



TOWN OF PLYMOUTH COMMUNITY PRESERVATION COMMITTEE

MEMO

TO: Town Meeting, Board of Selectmen, and the Advisory & Finance Committee
From: The Community Preservation Committee
Date: Friday August 4, 2023
Re: ANNUAL FALL TM 2023: CPA Article 9D

ARTICLE 9D: To see if the Town will vote to appropriate from FY2024 Community Preservation Fund revenues, transfer from Community Preservation available funds or reserves, or borrow the sum of \$3,200,000, to grant to Pilgrim Hall Museum for the preservation, rehabilitation and restoration of the Pilgrim Hall Museum located at 75 Court Street, including all incidental and related costs, and further to authorize the Select Board to enter into a grant agreement with the Pilgrim Hall Museum, for such purposes, which grant agreement shall include but not be limited to the requirement that the Town of Plymouth be provided with an historic preservation restriction in said properties in accordance with the G.L. c.44B, Section 12 and meeting the requirements of G.L. c. 184, Sections 31-33, and to authorize the Board of Selectmen to accept such restriction, with such restriction to be held under the care, custody and control of the Historic Commission, or take any other action relative thereto.

COMMUNITY PRESERVATION

CPC RECOMMENDATION: Approval (unanimous)

The Community Preservation Committee voted 8 in favor 1 opposed of Article 9D at its meeting held Thursday August 3, 2023

SUMMARY & INTENT:

The intent of Article 9D is to use the Community Preservation Fund undesignated fund balance for the restoration, rehabilitation and preservation of Pilgrim Hall Museum. Pilgrim Hall Museum is the oldest Museum in North America and is Plymouth 's greatest repository of historical collections and archives. The restoration will help expand the potential and vitality of a nationally visible anchor institution, and will create economic and educational benefits for our community. The Library is a unique gathering space for public programs, presentations, meetings and events.

Plymouth Community Preservation Committee
FISCAL YEAR 2022-2023 APPLICATION

PLEASE SEND 11 COPIES (DOUBLE-SIDED) OF YOUR APPLICATION TO:
The Community Preservation Committee, Plymouth Town Hall
26 Court Street, Plymouth, MA 02360



Applications may also be dropped off at the Town Clerk's office.
or in the CPC mailbox at Plymouth Town Hall.

The deadline for submitting an application is last Friday in February for Spring Town Meeting,
and last Friday in June for Fall Town Meeting.

MEMORANDUM OF UNDERSTANDING

Project Name: Pilgrim Hall Museum Roof/Skylight Project

Applicant Name: Pilgrim Society (Pilgrim Hall Museum)

Address: 75 Court Street, Plymouth MA 02360

Phone #: (508) 746-1620, ext. 2 E-mail: director@pilgrimhall.org

I understand that there are certain conditions and responsibilities involved in receiving CPA funding.
My signature below indicates that I have read the following conditions and agree to follow them if my
application is recommended to and approved by Town Meeting:

1. I understand that the funding process follows procedures described in the Community Preservation Act, M.G.L. Ch. 44B and that this places certain restrictions on how payments may be made.
2. In order to acknowledge the Community Preservation Act, and thus the contributions of the Plymouth taxpayers, I will:
 - Order, pay for and place a temporary "Community Preservation Works" sign or banner in front of the project. The Community Preservation Committee will provide the approved design. Approximate cost for the banner is generally \$250-\$300.
 - Acknowledge the contributions of the Community Preservation Act in all press releases, newsletters, and other publicity.
 - Include recognition of the Community Preservation Act if a permanent plaque or sign is placed on the project.
3. If requested I will supply the Community Preservation Committee with quarterly financial up-dates the project.
4. As needed, I will assist in the process of obtaining the required deed restriction to help protect the property in perpetuity.
5. The Applicant agrees to adhere to the intent and the spirit of the presentation made to Town Meeting.

Donna D. Curtin

Print Name

Signature

Date



Plymouth Community Preservation Committee
FISCAL YEAR 2022-2023 APPLICATION

FISCAL YEAR 2022-2023 APPLICATION

Project Name: Pilgrim Hall Museum Roof/Skylight Project



CPA Funding requested: \$ 3,200,000 If the amount is unknown, will an appraisal be needed?

Y N (If yes see page 14 of the appraisal process)

Total project cost: \$ 5,267,000

Category—check all that apply: Open Space/Recreation Historic Housing

Lot and Plot: 103, 104, 105

Assessor's Map #: Map #17

Number of acres in parcel: 1

Number of proposed housing units:

Are there any existing deed restrictions on this property? No Don't know Yes/DESCRIBE

Describe restrictions below:

See preservation deed restriction, 18 June 1996, Plymouth County Registry of Deeds, Bk 14444 Pg 325

The deed restriction on the property requires permission from the Massachusetts Historical Commission for any

alterations which are not of a minor nature, part of ordinary maintenance and repair, or which involve structural stabilization.

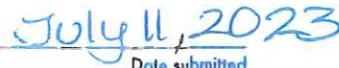
Project Sponsor/Organization: The Pilgrim Society, dba Pilgrim Hall Museum

Contact Name: Donna D. Curtin, Executive Director

Address: 75 Court Street, Plymouth MA 02360

Phone #: (508) 746-1620, ext. 2 E-mail: director@pilgrimhall.org


Applicant Signature


Date submitted

APPLICATION REQUIREMENTS:

A complete application consists of this application page (the specific amount of CPA funding is required), along with the following:

- A detailed description of the project explaining how your proposal benefits the Town of Plymouth and how it meets CPA goals and selection criteria outlined at the end of this application packet.
- Are there any special permit, variance or other approvals required? Are there any legal ramifications or impediments to this project?
- A detailed project budget including any additional revenue sources. Will there be any annual costs to the town once the project is operational?
- A project timeline.
- Additional supporting information such as photographs, plot plans, and maps (if applicable).
- Applicant must provide all title information for the property.
- Applicant must initial each page in the space provided.



