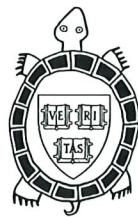


CAMBRIDGE HISTORICAL COMMISSION PRESENTATION

15 MT AUBURN STREET PROJECT

FOR

HARVARD UNIVERSITY NATIVE AMERICAN PROGRAM



Harvard University Native American Program

14 Story Street, Suite 400

Cambridge, MA 02139

Tel: (617) 495-4923 Fax: (617) 496-3312

Email: hunap@harvard.edu Web: www.hunap.harvard.edu

May 12, 2025

Mr. Charles Sullivan, Executive Director
Cambridge Historical Commission, City of Cambridge
831 Massachusetts Avenue
Cambridge, MA 02139

Dear Mr. Sullivan,

Enclosed are twelve copies of an application for a Certificate of Appropriateness for a proposed project at 15 Mt. Auburn Street within the Harvard Square Conservation District.

Project Overview

Harvard University is proposing to construct a new home for the Harvard University Native American Program (HUNAP). HUNAP serves the Harvard community in its efforts to expand the social and academic focuses related to Native American study, history, diplomacy, and culture. It is a vital program to the university and works across the entire institution. The project calls for the demolition of the existing structure at 15 Mt. Auburn and new construction of a 5,556 square foot (GFA), three-story building, which maintains the smaller-scaled building cluster as a relief from the area's larger-scale development patterns. A more generous landscaped side yard provides a more comfortable buffer to the neighboring residences. The unique, contemporary design incorporates traditional Native American materials to reflect the building's use, which will add to Harvard Square's architectural diversity and vibrancy and to the historical legacy of the regional Native Nations of this area.

Proposed Demolition

The original premise of this project was to preserve and renovate the existing building at 15 Mt Auburn Street (1873), a double Mansard structure that has a perpetual preservation easement protecting three of its facades. Though the building's exterior has been modified substantially over time (including reclad facades, remodeled front porch, window replacements, addition of shutters and pediments, remodeled front porch and entrance, multiple paint color changes) and the structure does not have any notable architectural or historical associations, Cambridge Historical Commission (CHC) had previously determined it to be "significant" as one of three remaining vernacular wood frame buildings in this area of Harvard Square, prior to the establishment of the Harvard Square Conservation District.

Through an extensive and rigorous due diligence feasibility process, the Harvard project team documented extensive building deficiencies and challenges related to meeting all current building, accessibility and energy codes, adapting the building for HUNAP use and to Harvard University's standards. Challenges include:

- Geo-technical testing revealed significant issues with the building foundation. The existing building structure is in poor condition and does not meet the current building code. Extensive work would be required to build a new foundation, floor slabs, and stairs, along with a reinforcement of the facades and the roof, which is made even more difficult considering the tight site conditions and the proximity of the residential abutter, located only 6 feet away.

- Because the façade easement protects three of the four existing facades and associated Mansard roofs, these facades/roofs would need to be repaired in situ, necessitating the building to be rebuilt from the inside out. The existing facades require extensive rot repair and the installation of a vapor barrier. The existing air/water barrier should be replaced to mitigate water infiltration, but this is not possible without replacing the existing cedar cladding. The facades also need additional structural work to provide necessary lateral stability to meet current building code.
- To meet the new Specialized Stretch Energy Code, the facades need to be reworked with new high-performance windows, 100% insulation at facades, roof, and foundation.
- The building is currently not accessible to persons with disabilities. A renovation would require new entrance ramps and other accessibility features, which would be challenging given the tight site conditions and existing building layout.
- A small rear addition to the building would be needed to accommodate the program requirements, adding further complexity to the project and the historical design.

In summary, a renovation of 15 Mt. Auburn Street would essentially require the construction of a new building within the existing building, thus incurring significant cost, schedule, and logistical challenges to comply with existing historic preservation controls, while also resulting in the loss of the majority of the building's historic fabric. Given the existing building's deteriorated conditions, limited original fabric, site challenges, HUNAP programmatic needs, and the University's building and facility standards, Harvard has determined that building demolition and replacement are the preferred path forward.

Proposed New Construction

The proposed new building is envisioned as a 5,565 square foot (GFA) building with three floors and a full basement. It will be of a similar scale to its predecessor structure, with a narrower but slightly longer footprint to allow for a more generous side yard. The exterior façade has been inspired by Native American traditional materials including tree bark and Wampum, which are the shell beads used as jewelry and for traditional ceremonial purposes. These materials have strong cultural and historical significance to the Tribal Nations of this region. The curved southwest lower corner of the building will be clad in bark to support the entry sequence. Tree bark shingles, durable and protective, are traditionally used on Wetus, which have been built in this area for more than 10,000 years. The majority of the building exterior will have a variegated and polished purple-to-white color scheme on painted metal panels to reflect the Wampum. The new building will accommodate HUNAP's program needs in a fully accessible and all-electric building. The new design strives to respect the neighborhood context, minimize adverse impacts to adjacent properties, and expand the palette of creative and diverse contemporary design in Harvard Square, while supporting the HUNAP mission and facility needs.

We look forward to presenting this project to the Cambridge Historical Commission at the public hearing scheduled for Thursday, June 5, 2025. If you have any questions or require additional information, please contact Alexandra Offiong of Harvard University Planning and Design at 617-384-8155.

Sincerely,

Jordan Clark
Jordan Clark

Executive Director, Harvard University Native American Program

cc: Jennifer Dowd, Alexandra Offiong, Thomas Lucey, HU



CAMBRIDGE HISTORICAL COMMISSION

831 Massachusetts Avenue, 2nd Fl., Cambridge, Massachusetts 02139
Telephone: 617 349 4683 TTY: 617 349 6112
E-mail: histcomm@cambridgema.gov URL: www.cambridgema.gov/Historic

APPLICATION FOR CERTIFICATE

1. The undersigned hereby applies to the Cambridge Historical Commission for a Certificate of (check one box): ☒ Appropriateness, ☐ Nonapplicability, or ☐ Hardship, in accordance with Chapter 40C of the Massachusetts General Laws and/or Chapter 2.78 of the Municipal Code.

2. Address of property: 15 Mt. Auburn Street, Cambridge, Massachusetts

3. Describe the proposed alteration(s), construction or demolition in the space provided below:
(An additional page can be attached, if necessary).

Harvard University is proposing to construct a new home for the Harvard University Native American Program (HUNAP). The project calls for the demolition of the existing Mansard structure at 15 Mt. Auburn (1873) and the construction of a 5,565 square foot (GFA), three-story building. The new building maintains the smaller-scaled building cluster as a relief from the area's larger-scale development patterns. A more generous landscaped side yard provides a more comfortable buffer to the neighboring residences. The unique, contemporary design incorporates traditional Native American materials to reflect the building's use, which will add to Harvard Square's architectural diversity and vibrancy.

See attached project description for details.

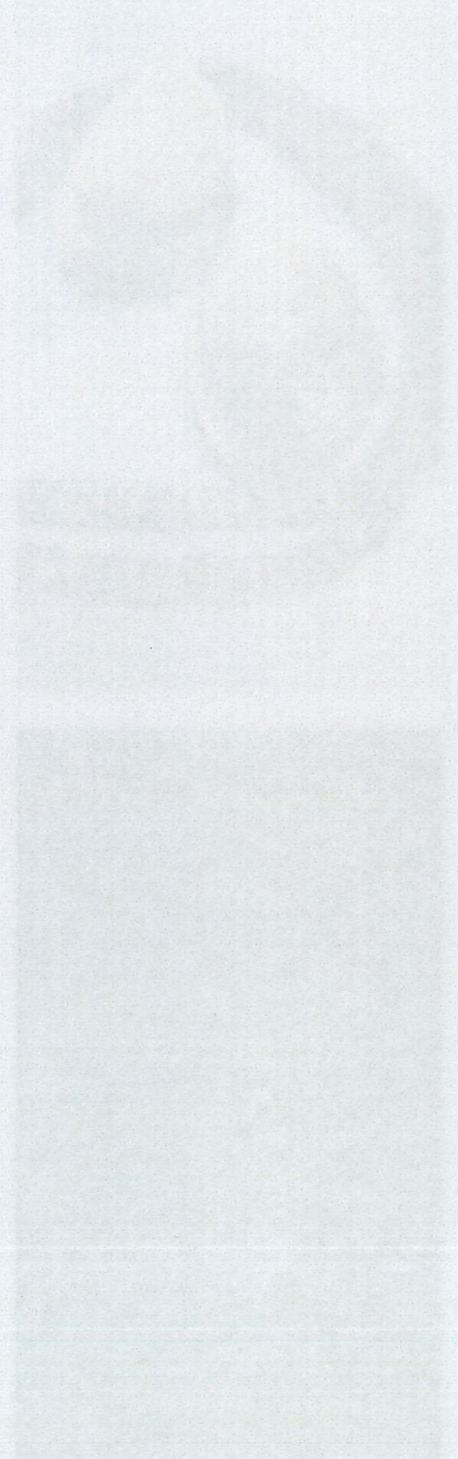
I certify that the information contained herein is true and accurate to the best of my knowledge and belief. The undersigned also attests that he/she has read the statements printed on the reverse.

