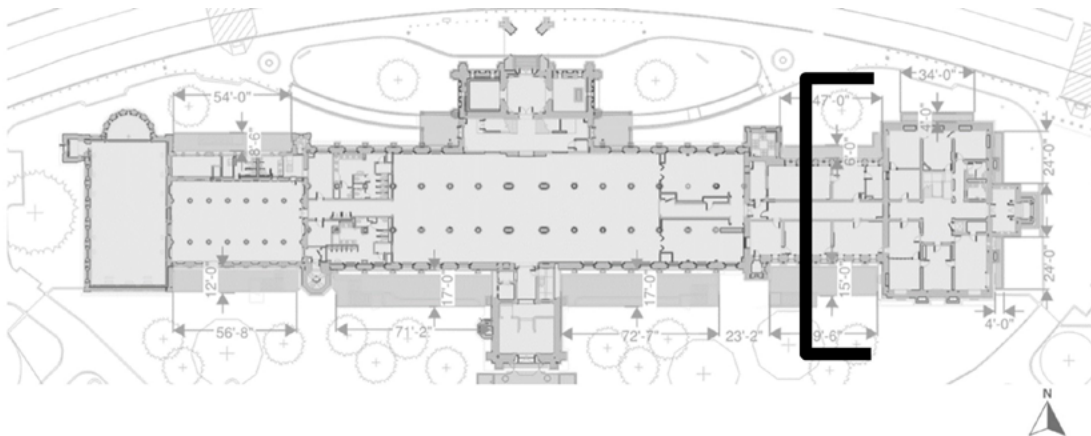


Figure 3.1.7.a – East Range areaway and window well, diagrammatic section looking east

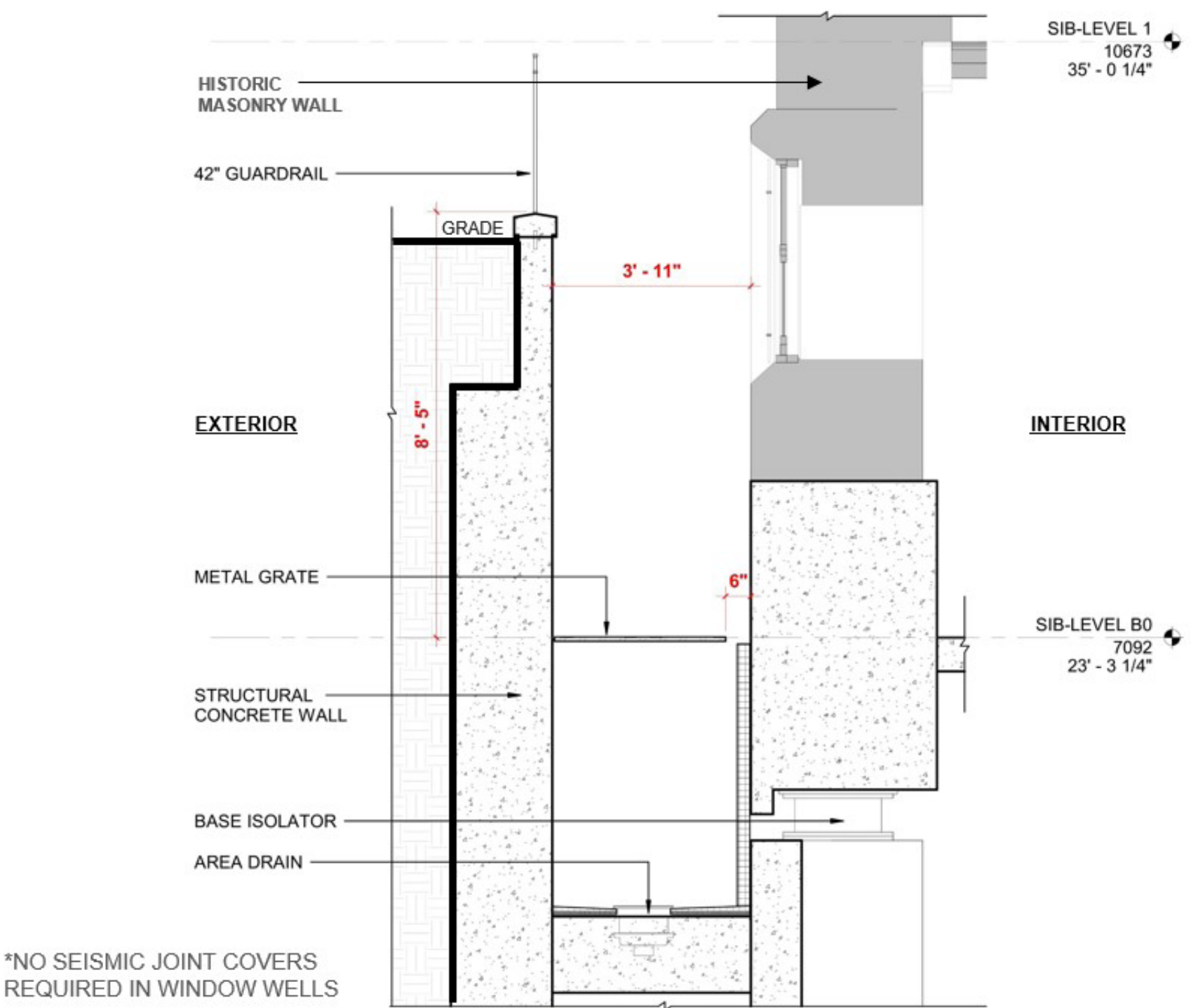
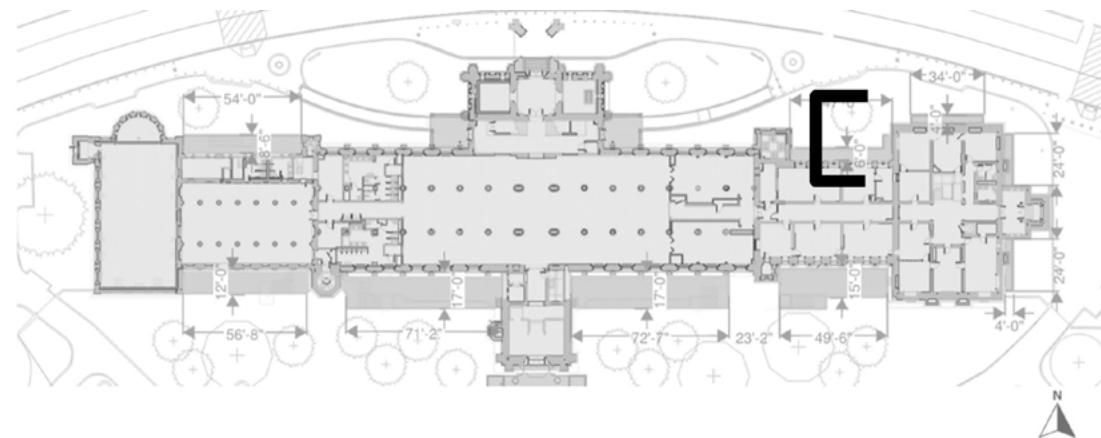
# 3. DETAILED PROJECT INFORMATION

## 3.1 NEW AREAWAYS AND WINDOW WELLS

### 3.1.7 AREAWAY AND WINDOW WELL DETAILS (CONTINUED)

#### NORTH WINDOW WELL

A section detail of the window well illustrating its relationship to the new foundations and seismic isolation beneath the existing Castle walls.



\*NO SEISMIC JOINT COVERS  
REQUIRED IN WINDOW WELLS

Figure 3.1.7.b – East Range north, window well detail section looking east

# 3. DETAILED PROJECT INFORMATION

## 3.1 NEW AREAWAYS AND WINDOW WELLS

### 3.1.7 AREAWAY AND WINDOW WELL DETAILS (CONTINUED)

#### SOUTH AREAWAYS

A section through the areaway on the south side of the Main Building illustrating its relationship to the new foundations and seismic isolation beneath the existing Castle walls. This areaway is wider to accommodate egress pathways and a public outdoor seating area. The walkways in the Haupt Garden to the south are further away, limiting the visibility of these areaways.

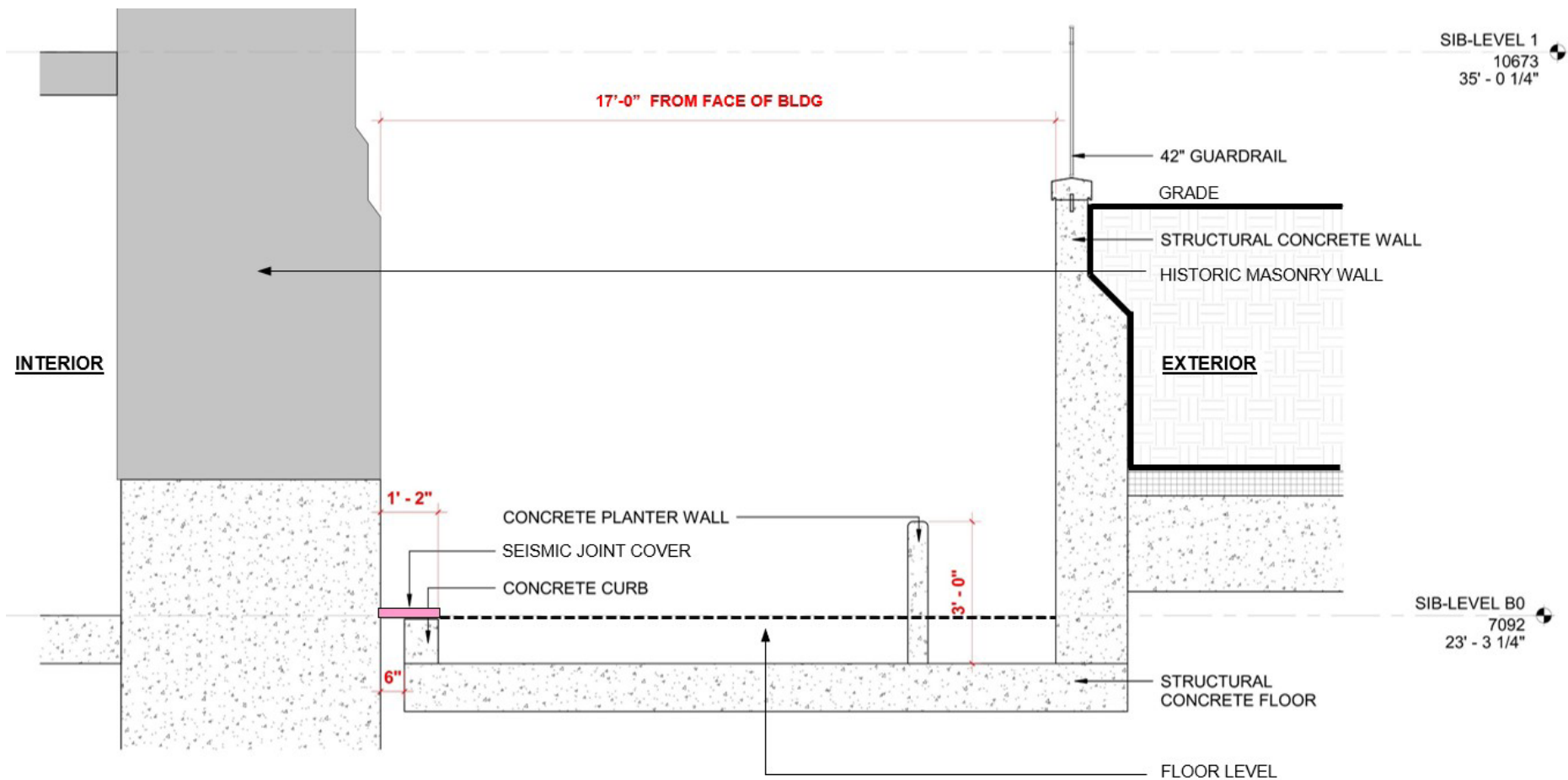
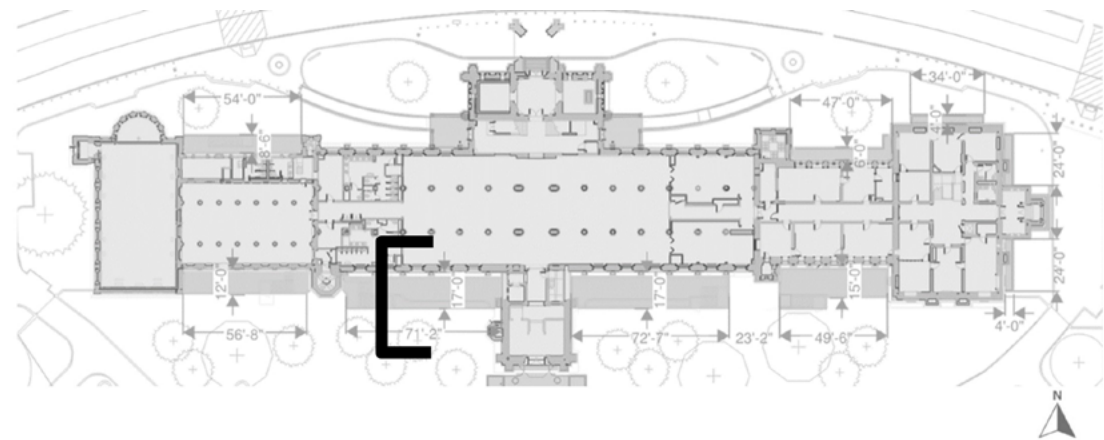


Figure 3.1.7.c – South areaway section detail

# 3. DETAILED PROJECT INFORMATION

## 3.2 SEISMIC CONTROL JOINT

### 3.2.1 OVERVIEW

As part of the seismic base isolation of the Castle a control joint is required around the entire Castle perimeter. This is critical to isolating the building from the movement of the ground in the event of a seismic event. Base isolation with a perimeter joint minimizes the visual impact of seismic design on the Castle. The alternate approach would require lateral bracing of the upper areas of the unreinforced masonry structure. This would have significant impact on many of the interior spaces of the building.