Pilgrim Hall Museum Project Description

Pilgrim Hall Museum (PHM) is a landmark of historic Plymouth Center and a significant historical resource for the town, the region, and beyond. As one of the oldest public buildings in the Town of Plymouth and the oldest continuously operating public museum in America, PHM is of state and national significance. The Museum is listed on the State and National Registers of Historic Places. Pilgrim Hall's collection includes unique surviving objects, books and manuscripts belonging to the *Mayflower* Pilgrims, their descendants, and the Indigenous Wampanoag people along with other artifacts, works of art, and archival materials of national significance. Pilgrim Hall Museum's Greek Revival design distinguishes it from Plymouth's contemporaneous 1820 Court House with its Federal style brick façade, and most other buildings in Plymouth. The Museum has served as a prominent destination for local, national, and international visitors for 199 years. As a unique and important cultural resource in Plymouth, Pilgrim Hall Museum readily meets the Community Preservation criteria for historic projects.

Accredited by the American Alliance of Museums, the Museum serves a wide range of public audiences as a local, regional, and national resource on early Plymouth history. Each year, Pilgrim Hall Museum provides archival, library, and online resources for hundreds of Massachusetts residents and others, including academic, independent, and student researchers. The Museum offers a wide range of public programs and lectures, is free to Plymouth residents, and offers at least one free day annually to the general public.

Since 1824, Pilgrim Hall Museum has been a destination venue for the Town of Plymouth. The Museum played a fundamental role in the development of the town's travel/tourism industry and continues to contribute to the cultural and economic vitality of the Southeastern Massachusetts region, attracting repeat visitation and a variety of audiences. The Town of Plymouth hosts an estimated 800,000 annual national and international visitors per year, with Pilgrim Hall Museum welcoming a visiting public of about 28,000 guests annually. The Museum is active in Plymouth's growing community, serving as a meeting venue for local non-profit and civic organizations and engaging both established and new residents as members and volunteers.

Through its collections and public activities, Pilgrim Hall Museum is an essential gateway for engaging Plymouth's distinctive history and the story of America's beginnings in Massachusetts. The Pilgrim Hall Renovation project seeks to ensure that this valuable Massachusetts resource is preserved and available for current and future generations to utilize in fostering deeper understandings of the complex and multi-faceted history of the Commonwealth.

Roof/Skylight Replacement & Systems

Pilgrim Hall Museum's Roof/Skylight Project will address serious building needs and significantly enhance the historic, nearly 200-year old Pilgrim Hall. The preservation/rehabilitation project is driven by the failed condition of the slate roofing and 1914 skylight directly over the main gallery and its priceless works of art. The existing slate roof, comprised of many different types of slates installed at different time, is an unstable patchwork that reflects continual selective repair/replacement over many generations. The project proposes a full replacement of the main building slate roof, as well as full replacement of the compromised membrane roof of the 1905 Library wing and adjacent gallery, to make the building watertight and preserve the structure and its contents with a new 100-year-life roof.

The project includes the replacement of the copper-clad main hall skylight, originally installed in 1914 to provide lighting for the building interior. The glazing of the aging skylight was covered over with plywood several decades ago. In late 2021, the skylight structure developed significant leaks and was covered with EPDM membrane as an emergency response to protect the gallery of artworks beneath it. The proposed project will remove the deteriorated structure and reconstruct a feature of the same dimensions to maintain the building's historic roof profile. The replicated skylight feature will be roofed with copper sheathing to provide longer-term weather protection for the building and collections, and no longer be glazed. This evolution in design retains the historic feature in a new, weathertight iteration. An innovative lighting feature, recreating the visual appearance of the skylight, will be installed in the apex of the gable shaped ceiling, with programmable settings creating the effects of natural light – but without the danger of leaking or deleterious effects of ultra-violet light on historic artworks and artifacts.

As the skylight originally factored into the interior lighting of the building, the Museum's antiquated lighting systems will be redesigned to recreate the effect of natural daylight and for conservation purposes. A museum-quality lighting system will be implemented for improved conservation and visibility in the main galleries. In addition, more efficient and historically sensitive AC systems and duct installation will preserve historical collections and allow the gallery's original iron trusswork and recreated skylight to be viewed without the intrusive obstruction of the large air conditioning duct presently running down the spine of the ceiling, immediately below the skylight. A pair of oval shaped ducts tuck into the framework of the iron trusses and serve as mounting for track lighting illuminating the artwork and artifacts. The goal is proper climate for artwork and artifacts and preservation of the integrity of this very early and important display gallery. In addition, the experience for visitors and guests attending programs and events in the gallery will benefit from a reduction in air-flow related noise.

The roofing construction necessitates the removal, relocation, storage, and remedial conservation treatment of artworks in the Main Gallery, including monumental paintings, sculptures, and early American decorative arts and furnishings, in accordance with professional conservation standards. It also involves the dismantling of built-in exhibition components, which triggers the need for a scope of exhibit redesign, to be part of the Museum's matching share in the project.

Pilgrim Hall Museum has engaged Spencer Preservation Group as project architects. They have retained experienced consultants including LAM Partners, a high-level museum lighting design firm, GGD Consulting Engineers, skilled mechanical engineers. The team has completed the initial stages of design in close collaboration with the PHM Building committee chaired by David Peck and Donna Curtin. This resulted in approved schematic and design development plans that served as the basis of cost estimating by experienced contractors. The next steps are to develop project plans and specifications, produce comprehensive construction documents for bidding by qualified contractors; oversee bid process/selection; provide construction administration services and closeout.

Spencer Preservation Group will oversee construction and provide historically sensitive, high-quality design and oversight to the entire effort, throughout the project implementation and construction.

There are no legal ramifications or impediments to this project. Project approval is expected to be secured from the Plymouth Historic District Commission and the Massachusetts Historical Commission in advance of Town Meeting. An advisory review with the Historic District Commission is scheduled for their meeting on July 26 preparatory to a formal hearing. Project Notification will be concurrently submitted to the Massachusetts Historical Commission.

There are no additional costs to the Town of Plymouth once the project is complete. Pilgrim Hall Museum's general operating revenue supports a well monitored annual maintenance schedule; over the past 10 years, in addition to routine maintenance and upkeep, the Museum has invested over \$900,000 in preservation projects and major facilities upgrades.