Name of Property Owner of Record: President and Fellows of Harvard College	
Mailing Address: c/o Jordan Clark, Executive Director, HUNAP, 14 Story St, Cambridge, MA 02138	
Telephone/Fax: 617 599 7460	E-mail: jordan_clark@harvard.edu
Signature of Property Owner of Record: <i>Jordan Clark</i> (Required field; application will not be considered complete without property owner's signature)	
Name of proponent, if not record owner:	
Mailing Address:	
Telephone/Fax:	E-mail:

(for office use only):		
Date Application Received: _____	Case Number: _____	Hearing Date: _____
Type of Certificate Issued: _____	Date Issued: _____	

01 OVERVIEW

- » PROJECT SUMMARY
- » SITE HISTORY
- » BUILDING PROFILE
- » CHALLENGES TO RE-USE
- » PROJECT RATIONALE



PROJECT SUMMARY



The project goal is to create a home for the Harvard University Native American Program (HUNAP), a program serving the Harvard community through its mission to expand social and academic initiatives related to Native American study, history, diplomacy, and culture. Various due diligence studies were carried out to fully understand the challenges involved in upgrading the old wood frame house at 15 Mt. Auburn Street to meet both the current building code requirements and the University's building and facility standards. Foundation test pits and boring tests were performed to demonstrate the foundation deficiencies and ground water challenges, structural analyses were carried out to understand retrofitting needs, and Therm modeling was done to show the potential unintended consequential damage of increasing the freeze-thaw cycles of the existing facade elements by improving facade insulation value to meet the energy code.

These due diligence studies led to the conclusion that a renovation of 15 Mt. Auburn Street would essentially require the construction of a new building within the shell of the existing building on a very constrained site, thus incurring significant cost, schedule, and logistical challenges. The level of required rehabilitation would leave almost no original building fabric in place.

Therefore, a building demolition and replacement approach is the preferred path forward, given the existing building's deteriorated conditions, limited original fabric, site challenges, HUNAP programmatic needs, and the University's building and facility standards.

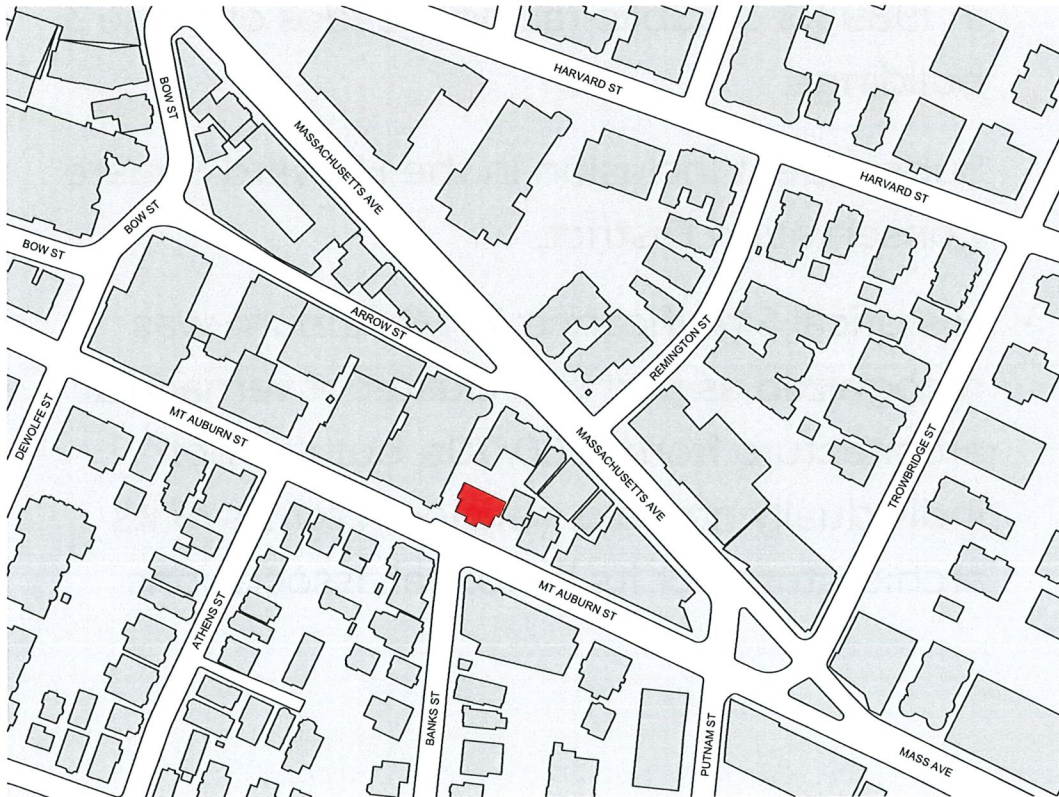
The project acknowledges the building's history and designation by the Commission to be a significant building in the context of a group of buildings, but also recognizes the building has changed over time and is in deteriorated condition. The proposed design of the new building carries a similar scale as the existing one, thus, following and respecting the established urban context of small scale wood frame cluster surrounded by large-scale masonry structures. The new building is narrower and slightly longer, and is placed farther away from the adjacent wood frames, resulting in a new side yard of open green space of permeable paving and planting as a buffer to the neighbors to the east. The materials, colors, and construction details of the building facades not only are relevant and meaningful to the Native American Community, but also animate the streetscape, engages the community, and enhance pedestrian experience.



The project site accommodates an existing Mansard building at 15 Mt. Auburn St and a larger brick masonry building that fronts on Arrow St. A public walkway bisects the site connecting Arrow Street to Mt. Auburn Street.