For efficiency, it is best if the seismic joint layout is as regular as possible, which is a particular challenge on a building such as the Castle which is very irregular in plan where it meets grade.

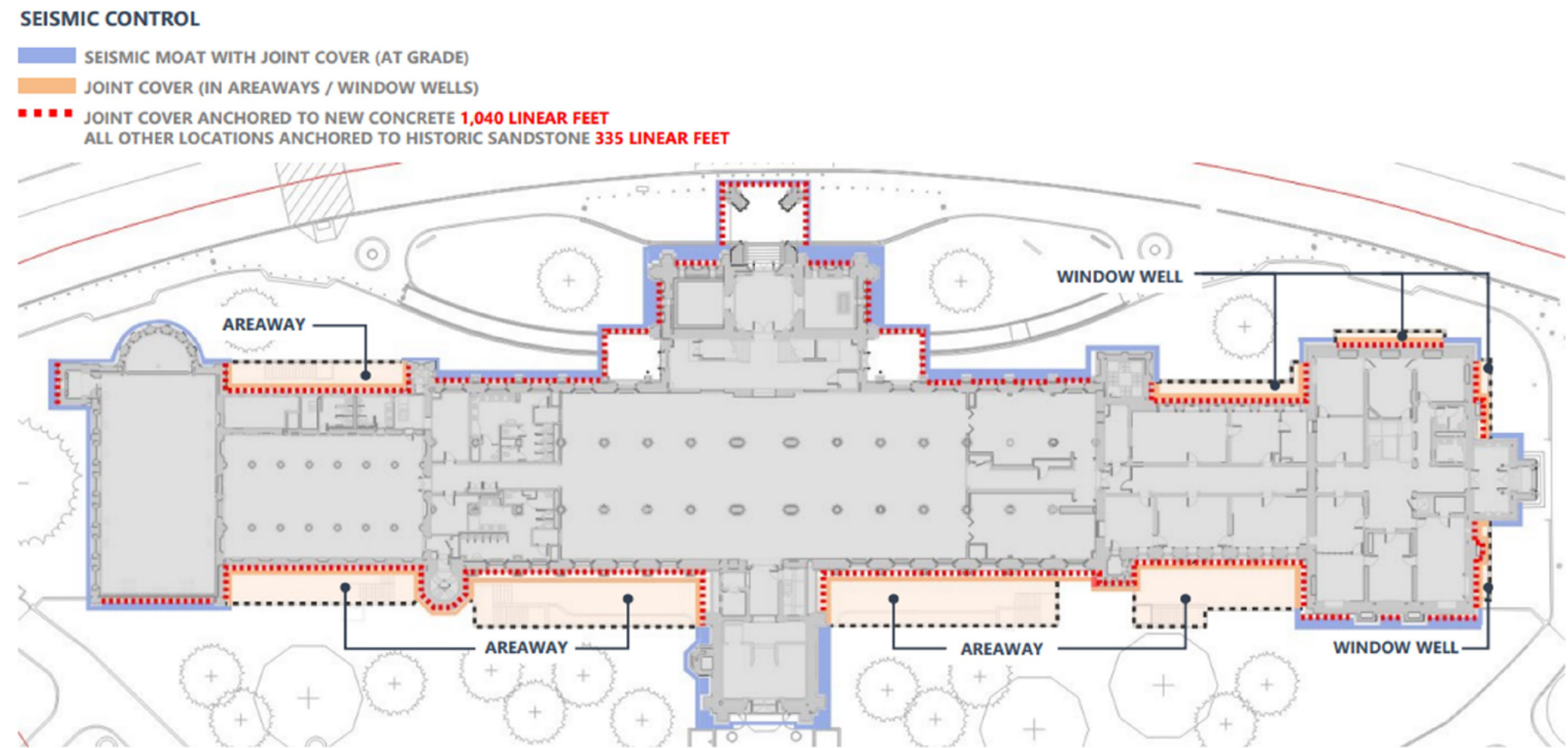


Figure 3.2.1.a – Seismic control joint perimeter locations

# 3. DETAILED PROJECT INFORMATION

## 3.2 SEISMIC CONTROL JOINT

### 3.2.1 OVERVIEW (CONTINUED)

At the areaways and window wells the seismic joint will be integrated with those elements and will not be visible at grade. Where grade comes directly to the base of the building the seismic joint will be visible at grade.

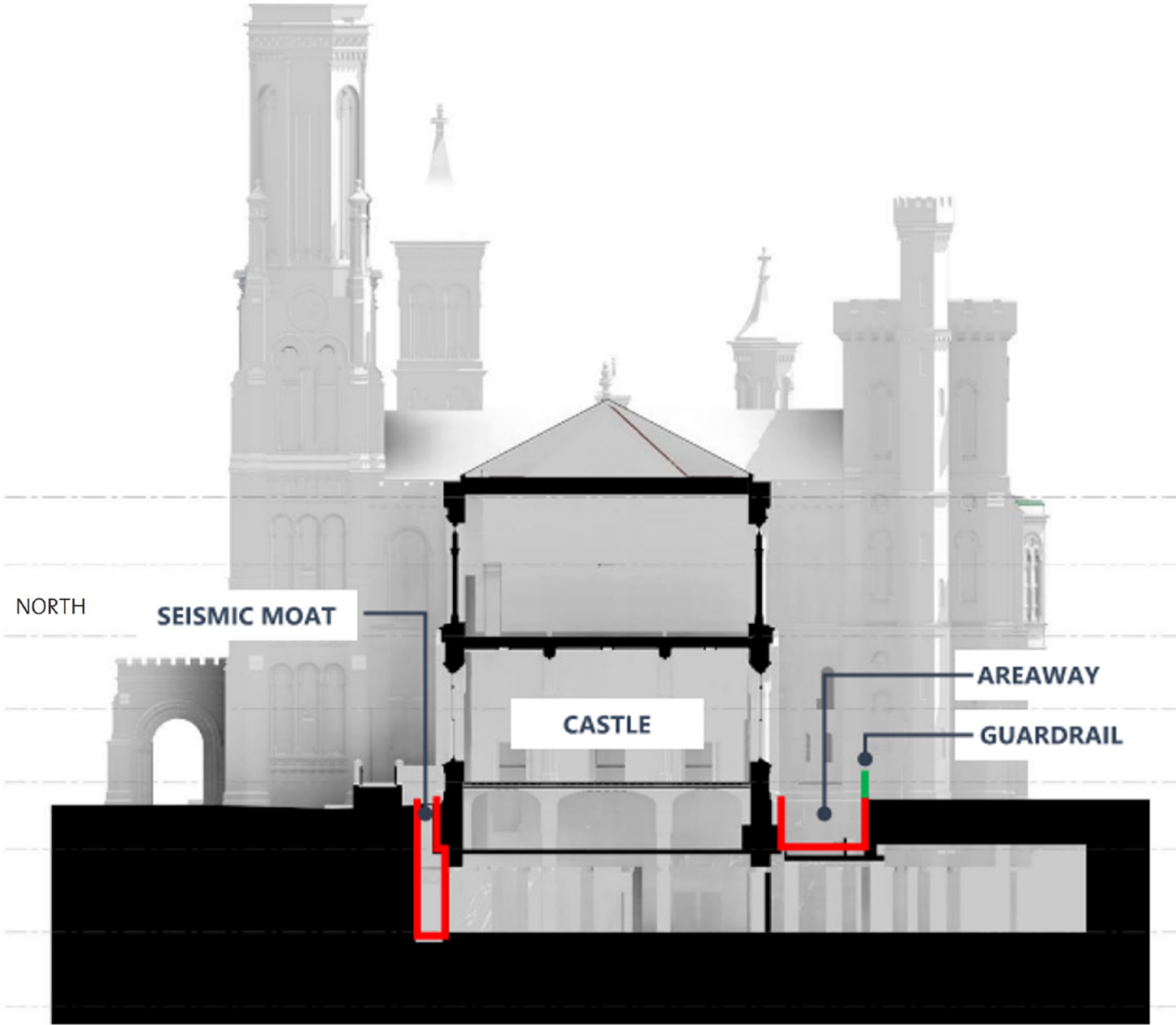
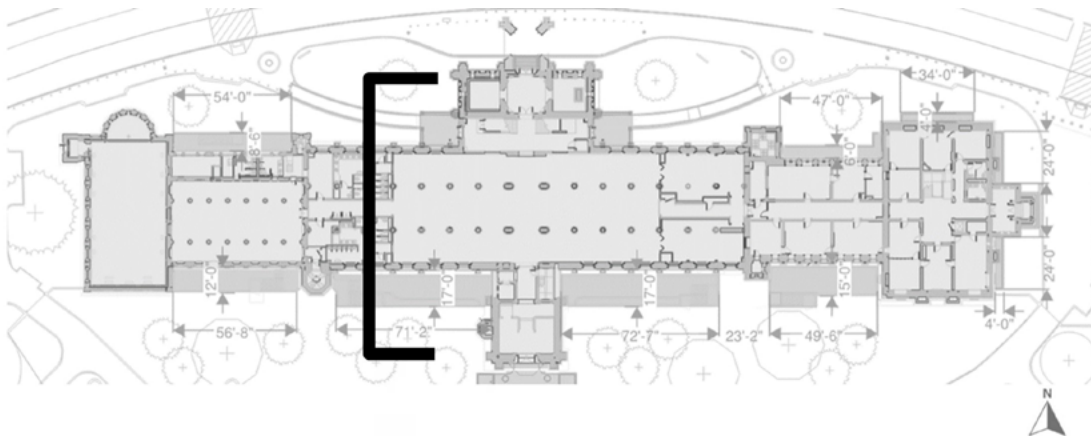


Figure 3.2.1.b – East Range areaway and window well, diagrammatic section looking east

# 3. DETAILED PROJECT INFORMATION

## 3.2 SEISMIC CONTROL JOINT

### 3.2.2 CONTROL JOINT DETAIL

Adverse effects of the seismic control joint are minimized by limiting the width dimensions of the control joint cover plates and the treatment of the cover plate edges. The finishes of the control joint and the selection of the infill material of the cover plate will be reviewed in Phase 2.

The seismic control joint cover plate itself is 1'- 2" wide, but the overall width of the entire assembly varies to account for buttresses and other architectural features.

