Section 7 : Proposed Scope of Work

7. Proposed Scope of Work

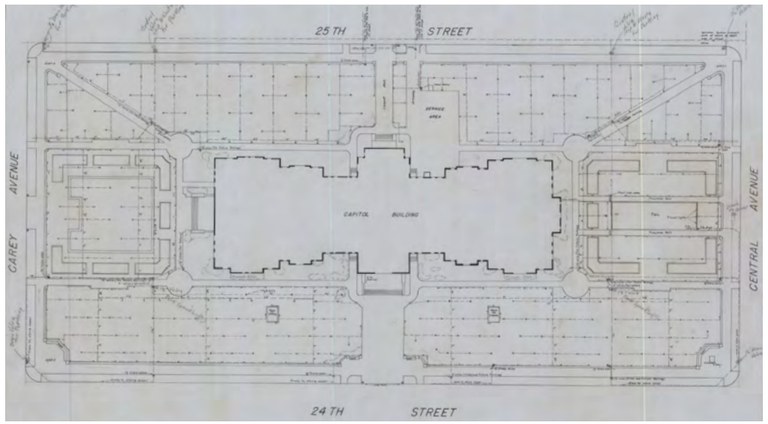

Figure 7.1.1: One of Two Schemes Developed for a Comprehensive Landscape Design for the Capitol Grounds, ca. 1934. Based on photographic evidence, the scheme shown above most closely resembles the as-built condition in the following years.

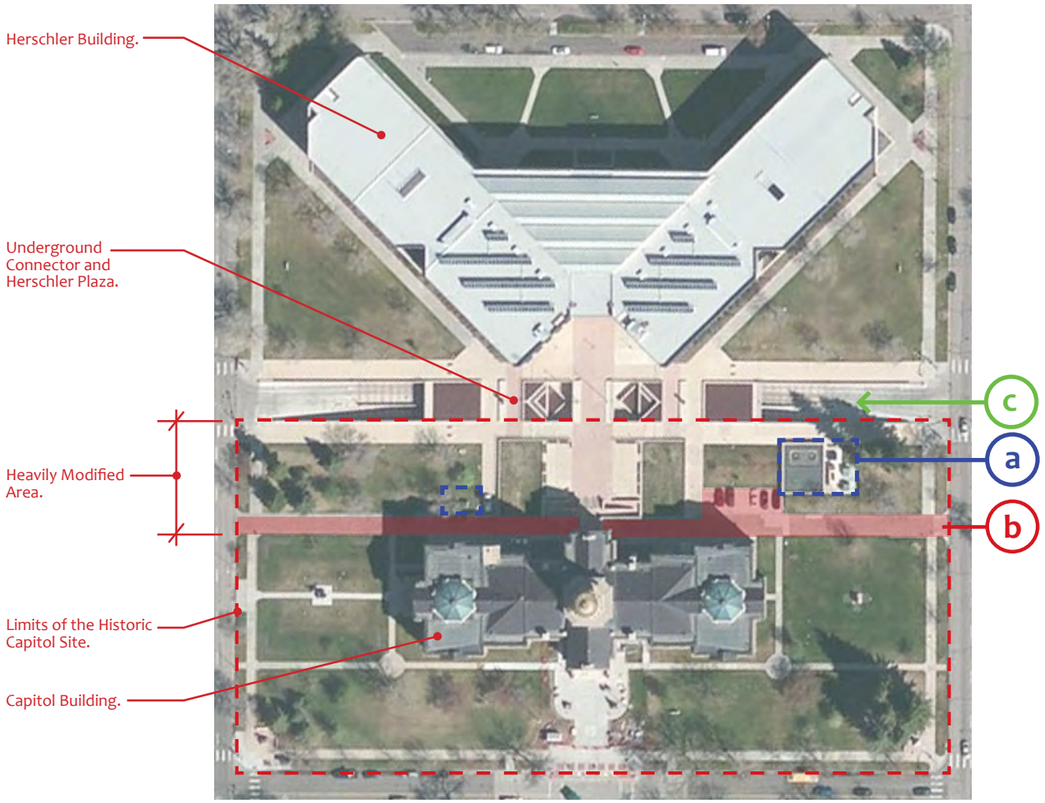

Figure 7.1.2: Aerial Photograph of the Capitol Grounds, Illustrating the Relationship Between the Capitol Building, the Herschler Building and the Underground Connector.

Preamble

The findings of the Design Team indicate that a comprehensive rehabilitation and restoration is needed to create a safe and functional Capitol that would address the needs of the public and its users for at least the next 30 years.

It is proposed that the Scope of Work includes the following:

1. **Site**

   As presented in *Section 5.1*, the original site of the Capitol has been altered with the closing of 25th Street and the construction of the Herschler Building and the Connector. Additionally, there are several features and changes that were introduced to the site, including:

   - A new Plaza that resulted in the removal of the historic North Stairs, and other modifications of the Capitol.
   - Areas occupied by campus infrastructure.
   - Two drives and reserved parking for officials.

   On the south side of the Capitol, a new apron was recently completed with the **Great Seal of the State of Wyoming**.

   Finally, there are a series of artifacts and monuments of historic and cultural significance that require long term care and attention.

   The proposed Scope of Work would include the following items:

   a. Remove infrastructure, relocate to a safer location, which would also allow for additional space to accomodate the required equipment.

   b. Remove drives - enhance security.

   c. Service Capitol Building through garage.

   d. Design Intent:
      - The 1934 historic design provides significant guidelines that should be considered.
      - The site is a public amenity and should be treated as such, providing a dignified and safe environment suitable for a State Capitol.

   e. Restore / reconstruct the historic features under the basic assumption that the State would be interested in re-capturing the ca 1934 historic design.

   f. Restore / reconstruct the original configuration of the Phase I [1888] North Stair.

   g. Add period lighting to enhance illumination and provide adequate lighting for both functional and security reasons.

   h. Add architectural lighting to highlight the building.

   i. Install durable materials that are safe in all seasons, eliminating slippery conditions.

   j. Create a clear program for monuments, artifacts and commemorative additions.

   k. Provide for infrastructure [power, cable, TV, etc.] to accommodate special events, without stringing cables from the building.

   Last, but not least, ensure that the entire site is barrier free, meets current ADA requirements and provides dignified access to the building for all visitors and users.

2. Capitol Exterior

Starting from the top of the building, the work should include the following items:

a. Dome:

Comprehensive Restoration Program including:

- Complete paint removal to bare metal.
- Repair of metal surfaces and selective replacement.
- Re-prime and repaint dome.

Notes:

a. The existing gold leafed areas need to be carefully assessed. Removal of the gold lead may be warranted and reinstallation may be required, depending on the condition of the substrates

b. A paint analysis is needed to ensure that accurate colors are produced based on the historic specifications and the proper placement of colors

Figure 7.2.1: Coatings Failure Measured at the Dome Top. Multiple layers of coatings are visible, as are locations of deterioration and damage that need to be addressed as part of the restoration.

b. Roofing

All existing roofing systems are to be removed and replaced with new for several reasons:

- There are several areas where the existing roofing has been compromised and there is moisture penetration [All EPDM areas are in need of replacement anyway, having exceeded their useful lives and having failures at multiple locations].
- There will be several skylights and monitors installed on the roof to allow for natural light to enter the building in critical areas, such as the monumental stairs.
- Monitors will be constructed in locations where skylights used to be for the smoke evacuation system.
- Outside air intakes, exhaust and relief air, and restroom vents are required to support the infrastructure of the building. These are new penetrations that need to be sized and detailed properly to satisfy the quantitative requirements of the systems [size, etc.] as well as ensure that they are not points of moisture penetration.
- New attachments, such as fall protection, lighting fixtures, catwalks, etc. will have to be installed to ensure proper OSHA-compliant access to all areas of the roof.

If all of the above items are undertaken, a new roofing system will be needed that will last at least 30 years and would be fully warranteed.

Over 50% of the roof area will be impacted by the proposed / required work, including a significant portion of the standing seam roof.

