



CAMBRIDGE HISTORICAL COMMISSION
831 Massachusetts Avenue, 2nd Fl., Cambridge, Massachusetts 02139
Telephone: 617 349 4683 Fax: 617 349 3116 TTY: 617 349 6112
E-mail: histcomm@cambridgema.gov URL: http://www.cambridgema.gov/AMStoricge HISTORICAL COMMISSION

APPLICATION FOR CERTIFICATE

2.	Address of property: 11 Harvard	Yard (Massachusetts Hall)	, Cambridge, Massachusetts
	reduced of property.	Tara (Massachasetts Harr)	, campinge, massachuseus
	Describe the proposed alteration(s), construction or demolition in the space provided below: An additional page can be attached, if necessary).		
	See attached project description and p	olans.	
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NOV 14 2017

Massachusetts Hall - Renovation and Exterior Restoration

CAMBRIDGE HISTORICAL COMMISSION

Building Overview

Massachusetts Hall was constructed in 1720 and is Harvard University's oldest surviving building. Over the span of almost three centuries, the building has seen multiple renovations and changes in use. Originally constructed as a dormitory, the building was converted to use a lecture hall in 1870; it was renovated and converted back to dormitory use in 1924; and in 1939 again underwent a major renovation resulting in its current configuration and use as offices for the University's President and other administrative leadership, while retaining student dormitory rooms on the building's topmost floor.

The current project being planned by Harvard Real Estate will include a comprehensive restoration of the building's Georgian exterior, replacement of central HVAC systems and significant code and life safety upgrades. The scope of exterior restoration work is being carefully coordinated with the staff of the Cambridge Historical Commission.

Proposed Exterior Scope of Work

The planned renovation and restoration project at Massachusetts Hall will include the following areas of exterior work:

Masonry

- Restoration of the building exterior will include selective repointing on all elevations and
 re-building of damaged portions of outer brick as required. The project's design and
 construction team Baker/Wohl Architects (Steve Baker), Gale Associates, Inc. (Chris
 Musorofiti), Shawmut Design and Construction (Carl Jay) are in consultation with the
 CHC's Executive Director to establish the extent of exterior repointing and repair work
 and to select appropriate brick and mortar to be used in masonry restoration.
- Exposed portions of the rubble stone foundation wall are proposed to be 100 percent repointed.
- Rebuilding of the four paired chimneys above the roofline at the east and west ends of the building. Due to the deteriorated mortar conditions and displaced sections of masonry, it is proposed to remove these four chimneys down to below the rake edge for rebuilding. Sound brick masonry units are anticipated to be salvaged where practical, and based on the size and configuration with respect to available replacement units, will be reincorporated into the renovated chimneys.
- Partial rebuilding and repair of the two central chimneys. The two interior chimneys
 have sections of masonry which are deteriorated and displaced, and are anticipated to be
 partially rebuilt at the upper elevations. Additional review of the conditions will be
 performed as the contractor mobilizes on site, and replacement brick samples are
 provided to confirm an aesthetic match with the existing components.
- All chimneys will be capped with new copper sheet metal weathercaps matching existing cap profiles to reduce future deterioration.

• All exposed masonry will be cleaned using the gentlest effective cleaning method to remove atmospheric staining. A cleaning mockup will be prepared to demonstrate proposed techniques.

Roofing

- Repairs to the existing standing seam roof system will include, but are not be limited to, field soldering of new patches to the existing copper panels, replacement of individual panels, and replacement of the existing roof hatch.
- Slate removal and replacement will be required to install the new pipe rail system, as well as to replace damaged or missing single units.
- Repairs to the existing wood monitor rail around the perimeter of the roof are anticipated to maintain the existing building profile, and will be painted to match the existing color scheme.
- A new copper-clad rooftop vent for the elevator hoistway is proposed for code compliance. This vent will rise 3 feet above the roof surface.

Gutters and Downspouts

- Massachusetts Hall currently has wood gutters and lead or lead-coated copper downspouts which are connected by painted lead goosenecks. The existing capacity of the gutters and goosenecks is insufficient to handle normal roof run-off, and the building routinely experiences over wash during periods of heavy precipitation. Addressing this issue is important to the long term maintenance and stewardship of the building façade. The project proposes to replace the existing wood gutters with painted copper gutters matching the exterior dimensions and profile of the existing gutters. The decreased thickness of the copper will increase the gutter capacity without altering the visual profile of the existing gutters.
- To further facilitate roof drainage, the existing gooseneck connectors from the gutters to the conductor boxes are proposed to be increased in diameter from approximately one-and-one-half inches to three inches in diameter.
- The existing lead conductor boxes and rectangular downspouts will be temporarily removed and stored for masonry restoration activities. After completion of masonry work they will be reinstalled in their current locations.

Roof Snow Guards

- To prevent dangerous slides of snow and ice which cascade from the building's slate roof on to the pedestrian pathways surrounding the building, additional snow guards are needed at the eaves of the slate shingle roofs, as well as at the approximate mid-span of the standing seam roof system. At present, frequent post storm snow removal trips are required to address this issue which result in roof damage.
- Brass, two tier pipe rail units as well as replacement snow tabs are planned for each of the slate shingle areas to breakup snow accumulations and slides on the steep sloped shingle roofs. Pipe rail guards are also planned to be clipped to the existing standing seam copper roof to reduce snow accumulation along the monitor rail around the perimeter of the roof.

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Clock Face (West Façade)

- The clock face on the west façade is a fiberglass replica that was installed in the 1990s. The project will remove the clock face for off-site restoration by Bill Evans, who has completed many decorative exterior restorations at Harvard, including the re-gilding of domes. The entire clock face and surround will be removed from the building to allow masonry repairs to proceed. The clock face will be restored in Bill Evans's indoor workshop as follows:
 - The clock face (fiberglass), hands (aluminum) and all relief elements (fiberglass) will be hand sanded and thoroughly cleaned with Sherwin Williams Primer X exterior bonding primer.
 - o Apply over blue fiberglass face SW's Pre-Catalyzed Water Borne Epoxy Paint.
 - o Prime all elements to be gilded with Rolco Yellow Burnishing Sealer, followed by gilding with 23 Carat Best Patent Double Gold Leaf and burnish all areas after materials have set.
- Pediment, Plinth, Pilasters and Capitals (all wood) will be cleaned, sanded and if needed repair or replace any defective moldings, including pilaster capitals. Any wood to be replaced will be matched with Spanish Cedar, capitals repaired with GFRG Forton MG. All elements to be painted with SW's Resilience Exterior Latex.