THE NEIGHBORS AND BACKYARD



THE PROJECT SITE:
15 MOUNT AUBURN STREET

MASONRY BUILDING

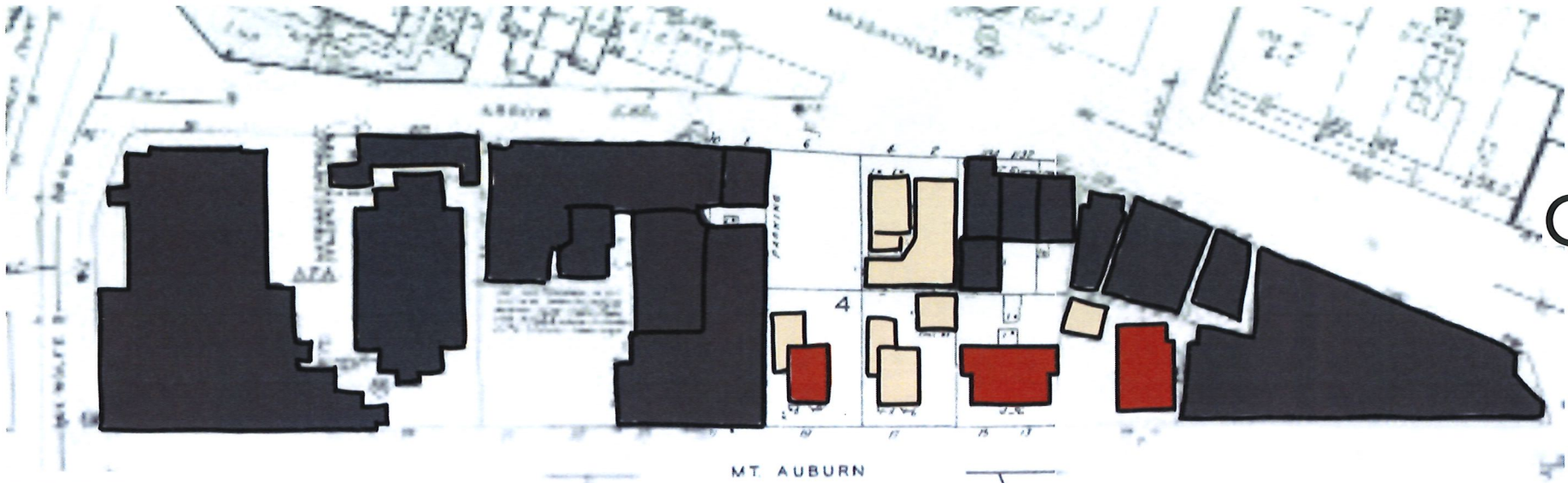


HISTORIC WOOD FRAME HOUSES CLUSTER



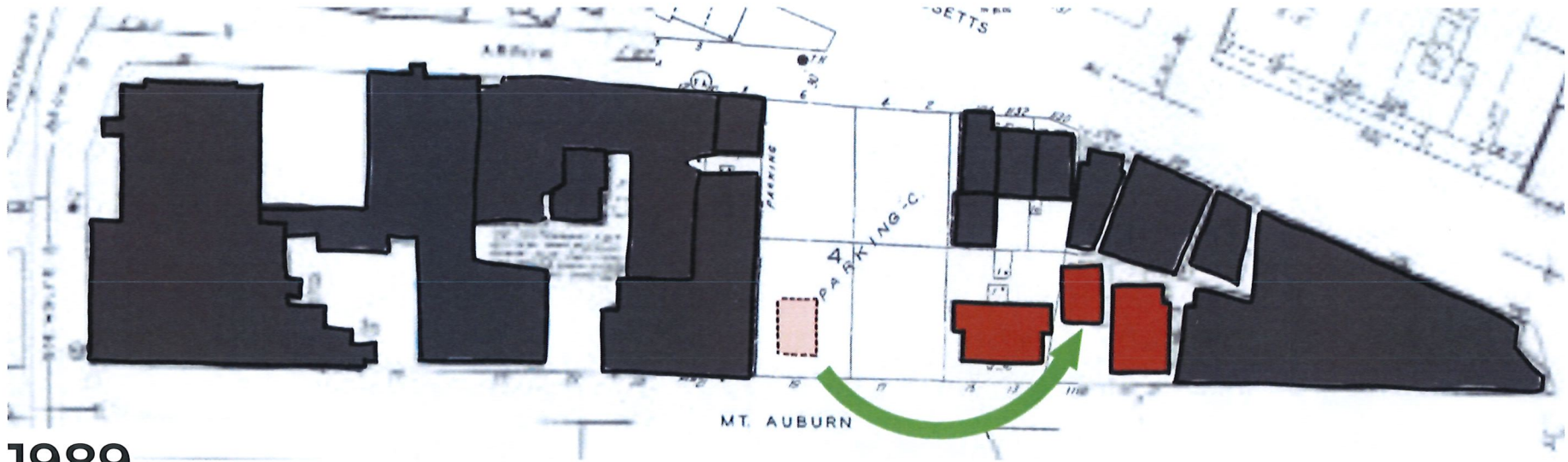
ARROW STREET
WALKWAY

CLUSTER OF WOOD FRAMES

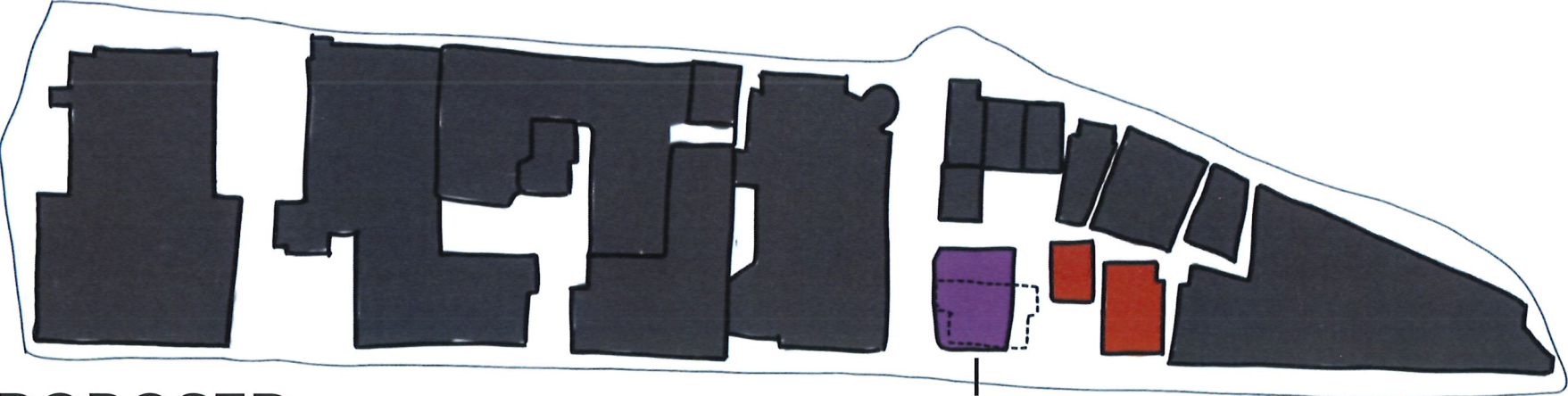


1986

Sources: Sanborn, 1988 and 1996



1989



PROPOSED

NEW FOOTPRINT

- In the 1980s, several 1860/70s wood frame houses on the block between Arrow and Mt Auburn St were demolished to make way for larger scale development.
- The remaining 3 wood frames (9, 11, & 15 Mt Auburn) became a cluster when the building at 19 Mt Auburn was relocated between 9 and 15.
- Facade preservation easement established in 1989 for 3 public-facing facades of these 3 buildings.
- Subsequent inclusion in the Harvard Square Conservation District.
- Historical Significance: 15 Mt Auburn was recognized as part of a cluster of vernacular architecture from 1860/70s, but it is not individually notable, neither in terms of its architecture nor its historical associations.

BUILDING HISTORY



1973



1985



1988



1991

- Constructed in 1873 in vernacular Mansard style by James H. and Joshua P. Thayer
- Exterior modifications over time include:
 - 1973: Facades reclad and front porch remodeled
 - 1985: Front entry changed
 - 1988: Shutters and window pediments added
 - Building color drastically changed multiple times
- **Minimal amount of original building fabric remains today**

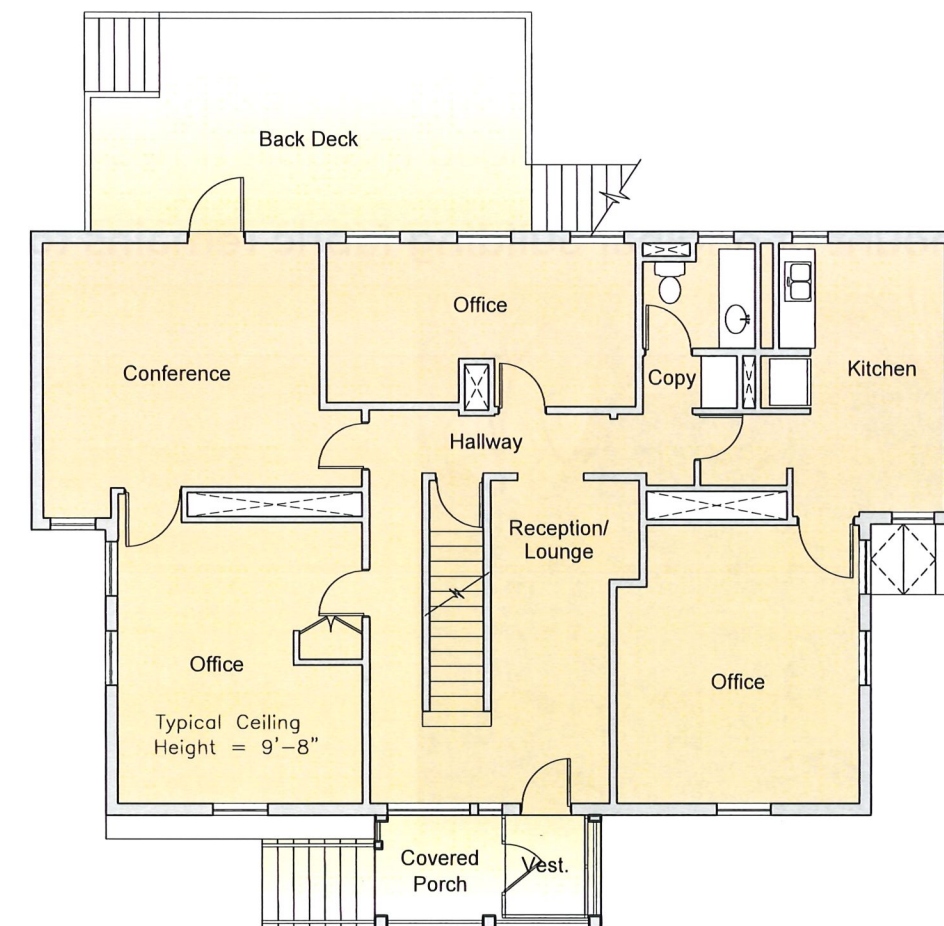
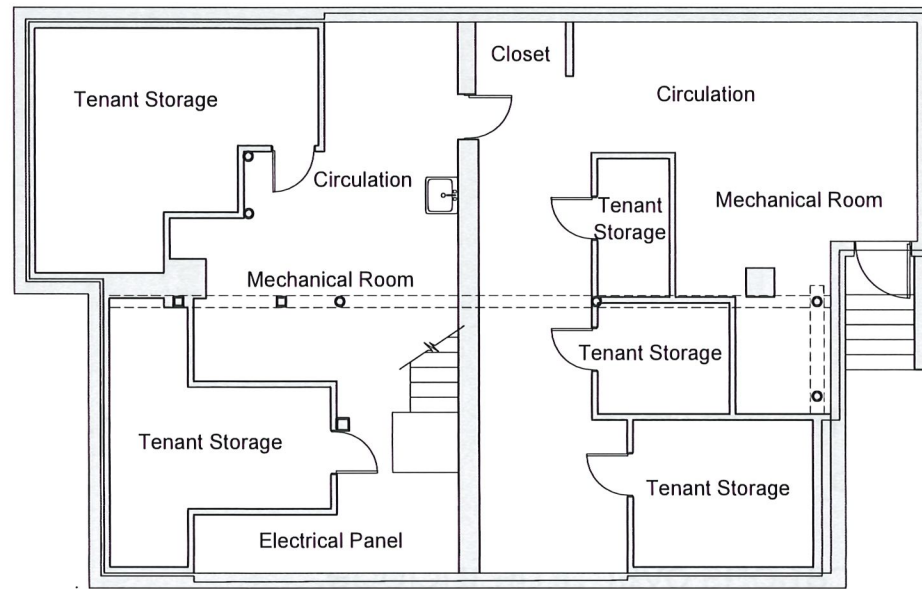