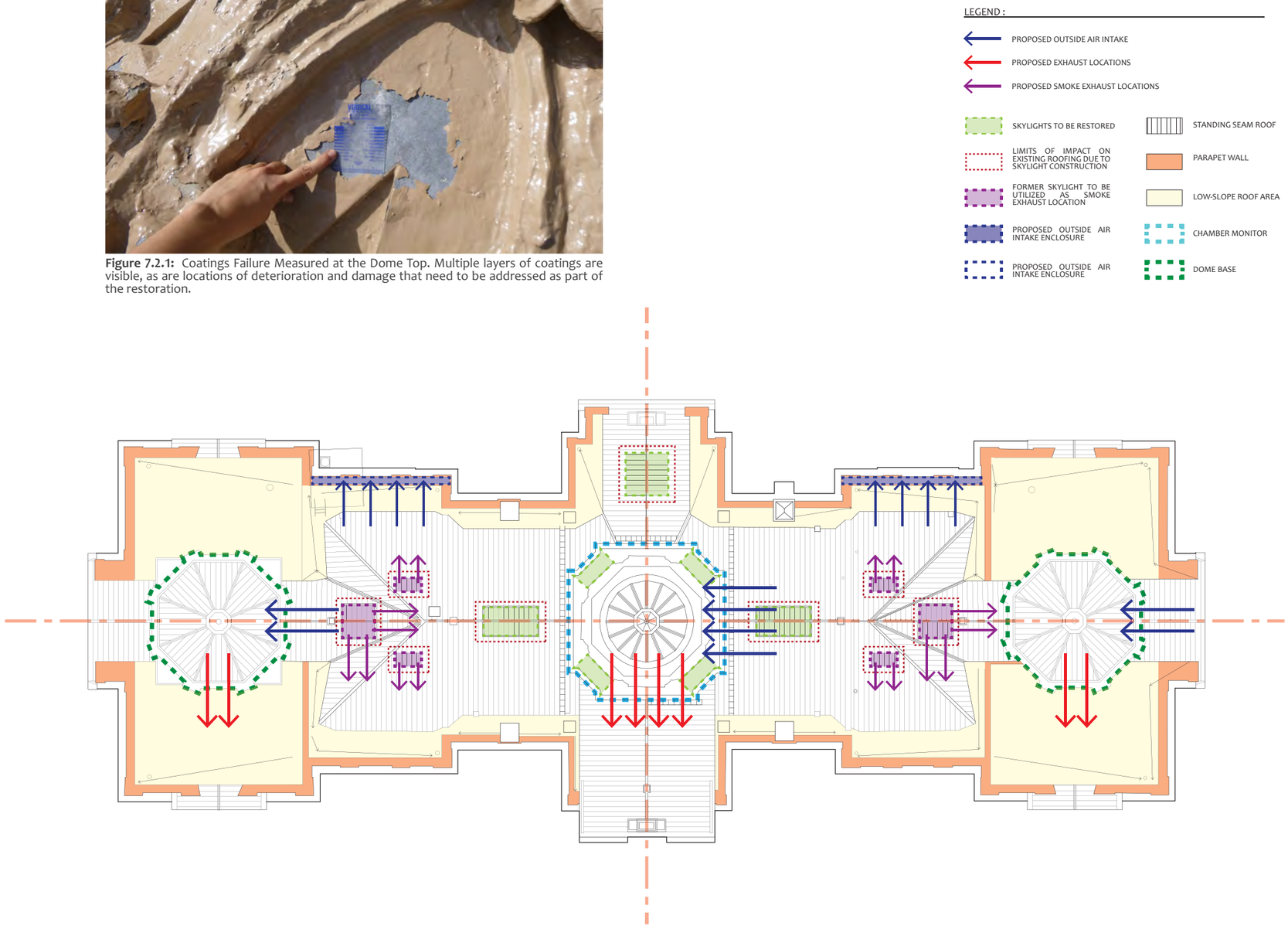

Figure 7.2.2: Diagrammatic Roof Plan Indicating Historic Skylights to be Restored [Green], Historic Skylight Locations to be Repurposed as Smoke Evacuation Points [Purple], and Outside Air Intake [Blue Arrows] and Exhaust Air [Red Arrows] Locations. The areas that are impacted by this work are extensive necessitating complete roof replacement.

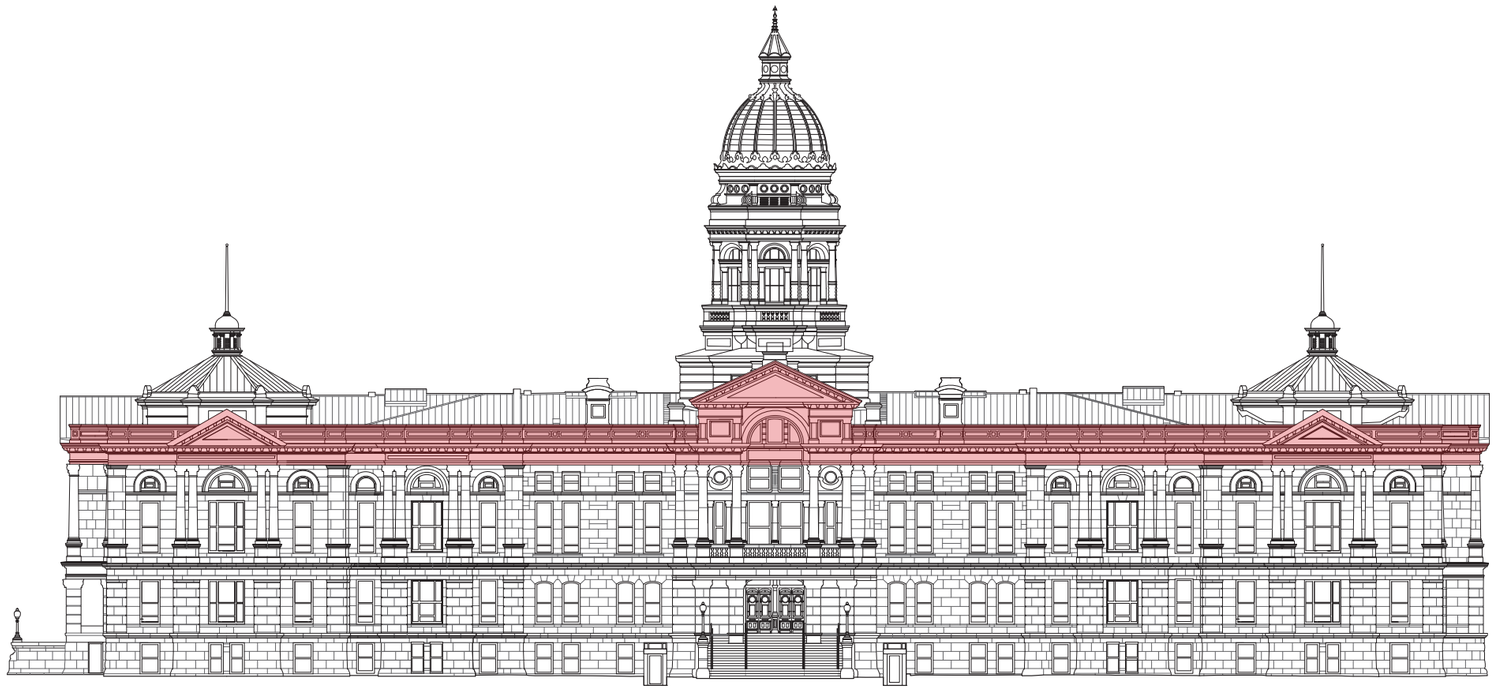

Figure 7.2.3: South Elevation Drawing. The cornices are indicated in red.

Figure 7.2.4: Detail of waterproofing membrane applied on the metal cornice. A well-intended intervention with an adverse effect.

Figure 7.2.5: Delaminated, Eroded Stone at the North Portico Caused by Malfunctioning Rain Leaders.

c. Parapets

The parapets of the building were constructed over two distinct building campaigns. They are not made of stone, but metal with a steel armature to support and suspend them structurally. The metal surfaces were finished in a sandstone color, with sand blown on to them to simulate the appearance of sandstone.

The proposed Scope of Work should include:

- Removal of all protective coatings and cold fluid-applied layers.
- Removal of all paint layers to expose the metal.
- Repairs to all metal surfaces and replacement as required.
- Introducing proper - but imperceptible – pitch to ensure proper water removal.
- Install caps where needed to protect joints [“belt-and-suspender” approach].
- Re-prime and paint parapets, with proper colors, assuming they are acceptable to the State.

d. Masonry

Based on the Design Team’s assessment, a **comprehensive masonry repair, restoration and conservation program** is needed that would address:

- Inappropriate coatings installed in the recent past.
- Comprehensive repairs of joints [proper repointing program].
- Stone cracking, exfoliation and delamination.
- Damaged stone by additions and attachments [chimneys, enclosures, exterior stairs, etc.].
- Cleaning of soiled areas.

e. Windows

There are several categories of windows in the building, including [starting from the Dome]:

- Porthole windows of the Upper Dome.
- Monumental Windows of the Lower Dome.
- Arched Windows at Third Floor.
- Rectangular windows at all levels.

As indicated in *Volume I Section 5.6*, the existing typical [rectangular] windows are replacement units that were part of a replacement program that started as early as **1960**. They represent early double glazing technology that has far exceeded its projected useful life, and a replacement program would be needed.

The replacement program should include the following components:

- Detailed documentation of all frames.
- Classification of frames in the following categories:
- Original frame in place, not covered;
- Original frame in place, covered;
- Replaced sash;
- Original sash;
- Insertions.
- Frames to be exposed and stripped to bare wood.
- Repairs to wood frames.
- Refinishing of wood frames.
- Installation of new custom made sash with double glazing.
- Caulking of joints.
- Refinishing of frames and windows.