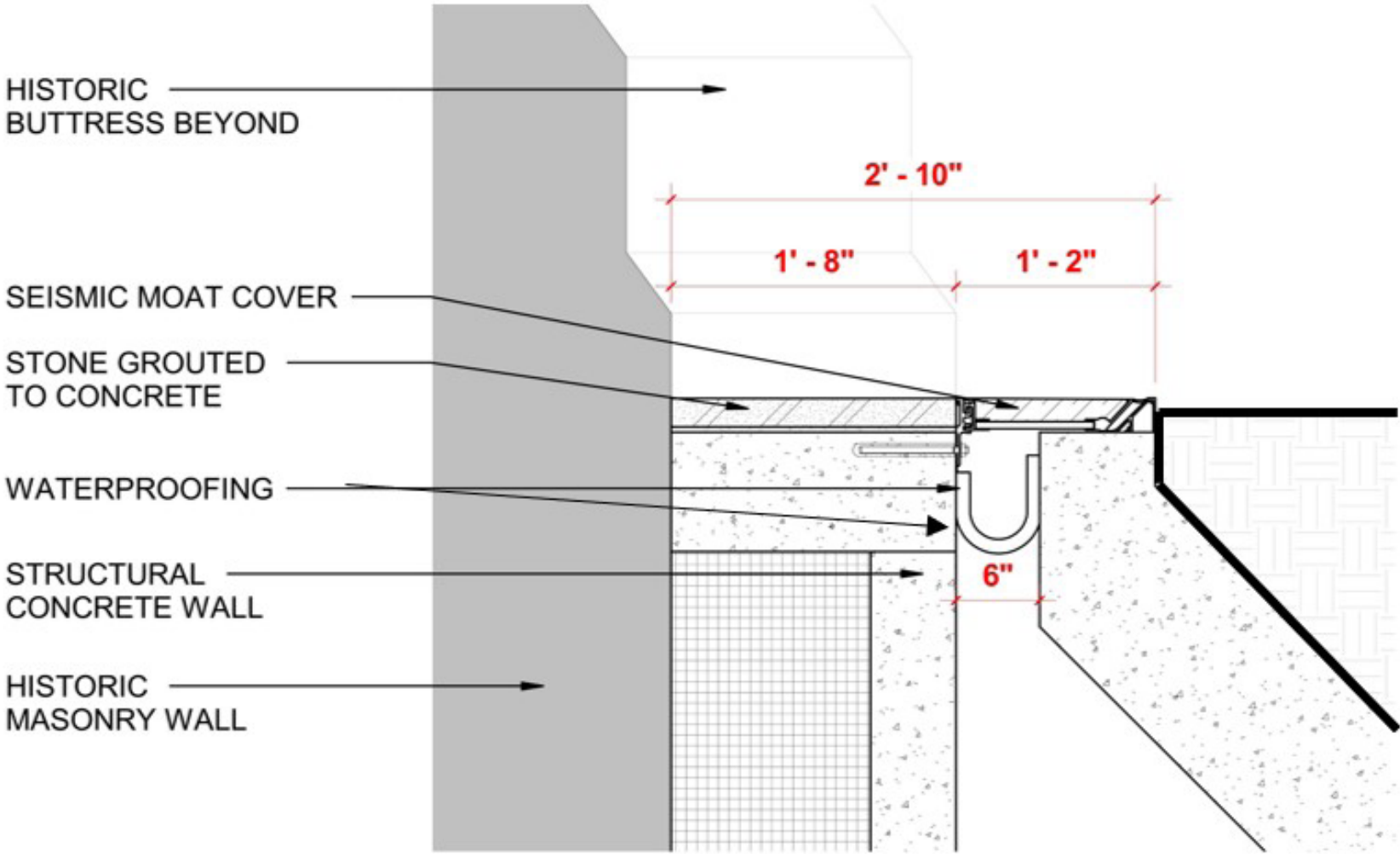


Figure 3.2.2.a – Seismic control joint cover with finished metal edge, section detail

# 3. DETAILED PROJECT INFORMATION

## 3.2 SEISMIC CONTROL JOINT

### 3.2.2 CONTROL JOINT DETAIL (CONTINUED)

At a number of locations around the Castle the seismic joint cover will replace a concrete apron. The adverse effect of the cover may be minimized through the selection of materials and finishes pending mock-ups and design development in Phase 2 of the Section 106 consultation process.

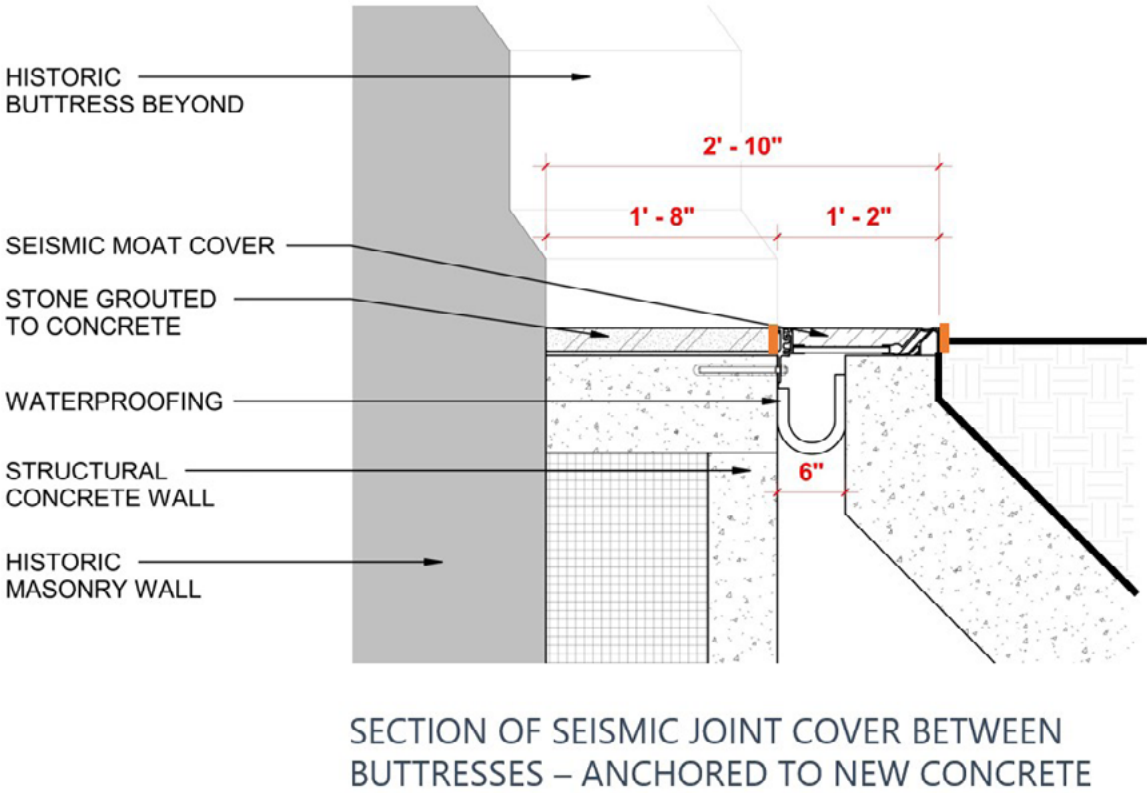


Figure 3.2.2.b – Section detail, seismic control joint cover between buttresses – anchored to new concrete

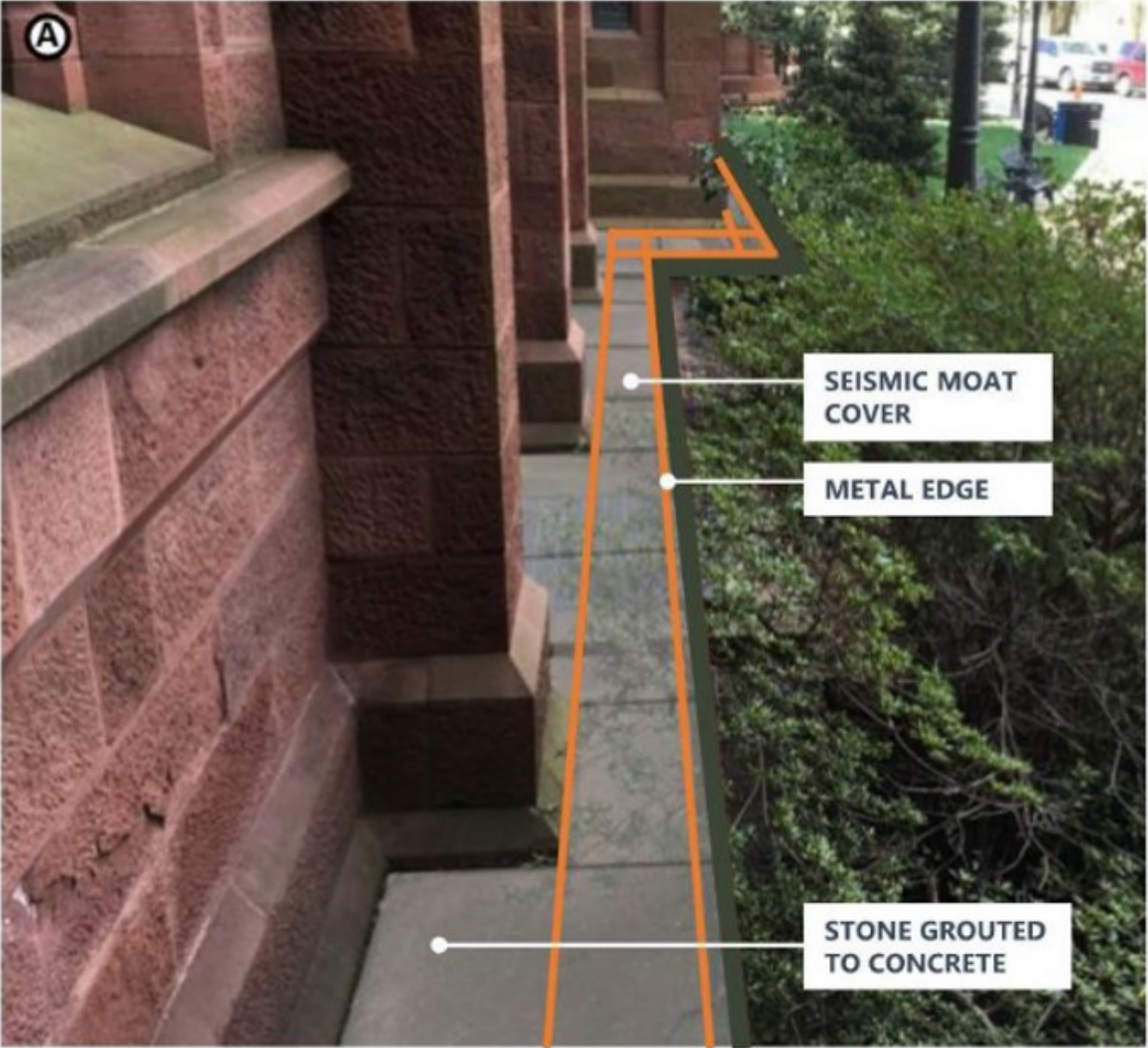
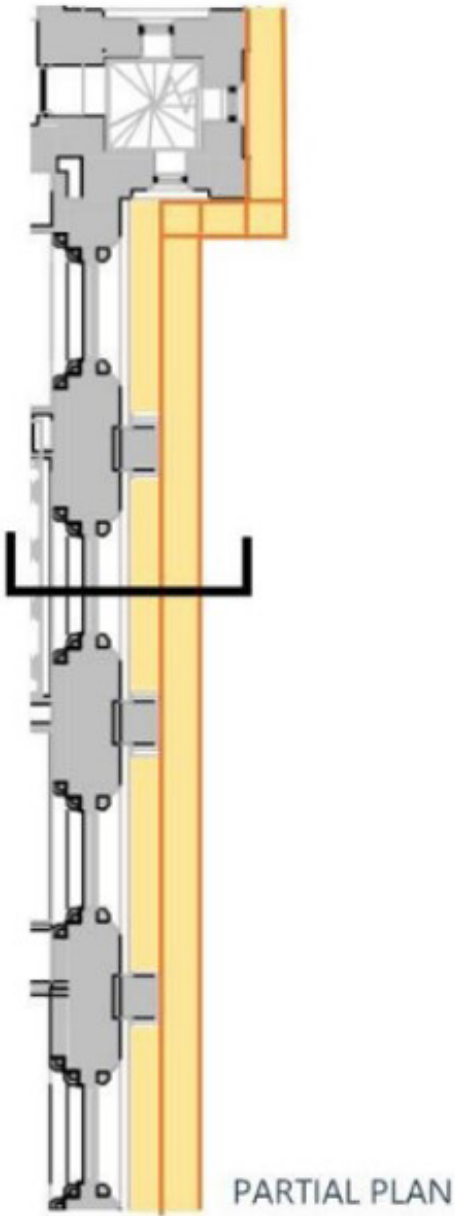


Figure 3.2.2.c – Conceptual seismic control joint cover, visualization

# 3. DETAILED PROJECT INFORMATION

## 3.3 EXTENT OF EXCAVATION ADJACENT TO CASTLE

### 3.3.1 OVERVIEW

Excavation will be required around the entire footprint of the Castle to facilitate construction of all the below grade construction, areaways and window wells, and seismic base isolation. Adjacent to the Castle includes the SIB Extension to the south extending the north wall of the Quadrangle Building. To the west and east of the Castle the SIB Extension will house mechanical space.

To the north of the Castle the excavation is required to allow for the work on the Castle foundations and the seismic base isolation system.