2025

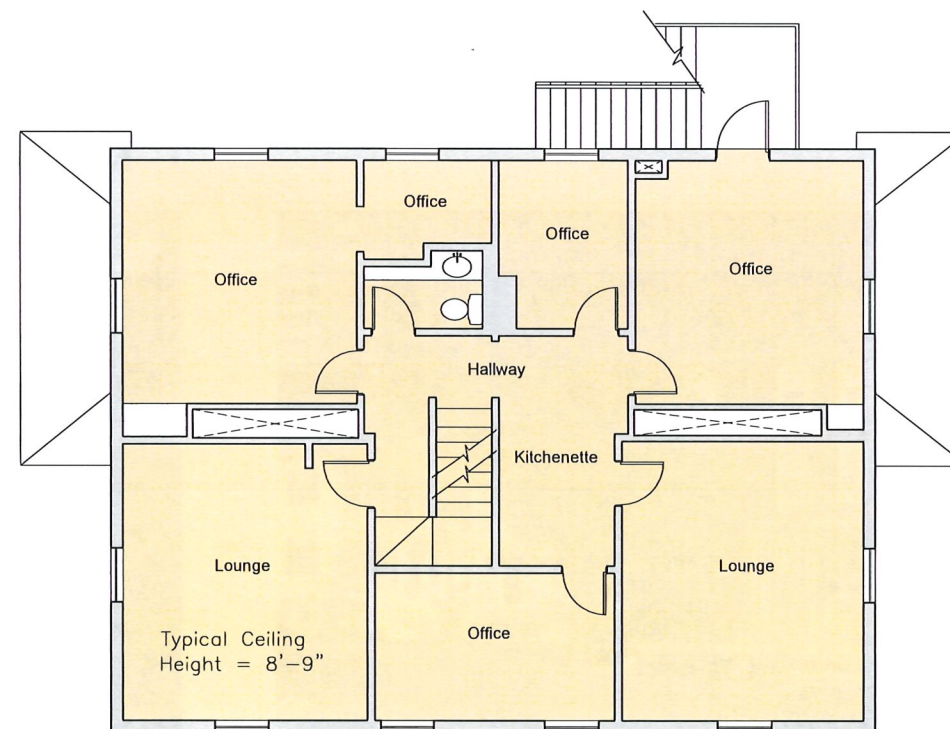
PAST USES & CURRENT PLANS

- 1873: Constructed as a two-family residence
- 1973 or prior: Combined and converted to commercial rental
- 2023: Harvard University ownership begins
- 2024: Vacant and awaiting meaningful new use

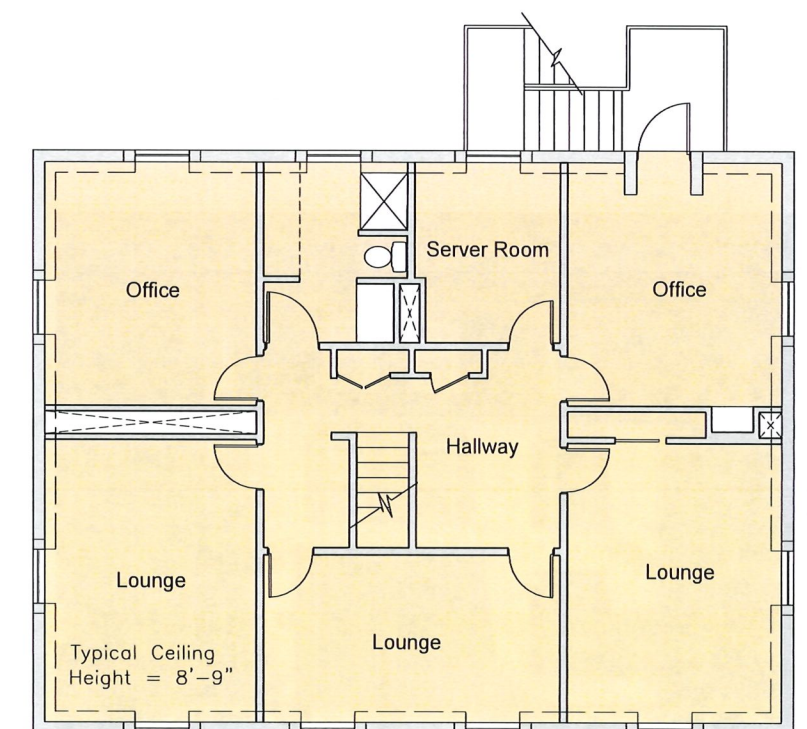
BASEMENT



LEVEL 1



LEVEL 2



LEVEL 3

CHALLENGES TO RE-USE

The project was initiated as a renovation project + addition. Extensive due diligence revealed deteriorated conditions and significant challenges.

CHALLENGES SUMMARY:

1. BASEMENT & FOUNDATION

- Water infiltration issue
- Structurally compromised
- Restrictive ceiling height below code min. requirement

2. BUILDING STRUCTURE

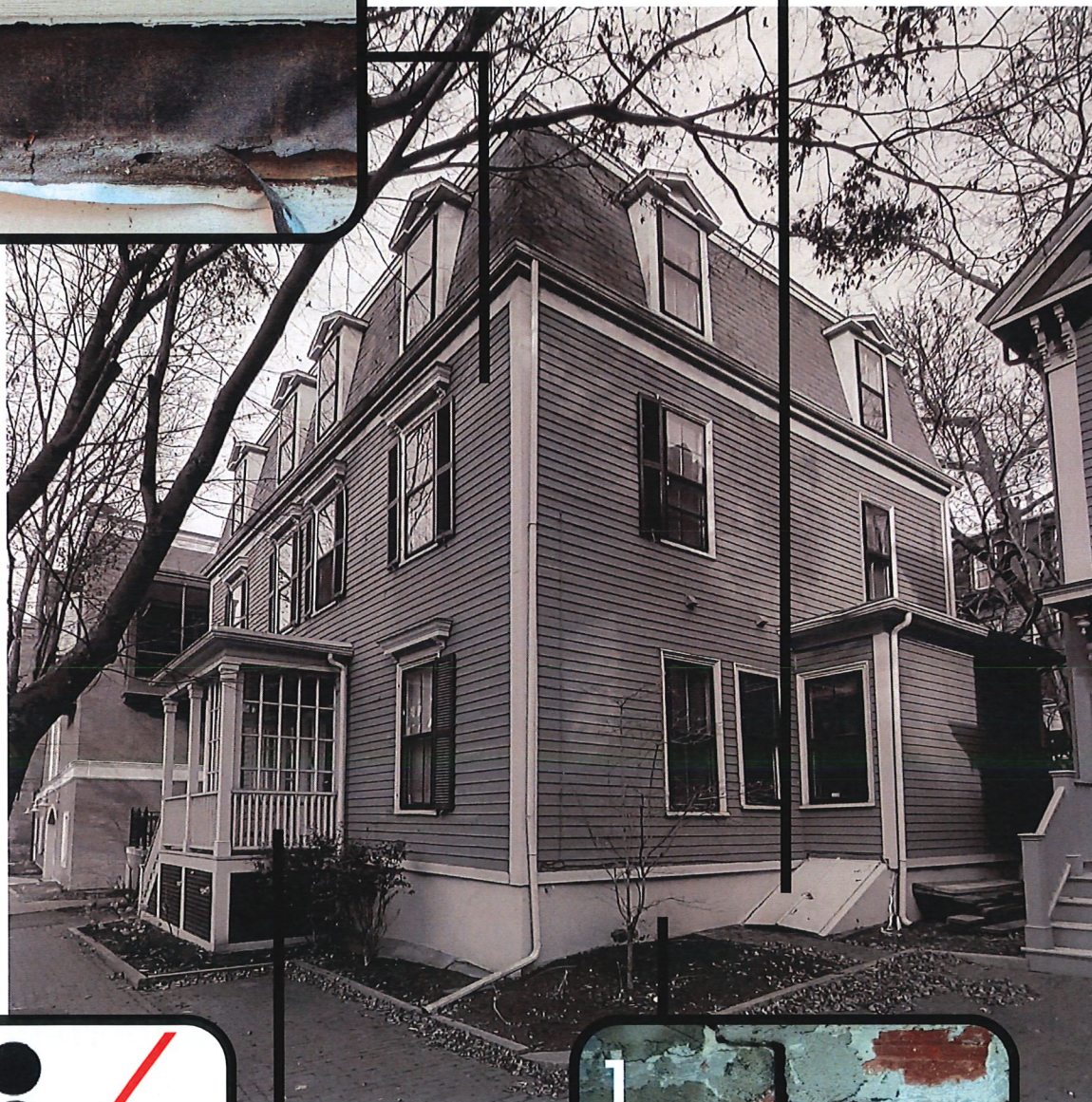
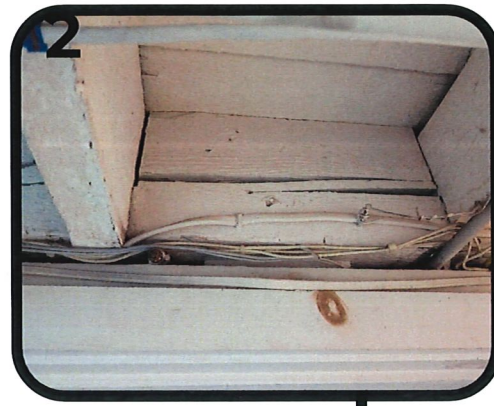
- Main building beams and joists structurally compromised
- Bulging foundation at SE corner