Note:

The historic windows were finished in the tradition of the period. It appears that at least two layers of historic finishes are in place, 1888 – 1890 and 1917. Based on historic specifications, the windows were finished as follows:

Exterior frame:	Stone color to match sandstone
Exterior sash:	Dark Olive or Bronze Green paint
Interior frame, sash, shutters and surrounds:	Three coats of Varnish

The placement, selection and richness of the colors and finishes represented a specific aesthetic that has been lost as a result of uninformed decisions. They can be recaptured through paint analysis and be reproduced, allowing the appearance of the building to be restored to the original design intent of the builders of the Capitol. This is a decision that needs to be made by the State. These finishes can last for decades with proper cyclical maintenance.

Figure 7.2.6: Detail of Original Wood Windows, ca.1902. The sand colored frame is highlighted in the above image. The dark painted sash is indicated with the red arrows.

Figure 7.2.7: Detail of North Elevation Looking South. Note Replacement Windows.

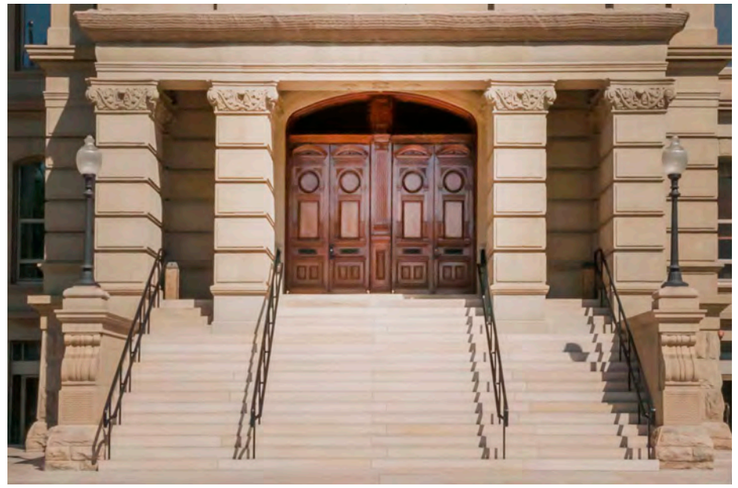

Figure 7.2.8: Main Entry doors at South Elevation.

Figure 7.2.9: Entry at West Elevation, ca. 1979.

Figure 7.2.10: Historic Photograph Showing the Original North Portico Stair at Right, ca. 1940.

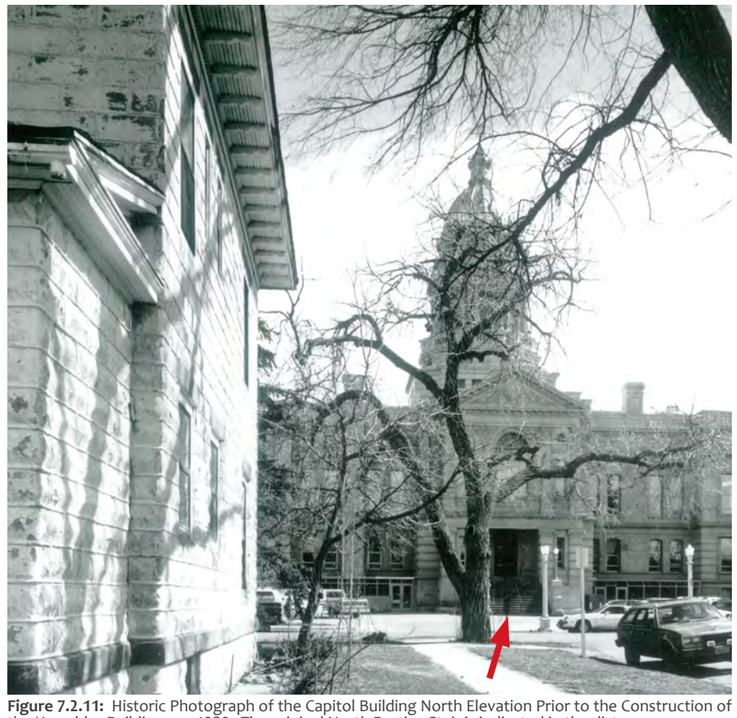

Figure 7.2.11: Historic Photograph of the Capitol Building North Elevation Prior to the Construction of the Herschler Building, ca. 1980. The original North Portico Stair is indicated in the distance.

f. Entrances

There are multiple entrances to the building. They can be organized in the following categories:

Monumental Doors:	3	[First Floor South, West and North]
Basement / Lower Level Doors:	5	[North, East and South]
Egress / Service Door	1	[Under the West Monumental Stair]

The monumental doors are still in place, albeit modified. The Basement / Lower Level Doors have been replaced with inappropriate storefront-type aluminum and glass doors.

The proposed Scope of Work should include the following:

- All access points to be retrofitted – in an unobtrusive way – with security hardware [card access] and ADA-compliant hardware / mechanisms to allow for the doors to be operated easily.
- All historic finishes to be restored.
- New doors to be installed at the Basement / Lower Level, capturing the original design intent based on historic photographs.
- A new service / egress door and frame to be installed under the West Monumental Stair.

We need to discuss two aspects of the North Entrance:

- Its removal and
- Why it should be reconstructed / restored

The Wyoming State Capitol, as all capitol buildings throughout the United States, was designed to be free standing with four elevations, and intended to be viewed without differentiation as "front and back" of a building. The layout of the Capitol was perfectly logical, with a north – south axis creating a symmetry, and the two Chambers creating the east – west balance of the composition. The north – south axis was emphasized by the North and South porticoes, entrances and stairs.

The design and construction of the Herschler Building was respectful to the historic design and layout of the Capitol, and did not have any adverse impacts on the building. Unfortunately, in 2009. the north steps were removed or covered over during the construction of a new plaza and ramps, as part of the Herschler Plaza Renovation Project. In reviewing the design and the result of the intervention, the current condition has the following issues:

a. The layout, as developed, creates a series of levels, with ramps that significantly alter the character of the Capitol when viewed from the North. The elegant north entrance and steps have been replaced by a series of heavy masonry and concrete elements that obscure the north elevation of the Capitol.

b. Along the base of the building, the layout creates a "service area", which is unsightly and compromises the dignified character of the original design. The space is surrounded by tall masonry and concrete walls. This area, while it may have some functionality, raises significant security concerns.

Careful analysis and review of the existing conditions, renovation drawings and historic photographs indicates that these elements can be removed, the original steps can be reconstructed and the elegance of the historic design can be restored. ADA accessibility, serviceability of the Capitol and parking can be addressed through unobtrusive alterations to the Herschler Garage and Connector areas.

In addition to the aforementioned alterations to the original north stair, several additions / attachments were made over the years to the North Elevation, including a chimney, two metal egress stairs and two enclosures with ramps.

All of these items are proposed to be removed and the north masonry facade to be fully restored. *Pages 7.6 and 7.7* delineate these items.

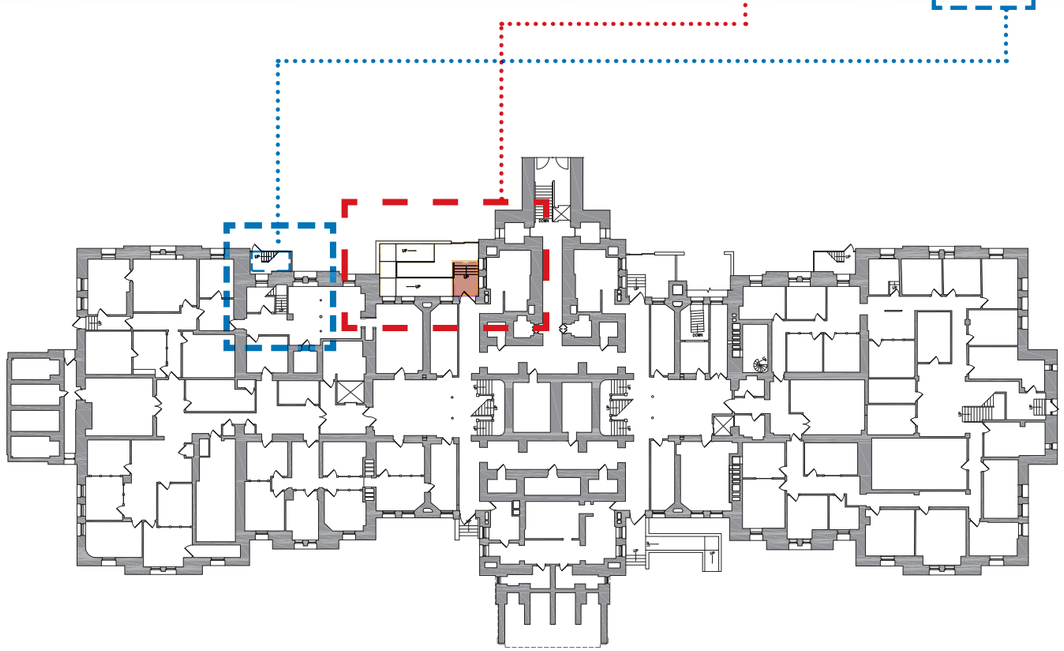

Figure 7.2.12: "As-Found" Basement Level Floor Plan.