Areaways

- The planned renovation project includes the installation of a new building-wide central HVAC system. The new system will require a new areaway for adequate air intake and utilizing existing areaways for exhaust. The proposed new areaway will be located at building foundation at the south elevation of the building and will be generally aligned with existing window wells.
 - The new areaway will be comprised of a new 7'-8" x 5'-0" opening in the existing stone foundation, in which a new aluminum louver with insulated blank-off panel will be installed, 10" thick concrete retaining walls with concrete slab at the well and a new painted steel grate at the top of the retaining walls. The new wall opening will be supported by four 8-inch painted steel lintels. A quick set parge coat will be applied to saw cut stone surfaces to provide a uniform/smooth line against the existing foundation wall. A liquid applied waterproofing will then be applied over the parge coat surfaces. The liquid applied system will extend a minimum of two feet beyond the new concrete areaway wall. A hydrophilic (swelling) waterstop will be set in the center of the perimeter where the new concrete areaway wall is to be placed.
- Two of the existing areaways will be utilized for new exhaust louvers, one at the southeast corner and one at the northwest corner. The existing wood infill panels at these locations will be removed to restore the openings to their original dimension and new aluminum louvers will be installed. The masonry openings will not be disturbed.
- All other areaways will have existing abandoned mechanical appurtenances removed, and the masonry opening filled with insulated metal panels, painted a color to be determined

in consultation with Commission staff. The two weather hoods over the existing areaways at the south elevation will be removed.

Other Work

- A new fire department connection and electric sprinkler bell will be added at the southeast corner of the east elevation. The exact locations of these devices will be determined in consultation with Commission staff. This work is required for code compliance.
- A new exterior fire alarm beacon will be added adjacent to the main entrance at the east elevation. The exact location of the beacon will be determined in consultation with Commission staff. This work is required for code compliance.
- A bollard-mounted push-button controller will be provided outside the main entrance door to control the power door operator. The button will not be mounted on the building exterior.
- Exterior building-mounted lights will be removed and stored during masonry restoration activities and then reinstalled in their current locations.

Massachusetts Hall – Existing Conditions (Representative Photos)

Elevations



East (Yard) Facade



East and North Facades



North Facade



West Facade with clock



South Facade

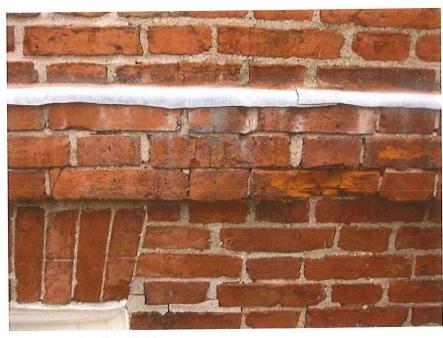
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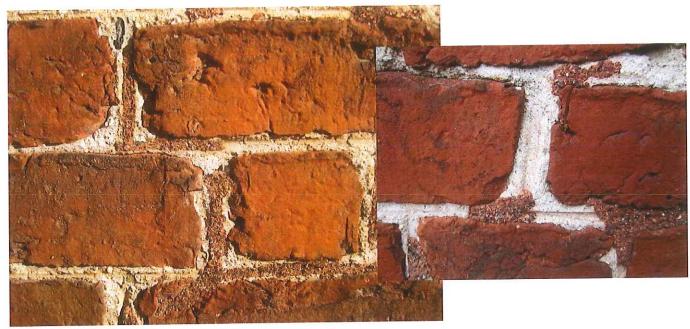
Masonry Conditions