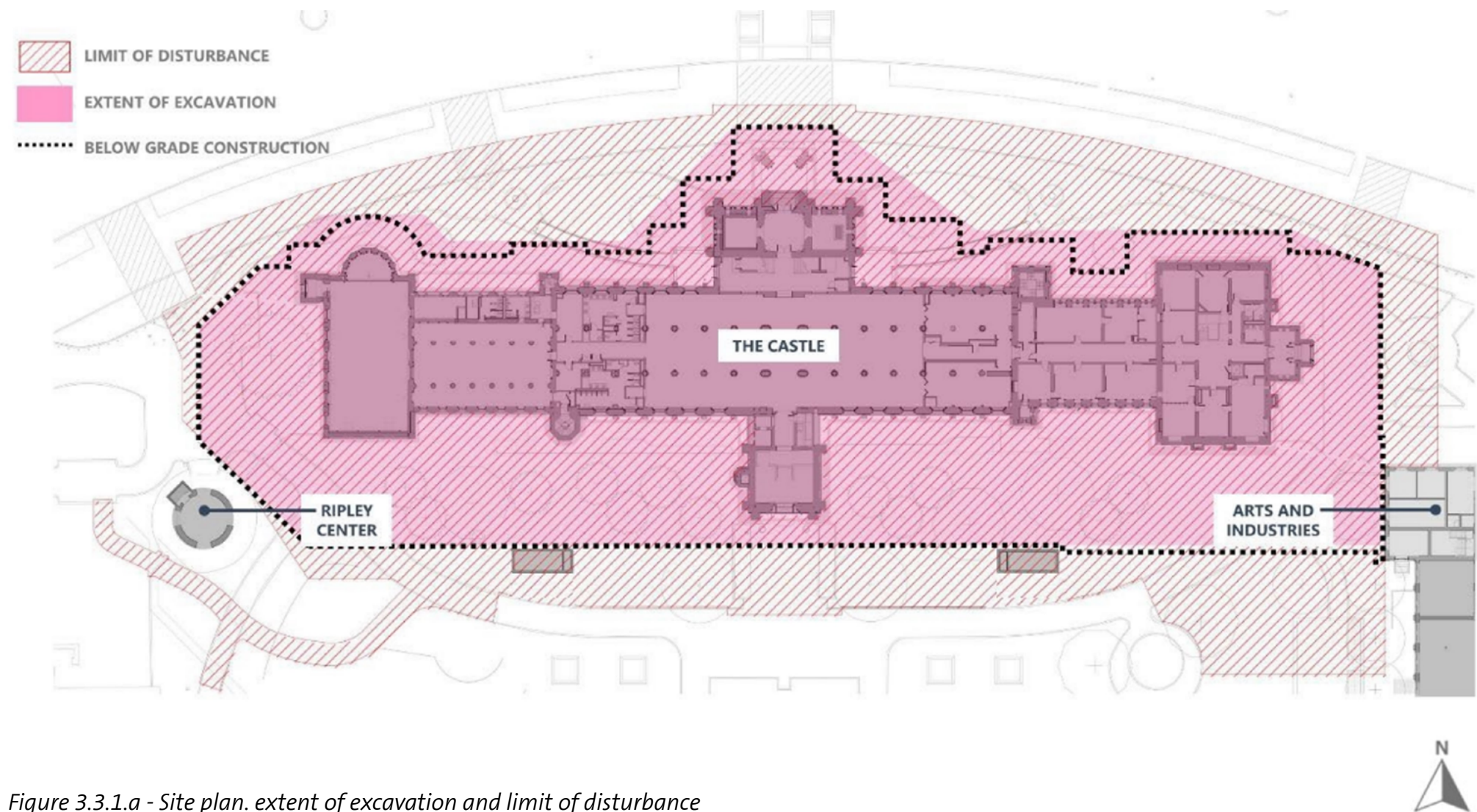


Figure 3.3.1.a - Site plan. extent of excavation and limit of disturbance

# 3. DETAILED PROJECT INFORMATION

## 3.3 EXTENT OF EXCAVATION ADJACENT TO CASTLE

### 3.3.2 SIB EXTENSION

#### EXTENT OF EXCAVATION AND LIMIT OF DISTURBANCE

The floor level of the SIB Extension to the south of the Castle will align with the B1 level floor plan of the Quadrangle Building. This will create a connection to the existing loading dock in the Quadrangle Building and create space for service functions to serve the Castle.

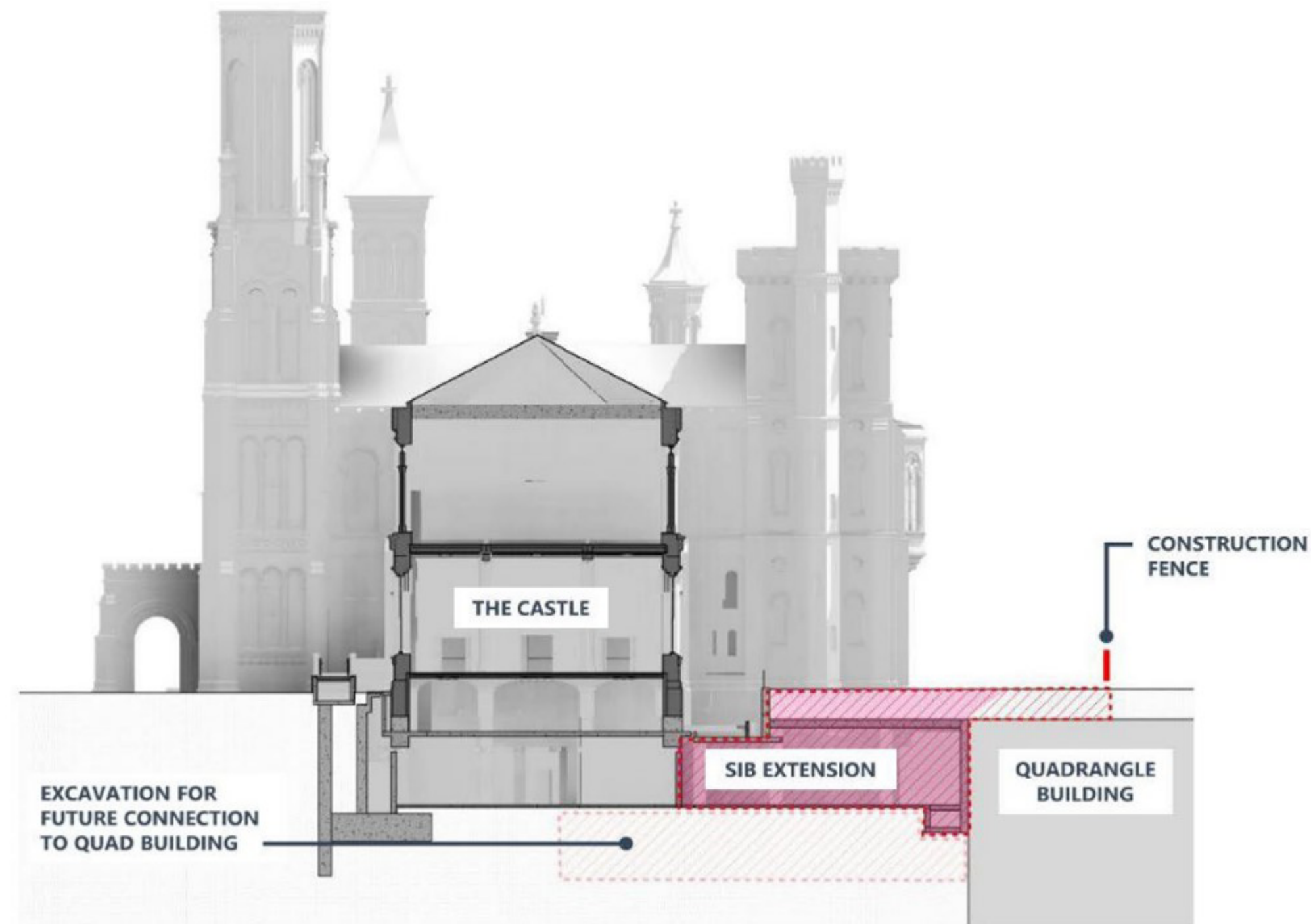
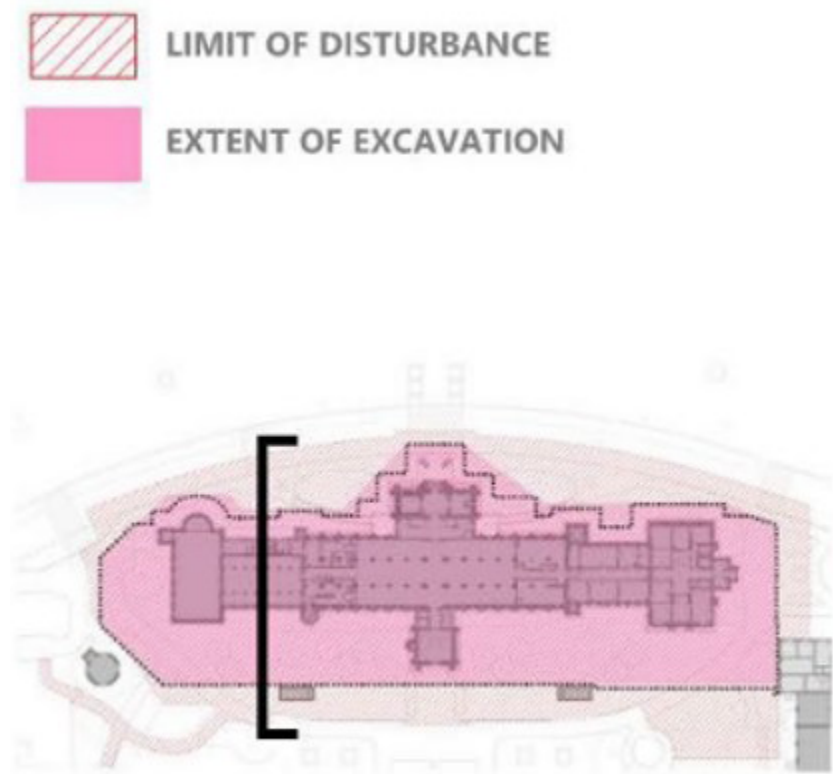


Figure 3.3.2.a – SIB Extension, extent of excavation and limit of disturbance

# 3. DETAILED PROJECT INFORMATION

## 3.3 EXTENT OF EXCAVATION ADJACENT TO CASTLE

### 3.3.2 SIB EXTENSION (CONTINUED)

#### BUILDING SECTION

The SIB Extension will reach a depth of approximately 23 feet below grade, providing approximately 6 feet of soil cover to support plantings. This matches the existing soil depth over the Quadrangle Building which supports the Haupt Garden.

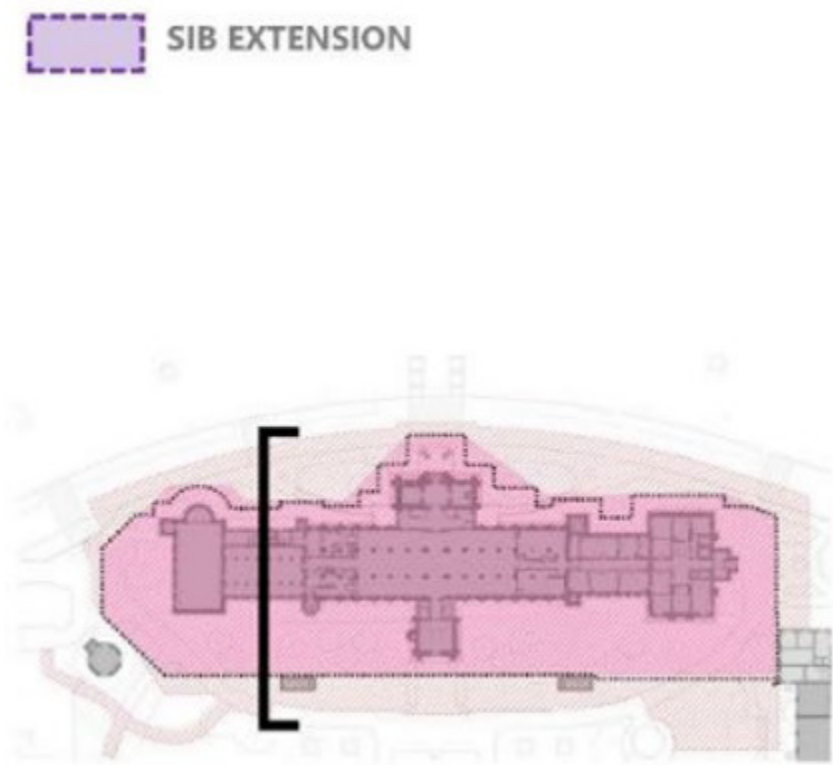


Figure 3.3.2.b – SIB Extension building section

# 3. DETAILED PROJECT INFORMATION

## 3.3 EXTENT OF EXCAVATION ADJACENT TO CASTLE

### 3.3.2 SIB EXTENSION (CONTINUED)

#### LEVEL B0

Figure 3.3.2.c illustrates the proposed extent of excavation adjacent to the Castle at the basement (Level B0) level. This includes the area between the Castle and the Quadrangle Building which was previously excavated in the 1980s when the Quad was constructed.