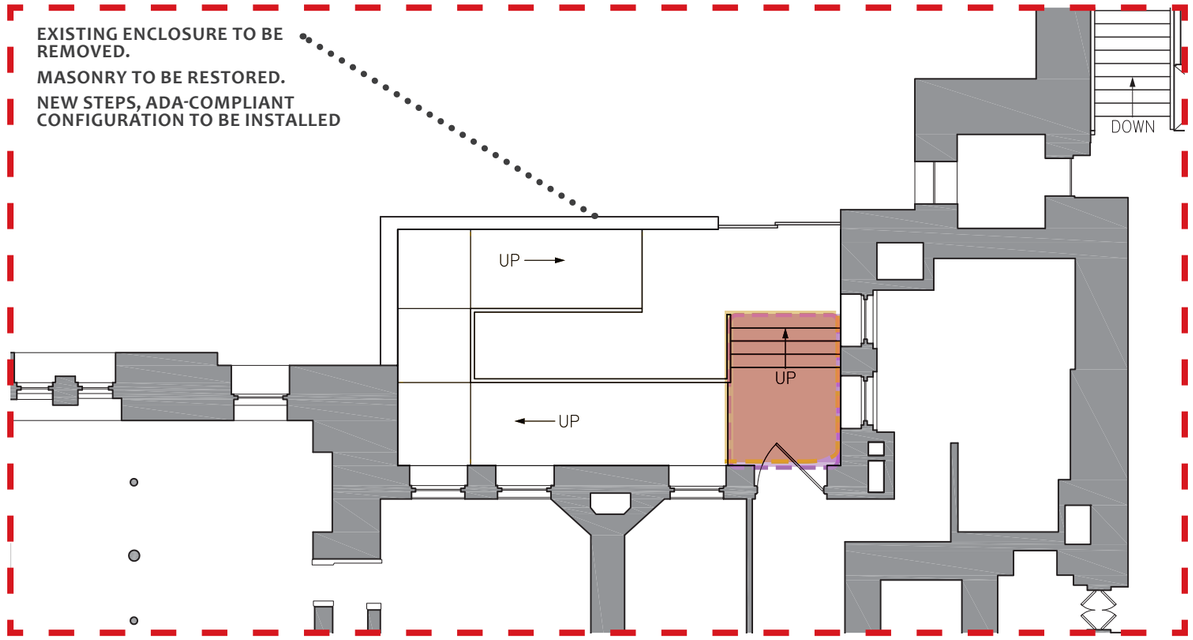

Figure 7.2.13: Enlarged "As-Found" Basement Level Floor Plan and the Northwest Exterior Storefront Entrance.

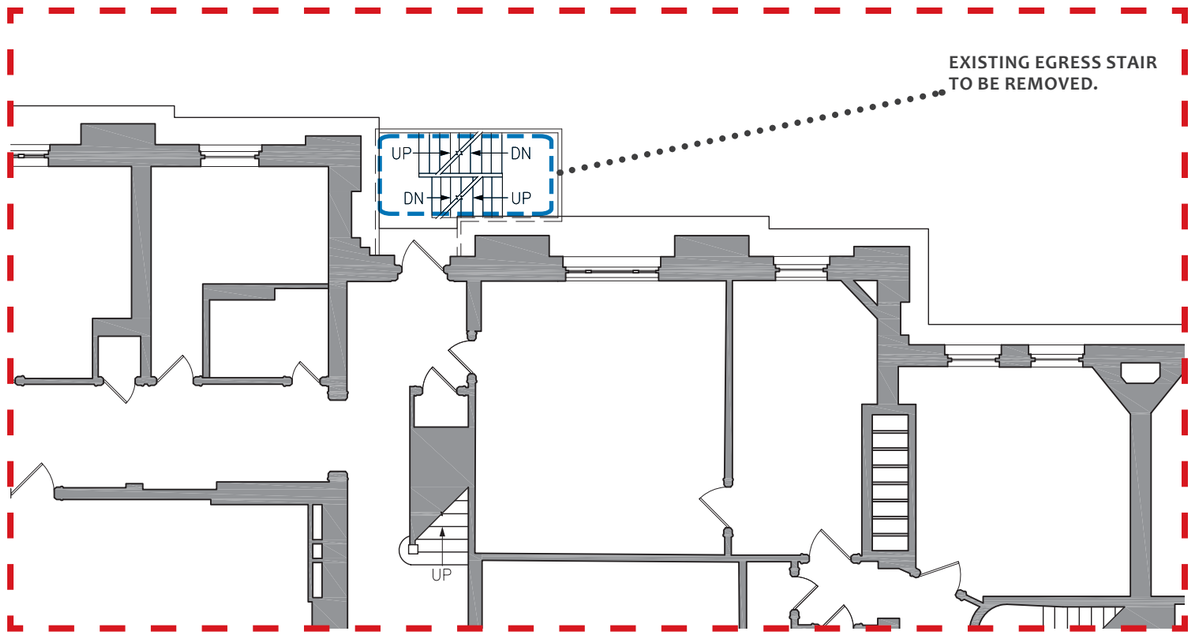

Figure 7.2.14: Enlarged "As-Found" Basement Level Plan and the Northwest Exterior Egress Stair.

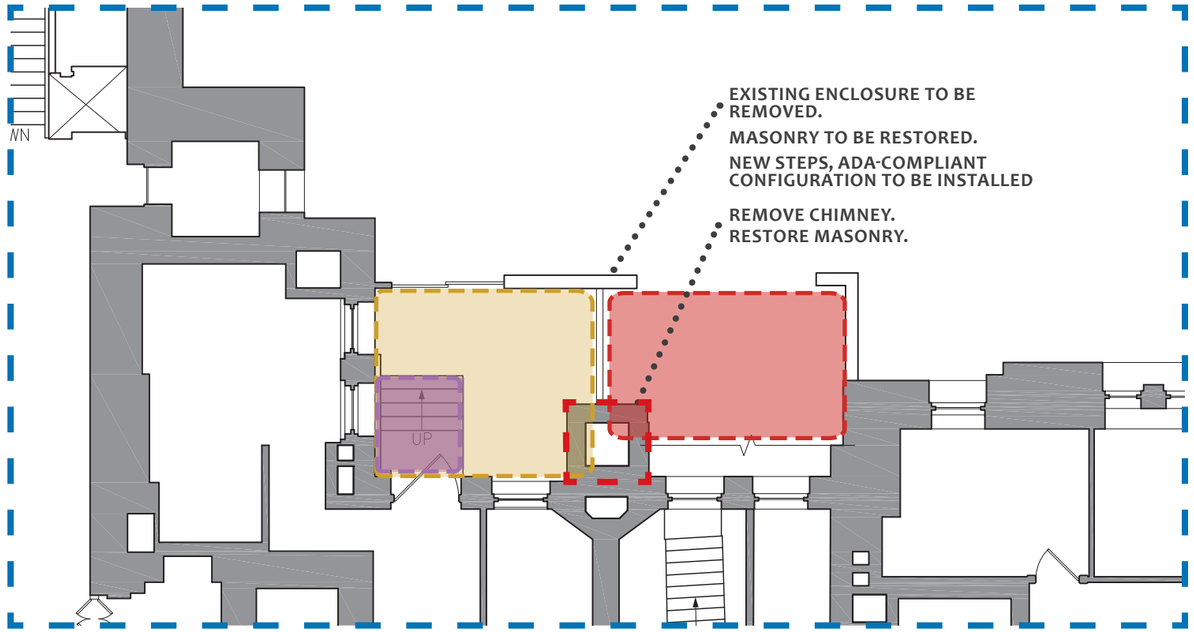

Figure 7.2.15: Enlarged "As-Found" Basement Level Floor Plan and the Northeast Exterior Storefront Entrance.

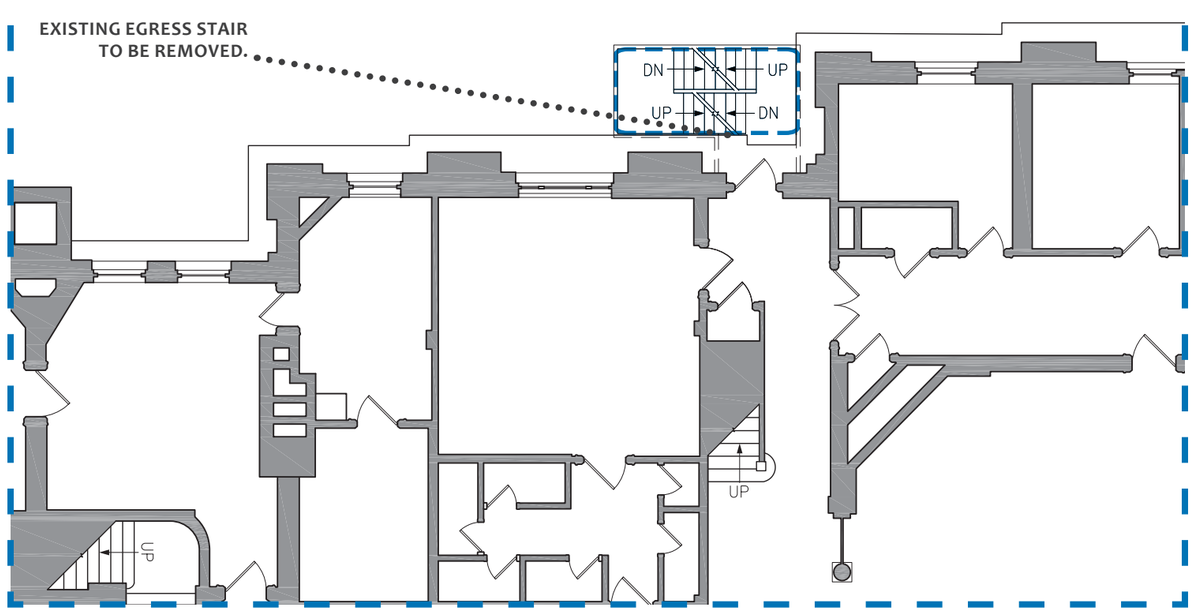

Figure 7.2.16: Enlarged "As-Found" Basement Level Plan and the Northeast Exterior Egress Stair.