3. FACADES & ROOF

- Facades and water barrier deteriorating
- Roof leaks and needs replacement

4. ACCESSIBILITY

- Site constraints and building layout restrict universal accessibility



1. BASEMENT & FOUNDATION

CHALLENGES

- Basement
 - Ceiling height does **not meet building code** (6'-3" to 7'-0")
 - **Water infiltration** on slab observed
- Existing foundation walls
 - Bricks over rubble stone
 - **Poor to fair conditions**
 - Shallow
 - SE and NE corner settled, with existing underpinning and shoring to remediate
 - East foundation wall bowing

ACTION REQUIRED

- Would need extensive work of **foundation underpinning** to make basement functional in a challenging tight site **6' away** from the residential abutter



EXISTING FOUNDATION CRACKS/ BILLOWING



WATER INFILTRATION AT SLAB



DETERIORATED MASONRY AT
FOUNDATION WALL



PREVIOUS UNDERPINNING/ REPAIR AT SE CORNER

2. BUILDING STRUCTURE



COMPROMISED FLOOR FRAMING BEAM

CHALLENGES

- Floors
 - Sagging with noticeable dips at various locations
- Beams | Floor joists
 - Connection = Lap joints, not joist hanger
 - Main beam has split along the length at various locations
 - **Compromised structural integrity and performance**

ACTION REQUIRED

- Would need **reinforcement or replacement** to make it code compliant and meet safety standard.

3. FACADE AND ROOF

CHALLENGES

- Siding
 - Deteriorated and require replacement at many locations
- Facade substrate
 - Air/ Water barrier shows **sign of deterioration & failure**, but repairing it would require replacing existing cedar siding
 - Insulation is **insufficient**
 - Framing is undersized, requires **reinforcement**
 - Adding new insulation to meet code will increase freeze-thaw cycles within the facade substrate and increase **risk of further deterioration**
- Roof
 - Roof leaks. **End of life expectancy**
 - Roof framing undersized. Need **structural upgrade**

ACTION REQUIRED

- Install a **new roof**
- Provide **reinforcement at every facade framing stud location to meet code**
- **Rebuild facades entirely**



DETERIORATED SIDINGS, BUILDING PAPER, ROOF SHINGLES, AND CEILING

4. ACCESSIBILITY

CHALLENGES

- Site conditions
 - Existing site constraints - size, setback, trees
 - Current conditions do not naturally provide accessible path
 - Not universally accessible from front or back
 - No elevator
 - Building should be universally accessible but site constraints do not allow for accessible ramp at front entrance

ACTION REQUIRED

- Install mechanical lift at front porch
- Install ADA ramp at back yard
- Install elevator



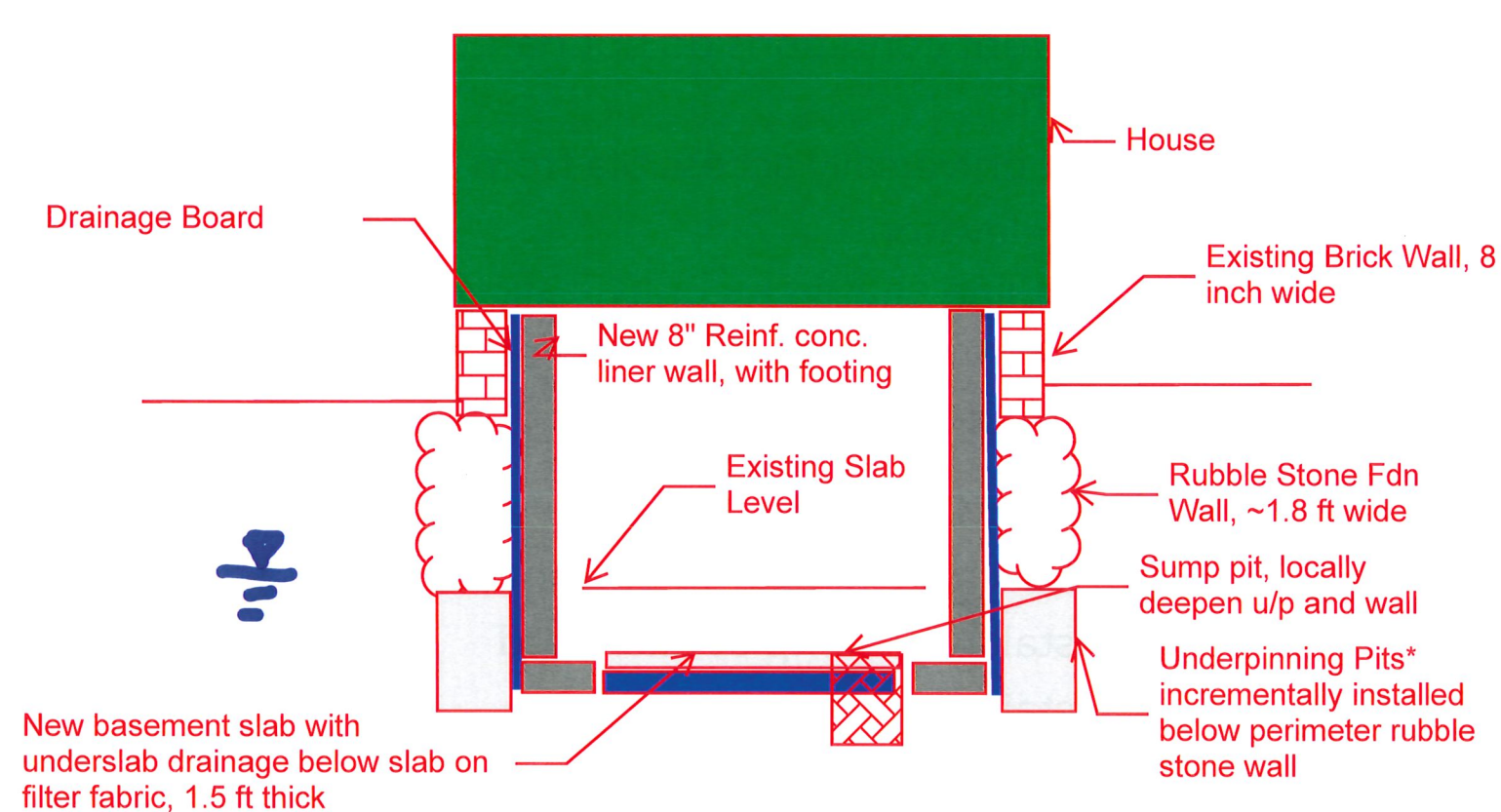
STREET ENTRANCE AND PORCH



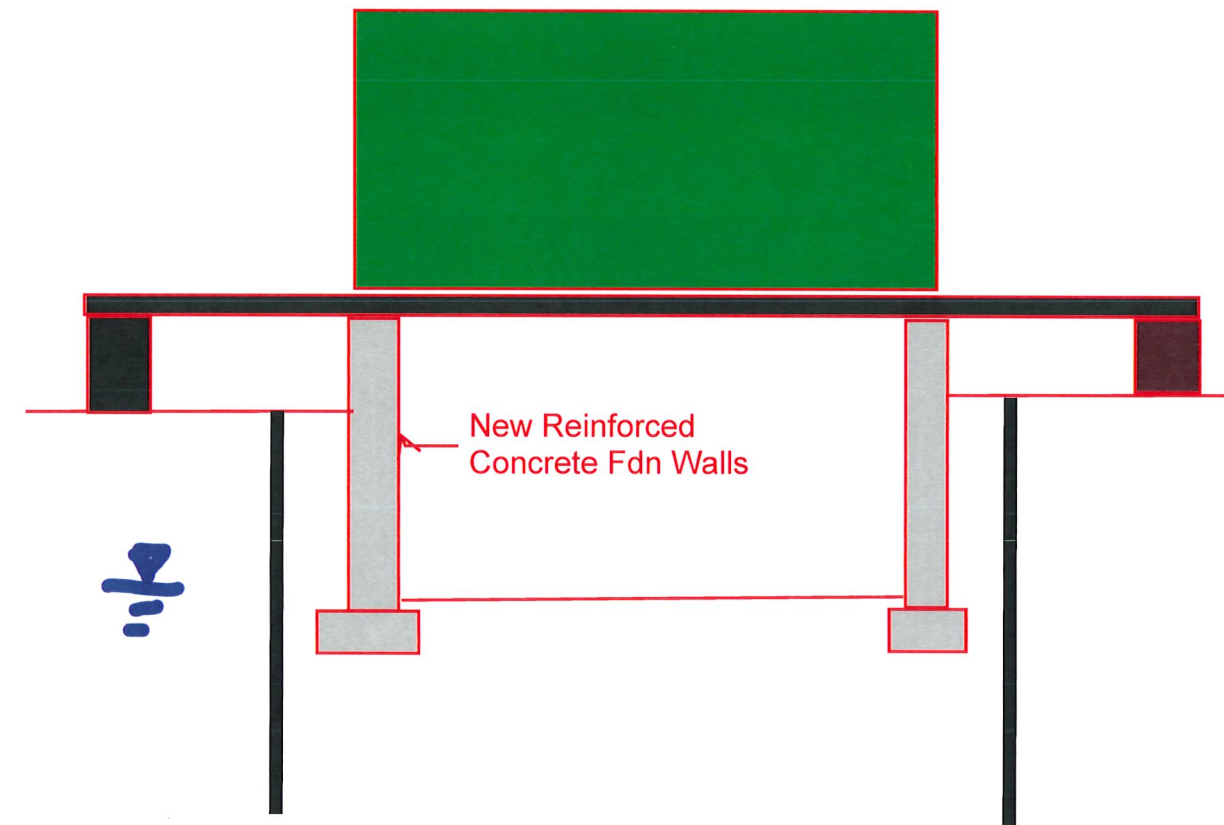
GARDEN ENTRANCE AND DECK

FOUNDATION - REPAIR VS REPLACEMENT

Two foundation repair strategies were investigated to understand the feasibility of addressing the structural deficiencies, water infiltration, and to bring the existing foundation and basement space up to current code.