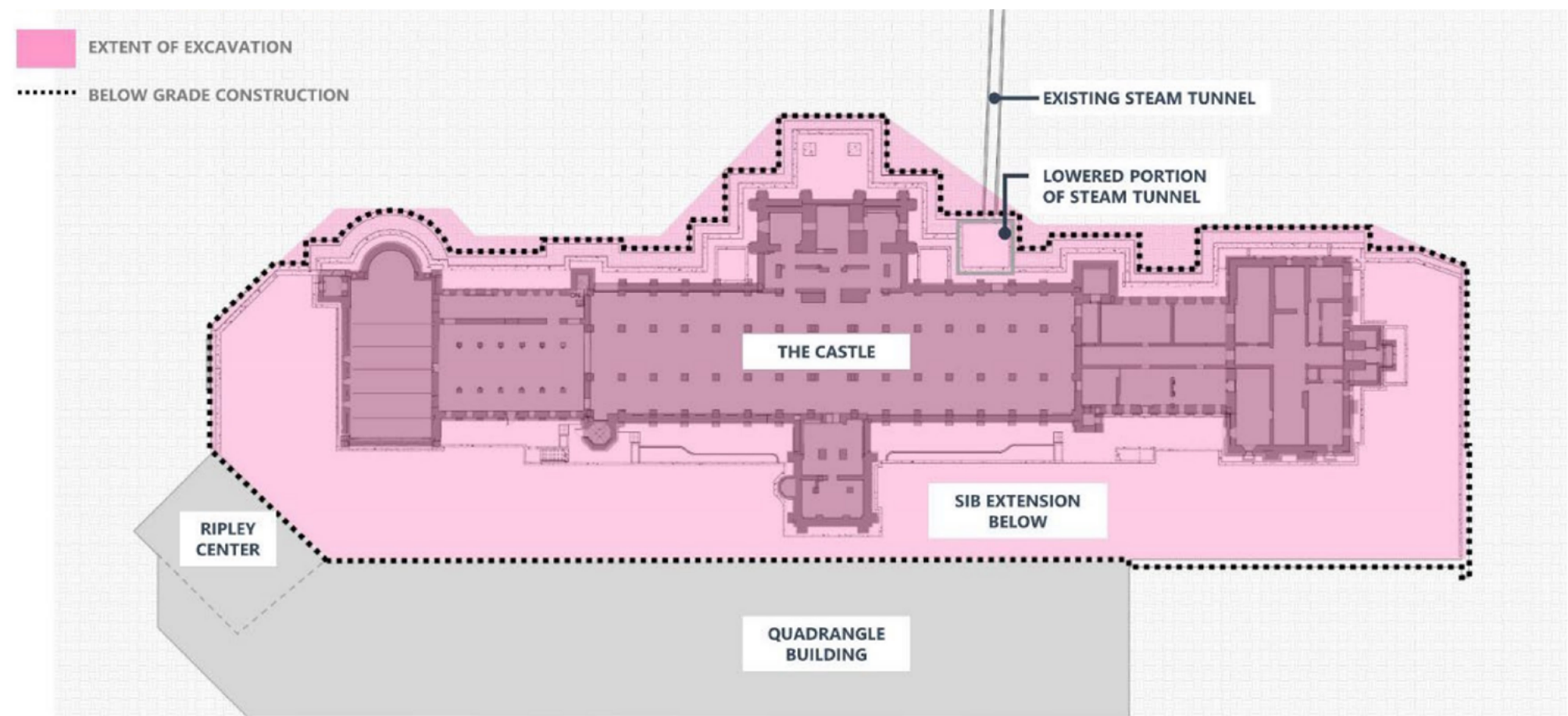


Figure 3.3.2.c – SIB Extension, Level B0 extent of excavation

# 3. DETAILED PROJECT INFORMATION

## 3.3 EXTENT OF EXCAVATION ADJACENT TO CASTLE

### 3.3.2 SIB EXTENSION (CONTINUED)

#### LEVEL B2

Figure 3.3.2.d illustrates excavation that will occur at the B2 level. This is limited to areas that are required to create the stormwater management cistern to the west, a trench for systems routing to the south and elevator pits under the footprint of the Castle. A future connection between the Castle and the Quadrangle Building at the B2 level will be excavated and created as a shell at this time. It will not be activated until future renovations are undertaken in the Quadrangle Building.

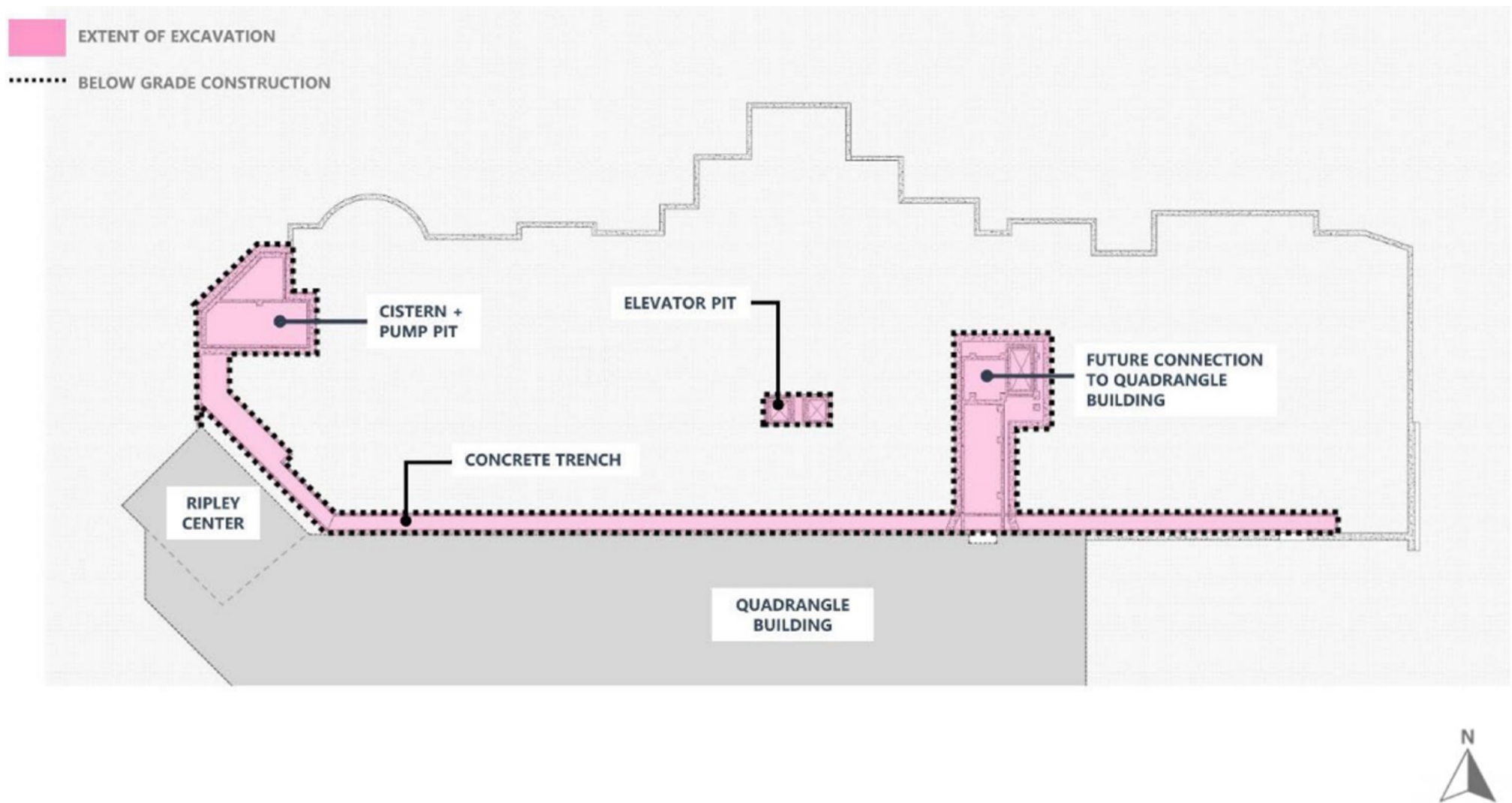


Figure 3.3.2.d – SIB Extension, Level B2 extent of excavation

# 3. DETAILED PROJECT INFORMATION

## 3.4 EXTENT BENEATH THE CASTLE

### 3.4.1 OVERVIEW

Excavation under the Castle will allow for the creation of a mechanical equipment and distribution level. This will align with the SIB Extension allowing for ease of access from the loading dock for ongoing maintenance. The creation of this level will also limit the amount of space required in the historic spaces of the Castle that will be needed for equipment and systems routing, maximizing the amount of space available for public use.

The existing floor level in the B0 level will be lowered three feet to better accommodate public programming.

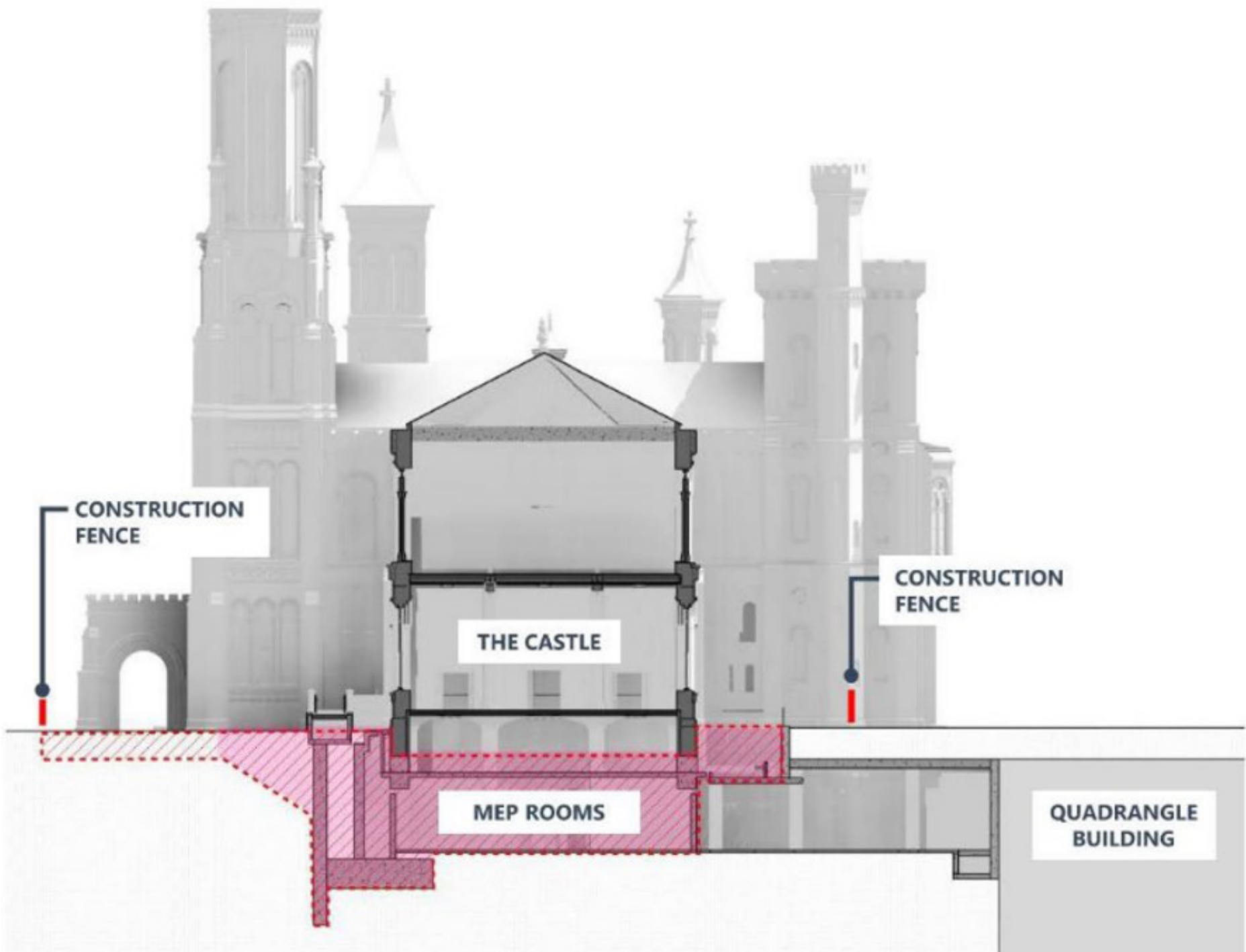
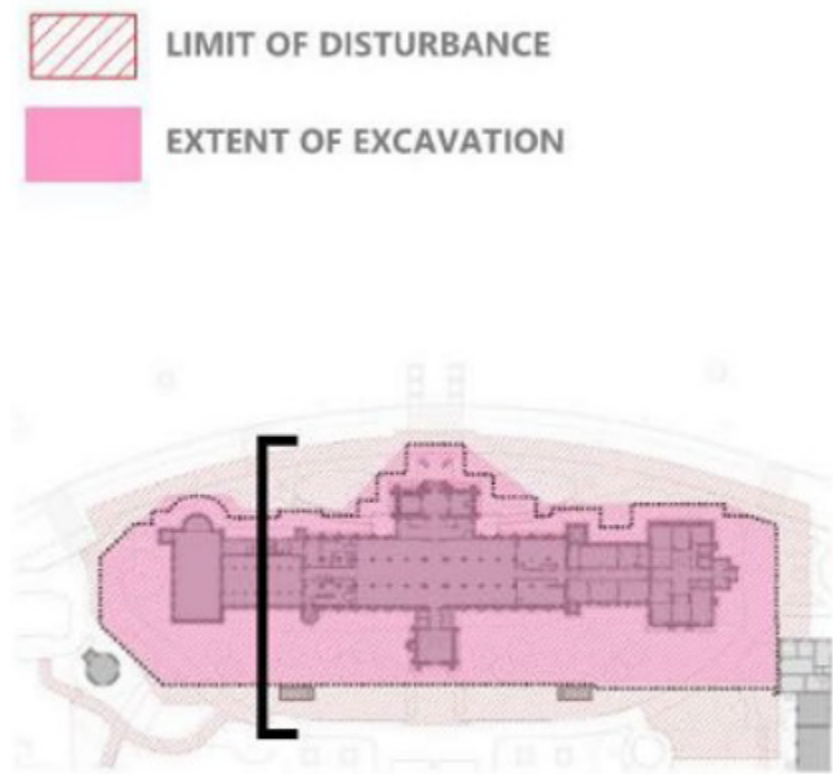


Figure 3.4.1.a – Mechanical equipment and distribution level, extent of excavation and limit of disturbance

# 3. DETAILED PROJECT INFORMATION

## 3.4 EXTENT BENEATH THE CASTLE

### 3.4.2 MECHANICAL LEVEL

#### BUILDING SECTION

The B1 mechanical level will have a ceiling height of 15 feet, required to accommodate the larger pieces of equipment and large horizontal distribution elements.