Cracked brick and "hard" cement based mortar

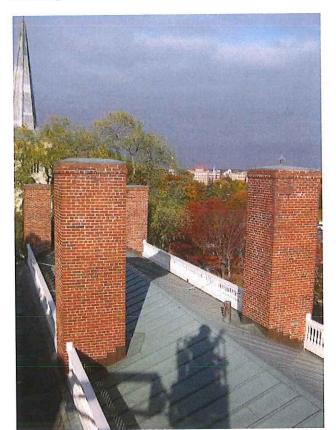


Cracked and spalling brick



Multiple phases of mortar repair, color, materials, and profiles

Chimneys and Roof



View of chimneys looking west



Deteriorated mortar joints at chimneys



Standing seam copper roof and chimneys



Roof at south elevation, showing slate shingles and copper ridge caps

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Roof

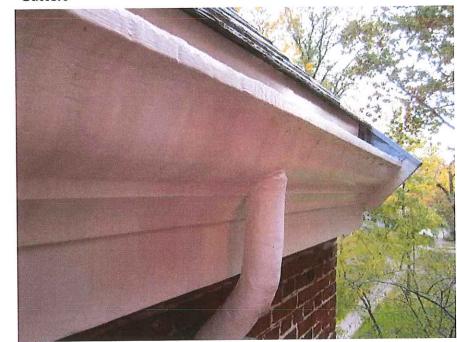


Slate shingles



Slate roof detail showing existing snow guards at south elevation

Gutters

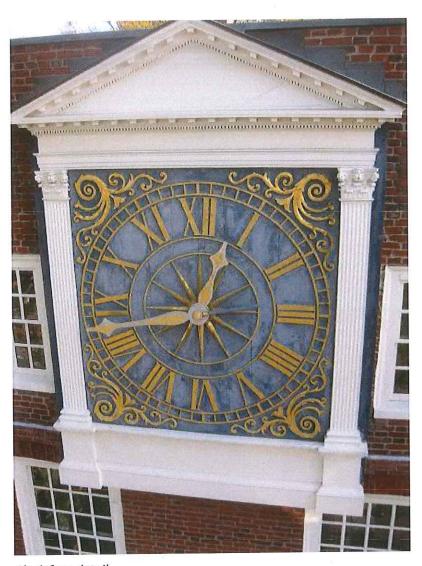


Existing painted wood gutter and gooseneck



Interior of wood gutter

Clock Face

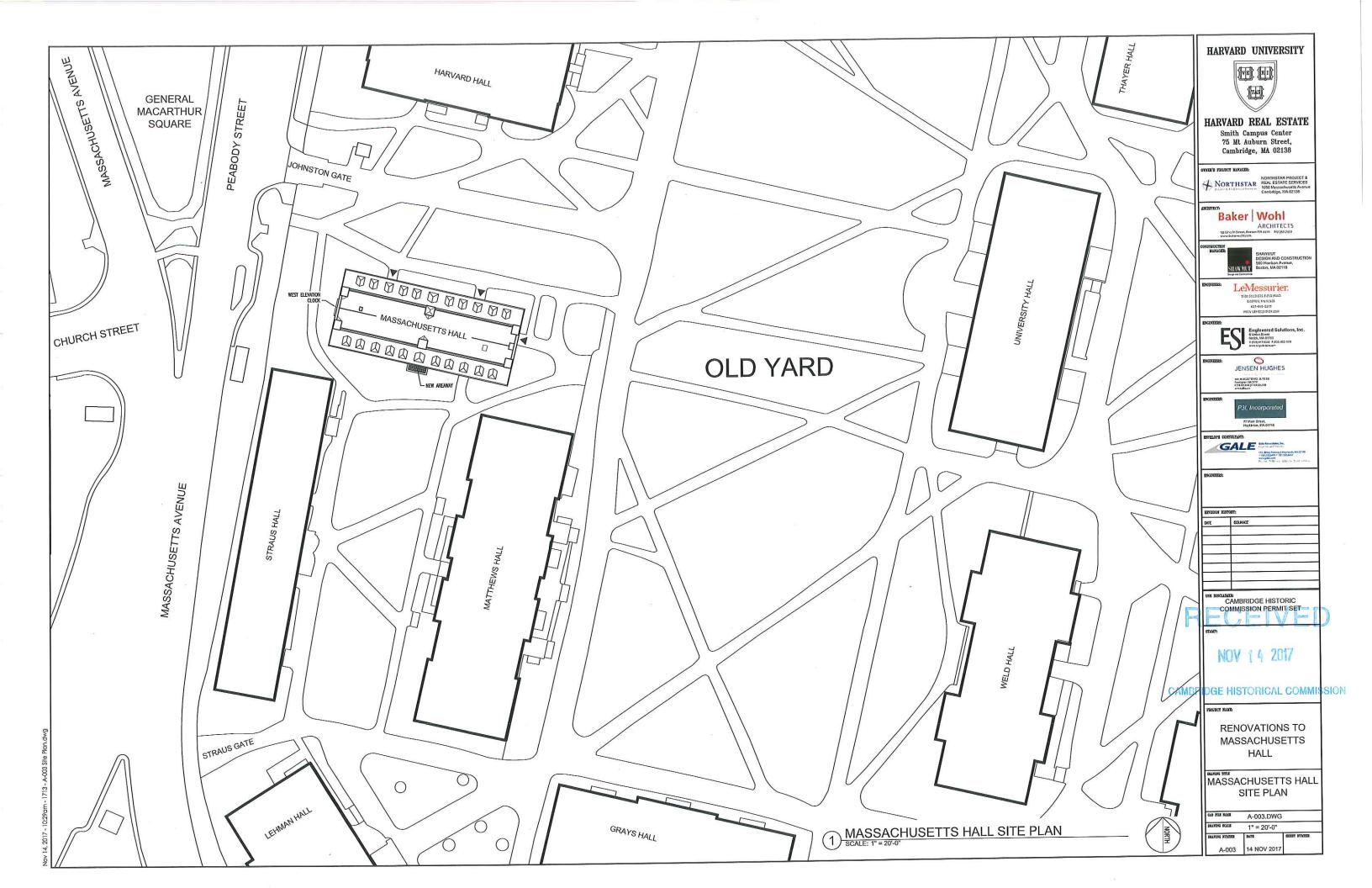


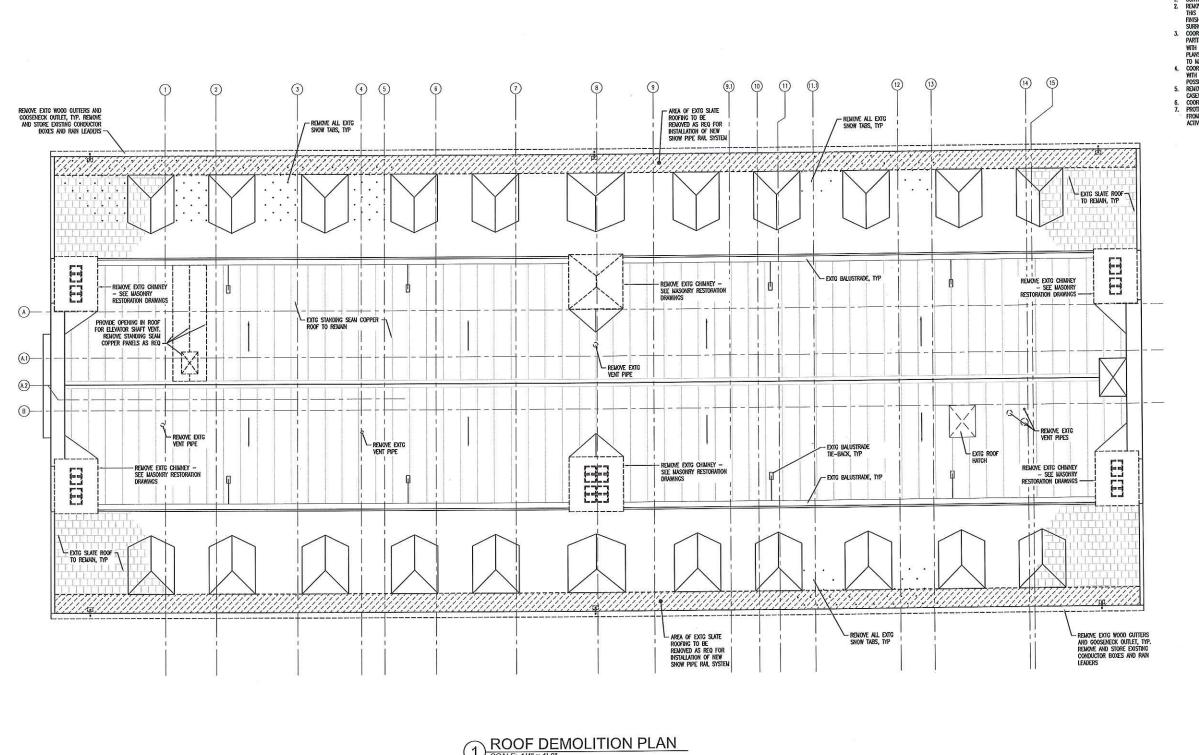
Clock face detail

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SHEET NOTES

- 1. CONTRACTOR TO VERFY ALL EXISTING CONDITIONS.
 2. REMOVE AREAS OF DEMOLITION TO BARE STRUCTURE. THIS INCLUDES ANY EQUIPMENT, TRM, CASENOROUS, PRINSERS, ETC. DO NOT REMOVE EDISTING CONCRETE SURROUND AT STEEL STRUCTURE.

