



242 BEACON STREET HVAC Replacement

Application for Design Review to the:
Back Bay Architectural District Commission
20 City Hall Avenue, Floor 3
Boston, MA 02108

Prepared By:
VAV International, Inc. – Mechanical Engineers
Suite 4700, 400 West Cummings Park, Woburn, MA 01801
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551 Main St. Winchester, MA 01890

17 February 2025 - signature page 2 added 24 February 2025

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Section 1 PROJECT DESCRIPTION & APPLICANT INFORMATION

PROJECT DESCRIPTION

The Project building-wide **Replacement of the existing HVAC System**, affecting all 7 floors and 9 residential units in the building. Key to the Project is the **elimination of the Fuel Oil-burning Boiler** and exterior **Chiller** and replacement with a Variable Refrigerant System and **Air-to Air Heat pumps** located at the rear of the building and at the roof. The project will significantly **reduce the carbon footprint of the building, while reducing overall energy consumption.**

There will be no changes to the Exterior on the Beacon Street Elevation. The exterior changes that are described in this application for Design Review focus on the **replacement of the existing Chiller with 3 heat pumps** at the Back Street Elevation, and the **addition of 5 heat pumps located on the roof of the building.**

Property Address

Street Address	242 Beacon Street
City	Boston
State	Massachusetts
Zip	02116

Applicant Information

Applicant Name	William Sloan
Applicant Company	William Sloan Associates, Architects

Applicant Address

Street Address	551 Main Street
City	Winchester, MA
State	Massachusetts
Zip	01890
Applicant Phone	(617) 548-1521
Applicant Email	chip@williamsloan.com
Best Way to Contact	email or phone/text

Section 2 EXISTING CONDITIONS PHOTOGRAPHS

SITE PHOTOS – BEACON STREET ELEVATION – GENERAL VIEW



General view looking from Beacon Street. The HVAC project will have no impact on the view from Beacon street.

SITE PHOTOS – BEACON STREET ELEVATION – DETAIL AT ENTRANCE



View of Beacon Street sidewalk and planting area in front of building. Underground electrical service will be replaced. All landscaping materials, paving and fencing will be preserved.

SITE PHOTOS – REAR ELEVATION – GENERAL VIEW



General view of the Building and Parking Area looking from Back Street.
Detail view of the Back Entrance.



SITE PHOTOS – REAR ELEVATION – DETAIL VIEWS



Detail views of the Existing Chiller to be replaced.



SITE PHOTOS – EXISTING ROOF – GENERAL VIEWS



General view of the Roof looking West towards Back Street and the Charles River.



General view of the Roof, access ladder, and Elevator Penthouse, looking South.

SITE PHOTOS – EXISTING ROOF – GENERAL VIEWS



General view of the Roof looking East towards Beacon Street.



General view of the Roof looking North towards Dartmouth Street.

Section 3 PRESENTATION

OUTLINE OF THE PROPOSED WORK

The **242 Beacon Street HVAC System Replacement Project** is a complete replacement of the Building-wide HVAC System including related and required plumbing, electrical, and architectural alterations. Principal elements include the following:

- Demolition & removal of existing chiller, chilled water piping, condensate piping, fuel oil fired boiler.
- New VRF system to serve building. Heat pumps on grade to serve bottom half of building and heat pumps on roof to serve top half of building.
- Electrical improvements for service, power and distribution.
- Interior Architectural modifications and enclosures, including custom running trim and millwork.
- Exterior grade and rooftop improvements for new Heat pump installations.

Work affecting the Building Exterior and Site is illustrated on the following pages and summarized as follows:

HEAT PUMPS AT GRADE

The existing Air-cooled chiller will be removed and replaced by **three heat pumps** that will serve the lower floors. Refer to Illustration of the view at Grade.

ROOFTOP HEAT PUMPS

Five heat pumps will be located at the roof, located centrally to avoid sight lines. Refer to the Illustrative Section, and acoustically isolated Rooftop mounting detail in the supporting documents.