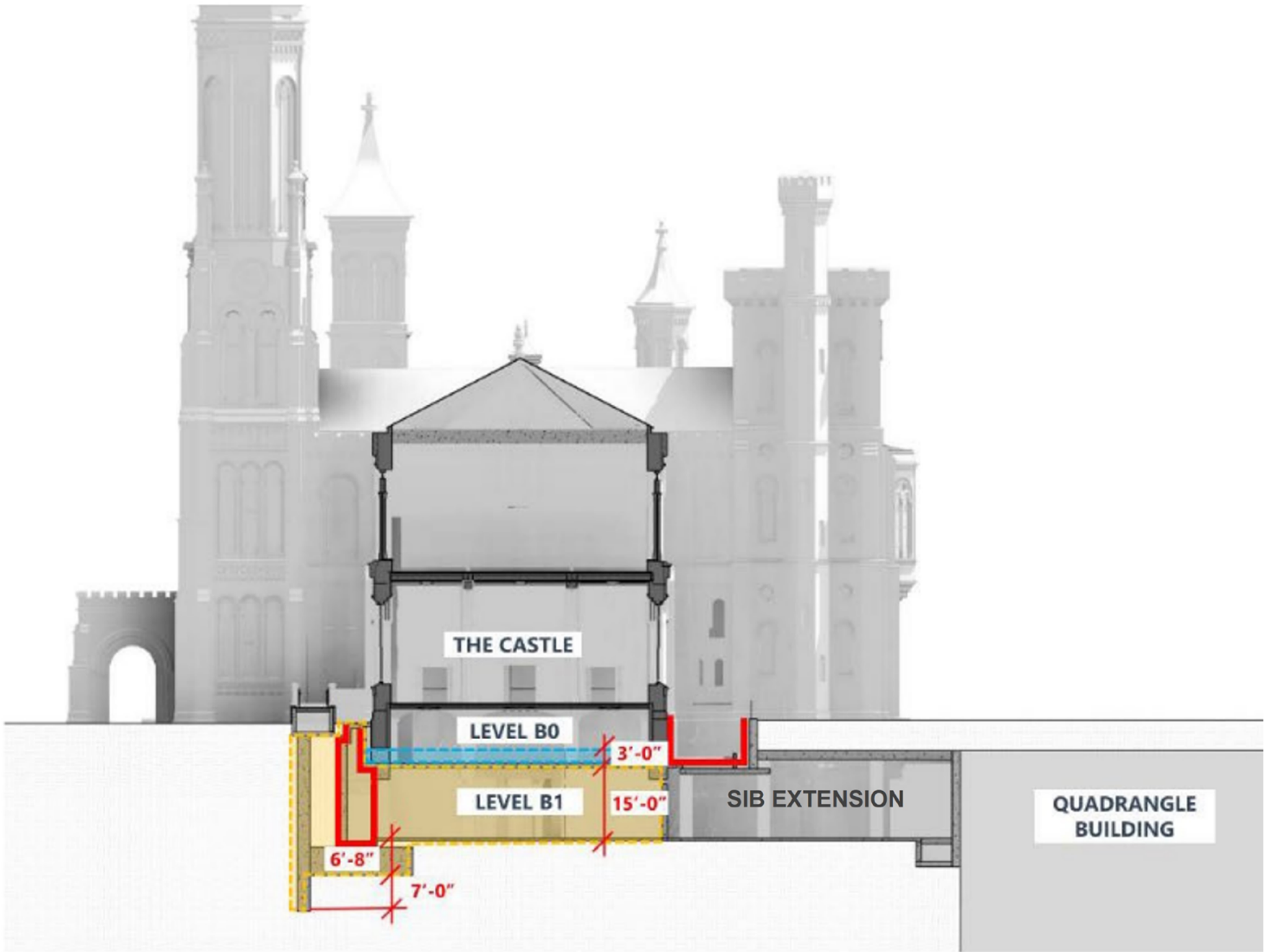
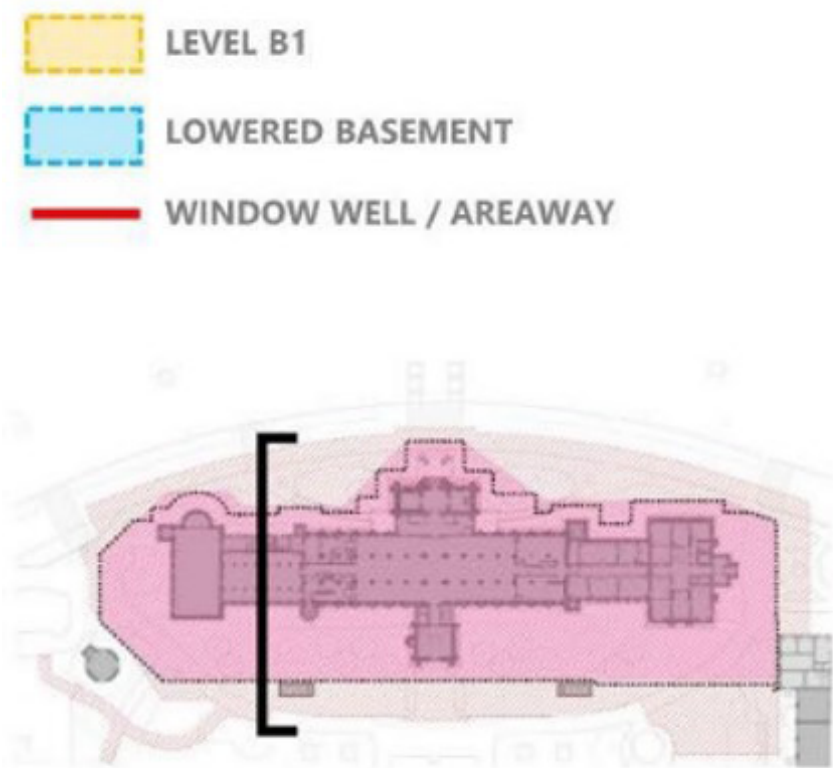


Figure 3.4.2.a – Mechanical equipment and distribution level building section

### 3. DETAILED PROJECT INFORMATION

#### 3.4 EXTENT BENEATH THE CASTLE

##### 3.4.2 MECHANICAL LEVEL (CONTINUED)

###### BUILDING SECTION

The longitudinal section of the building illustrates that the new mechanical level (Level B1) extends the entire length of the building. This creates a simplified backbone for serving the entire Castle from below. The section also illustrates the lowering of the basement floor approximately 3 feet. Some areas of the basement floor have been lowered in the past. This comprehensive approach will create a single floor level that is universally accessible and creates headroom to satisfy the needs of the more intensive public use of this level of the building.

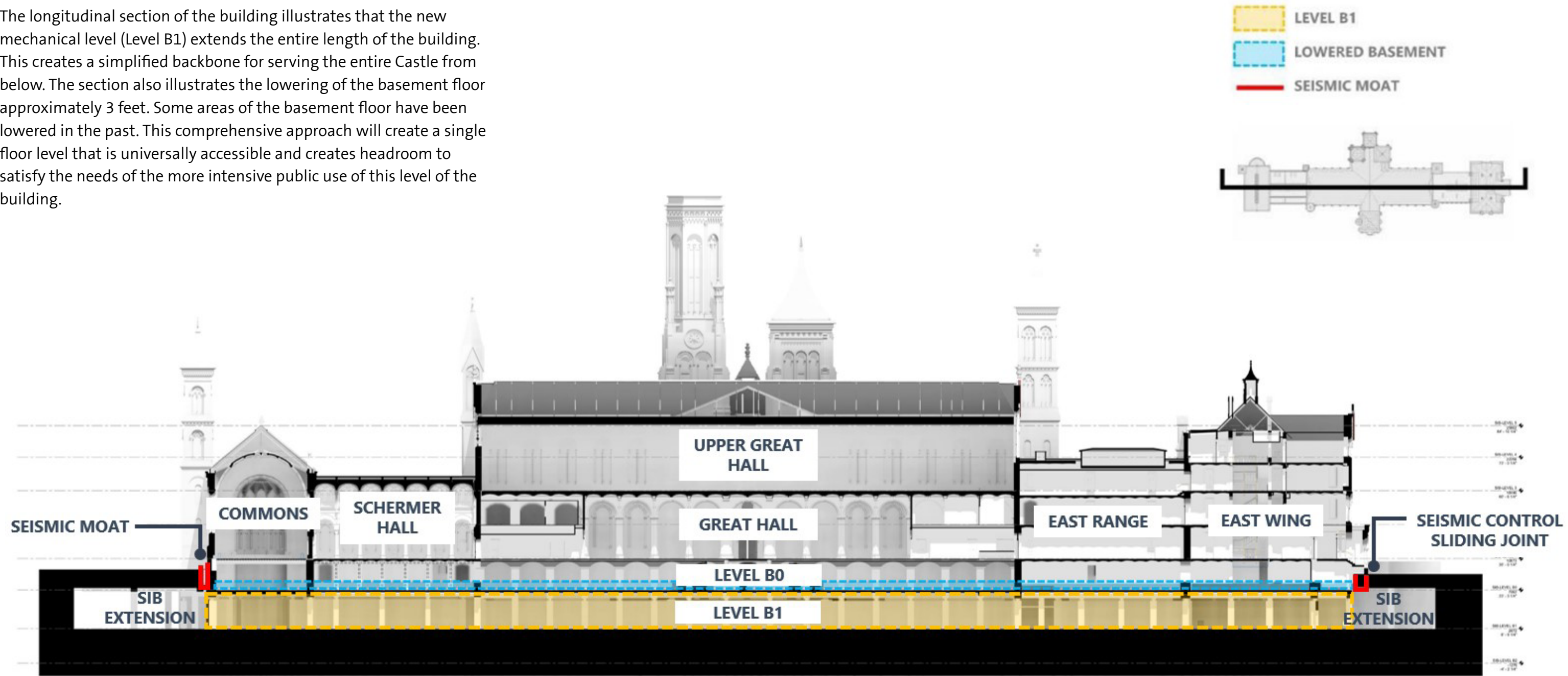


Figure 3.4.2.b - Mechanical equipment and distribution level building section.

# 3. DETAILED PROJECT INFORMATION

## 3.4 EXTENT BENEATH THE CASTLE

### 3.4.2 MECHANICAL LEVEL (CONTINUED)

#### LEVEL B1

Excavation of the B0 and B1 levels has the potential to adversely affect historic building fabric such as the existing floor material and the “reverse arch” foundation construction that may exist below grade, and by altering the historic character of the existing basement. Consideration of these interior alterations will be part of Phase 2 of the Section 106 consultation process.