 3. CORROWNE DEMOLITION OF MAY DOSTING TO REMAIN PARTITIONS FOR INSTILLATION OF NEW EQUIPMENT WITH ALL MANUFACTURES OUT SHEETS, MEP & FP PLAIS, AND STRUCTURAL DRAWINGS. PATCH AREAS TO MAICH EDISTING.

 4. CORROWNE LOCATIONS OF MECHANICAL DUCT RISERS WITH CONCRETE SUR RB LAYOUT. AVOID RISS IF POSSIBLE.

- MIN CONCESSOR TO STORE OF SITE ALL EXTURES AND CASCINGEN TO BE REINSTALLED.

 6. COORDINATE ALL DEMOLITIEN WITH NEW WORK.
 7. PROTECT AUXCENT DASTRIC TO REJURN SURFACES FROM ALL DEMOLITIEN AND CONSTRUCTION FROM ACTIVITIES.

HARVARD UNIVERSITY



HARVARD REAL ESTATE

Smith Campus Center 75 Mt Auburn Street, Cambridge, MA 02138

NER'S PROJECT MINICEE:

NORTHSTAR REAL ESTATE SERVICES 1050 Massachusetts Avenu Cambridge, MA 02139

Baker Wohl

ARCHITECTS
1321-roch Street, Boston MA 02111 617-350-7120
www.bakes-mobileon

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JENSEN HUGHES

77 Main Street, Hopkinton, MA 01748

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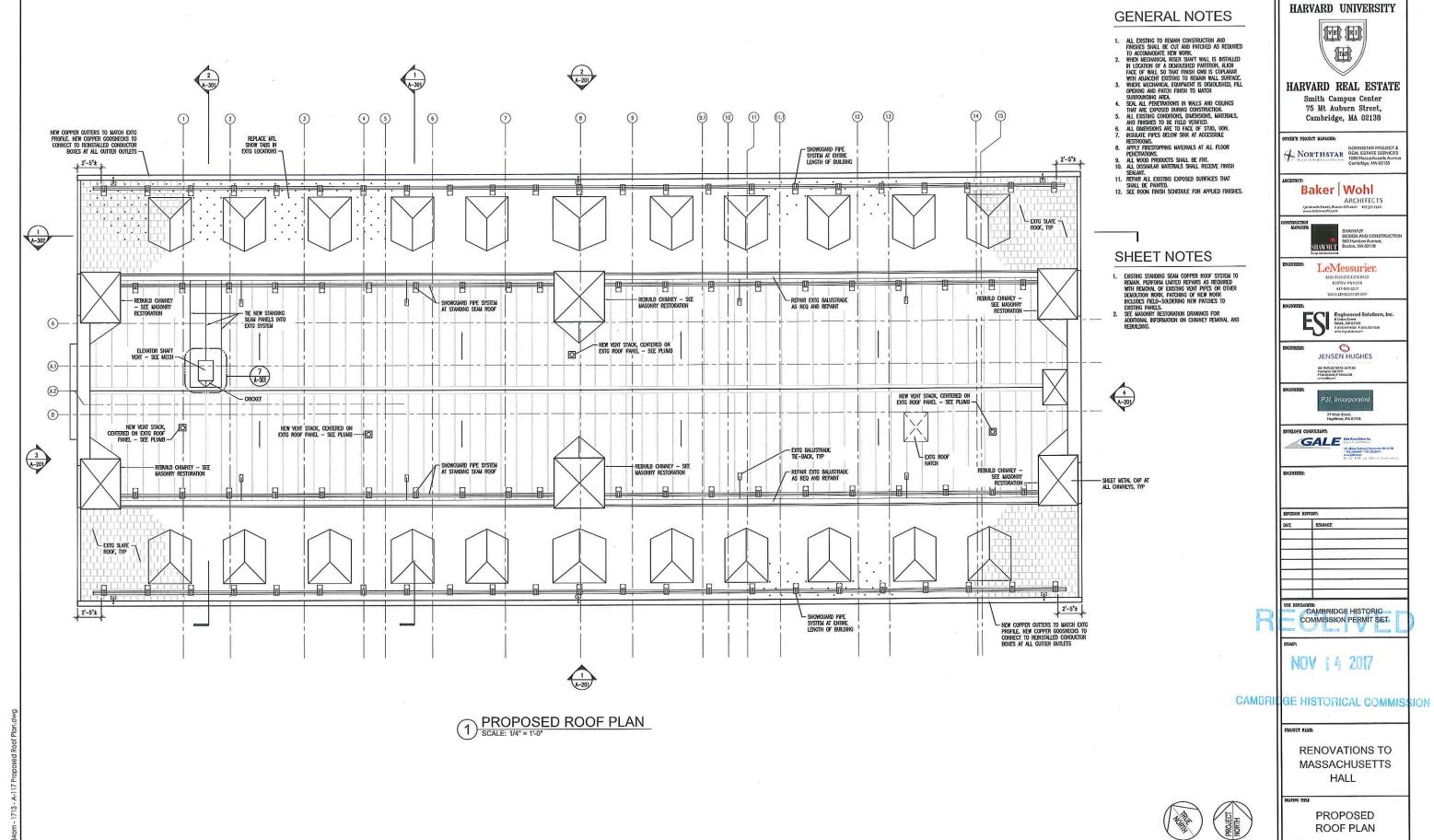
CAMBI OGE HISTORICAL COMMISSION

RENOVATIONS TO MASSACHUSETTS HALL

ROOF DEMOLITION PLAN

A-107.DWG POLYTIC STATE 1/4" = 1'-0" A-107 14 NOV 2017

1 ROOF DEMOLITION PLAN
SCALE: 1/4" = 1'-0"



A-116 DWG 1/4" = 1'-0" 14 NOV 2017

A-116



REPLACE GUTTERS AND RAIN LEADER CONDUCTORS TO MATCH EXTG, TYP

EL 29'-0 1/2"

FIN. 2ND FLOOR

EL.0'-0"

EL-8'-1 3/4" A

EXTG LIGHT TO REMAIN, TYP. (TEMPORARILY REMOVE IF REQUIRED BY MASONRY WORK)

SEE MASONRY REPAIR ELEVATIONS FOR EXTENT OF REQUIRED MASONRY RESTORATION WORK.