Type of work Alterations (Changes to Existing Structure)

Estimated Total Cost of Work \$3 million

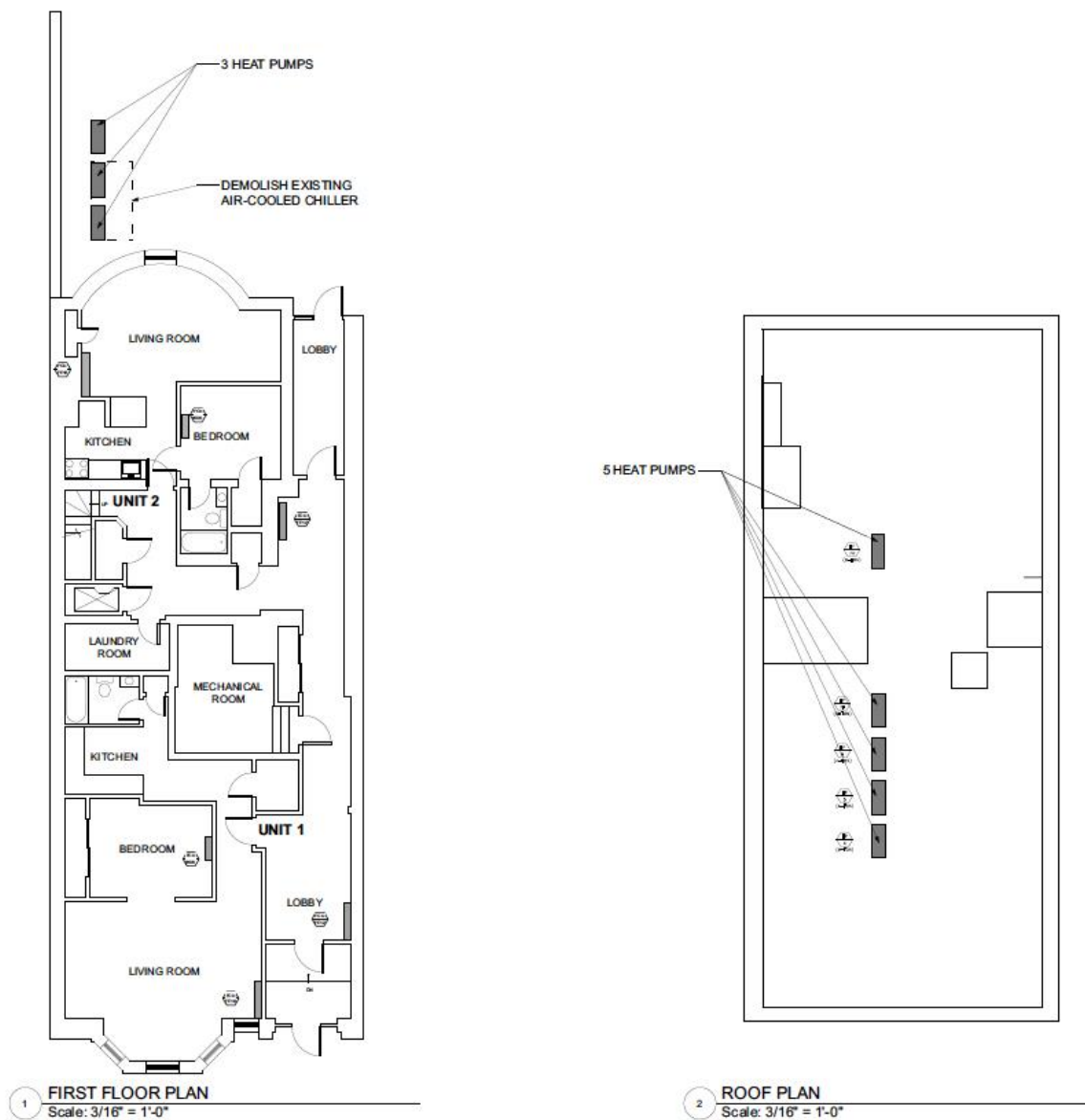
Other than Building Permit, we have received all necessary approvals from other city agencies including but not limited to Zoning, Parks, Architectural Access.