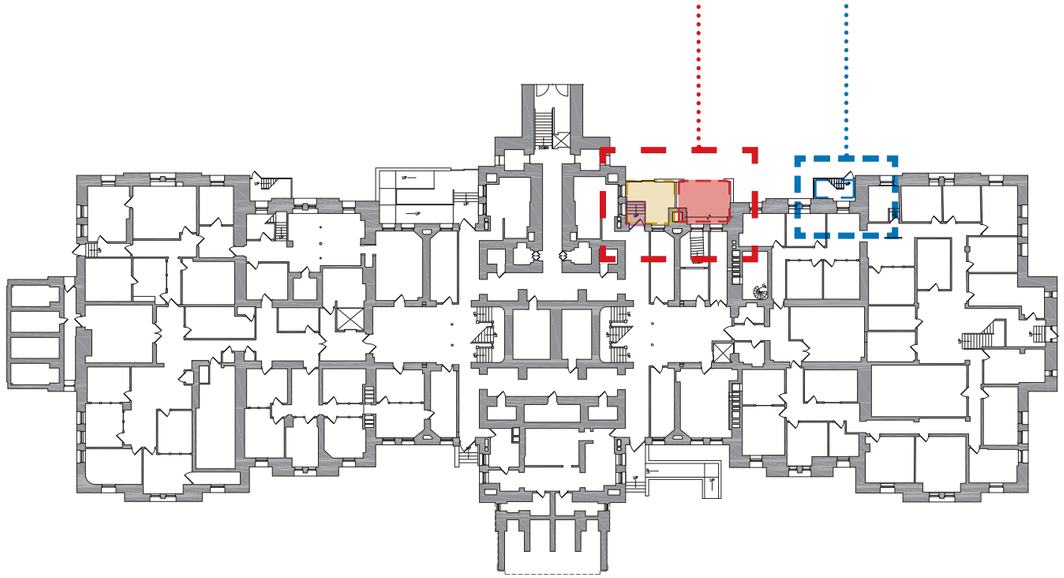

Figure 7.2.17: "As-Found" Basement Floor Level Plan.

3. Building Infrastructure and Systems

After careful assessment and analysis, the Design Team concluded that:

- The Capitol has failing, obsolete and inadequate building systems.
- It lacks fundamental systems and infrastructure to meet essential life safety requirements.
- There are numerous code compliance issues throughout the building, and;

At this juncture, the goal of the project should be the installation of brand new building infrastructure and systems, including:

a. Smoke Detection .

   Full coverage, all areas of the building, including interstitial spaces, attics, etc.

b. Smoke Evacuation System.

   The system should allow for the smoke to be removed in the event of a fire from the “single volume area”

c. Fire Suppression.

   Full coverage with automatic sprinkler system

d. A comprehensive heating, ventilation and air conditioning system that:
   - Provides 100% coverage throughout the building;
   - Meets contemporary building performance requirements;
   - Has the capacity to meet the projected occupancy loads of the building;
   - Can respond to the specific climate extremes of the location [Cheyenne, WY];
   - Is properly zoned and carefully distributed throughout the building;
   - Allows the occupants to select their own settings for their spaces;
   - Does not induce vibrations or noise in any of the work areas and especially the Chambers, Committee Rooms and meeting spaces;
   - Creates long term value through energy efficient operations.

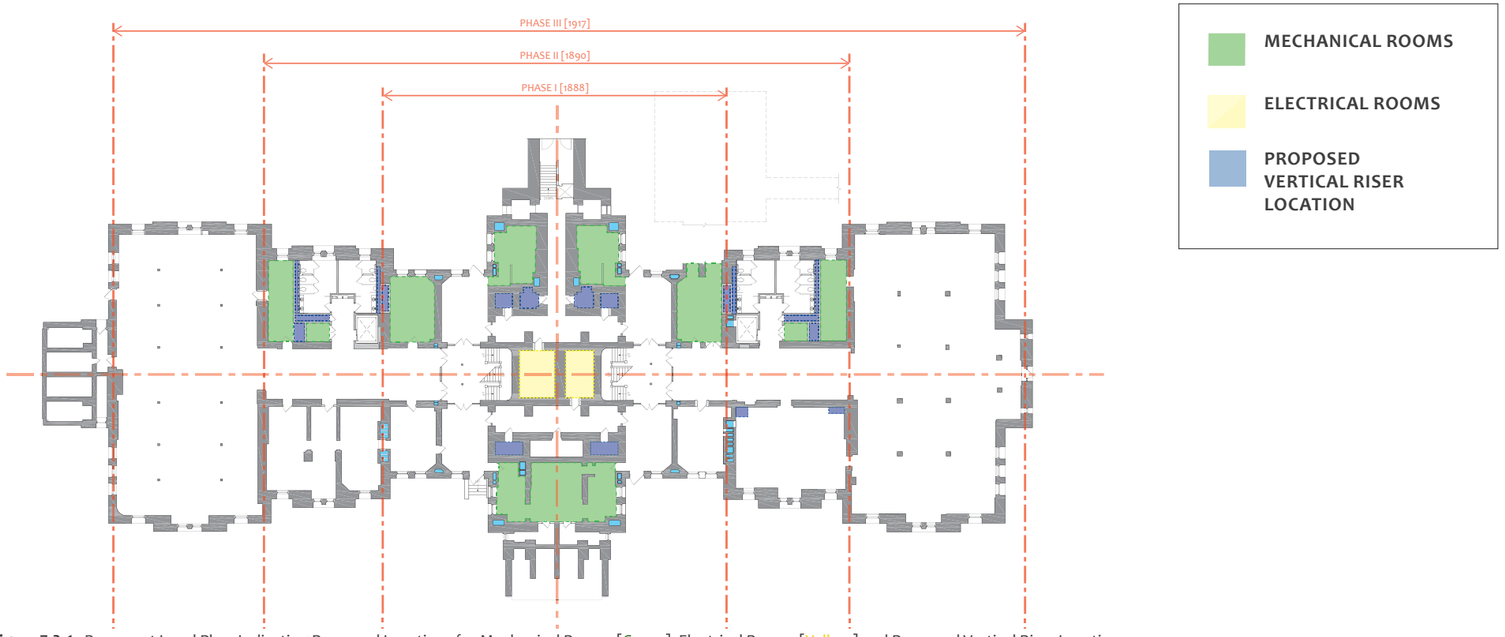

Figure 7.3.1: Basement Level Plan, Indicating Proposed Locations for Mechanical Rooms [Green], Electrical Rooms [Yellow] and Proposed Vertical Riser Locations [Blue].

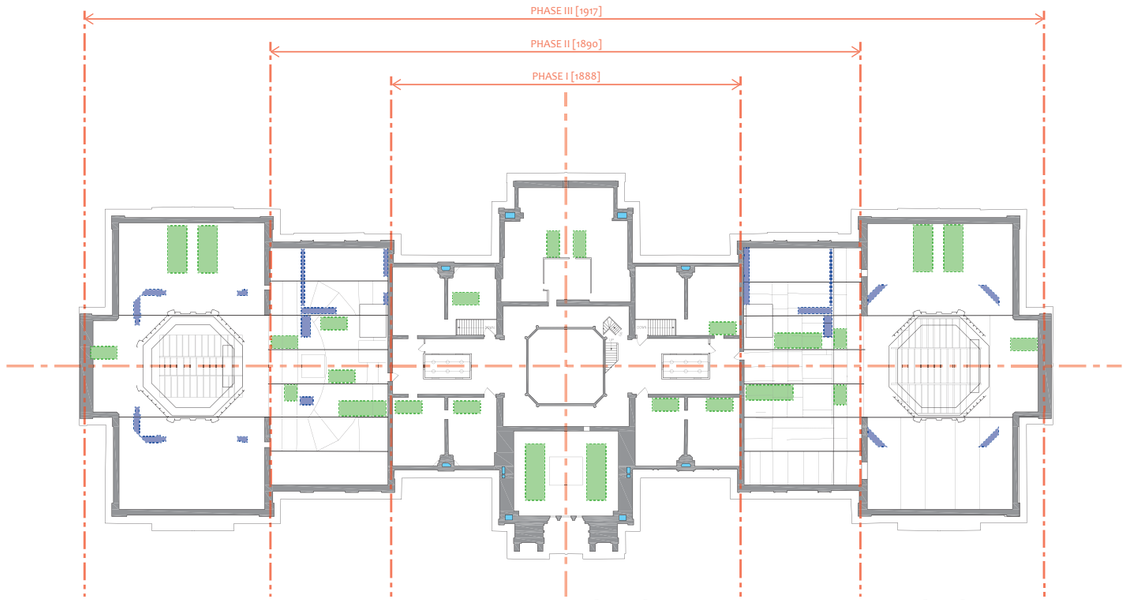

Figure 7.3.2: Attic Level Plan, Indicating Proposed Locations for Mechanical Rooms [Green] and Proposed Vertical Riser Locations [Blue].