HARVARD REAL ESTATE

Smith Campus Center 75 Mt Auburn Street, Cambridge, MA 02138

NORTHSTAR REAL ESTATE SERVICES 1050 Massachusetts Aren. Cambridge, MA 02133

Baker Wohl

ARCHITECTS

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77 Main Steet, Hopkinton, MA 01748

GALE

REVISION RISTORY:

CAMBRIDGE HISTORIC COMMISSION PERMIT SET

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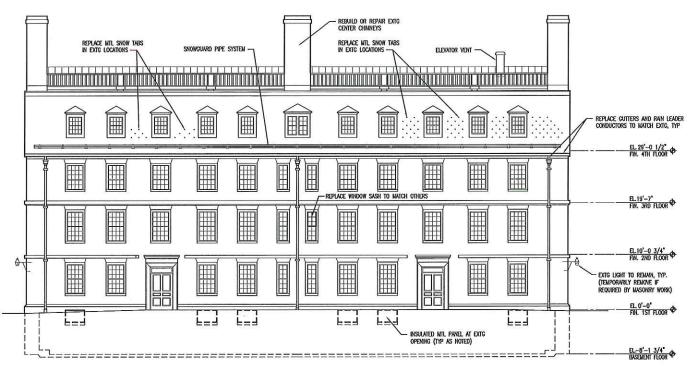
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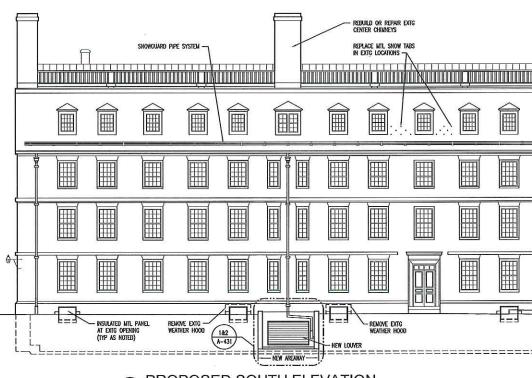
RENOVATIONS TO MASSACHUSETTS HALL

PROPOSED EXTERIOR **ELEVATIONS**

A-201.DWG PRATEING SCALE 1/8" = 1'-0" 14 NOV 2017



2 PROPOSED NORTH ELEVATION SCALE: 1/8" = 1'-0"



(3) PROPOSED WEST ELEVATION SCALE: 1/8" = 1'-0"

INSULATED MIL PANEL AT EXTG

— rebuild extg Chinneys from Roofline up —

PUSH BUTTON DOOR OPERATOR ON BOLLARD -

PROPOSED EAST ELEVATION
SCALE: 1/8" = 1'-0"

EXTG LIGHT TO REMAIN, TYP. (TEMPORARILY REMOVE IF REQUIRED BY MASONRY WORK).

NEW LOUYER IN

EXTG LIGHT TO REMAIN, TYP. (TEMPORARILY REMOVE IF REQUIRED BY MASONRY WORK)

NEW LOUVER IN EXTG OPENING -

EL 29'-0 1/2"