This CPA grant application requests support for this first phase of a larger Pilgrim Hall Museum rehabilitation project. A subsequent, separate phase of work will focus on comprehensive exhibit redesign/installation in other galleries, and most significantly, the rehabilitation of the Pilgrim Hall Museum archives, a repository of approximately 35,000 historical manuscripts, documents, photographs, and other materials on Plymouth history, to provide a 21st century level of stewardship for rare, fragile, and irreplaceable materials. The archival collection is housed in the basement of the museum's 1904 Library wing, which has never been fully modernized. Phase II will seek to restore and preserve original features (such as a vaulted Guastavino tiled ceiling) and provide new environmental and building systems and redesigned

layout, high density storage furniture, archival housing for collections, UV protection, security, and up-to-date technology for the archives area. The goal is to create a state-of -the-art facility to preserve records covering the full span of Plymouth's 400-year history with a research area to provide access to historical materials.

The Phase II scope of work and cost estimate is not included in the grant request but is referenced to inform the Committee of plans for this additional stewardship investment planned by the Museum.

Preliminary budget estimate based on professional cost estimates at the schematic design level, timeline, and supporting documents are included as separate attachments in this application for the Committee's review.

All phases of the project work will be designed to ensure the highest level of protection for significant historical artworks, archives, and artifacts within the Museum, and will involve coordination with Museum staff as well as exhibit designers and conservators.

PHASE 1 Preliminary Project Budget & Project Timeline -see attached

Significant contingencies and escalation are included in the project budget. The proposed schedule is based on a Fall 2024 construction start with work continuing into 2025. As a secondary temporary roof is in place to prevent water infiltration, the schedule could be adjusted if needed to accommodate the timing of availability of Community Preservation funds.

PHASE 1 Projected Income Sources

On June 25, 2023, Pilgrim Hall Museum's Board of Trustees approved a \$6.4 million capital campaign effort to fund Phase I and II of a major preservation/rehabilitation project that includes the proposed Community Preservation project scope of work. An initial cash allocation totaling \$200,000 has been reserved for the proposed CPC project. Preliminary campaign fundraising began in June 2023 in advance of a public phase to be announced later in the year. As of early July, commitments of \$400,000 have been received. The Society is pursuing a range of funding sources, including grants, foundation gifts, sponsorships, and donations.

Grants	400,000
Foundations	250,000
Corporate Sponsors	152,000
State/Other Grants	75,000
Pledges/Donations	990,000 [\$400,000 in hand]
Cash Allocation in Hand	200,000
CPC Grant (if approved)	3,200,000
Total Projected Income	\$5,267,000

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List of Attachments

- A Property Title/Original 1824 Deed of Land**
- B Preliminary Project Budget**
- C Preliminary Project Timeline**
- D Draft Roof/Skylight Drawings/Specs (Spencer Preservation Group)**
- E HVAC Schematic Design Narrative Report (GGD Engineering)**
- F Preliminary Roof Contractor Bid Example (Greenwood Roofing)**
- G Main HALL Lighting Level Plan & Rendering (LAM Partners)**
- H Conservation Proposal- 3 Large Paintings (Olin Conservation)**
- I Letter of Support, Senator Moran, Rep. LaNatra, Rep. Muratore**
- J Vernacular Architecture Forum (VAF), *Pilgrim Hall Museum*, 2023**
- K Recent Museum Literature**

ATTACHMENT A

KNOW ALL MEN BY THESE PRESENTS, That I Samuel Davis of
Plymouth in the County of Plymouth Esq^t

in consideration of the sum of Five hundred Dollars
paid by the Pilgrim Society

**TITLE DERIVED FROM ORIGINAL DEED OF LAND
FROM SAMUEL DAVIS TO THE PILGRIM SOCIETY,
MAY 31, 1824, RECORDED IN PLYMOUTH COUNTY
REGISTRY OF DEEDS BOOK 152, PAGE 74**

the receipt whereof I do hereby acknowledge, do hereby give, grant, sell, and convey unto the said Pilgrim Society their Successors and assigns forever; a piece of land situated in Court Street in said Plymouth bounded as follows, beginning at the Southwesterly Corner of Capt. Thomas Bartlett's house lot, thence running Northeastly, One hundred and twenty five feet by said Bartlett's land so far as that extends and through ~~and~~ other land in the same range to a stake, thence running in a straight line Southwesterly seventy two feet to a stake standing about fourteen feet from the lot owned by Sc^r Baron Bradford and improved by William Drex, thence Southwesterly, One hundred and twenty five feet in a straight line to a stake on the said street, thence running by said street seventy two feet to the bounds first mentioned with all the privileges and appurtenances to the same belonging.

To HAVE and to HOLD the afore-granted Premises ~~to the said~~ ^{and bargaining} with all the franchises and appurtenances thereof to the said Pilgrim Society ^{their Successors} Heirs and Assigns, to their Use and Behoof forever.

AND I do covenant with the said Pilgrim Society their Successors

Heirs and Assigns, That I am lawfully seized in Fee of the afore-granted Premises; That they are free of all Incumbrances; That I have good Right to sell and convey the same to the said Pilgrim Society to hold as aforesaid

And that I will warrant and defend the same ~~Premises~~ to the said Pilgrim Society ^{their Successors} Heirs and Assigns forever, against the lawful Claims and Demands of all Persons.

IN WITNESS WHEREOF, I the said Samuel Davis

have hereunto set my Hand and Seal this Thirty first Day
of May, in the year of our Lord, One thousand eight hundred and Twenty four.
Signed, sealed, and delivered
in Presence of us.