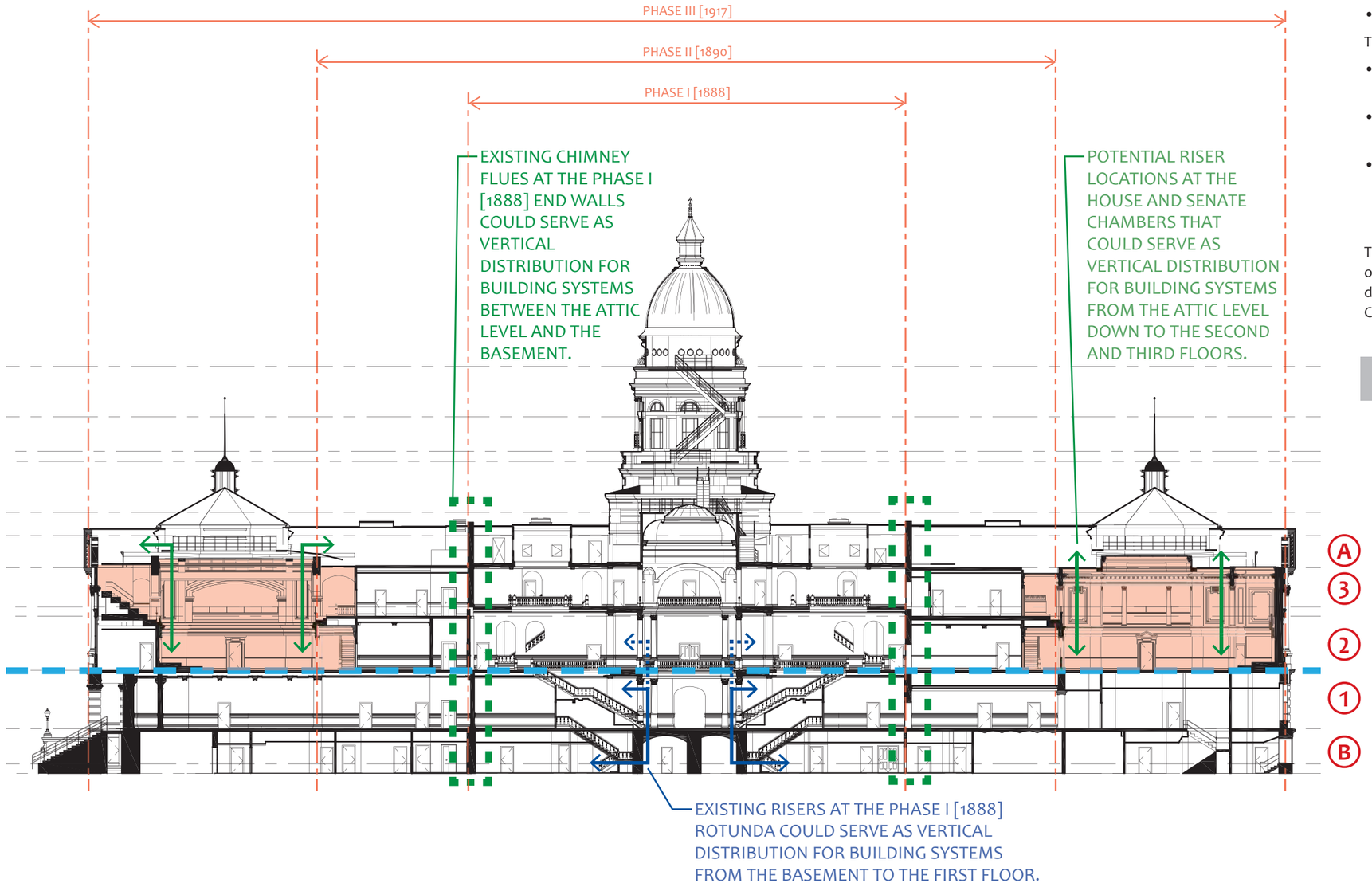

Figure 7.3.3: Longitudinal Section [East-West]

In *Volume I Section 4: Historic Analysis*, vertical pathways were identified that could provide the necessary space for piping, duct, and conduit distribution connection all levels of the building. In addition, appropriate locations were identified for:

- Creating the needed space for mechanical, electrical, lighting and A / V rooms, and closets
- Locating the code-required restrooms

The basic premises for organizing the building systems infrastructure are:

- Basement: mechanical and electrical equipment servicing Basement and First Floor [Fed Upwards]
- Attic: mechanical and electrical equipment servicing the Second and Third Floors [Fed Downwards]
- The building maintains its natural organization as "two" stacked areas, i.e. Third/Second and First/Basement, thereby minimizing adverse impacts, reducing sizes of ducts and equipment and zoning the building based on use and occupancies.

The most appropriate location for the required restrooms is the 1890 section of the building [north of the East-West monumental corridor]. This location does not create any impacts on any of the character-defining spaces of the Capitol.

This technical discussion continues on *Page 7.15.*

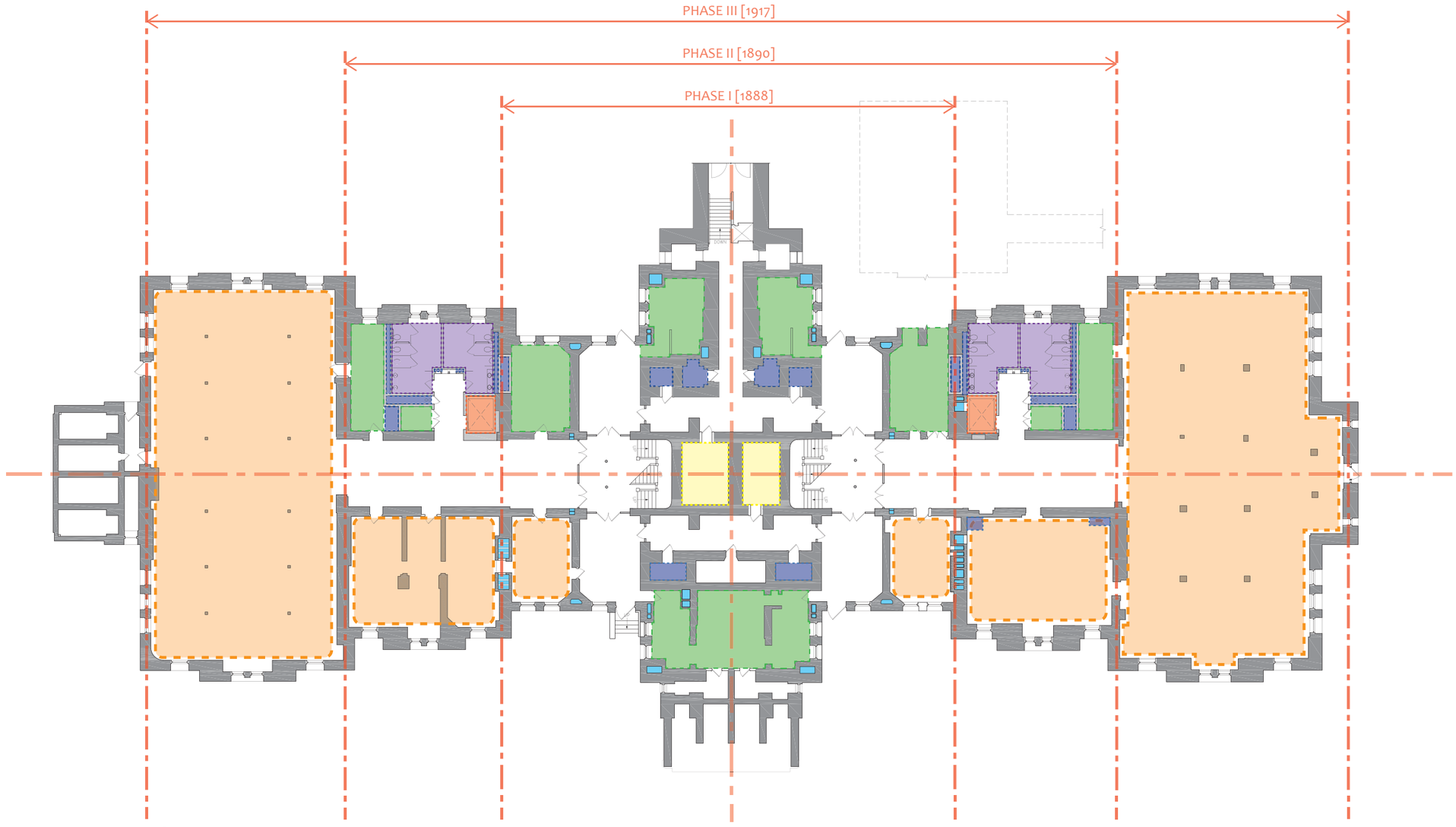

Figure 7.3.4: Basement Level Plan, Illustrating the Potential Space Use of the Capitol Building.