FIN. 3RD FLOOR

EL_10 -0 3/4 P

FIN. 1ST FLOOR O

EL 29'-0 1/2" •

FIN. 3RD FLOOR

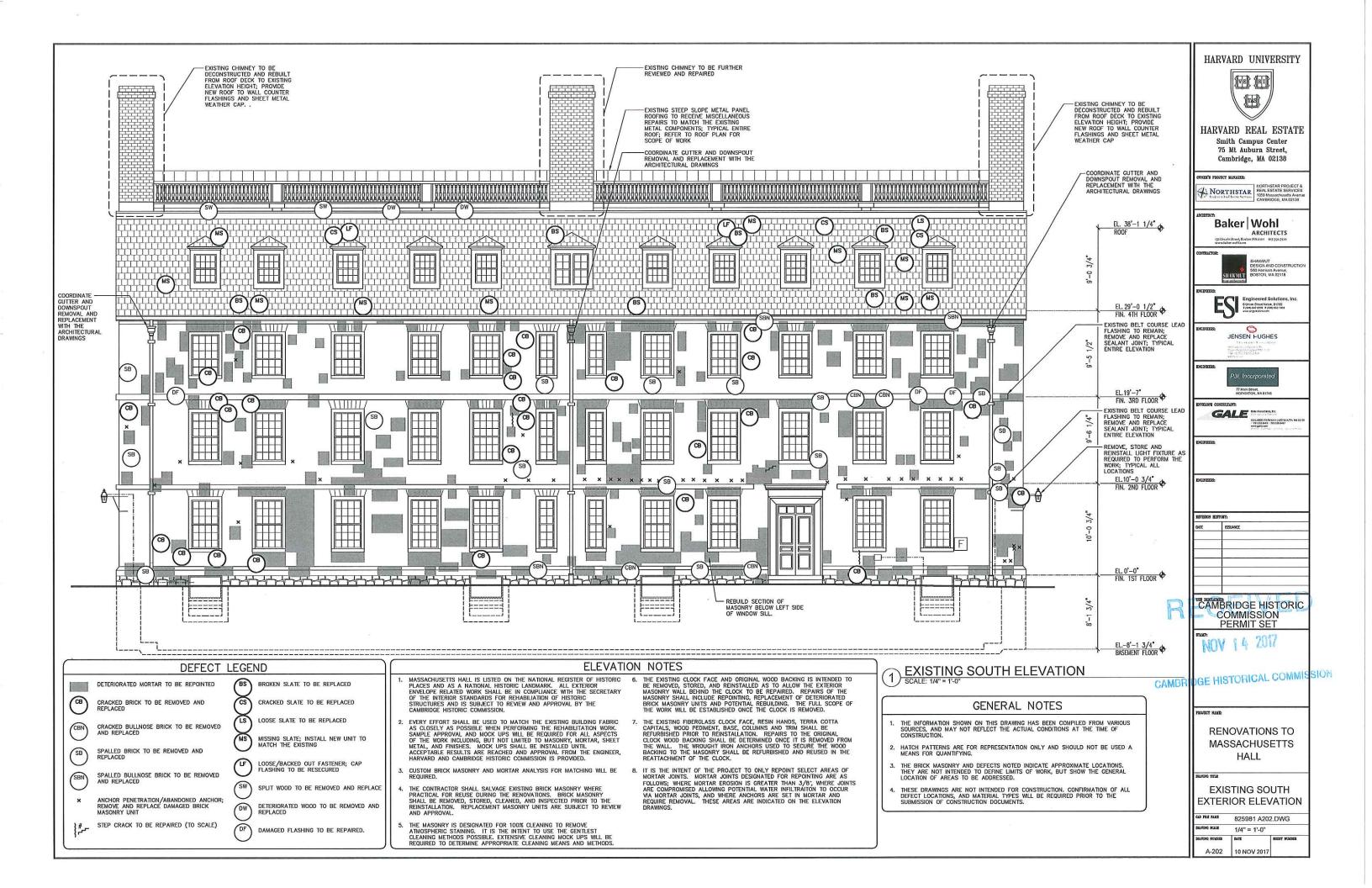
EL 10'-0 3/4" (

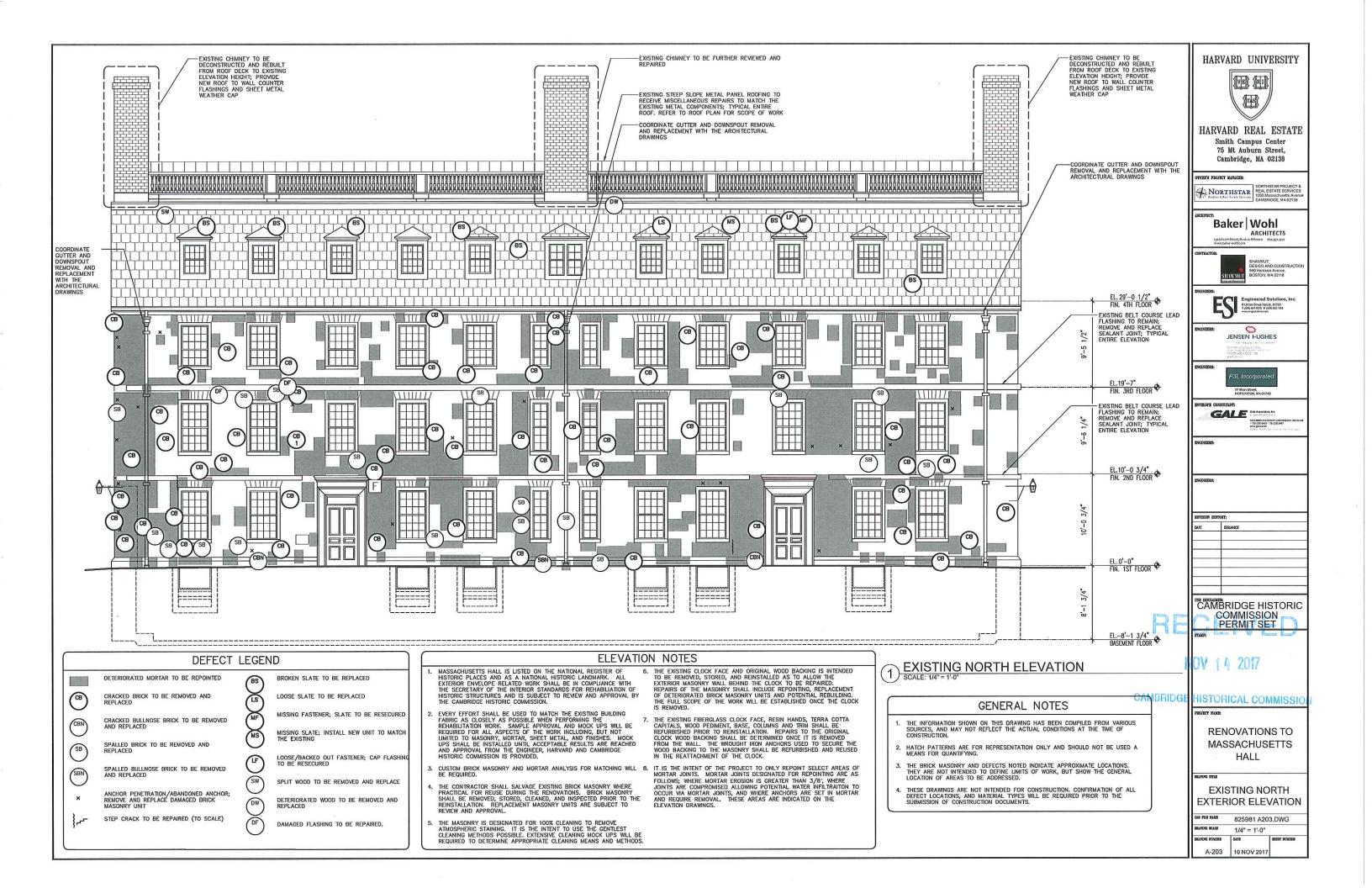
FIN. 1ST FLOOR O

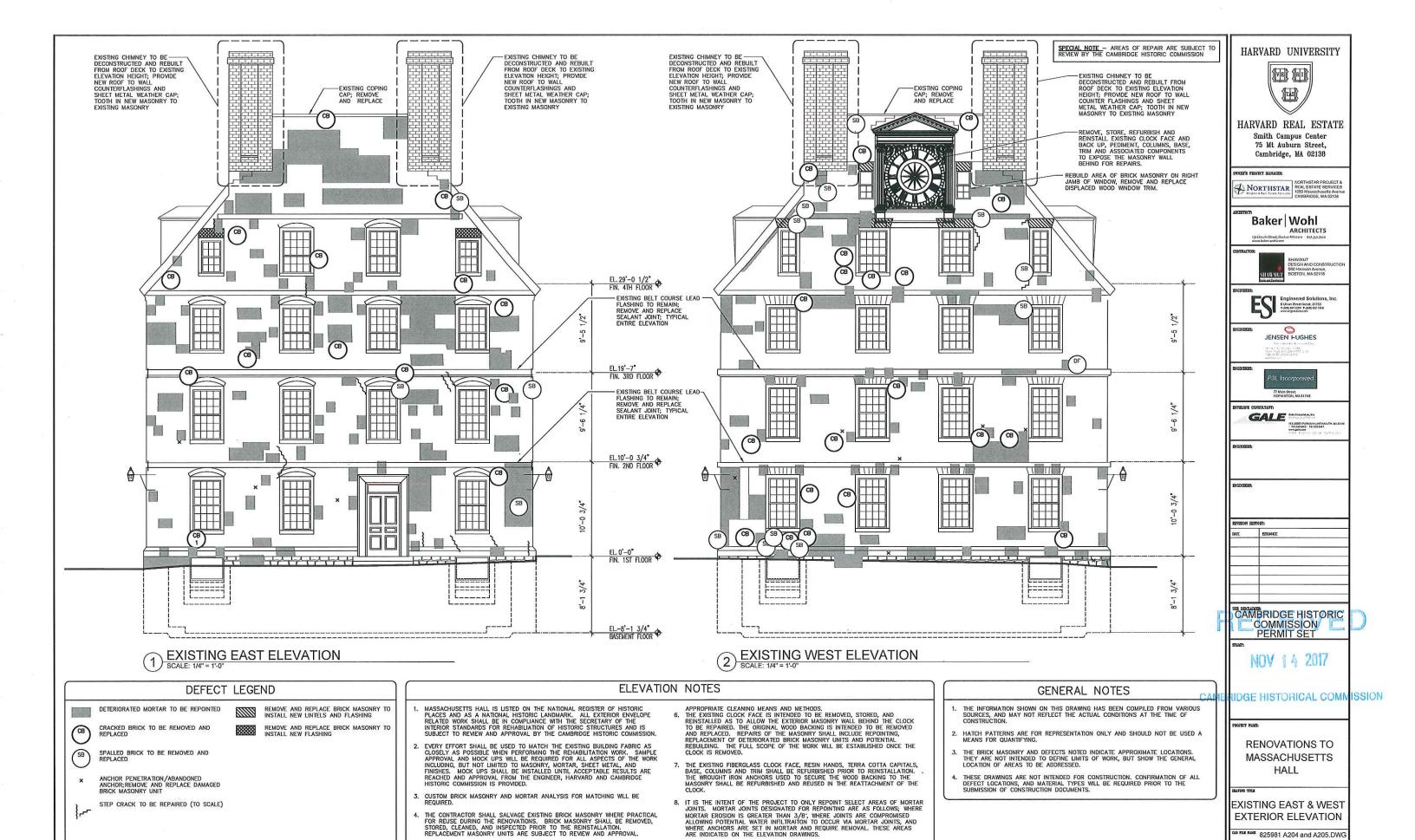
- FA BEACON

- RESTORE CLOCK AND CLOCK FACE TO MATCH EXTG

PROPOSED SOUTH ELEVATION
SCALE: 1/8" = 1'-0"







EXTERIOR ELEVATION 825981 A204 and A205.DWG

1/4" = 1'-0"