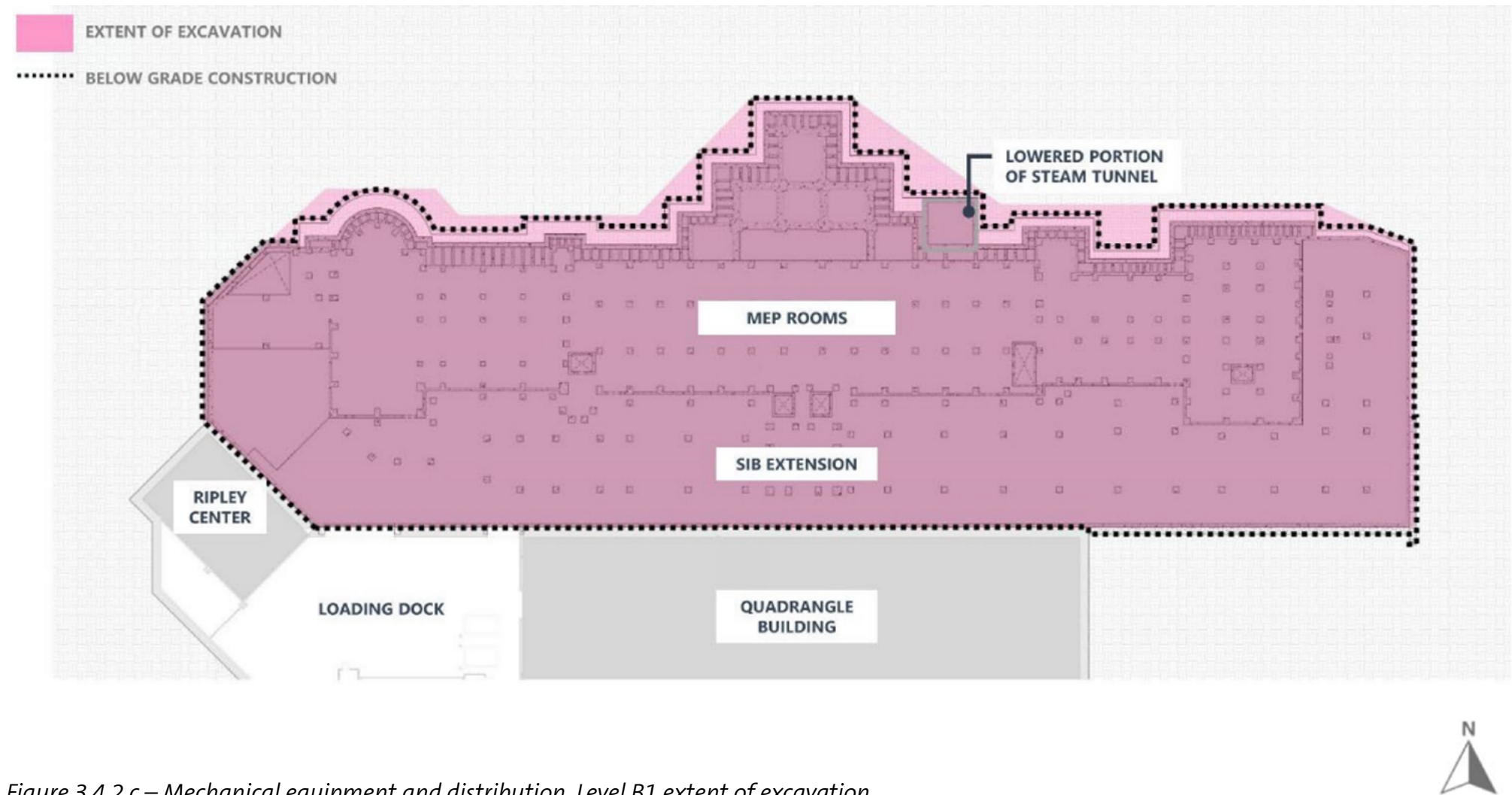


Figure 3.4.2.c – Mechanical equipment and distribution, Level B1 extent of excavation

# 3. DETAILED PROJECT INFORMATION

## 3.4 EXTENT BENEATH THE CASTLE

### 3.4.2 MECHANICAL LEVEL (CONTINUED)

#### LEVEL B2

The B2 level of excavation under the Castle includes the elevator pits for elevators that will be added to the Castle. The elevator towards the east end of the plan will access a future connection to the Quadrangle Building on the B2 level. This connection will be constructed as a shell but will not be activated until renovations are undertaken in the Quadrangle Building.

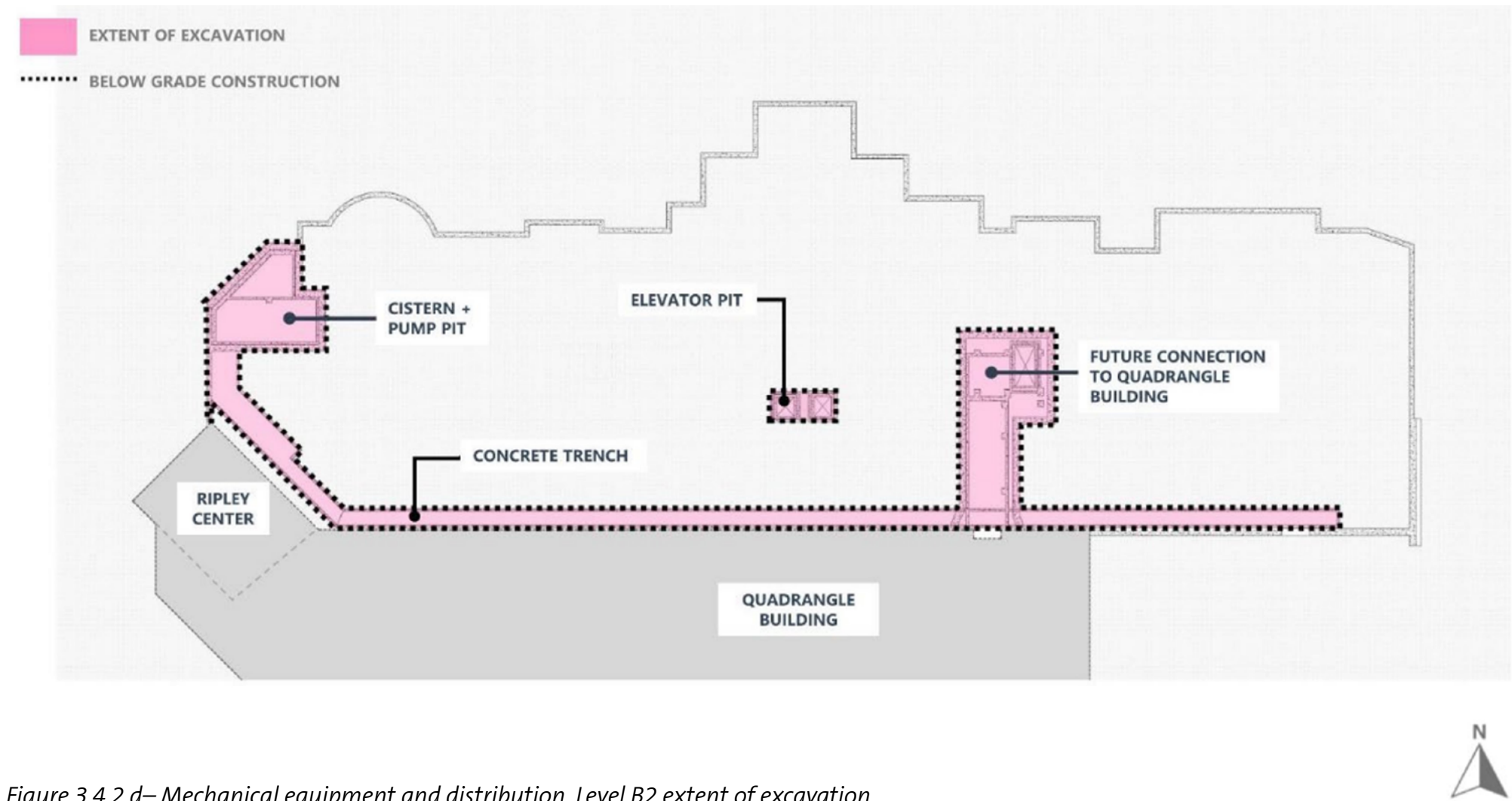


Figure 3.4.2.d– Mechanical equipment and distribution, Level B2 extent of excavation

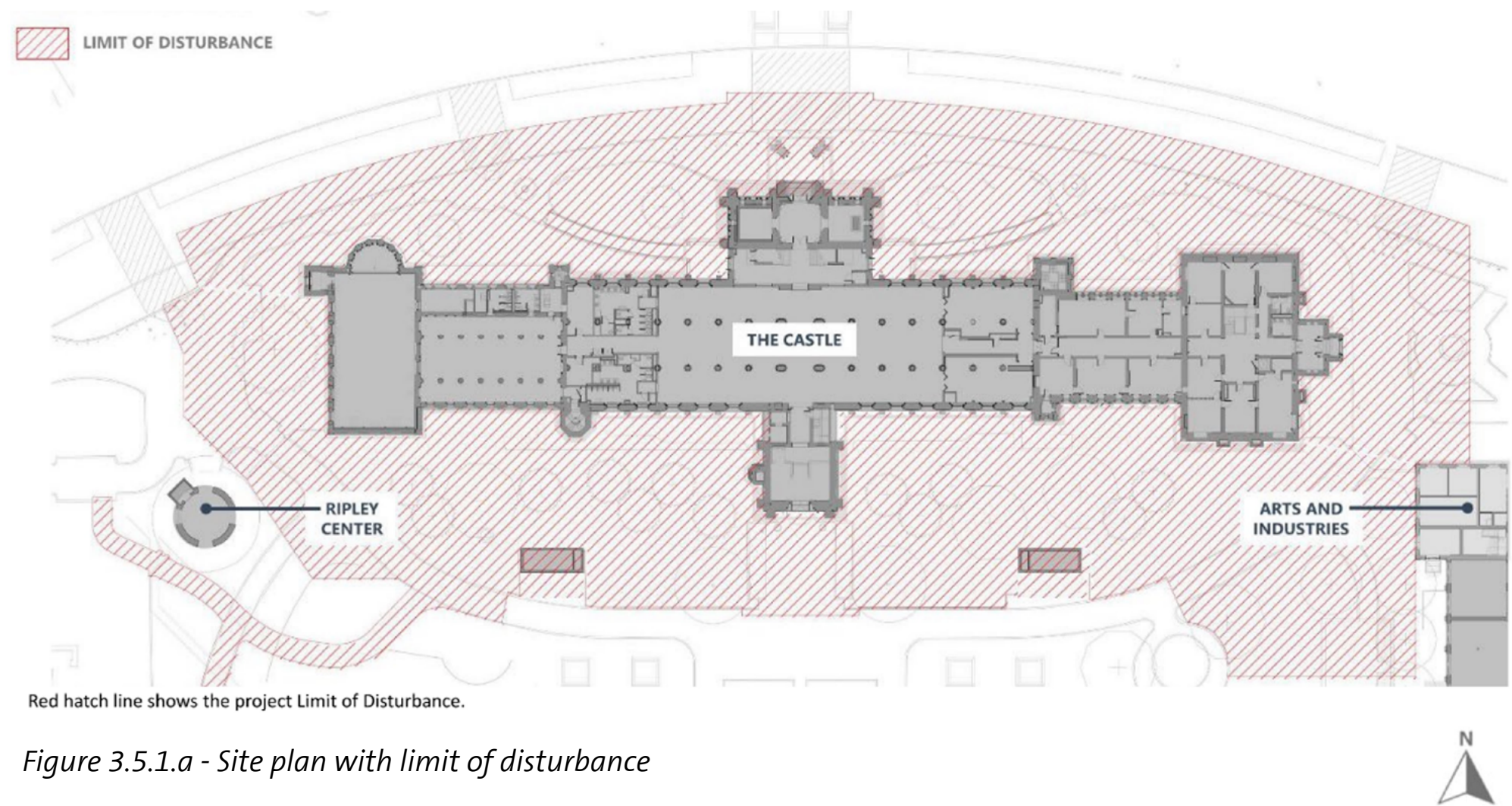
### 3. DETAILED PROJECT INFORMATION

#### 3.5 ALTERNATE PEDESTRIAN ROUTES AROUND THE CASTLE (DURING CONSTRUCTION)

##### 3.5.1 OVERVIEW

Figure 3.5.1.a illustrates the limit of disturbance for Phase 1 construction activities. This will temporarily affect a portion of Jefferson Drive, the Folger Rose Garden, and the Haupt Garden. This will also block existing pedestrian pathways to the east and west of the Castle that are a primary route for visitors to enter the Haupt Garden and reach the entrances to the National Museum of African Art and the garden entrance for the National Museum of Asian Art (Freer Gallery of Art and the Arthur M. Sackler Gallery).

Temporary alternate pedestrian routes are required to maintain visitor access to all of the Smithsonian museums. The alternate pedestrian routes may remain in place during the entire RoHC Revitalize Castle construction (Phases 1 and 2). At the completion of construction on the Castle the temporary pathways will be fully removed, and the existing pedestrian pathways reconstructed using salvaged or in-kind materials.



### 3. DETAILED PROJECT INFORMATION

#### 3.5 ALTERNATE PEDESTRIAN ROUTES AROUND THE CASTLE (DURING CONSTRUCTION)

##### 3.5.2 TEMPORARY PEDESTRIAN BOARDWALK

A temporary pathway will be created to the west side of the Ripley Center Pavilion. This will link to existing brick walkways in the Haupt Garden.