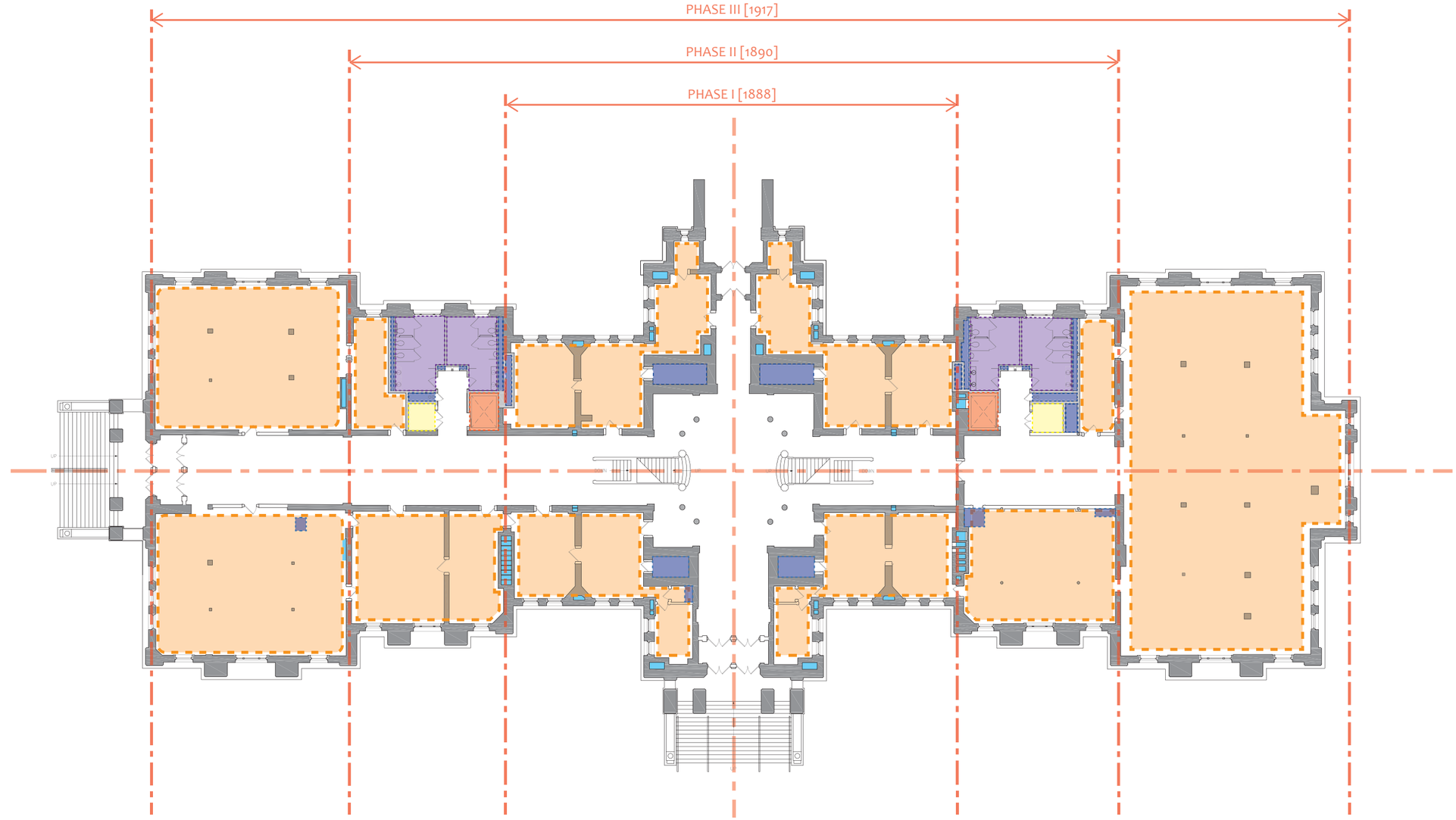

Figure 7.3.5: First Floor Level Plan, Illustrating the Potential Space Use of the Capitol Building.

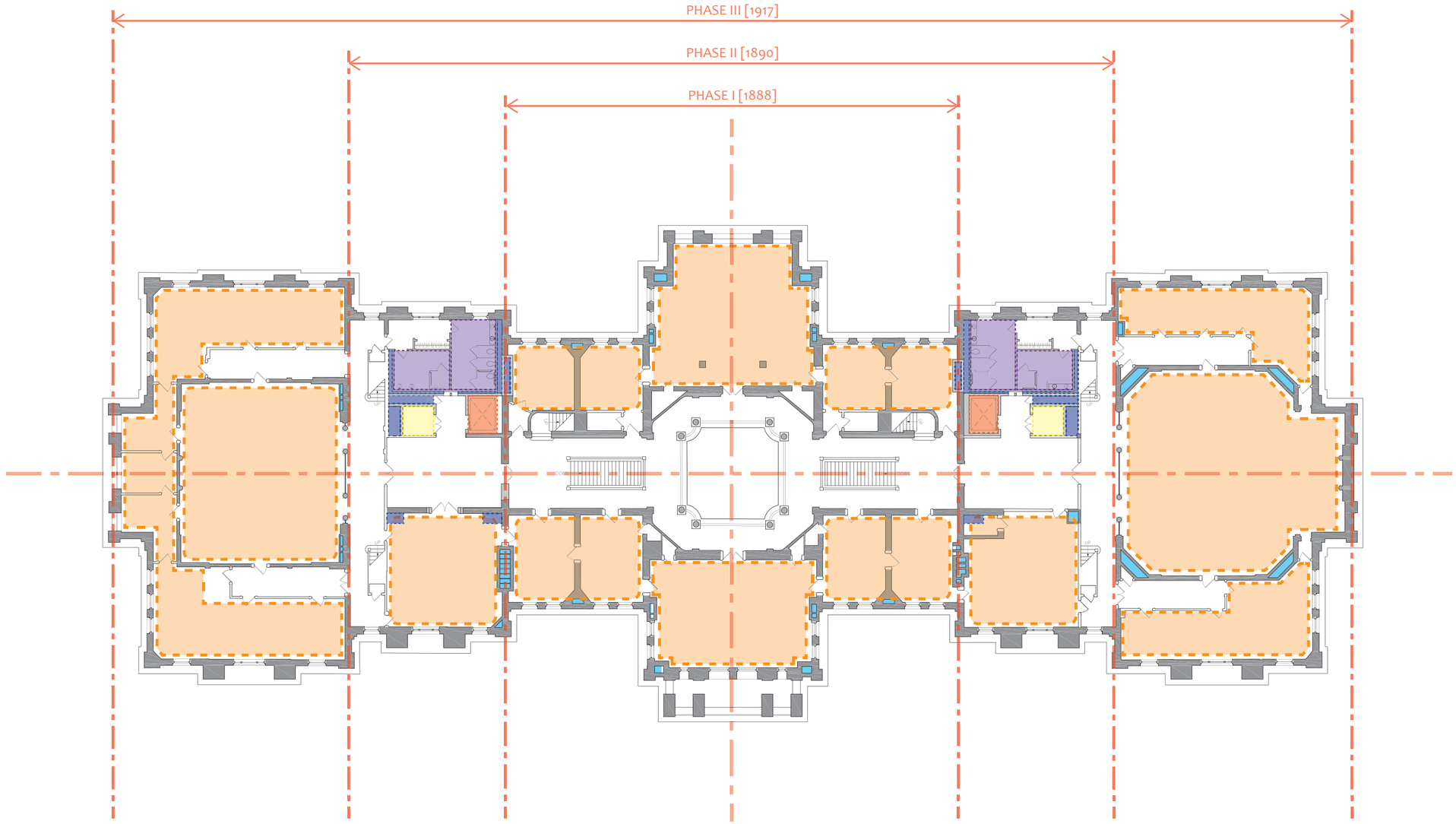

Figure 7.3.6: Second Floor Level Plan, Illustrating the Potential Space Use of the Capitol Building.