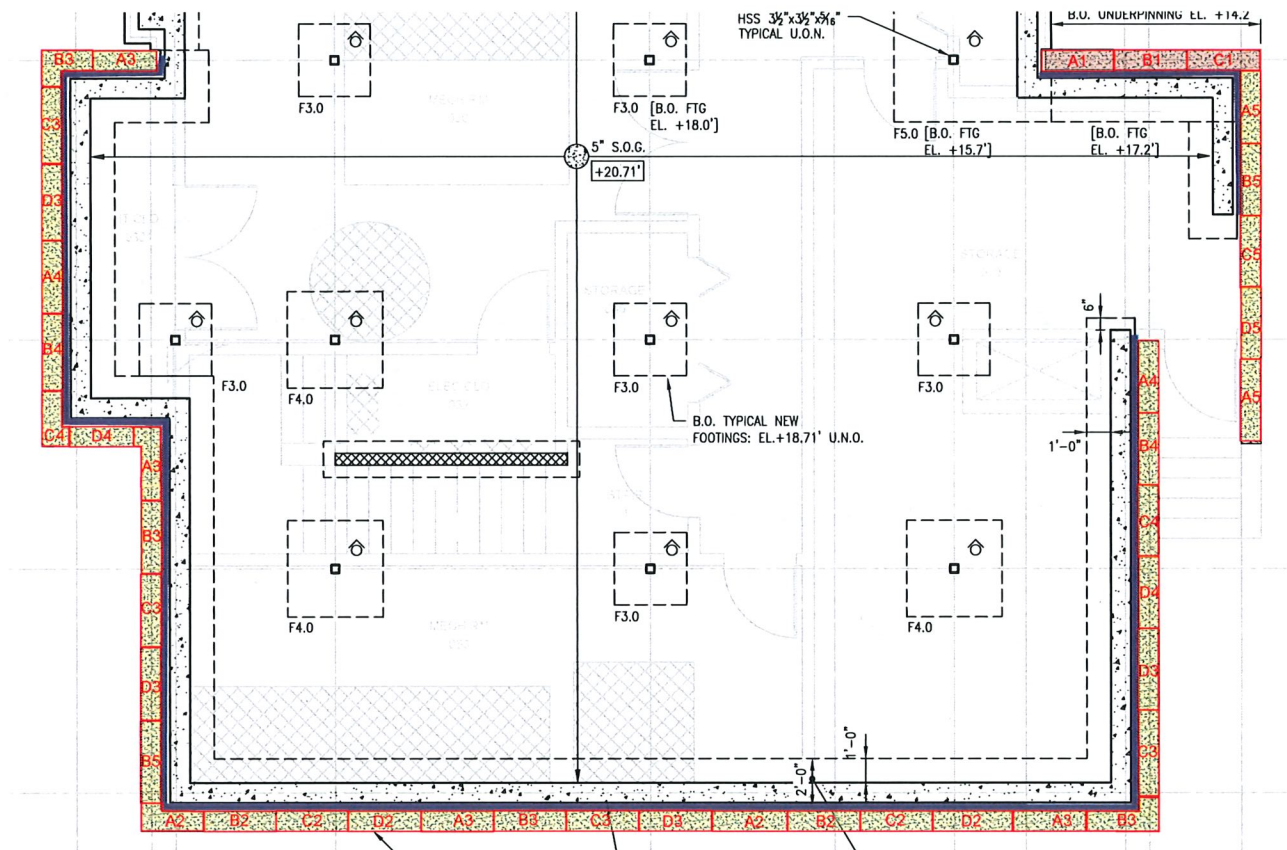
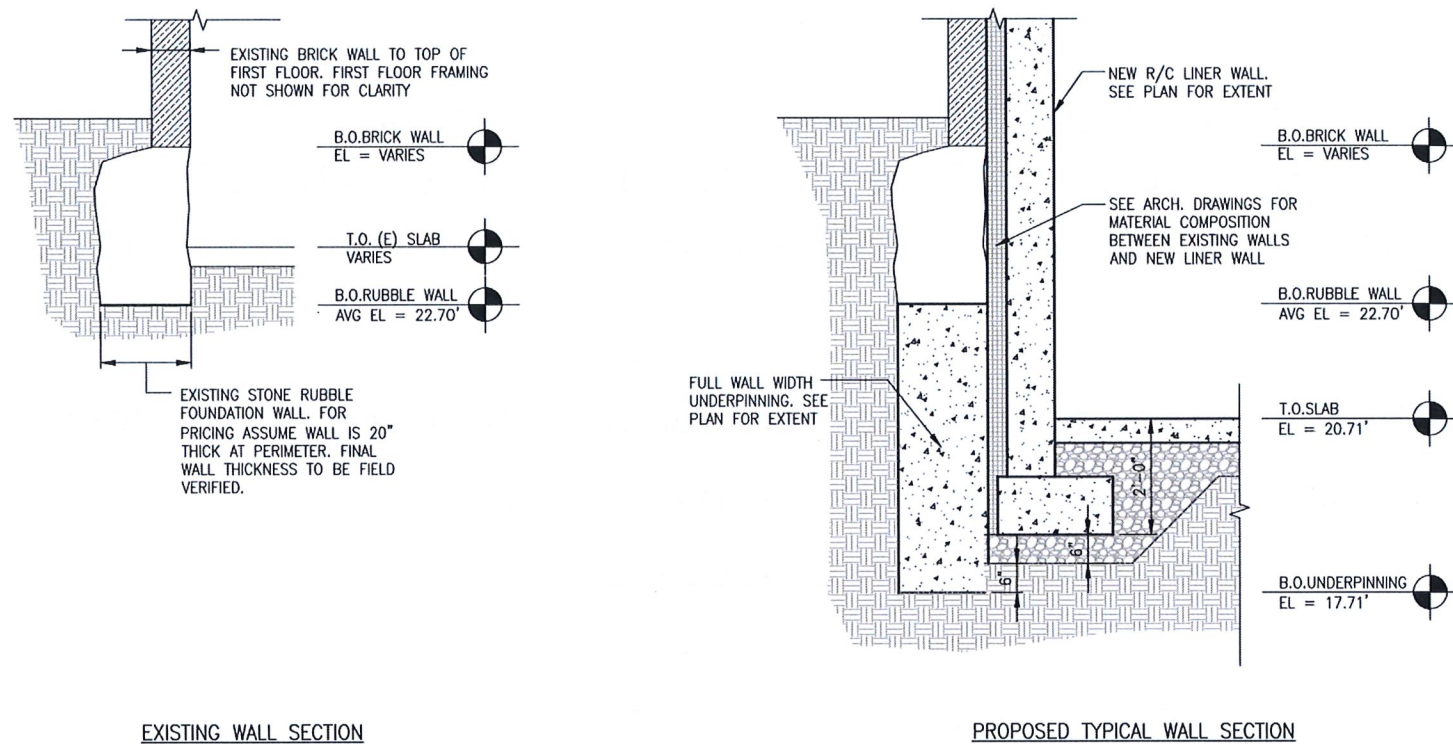