Henry Cott
George Warren

Samuel Davis (Seal)

Plymouth ~~in~~ Plymouth ~~the~~ June 1824 Then the above named personally appeared Samuel Davis
and acknowledged the above Instrument to be his free Act and Deed—before me,

William Hammatt <sup>Justice of
the Peace</sup>
Received for me the 1824 & Recorded by Mr. Foster Cottrell Reg^t

ATTACHMENT B

COST ESTIMATE



Pilgrim Hall Museum
PHASE I Roof, Main



Spencer Preservation Group
PRESERVATION ARCHITECTS

July 10, 2023

DIV. 01 - GENERAL REQUIREMENTS		REMARKS	
Protection of Objects in the Main Gallery & Library	\$50,000	Conservator's proposal	
Signage, logistics, disposal	\$30,000		
Insurance	\$5,400		
SUBTOTAL		\$85,400	
DIV. 02 - EXISTING CONDITIONS		REMARKS	
Demolition	\$5,600	Conservator's proposal	
Staging, interior	\$20,000	Contractor estimate	
Staging and lifts, exterior	\$40,000	Contractor estimate	
SUBTOTAL		\$65,600	
DIV. 04 - MASONRY		REMARKS	
1824 Building			
Repoint 2 brick chimneys	\$30,000	SPG estimate	
SUBTOTAL		\$30,000	
DIV. 07 - THERMAL AND MOISTURE PROTECTION		REMARKS	
1824 Building		Contractor estimate	
Slate+Underlays			
Gutters			
Downspouts			
Snow Pads			
Copper flashings			
2008 Addition		Contractor estimate	
EPDM+Insulation			
Associated flashings			
Gutters+Downspouts			
SUBTOTAL		\$1,400,000	
Contractor estimate			
DIV. 08 - OPENINGS		REMARKS	
1824 Building			
Frame and sheathing for skylight infill, and framing for lighting system	\$50,000	Contractor estimate	
SUBTOTAL		\$50,000	
DIV. 09 - FINISHES		REMARKS	
1824 Building			
Drywall, framing, taping (skylight infill)	\$5,600	Contractor estimate	
Prep and paint the Main Gallery	\$15,000		
Terrazzo floor restoration	\$14,500		
SUBTOTAL		\$35,100	

DIV. 15 - HVAC		REMARKS	
1824 Building	AC for the main Gallery & Library (existing heating system is retained)	\$189,500	Contractor estimate
		SUBTOTAL	\$189,500
DIV. 16 - Electrical		REMARKS	
1824 Building	Lighting for the Main Galley and Library	\$300,000	Contractor estimate
		SUBTOTAL	\$300,000
		SUBTOTAL	\$2,155,600
General Conditions: @ 10% +		\$215,560	
HARD COST SUBTOTAL		\$2,371,160	
Overhead + Profit: @ 10% +		\$237,116	
		SUBTOTAL	\$2,608,276
Payment + Performance Bonds: @ 1% +		\$26,083	
CONSTRUCTION COST SUBTOTAL		\$2,634,359	
Contingency: @ 20% +		\$526,872	
Architecture/Engineering Fees: @ 15% +		\$395,154	
Escalation/inflation to 2024-25 20%		\$526,872	
		CONSTRUCTION PROJECT COSTS TOTAL	\$4,083,256
RELATED PROJECT COSTS			
EXHIBIT DESIGN FOR THE ENTIRE MUSEUM		\$200,000	SPG Estimate
EXHIBIT FABRICATION & INSTALLATION, MAIN GALLERY		\$350,000	SPG Estimate
MAIN GALLERY: PACKING, HANDLING, TRANSPORT TO OFF-SITE STORAGE AND/OR CONSERVATION FACILITIES, MAJOR ARTWORKS		\$39,600	Conservator's proposal
MAIN GALLERY: PACKING, HANDLING, STORAGE, SMALLER ARTWORK & OBJECTS, EXCESS VALUE INSURANCE		\$90,000	
MAIN GALLERY: MICRO-CLIMATE ENCLOSURE FABRICATION & INSTALLATION, MAJOR ARTWORKS		\$25,000	SPG Estimate
CONSERVATION OF OBJECTS AND ARTWORK BY QUALIFIED CONSERVATORS		\$440,620	Conservator's proposal
LOSS OF REVENUE DUE TO CLOSING THE MAIN GALLERY		\$38,600	PHM Estimate from 2022 Admission Revenue (80%)
		EXHIBITION & CONSERVATION COSTS	\$1,183,820
		COMBINED PROJECT COSTS	\$5,267,076

ATTACHMENT C

PILGRIM HALL MUSEUM: Roof - Gallery - Library Renovations

2024

JAN. FEB.

MAR. APR.

MAY JUN.

JUL. AUG.

SEP. OCT.

NOV. DEC.

2025

JAN. FEB.

MAR. APR.

112

DESIGN DEVELOPMENT & CONSTRUCTION DOCUMENTS

BIDDING & AWARDING

GALLERY & LIBRARY CLEARANCE

ROOF CONSTRUCTION

GALLERY & LIBRARY CONSTRUCTION

CLOSE-OUT

JAN

FEB.

MAR.

APR.

MAY

JUN.

JUL.

AUG.

SEP.

OCT.

NOV.

DEC.

JAN.

FEB.

MAR.

APR.

2024

2025

PROJECT SCHEDULE



Spencer Preservation
Group

PRESERVATION ARC

ATTACHMENT D



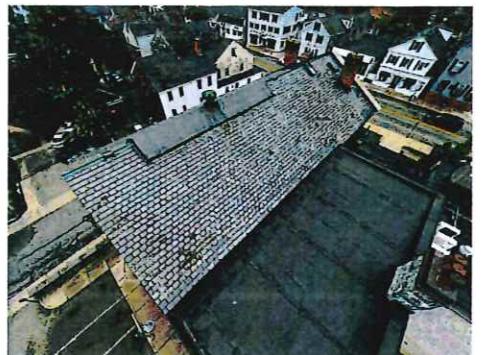
Spencer Preservation
Group

PRESERVATION ARCHITECTS

41 Valley Road | Suite 211B
Nashua, NH 03108
(603) 227-2675

www.SpencerPreservationGroup.com

CONSULTANT:



OVERALL SLATE AND EPDM ROOFS



EPDM ROOF AND HVAC EQUIPMENT



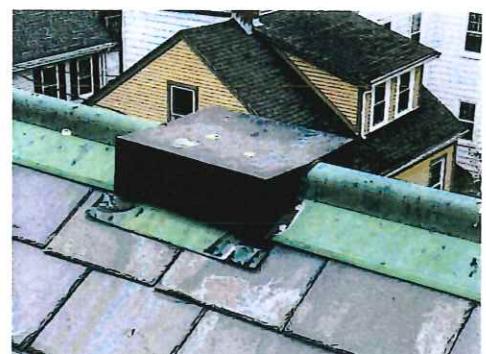
NORTH RAKE AT SLATE ROOF



DETERIORATED SLATE AND SNOW PADS



BRICK CHIMNEY AND EXISTING FLASHING



CAPPED-OFF VENTILATOR AT RIDGE



EXISTING VENTILATOR



EPDM-COVERED SKYLIGHT



DETERIORATED COPPER SKYLIGHT



COPPER SKYLIGHT PROFILE AND FLASHING



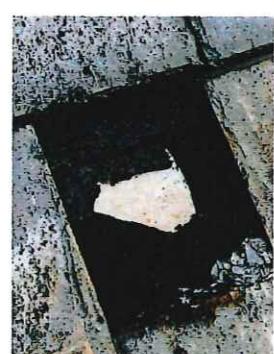
SKYLIGHT AT RIDGE



DETERIORATED SLATE SHINGLES



FAILED SLATES



EXISTING GYPSUM DECK



COPPER IN STONE CORNICE



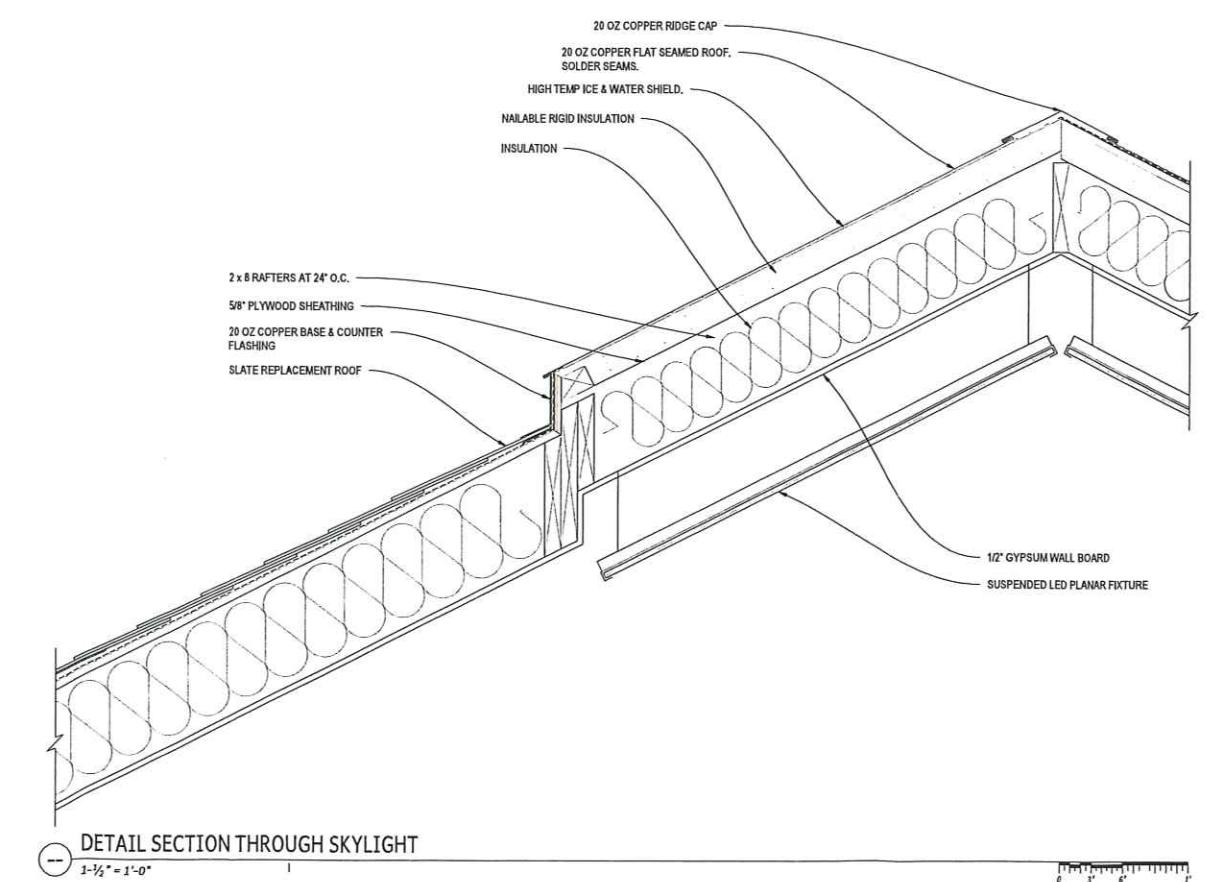
PLUGGED CORNICE AT FORMER DOWNSPOUT



NORTH FLAT-ROOF GUTTER



OPEN JOINT IN GUTTER



OWNER:



PILGRIM HALL
MUSEUM

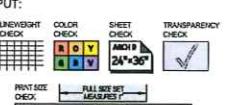
75 Court Street
Plymouth, MA 02360

PROJECT:

PILGRIM HALL MUSEUM
RENOVATIONS

PHASE 1:
ROOF AND SKYLIGHT RESTORATION
75 Court Street
Plymouth, MA 02360

OUTPUT:



STATUS:

FOR PRICING	JUNE 12 2023
FOR REVIEW	SEP 07 2022
FOR PRICING	JUN 30 2022

SEAL:

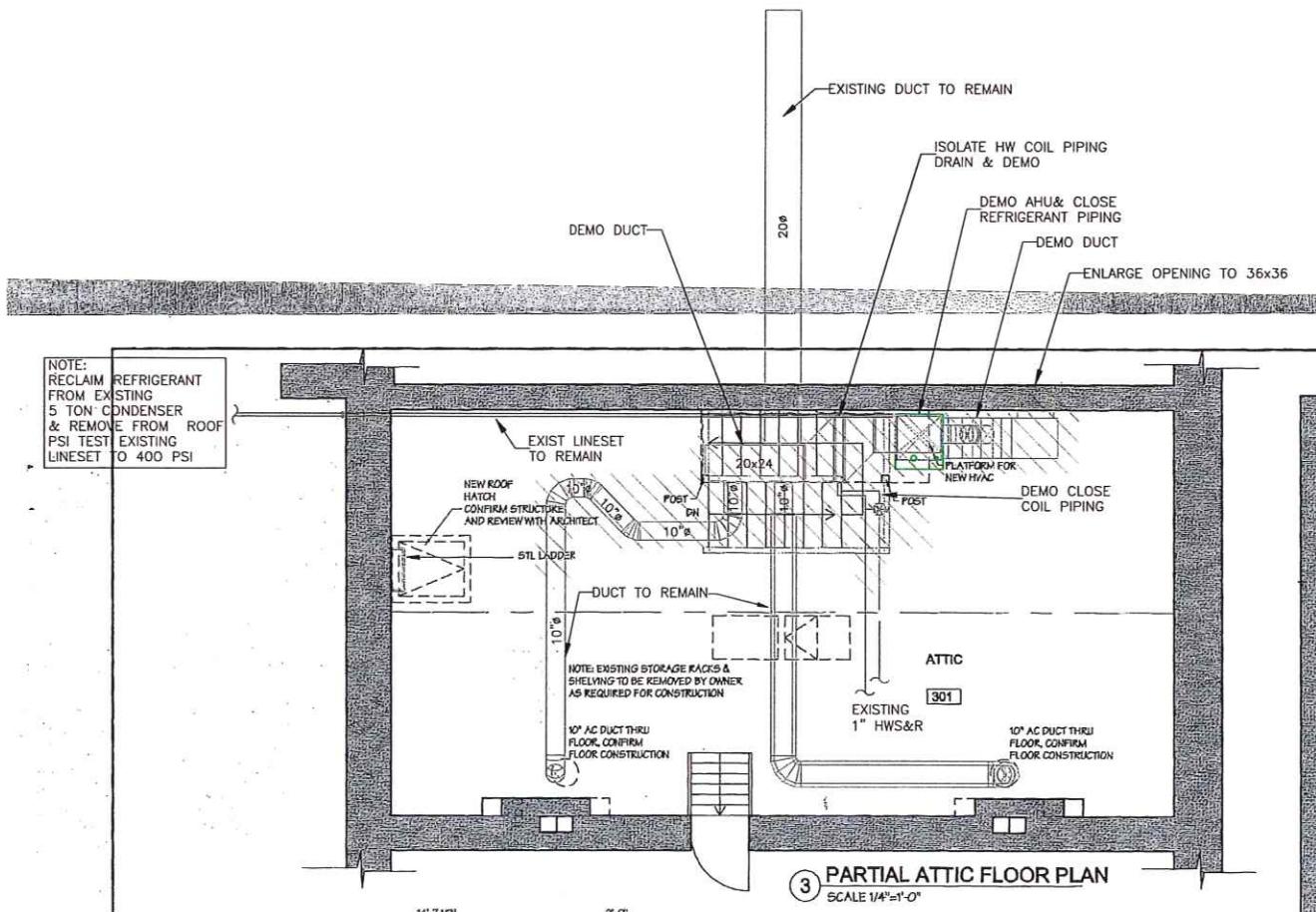
NOT FOR PERMITTING
REVIEW
NOT FOR CONSTRUCTION

TITLE:
REFERENCE PHOTOS &
DETAILS

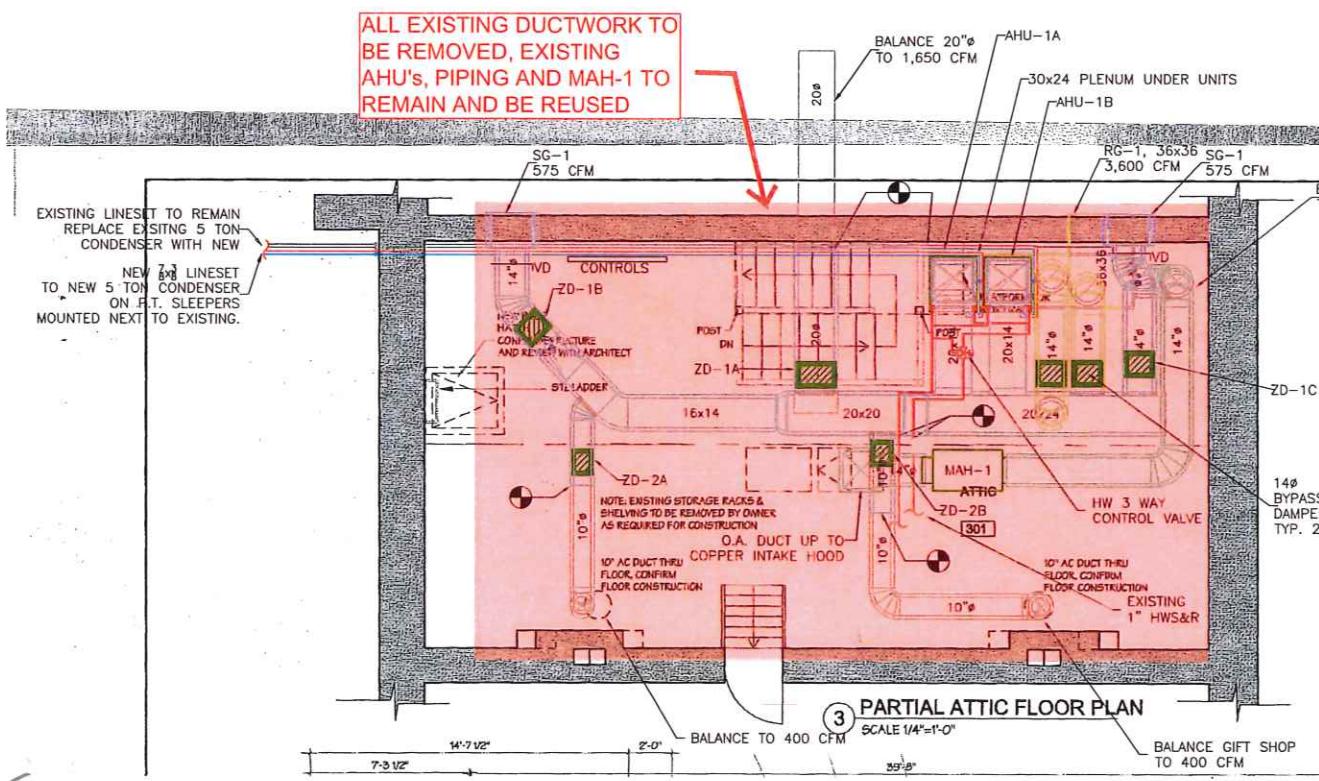
SHEET:

A-2

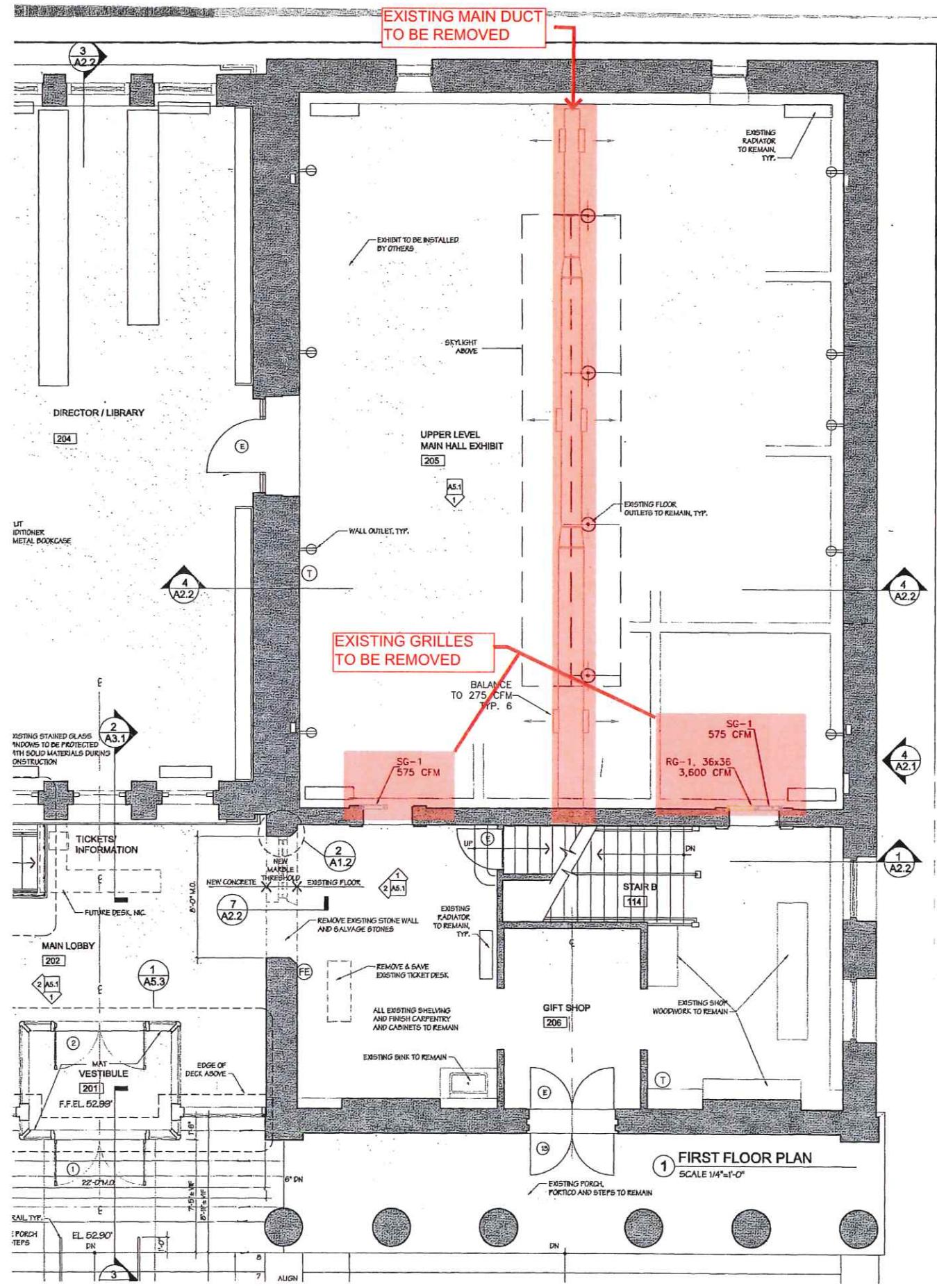
114



HVAC Demo Plan - Scale: 1/4"=1'-0"



Attic HVAC Plan - Scale: 1/4"=1'-0"



First Floor HVAC Plan - Scale: 1/4"=1'-0

AS-BUILT DRAWING
APRIL 14, 2020

RED
ACTORS, INC.
Street, Pembroke, MA 02359
FAX (781) 289-1207

HVAC Upgrad
5 Court Street
PLYMOUTH, MA

IVAC DEMO & NEW WORK PLAN

M-1

ATTACHMENT E

GGD Consulting Engineers, Inc.

Pilgrim Hall Museum Renovation Project
Plymouth, MA
J#138 011 00.00
L#85014/Page 1/June 16, 2023

HVAC SYSTEMS

SCHEMATIC DESIGN NARRATIVE REPORT

The following is the HVAC Systems narrative, which defines the proposed scope of work and capacities of the HVAC Systems, as well as, the Basis of Design.

CODES

A. All work installed under Division 230000 shall comply with the Commonwealth of Massachusetts Adopted Building Codes (IBC 2021, IMC 2021, International Energy Efficiency Based on IECC 2021), and all local, county, and federal codes, laws, statutes, and authorities having jurisdiction.

DESIGN INTENT

A. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Mechanical work and all items incidental thereto, including commissioning and testing.

BASIS OF DESIGN

A. Project weather and Code temperature values are listed herein based on weather data values as determined from ASHRAE weather data tables and the International Energy Conservation Code 2018.

B. Outside: Winter 7 deg. F, Summer 90 deg. F DB, 74 deg. F WB

C. Inside: 70 deg. F +/- 2 deg. F for Heating, 75 deg. F +/- 2 deg. F (55% RH) for Cooling for Air Conditioned Areas. Unoccupied temperature setback will be provided (60 deg. F heating (adj.), 85 deg. F cooling (adj.)).