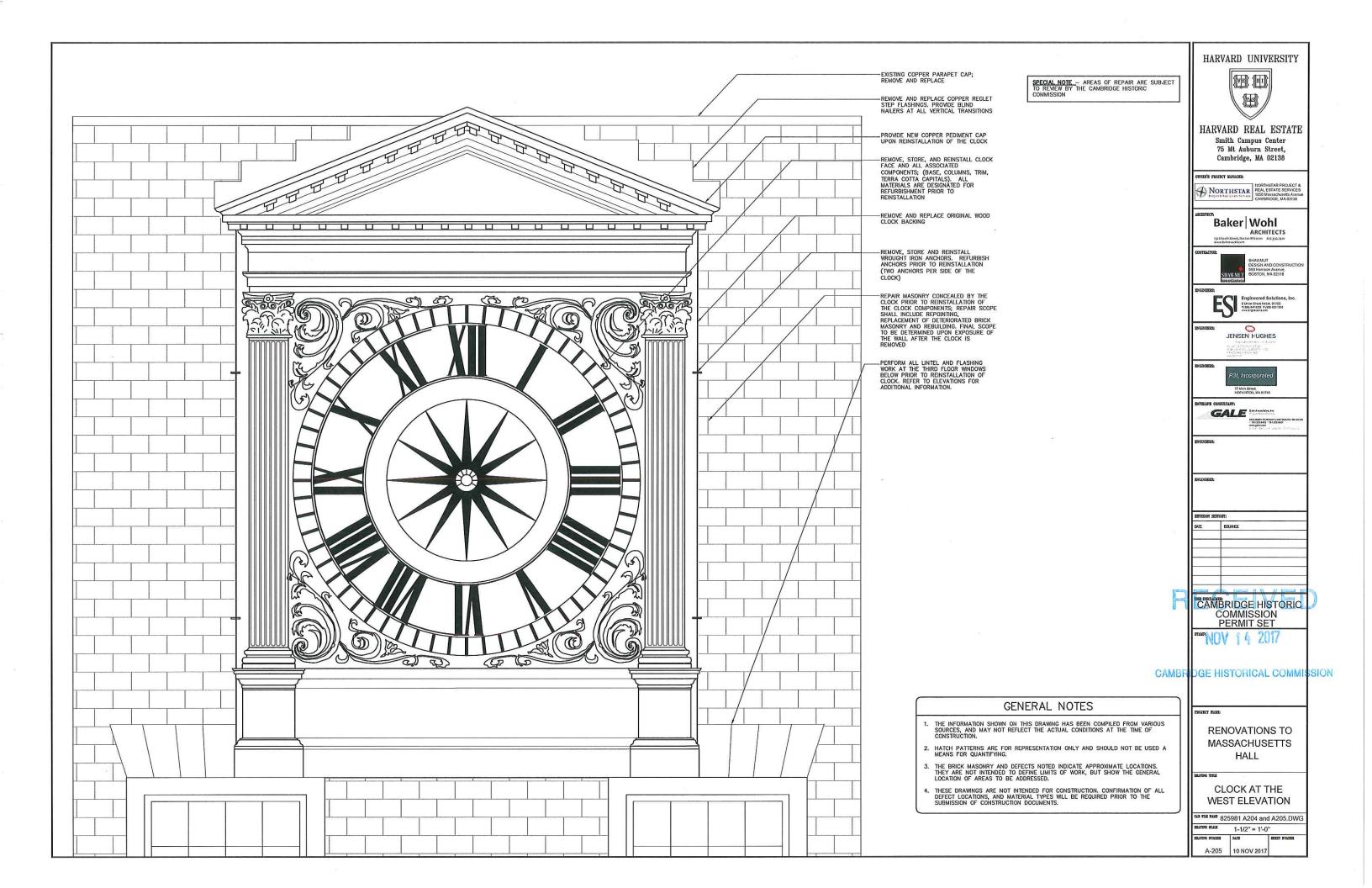
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DELYING SCALE

A-204

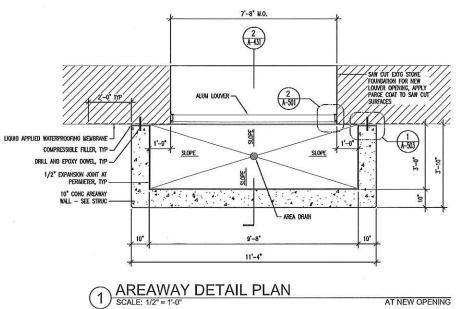
4. THE CONTRACTOR SHALL SALVAGE EXISTING BRICK MASONRY WHERE PRACTICAL FOR REUSE DURING THE RENOVATIONS. BRICK MASONRY SHALL BE REMOVED, STORED, CLEANED, AND INSPECTED PRIOR TO THE REINSTALLATION. REPLACEMENT MASONRY UNITS ARE SUBJECT TO REVIEW AND APPROVAL.