STRATEGY 1 - FOUNDATION REPAIR + UNDERPINNING



STRATEGY 2- TEMP SUPPORT OF SUPERSTRUCTURE + FOUNDATION REPLACEMENT

FOUNDATION - UNDERPINNING AND NEW LINER WALL

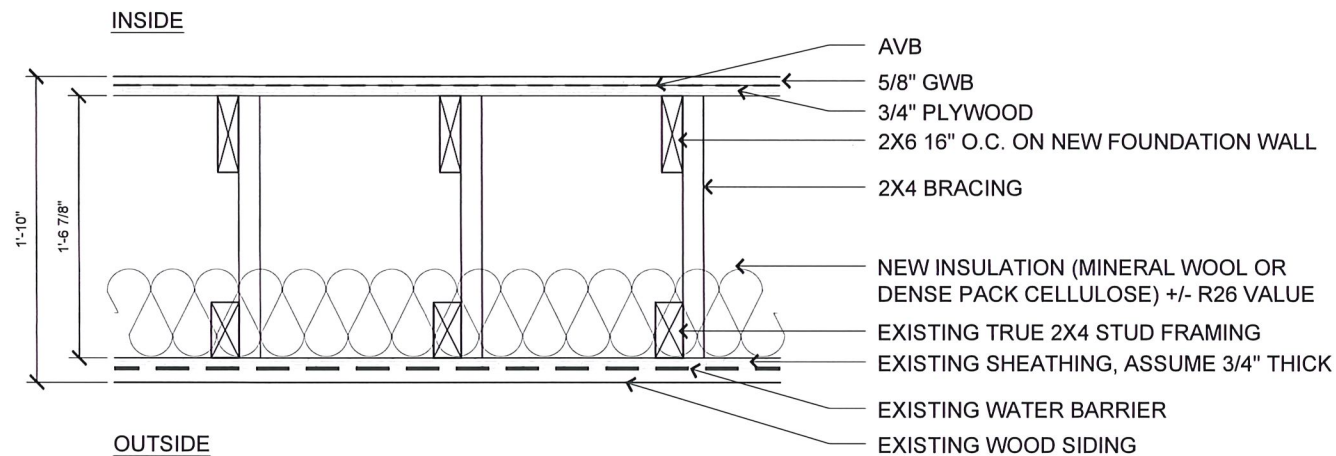


After evaluating the feasibility of the two repair/replacement strategies, it was determined that the more feasible option would be to repair the existing foundation with underpinning and construct an additional 10" thick structural concrete liner and slab inside the existing foundation to meet current structural code.

While it was the more feasible option, the site constraints would make this task extremely challenging.

To accomplish this, underpinning would need to be performed in 4' segments beneath the existing foundation walls. A new 10" thick concrete linear wall would need to be constructed with blind-side waterproofing and drainage system as part of the foundation design. The basement slab would need to be a reinforced concrete slab-on-grade with an underslab drainage system.

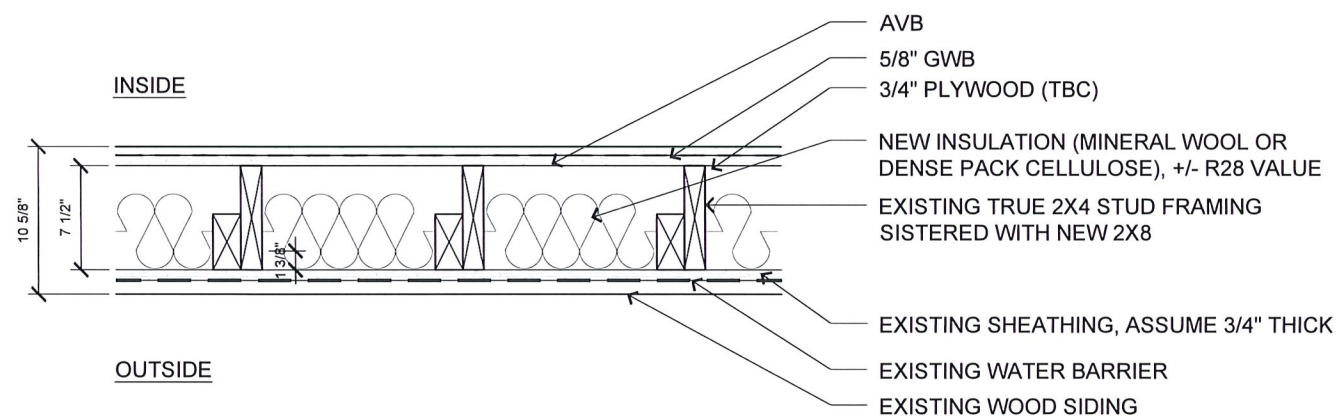
FACADE - NEW INSULATED WALLS AND WINDOWS



A) EXISTING FACADE WITH LATERAL BRACING

FACADE ORIENTATION AND TOTAL WALL LENGTH

- L1 - EAST, SOUTH & WEST = +/- 30'-6"



B) EXISTING FACADE WITHOUT LATERAL BRACING

FACADE ORIENTATION AND TOTAL WALL LENGTH

- L1 - EAST, SOUTH & WEST = +/- 84'-9" (FULL HEIGHT), +/- 20'-6" (ABOVE AND BELOW WINDOWS)
- L2 - EAST, SOUTH & WEST = +/- 80'-3" (FULL HEIGHT), +/- 24'-0" (ABOVE AND BELOW WINDOWS)
- L3 - EAST, SOUTH & WEST = +/- 80'-3" (FULL HEIGHT), +/- 24'-0" (ABOVE AND BELOW WINDOWS)

ENERGY CODE COMPLIANCE:

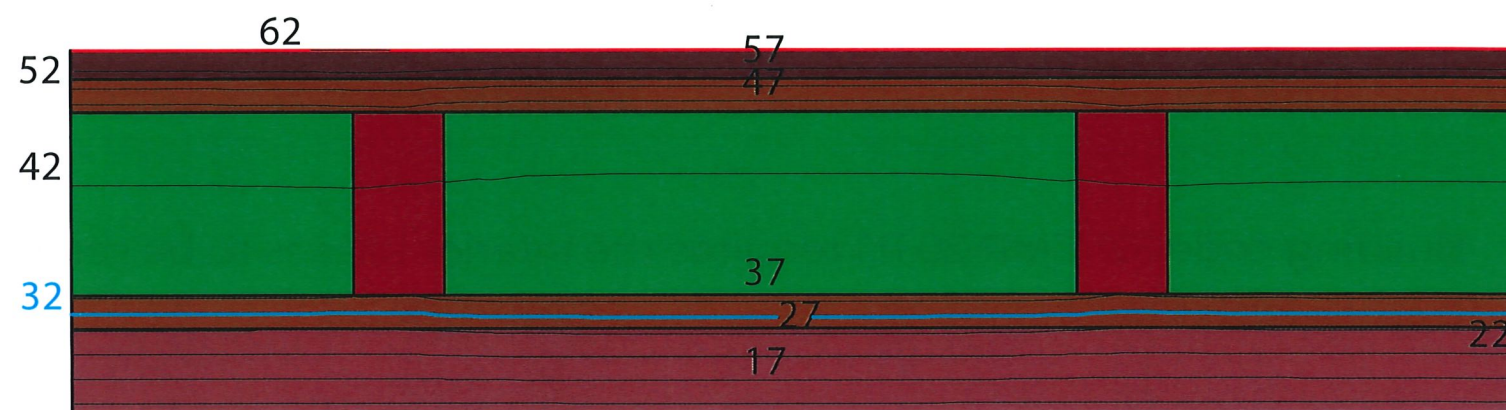
The HUNAP project falls under the 2021 version of the International Energy Conservation Code (2021 IECC) as amended by 225 CMR 23, the current version of the Massachusetts Commercial Stretch Energy Code.

The recommended targets for envelope performance are as follows:

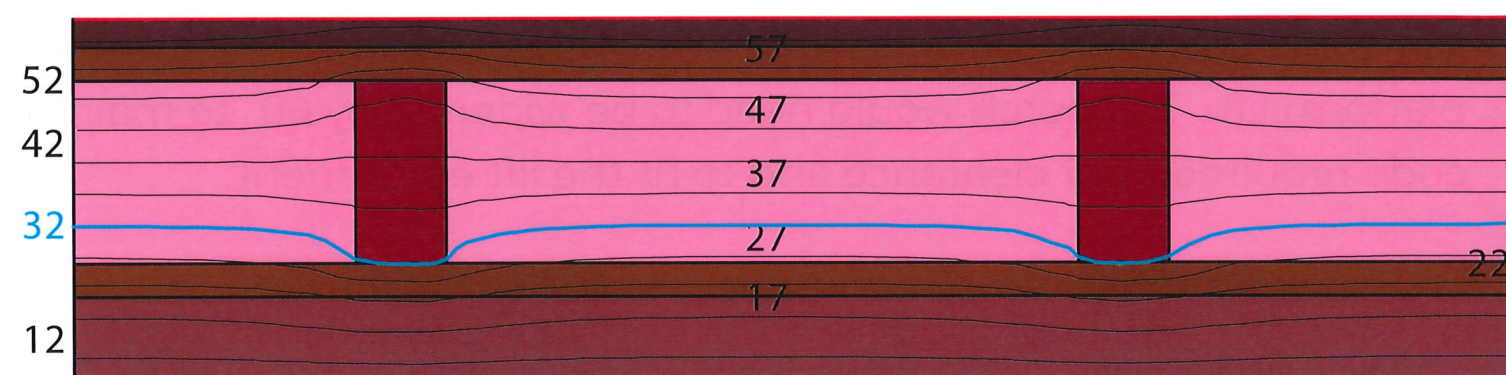
- » Solid wall assemblies: minimum R-24 insulation
- » Opaque doors: Assembly U-value 0.31
- » Operable glazing: Assembly U-value 0.25.
- » Fixed glazing: Assembly U-value 0.3.
- » Porch doors (existing building): Assembly U-value 0.63.
- » Folding doors (addition): Assembly U-value 0.3.

Energy code compliance further undermines historic fabric of building. To achieve the required R-value at the existing facades, windows would need replacement with energy efficient windows, wall depths would need to be increased (by sistering 2x6 studs to existing 2x4 studs) to provide the cavity depth needed for required insulation.