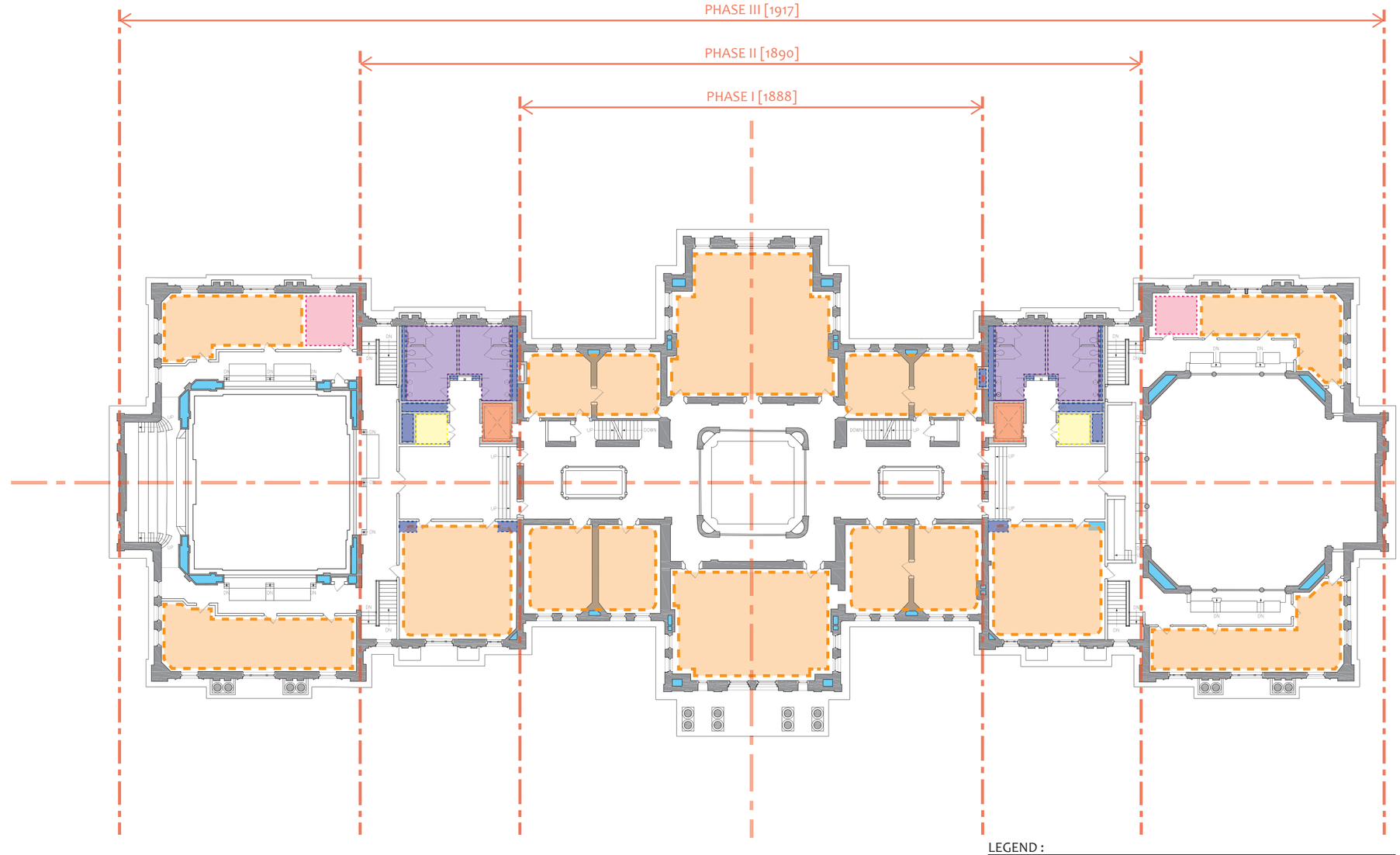

Figure 7.3.7: Third Floor Level Plan, Illustrating the Potential Space Use of the Capitol Building.

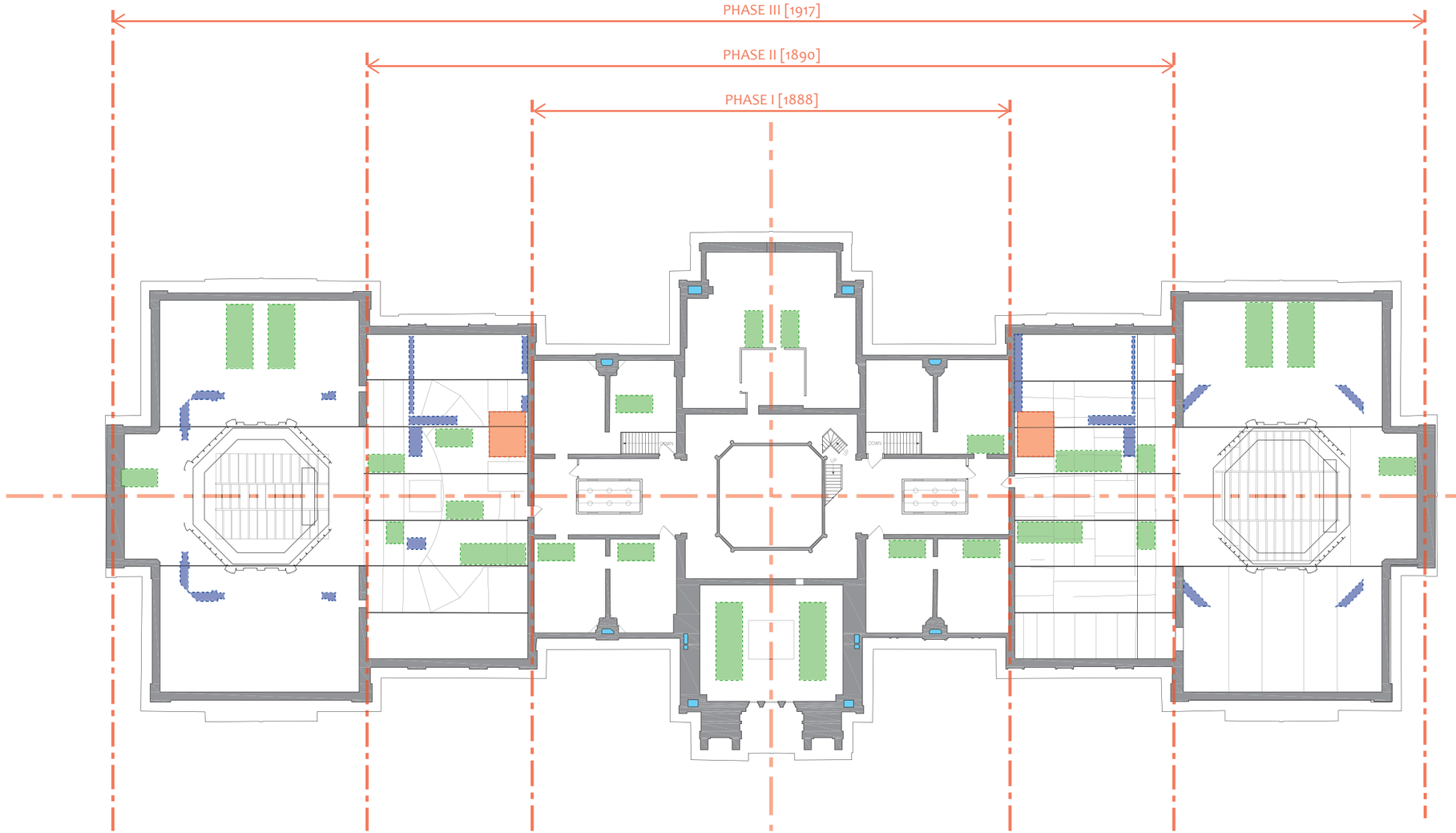

Figure 7.3.8: Attic Level Plan, Illustrating the Potential Space Use of the Capitol Building.

Figure 7.3.9: Typical Historic Light Fixture at the House Chamber.

Figure 7.3.11: Typical Historic Light Fixture at the Senate Chamber.

Figure 7.3.10: Historic Light Fixture at the Second Floor Senate Lobby.

Figure 7.3.12: Historic Light Fixture at the Third Floor Committee Room.

Continued from *Page 7.9.*

e. Fire Alarm.

A new fire alarm system would be needed to relate to the new layout of the building, including the definition of the "single volume area"

f. f. Standpipes.

New standpipes will be required, located in ways that meet the maximum distance requirements required by code

g. Completely New Electrical System.

This would require creation of new electrical closets and distribution to meet contemporary electrical code requirements

h. New Lighting System.

The Design Team performed an in-depth lighting evaluation and analysis of the building. The findings indicate that a comprehensive lighting program should be considered that would include:

- Historic lighting.
- Architectural Lighting.
- Exhibit Lighting.
- General Lighting.
- Emergency Lighting.
- Task Lighting, etc.

The end goal of this program would be to provide modern lighting that is energy efficient, is appropriate for the historic character of the building, provides illumination levels that meet contemporary performance requirements and provides comfort for long working days, especially during sessions.

i. Plumbing Systems

The building does not have the required number of plumbing fixtures nor ADA compliant restrooms. A comprehensive program of new restrooms that would:

- Meet the code requirements;
- Would be ADA compliant.
- The restrooms should be located in areas where:
- There is no significant historic building fabric.
- There are no significant spaces below or above.
- They can be stacked to minimize the overall impact on the building and contain pathways for wet lines.

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