5. THE MASONRY IS DESIGNATED FOR 100% CLEANING TO REMOVE ATMOSPHERIC STAINING. IT IS THE INTENT TO USE THE GENTLEST CLEANING METHODS POSSIBLE. EXTENSIVE CLEANING MOCK UPS WILL BE REQUIRED TO DETERMINE





AT NEW OPENING



SHEET NOTES

- 1. FIELD VENEY ALL EXISTING CONDITIONS.
 2. COORDINATE DEMOLITION WORK MITH PROPOSED NEW WORK.
 3. PROTECT ALL ADMICENT CONSTRUCTION THAT IS TO REMAIN. PAICH AND REPAR ANY EXISTING CONSTRUCTION DAMAGED BY CONSTRUCTION ACTIVITIES AND TO ACCOMPLICATE NEW WORK.
 REPARS TO MATCH EXISTING ADMICENT MATERIALS. AND PRISSIES.
 4. CAST—REPARCE CONCRETE TO HAVE A MINIMUM 28—HAY COMPRESSIVE STRENGTH OF 5000 PSI.
 5. CONCRETE FRISH CONCRETE TO BY ALL ADMINISTRATE OF SOME SELECTED BY OWNER.
 SURVICE FINISH FORMED CONCRETE TO HAVE A SIGNOTH AND EVEN TEXTURE FREE OF SEALS, TIE HOLES, AND DEPICTS

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ARCHITECTS

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Engineered Solutions
6 Union Street
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T 5031574000 F (504) 652-1036
www.angleidura.com JENSEN HUGHES

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DATE ISSUANCE

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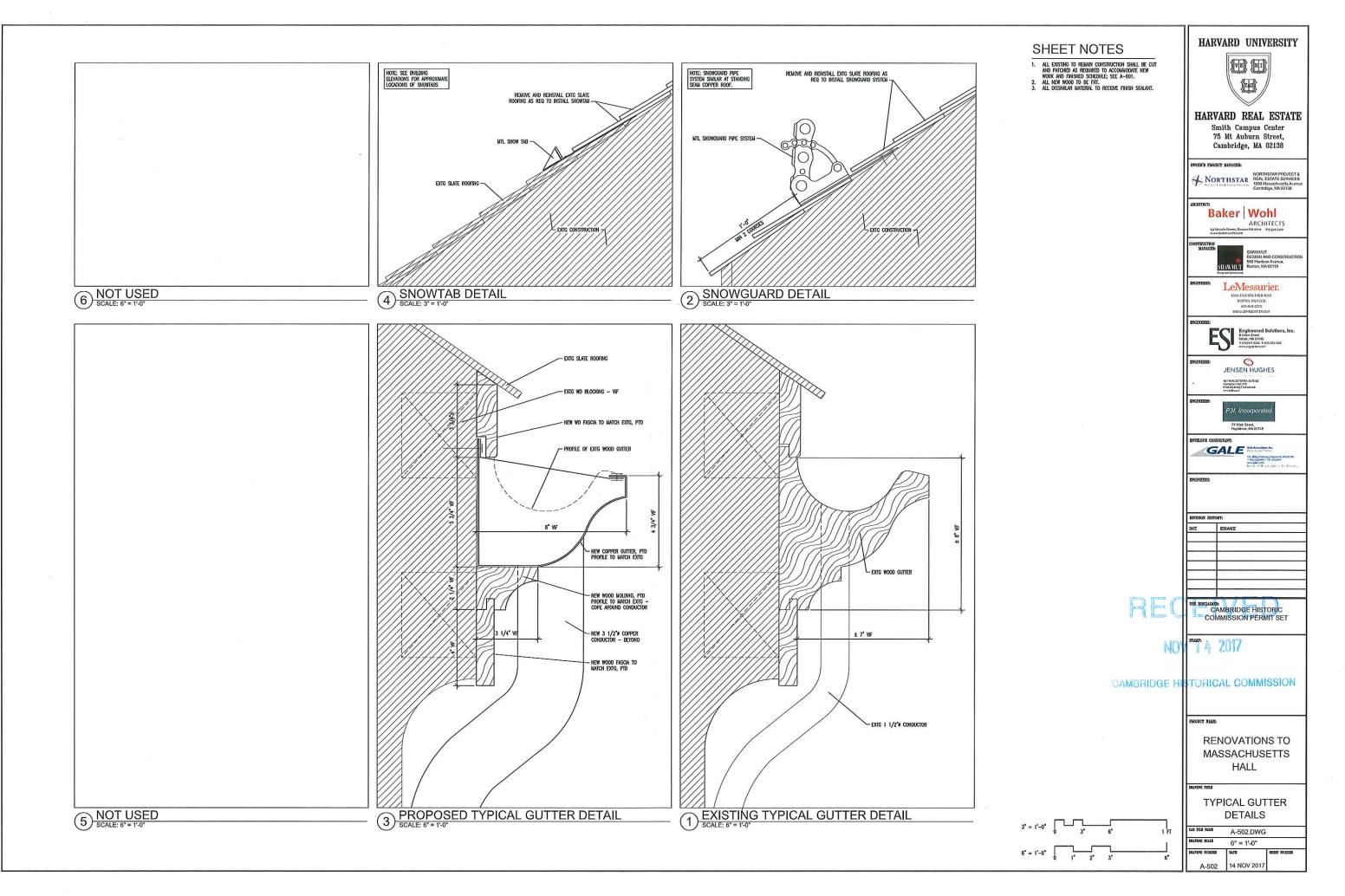
3/4" = 1'-0"

CAMBRIDGE HISTORICAL COMMISSION

RENOVATIONS TO MASSACHUSETTS HALL

AREAWAY DETAIL PLAN AND SECTION

A-431.DWG AS NOTED A-431



v 14 2017 - 10:35am - 1713 - A-502 Exterior Details d

4, 2017 - 10:35am - 1713 - A-502 Exterio