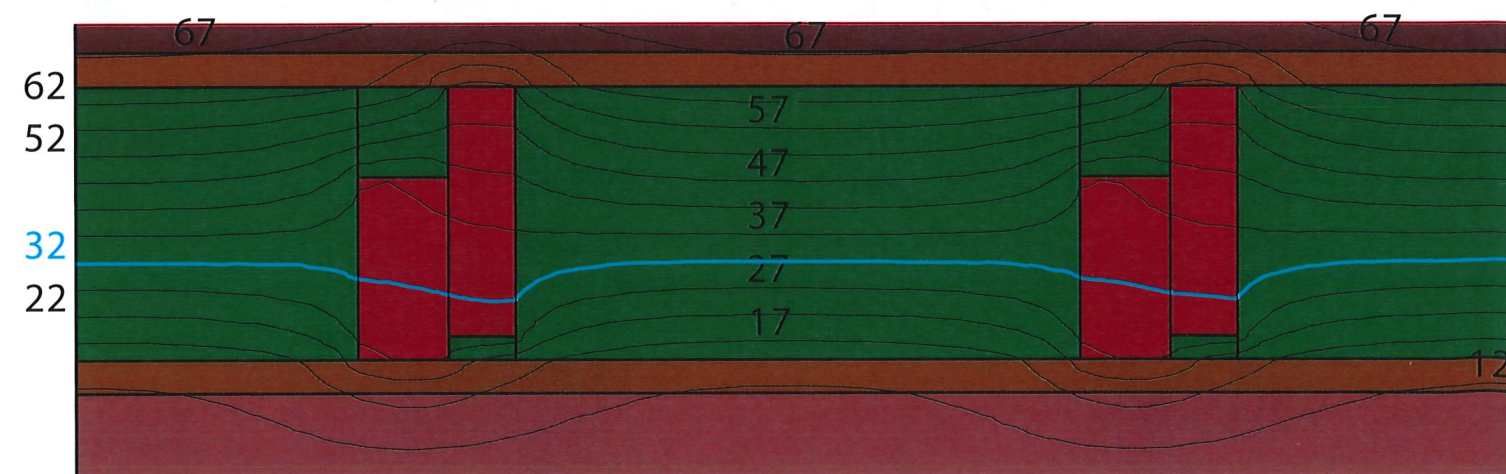
FACADE - MOISTURE | WATER MANAGEMENT



ISOTHERMS DIAGRAM @ EXISTING FACADE (TOP OF WALL)



ISOTHERMS DIAGRAM @ EXISTING FACADE (BOTTOM OF WALL)



ISOTHERMS DIAGRAM @ PROPOSED FACADE

As observed with the existing conditions on site and anticipated with the age and type of the facade materials used, we have concerns of the integrity and performance of the existing weather restive barrier (building paper) at the 3 existing facades that are to remain per the historic easement.

Air, water and moisture pass through the deteriorated barrier and reach the wood plank sheathing and other elements. Water and moisture can only dry out towards the exterior with the presence of a new vapor barrier installed on the warm side of insulation (interior side). As the facades are to be much better insulated and sealed, very little amount of heat is expected to escape the interior to dry out the moisture. Condensation would occur at the inside of the facade built-up, as shown on the isotherms diagrams on the left.

The results were then used to quantify how many times the wood planks would be exposed to freeze-thaw cycles in a period of 24 hours. The proposed design, due to the added insulation, undergoes 73 freeze-thaw cycles in a year, while the existing detail, sees a range of 5 freeze-thaw cycles (no insulation) to 51 freeze-thaw cycles (R-4).

Adding new insulation to meet code will increase freeze-thaw cycles within the facade substrate and increase risk of further deterioration

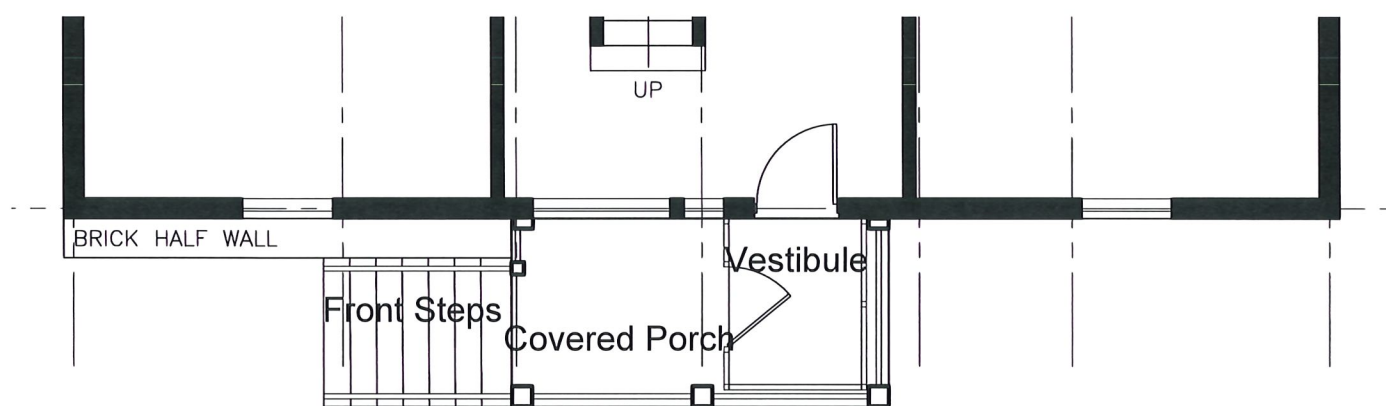
ACCESSIBILITY - PLATFORM LIFT & PORCH ENLARGEMENT



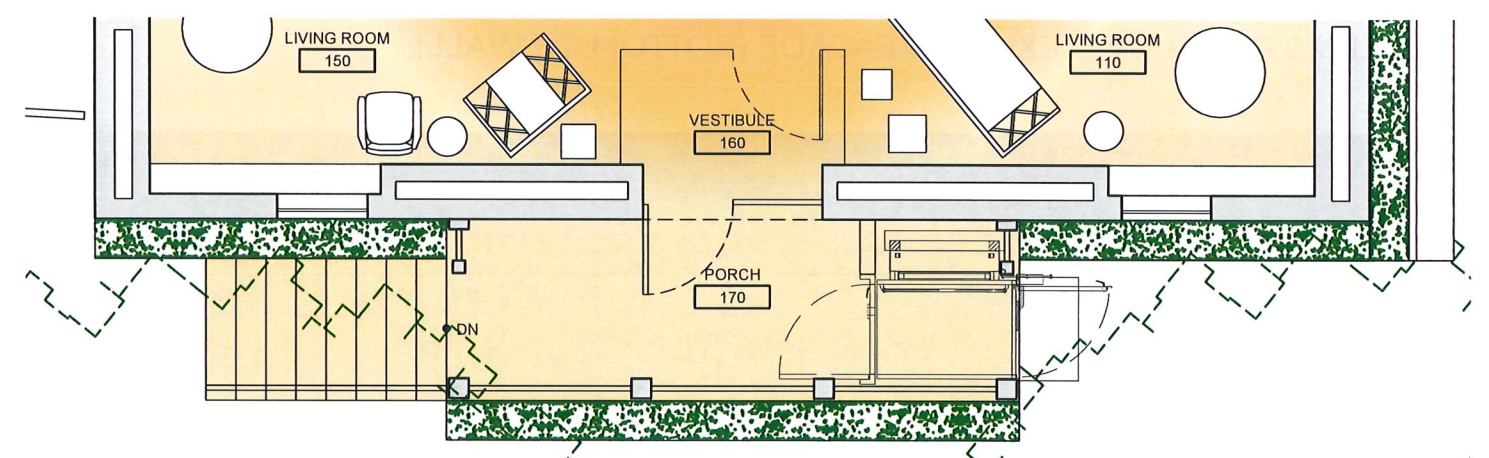
Building code 521 CMR 20.11.1 requires the interior spaces to be served by two accessible means of egress.

Multiple options were investigated to provide accessible front entrance. Adding an accessible ramp would not be possible due to site constraints. The only possible solution would be to add a vertical platform lift. The porch would need to be widened by 60" to maintain code required door clearance and to fit the lift equipment.

The back entrance would achieve accessibility via a ramp.



EXISTING PLAN



STUDY WITH VERTICAL PLATFORM LIFT

RENOVATION vs REPLACEMENT

- 01 We acknowledge the building's history and designation by the Commission to be **a significant building in the context of a group of buildings**, but recognize **the building has changed over time** and is in **deteriorated condition**
- 02 We recognize the **importance of maintaining the residential scale of the three buildings cluster** within their urban context
- 03 We believe a renovation of 15 Mt. Auburn Street would essentially require the **construction of a new building within the existing building**, thus incurring significant cost, schedule, and logistical challenges
- 04 We propose **building demolition and replacement** as the preferred path forward, given the existing building's deteriorated conditions, limited original fabric, site challenges, HUNAP programmatic needs, and the University's building and facility standards.



COMPROMISED
FOUNDATION WALL



COMPROMISED STRUCTURE



DETERIORATING FACADE



FAILED ROOF