D. Outside air shall be provided at the rate in accordance with ASHRAE guide 62.1-2019 and the International Mechanical Code 2021 as a minimum.

SYSTEM DESCRIPTION

A. Main Gallery:

1. The primary mechanical heating, ventilation and air conditioning system will utilize the existing two indoor air handlers and their associated air cooled condensers and refrigerant piping. However, all existing ductwork associated with the supply and return systems shall be removed. In total there appears to be approximately 1,500 lbs of existing ductwork that needs to be removed along with all associated insulation, three wall grilles and seven zone dampers. Refer to the attached existing HVAC drawing with notes for all ductwork and noted components to be removed. All this existing ductwork will be replaced and re-insulated. The new duct distribution system will require approximately 2,000 lbs of galvanized sheet metal ductwork with insulation and will connect to the existing air handling units. Cost estimate should include all necessary supports and hangers for the new ductwork. Below is a list of additional components/devices that will be required for the new design and are additional to the ductwork systems indicated above.

GGD Consulting Engineers, Inc.

Pilgrim Hall Museum Renovation Project
Plymouth, MA
J#138 011 00.00
L#85014/Page 2/June 16, 2023

- a. Five (5), new electrically operated zone dampers along with master controller.
- b. Three new wall mounted programmable digital thermostats.
- c. One hundred twenty five feet (125ft) of 40"x12" oval galvanized sheet metal ductwork, (two duct mains each at 60 ft long).
- d. Fifty feet (50ft) of 4" high sidewall diffuser to be mounted on the side of each of the new oval galvanized sheet metal duct mains.
- e. Four (4), new 14"x14" ceiling mounted egg crate grilles, two of these grilles will require new floor openings.
- f. One new 36"x36" wall mounted return grille.
- g. Reconnect new ductwork to existing air handling units including the make up air unit.
- h. Start-up for two air handling units and one make up air unit.
- i. Testing and Balancing for two air handling units and one make up air unit.
- j. Automatic Temperature control wiring between zone dampers and master controller, as well as three new thermostats.
- k. Cutting/patching through floors/walls should be included within the cost estimate.

B. Library:

- 1. The Library space is currently served with a wall mounted heat pump unit which provides air conditioning for the space. Ventilation air is provided through operable windows and heating is accomplished by existing cast iron radiators. The existing wall mounted heat pump, associated outdoor air cooled condenser and refrigerant piping shall be removed. The existing cast iron radiators shall remain and be reused for backup heating. The new primary mechanical heating, ventilation and air conditioning system will consist of one roof mounted air handling unit with a capacity of 1,200 CFM, 3 tons of cooling and 100 MBH gas fired furnace. The unit will be provided with an energy recovery wheel, MERV 14 filters, outside air intake with weather hood, supply and exhaust fans with premium efficiency motors and factory mounted VFD's. In addition to the rooftop air handling unit, the following components/devices will be required for the new design.
 - a. One new wall mounted programmable digital thermostat.
 - b. Thirty feet (30ft) of 24"x10" rectangular galvanized sheet metal supply ductwork including insulation, hangers and supports. Fifteen feet of that length will be roof mounted ductwork and will require extra insulation and weather proof wrapping.
 - c. Thirty feet (30ft) of 24"x10" rectangular galvanized sheet metal supply ductwork including insulation, hangers and supports. Fifteen feet of that length will be roof mounted ductwork and will require extra insulation and weather proof wrapping.
 - d. One new 48"x24" wall mounted double deflection diffuser.
 - e. One new 48"x24" wall mounted return register.
 - f. One roof mounted vibration and seismic roof curb with sound package.
 - g. Start-up for one air handling unit.
 - h. Testing and Balancing for one air handling unit.
 - i. Automatic Temperature control wiring between unit's master controller and new thermostat.
 - j. Rooftop unit mounting and cutting/patching through roof/walls should be included within the cost estimate.

ATTACHMENT F

May 9, 2023

Ms. Donna Curtin
Pilgrim Hall Museum
75 Court Street
Plymouth, MA 02360

Re: Pilgrim Hall Museum Roof
Plymouth, MA

Greenwood Industries, Inc. is pleased to provide pricing for the above project. Our pricing is based on our site visit.

Scope of Work:

- Scaffold the eave sides of the sloped roofing and around the chimneys.
- Remove and dispose of existing slate roof.
- Furnish and install high temperature ice and watershield over the entire surface of the sloped roof.
- Furnish and install new 12 x 20" Slate to closely match the existing in both size and color.
- Fabricate new 20-ounce red copper drip edges, ridge caps, gutters and downspouts to replace the existing.
- Demo and install new framing to match existing at the skylight assembly.
- Fabricate and install 20-ounce red copper roofing and siding panels at the new skylight assembly.
- Remove and dispose of existing EPDM roofs.
- Furnish and install ½" substrate board and 10 mil poly vapor barrier.
- Furnish and install 2 layers of 2.6" polyisocyanurate insulation.
- Furnish and install ½" coverboard, mechanically attached to the roof substrate.
- Furnish and install black 90 mil, non-reinforced EPDM, fully adhered to the cover board.
- Flash all penetrations currently on the roof.
- Furnish and install blocking as necessary to complete the roofing installation.
- Furnish and install 20-ounce red copper roof edge metals and Gutter to terminate the roof edges.
- Furnish manufacturer's 20-year warranty on the EPDM roof system.
- Tuckpoint the 2 chimneys on the sloped roof area.
- Furnish town of Plymouth MA Building Permit

For this work, we quote the sum of: **\$ 1,407,000.00**

Exclusions/Clarifications:

1. Payment and Performance Bond is excluded. Sales tax is included.
2. Dumpsters, sanitary and hoisting facilities are included.
3. Police details, if required, are excluded.
4. Metal flashings other than those used for roof termination are excluded.
5. All work is to be completed during normal working hours.
6. All Electrical, TEL/Data, cellular, mechanical and plumbing disconnections and reconnections are by others.
7. Winter conditions and snow removal are excluded.

If you have any questions or comments regarding this proposal, please contact me at 781-883-0194 or by e-mail at eroth@greenwood-industries.com.

Regards,

Eric Roth

ATTACHMENT G