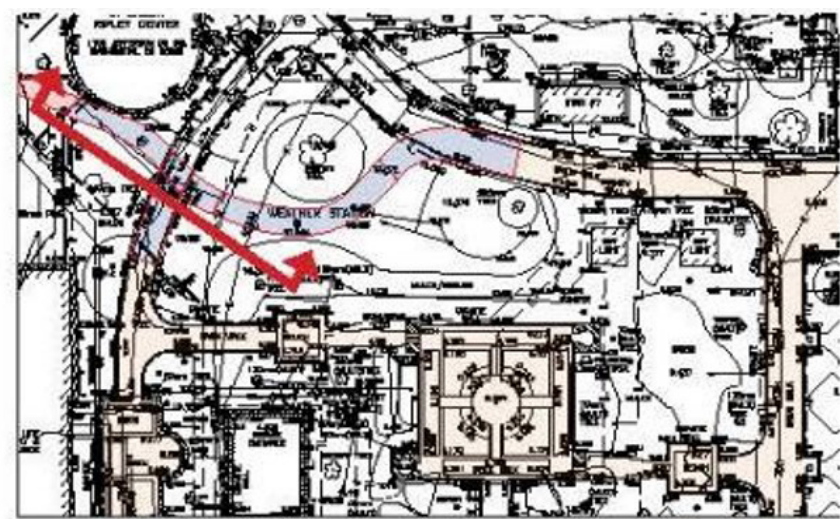
Figure 3.5.2.a – Alternative pedestrian route around Ripley Pavilion

### 3. DETAILED PROJECT INFORMATION

#### 3.5 ALTERNATE PEDESTRIAN ROUTES AROUND THE CASTLE (DURING CONSTRUCTION)

##### 3.5.2 TEMPORARY PEDESTRIAN BOARDWALK (CONTINUED)

A portion of the temporary pedestrian pathway at the west side of the site will be constructed as a boardwalk that will be raised slightly above grade. This will avoid damaging tree roots of mature trees and will limit the slope of the walkway to no more the 5% for universal accessibility.



KEY PLAN

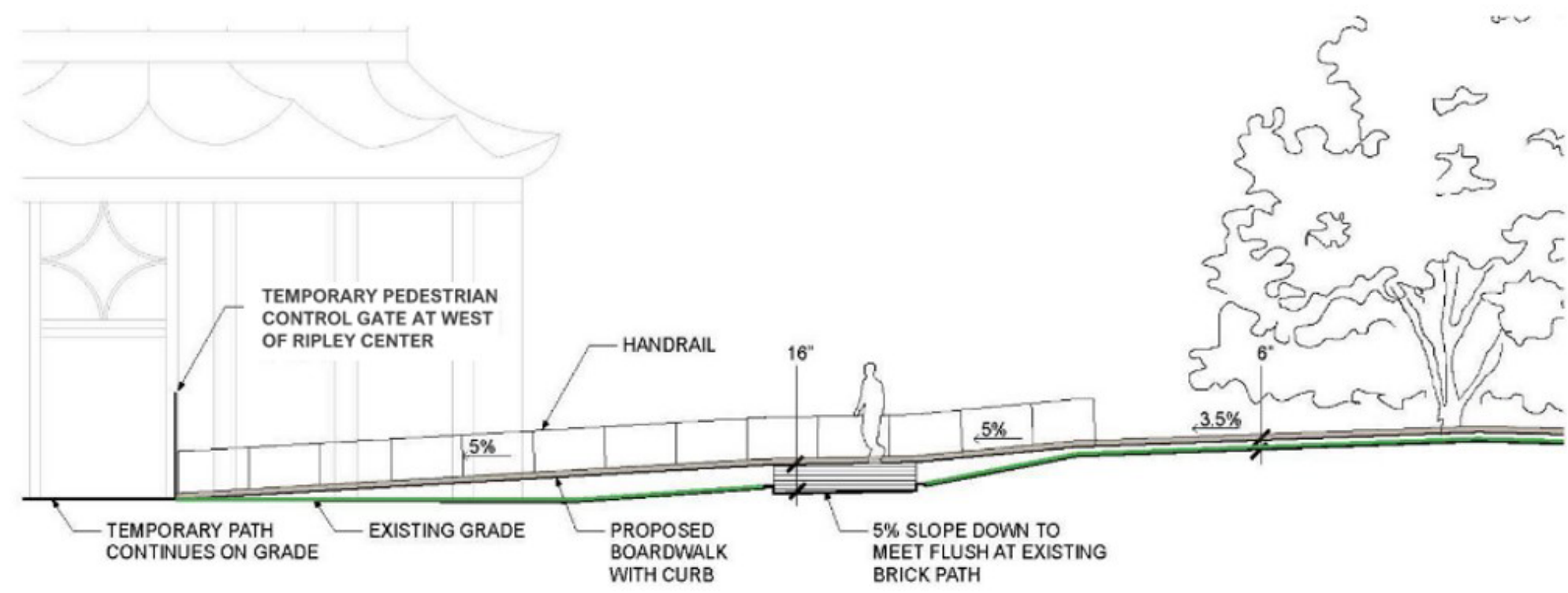


Figure 3.5.2.b – Section of temporary pedestrian boardwalk

### 3. DETAILED PROJECT INFORMATION

#### 3.5 ALTERNATE PEDESTRIAN ROUTES AROUND THE CASTLE (DURING CONSTRUCTION)

##### 3.5.3 TEMPORARY PEDESTRIAN BRIDGE

On the east side of the Castle the excavation during Phase 1 of the construction will extend to the west side of the Arts and Industries Building. This requires closing the existing pedestrian pathway between the Folger Rose Garden and the Haupt Garden. The temporary pedestrian pathway will need to span the excavation.

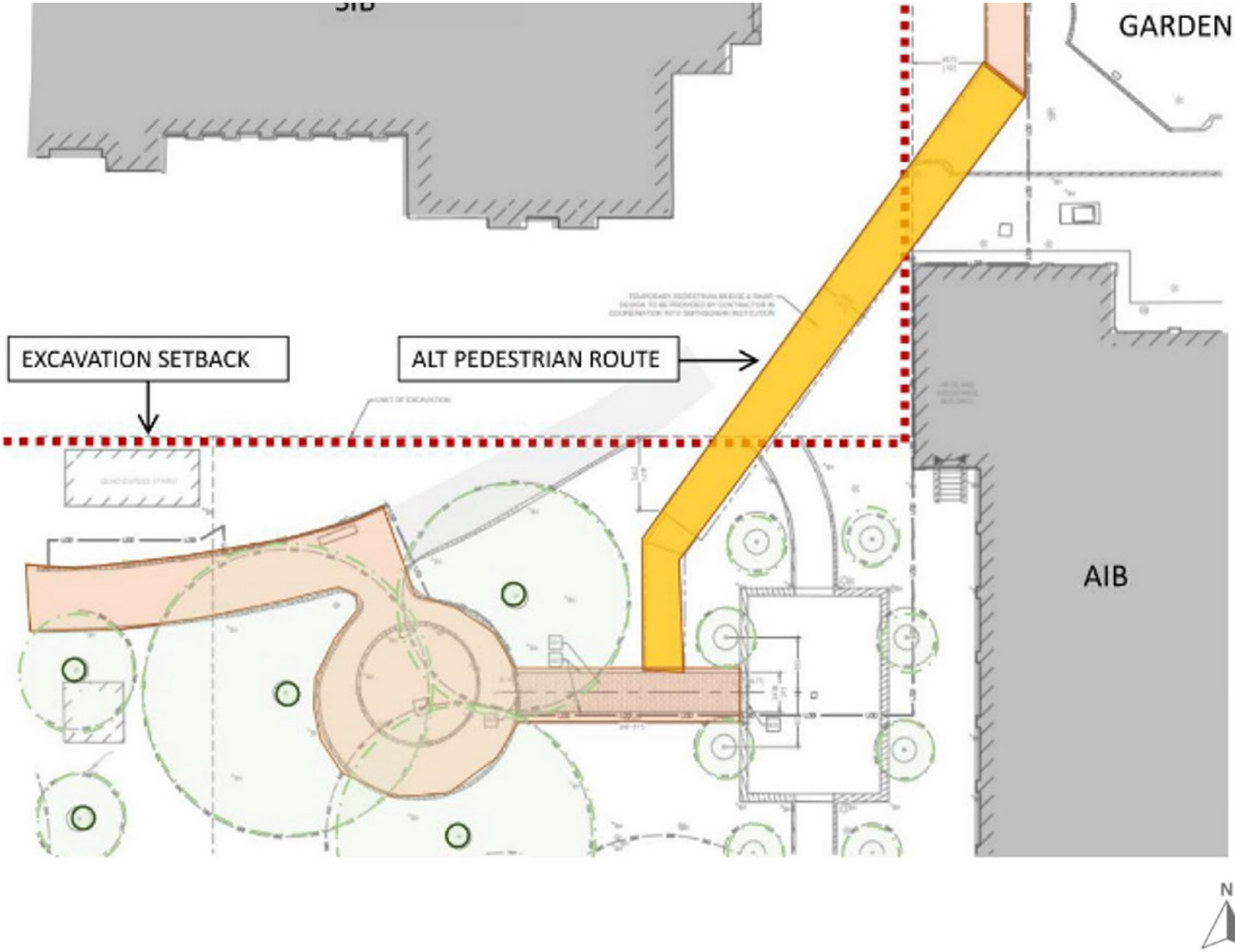


Figure 3.5.3.a– Alternative pedestrian route between SIB and AIB

### 3. DETAILED PROJECT INFORMATION

#### 3.5 ALTERNATE PEDESTRIAN ROUTES AROUND THE CASTLE (DURING CONSTRUCTION)

##### 3.5.3 TEMPORARY PEDESTRIAN BRIDGE (CONTINUED)

###### BRIDGE STRUCTURE

A temporary bridge will be installed to span the excavation, a distance of approximately 120 feet. Temporary foundations will be required at each anchorage point. The bridge will be elevated approximately 2 to 3 feet above grade with ramps at each end to provide universal accessibility.

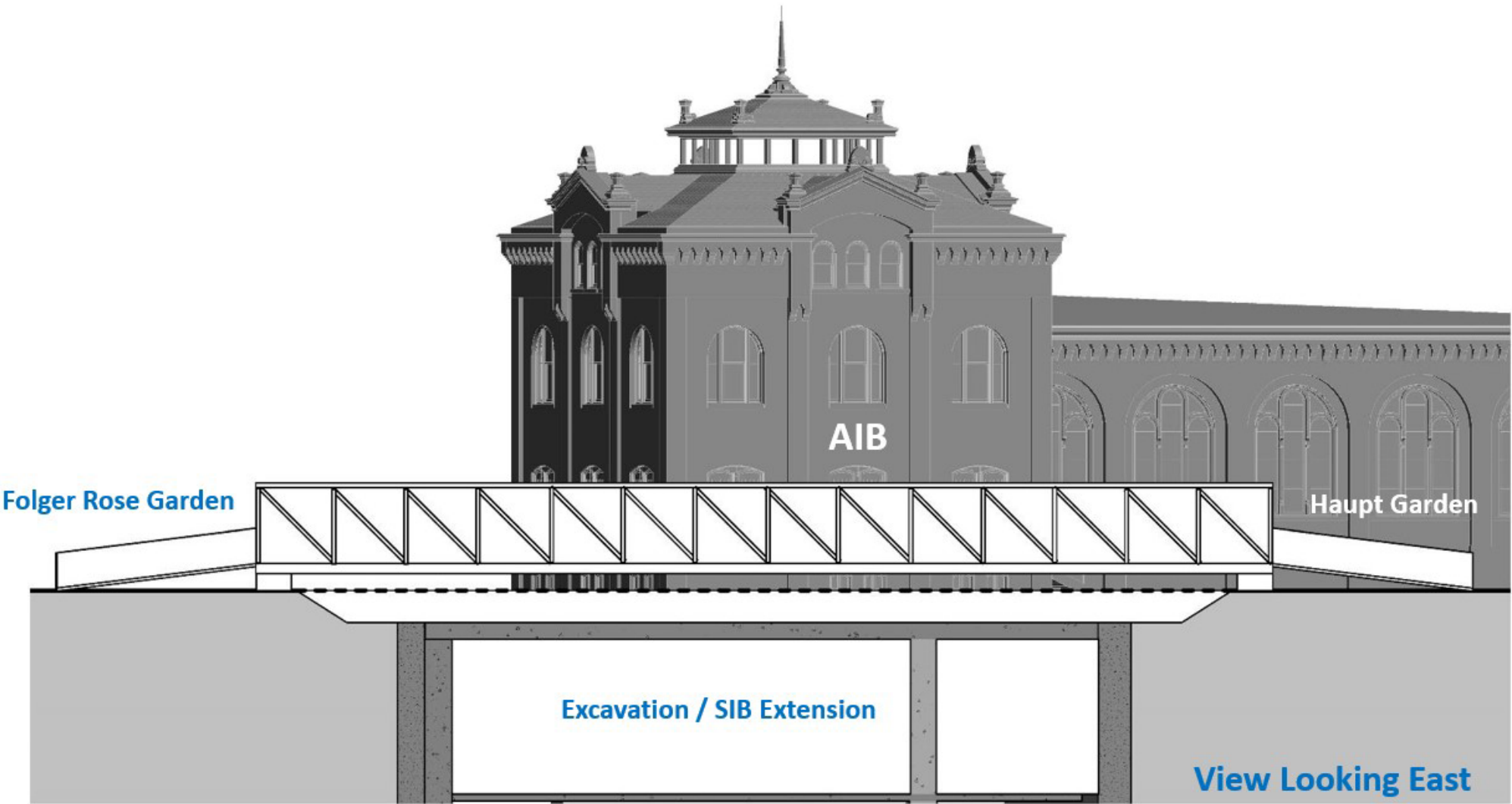


Figure 3.5.3.b – Diagrammatic section of temporary pedestrian bridge