The Owner does not currently have a permit number pending with the building department. Permits will be applied for by the General Contractor selected for the Project.

HEAT PUMP LOCATIONS

The HVAC Project will require **eight Air-to Air Heat pumps** located at the rear of the building and at the roof.

The existing Air-cooled chiller which currently provides cooling to the entire building will be removed and replaced by **three heat pumps** that will serve the heating and cooling needs of residential units on the lower floors. **Five heat pumps** will be mounted on the roof and serve those units on the upper floors.

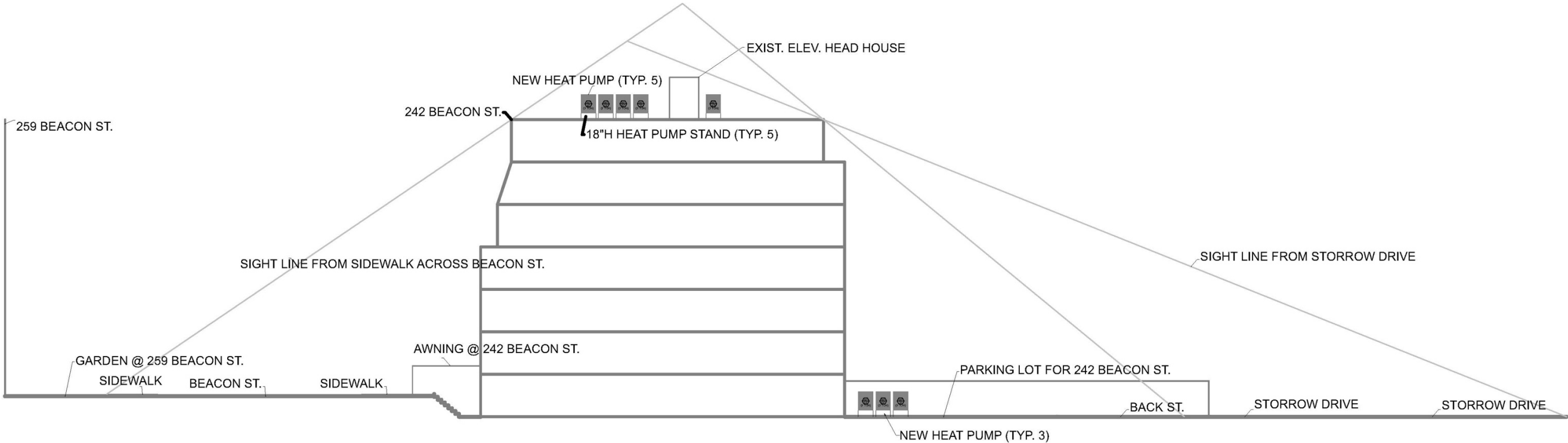




The existing Air-Cooled Condensing Chiller will be removed and replaced.



Three new Heat Pumps will provide heating and cooling to the Lower Floor Units of 242 Beacon Street, consuming less energy and generating less noise than the ACCU being replaced.



1 ILLUSTRATIVE SECTION
Scale: 1/16" = 1'-0"

PROPOSED HEAT PUMP LOCATIONS AT ROOFTOP AND GRADE

Heat Pumps at Roof to be located centrally, avoiding sightlines from Beacon Street, Storrow Drive and Back Street.

Section 4 ADDITIONAL SUPPORTING DOCUMENTS

Attached are the following documents describing the proposed HVAC Replacement Project:

Catalog Cuts for Proposed Heat Pumps

All Heat Pumps at grade and on the roof are the same dimension:

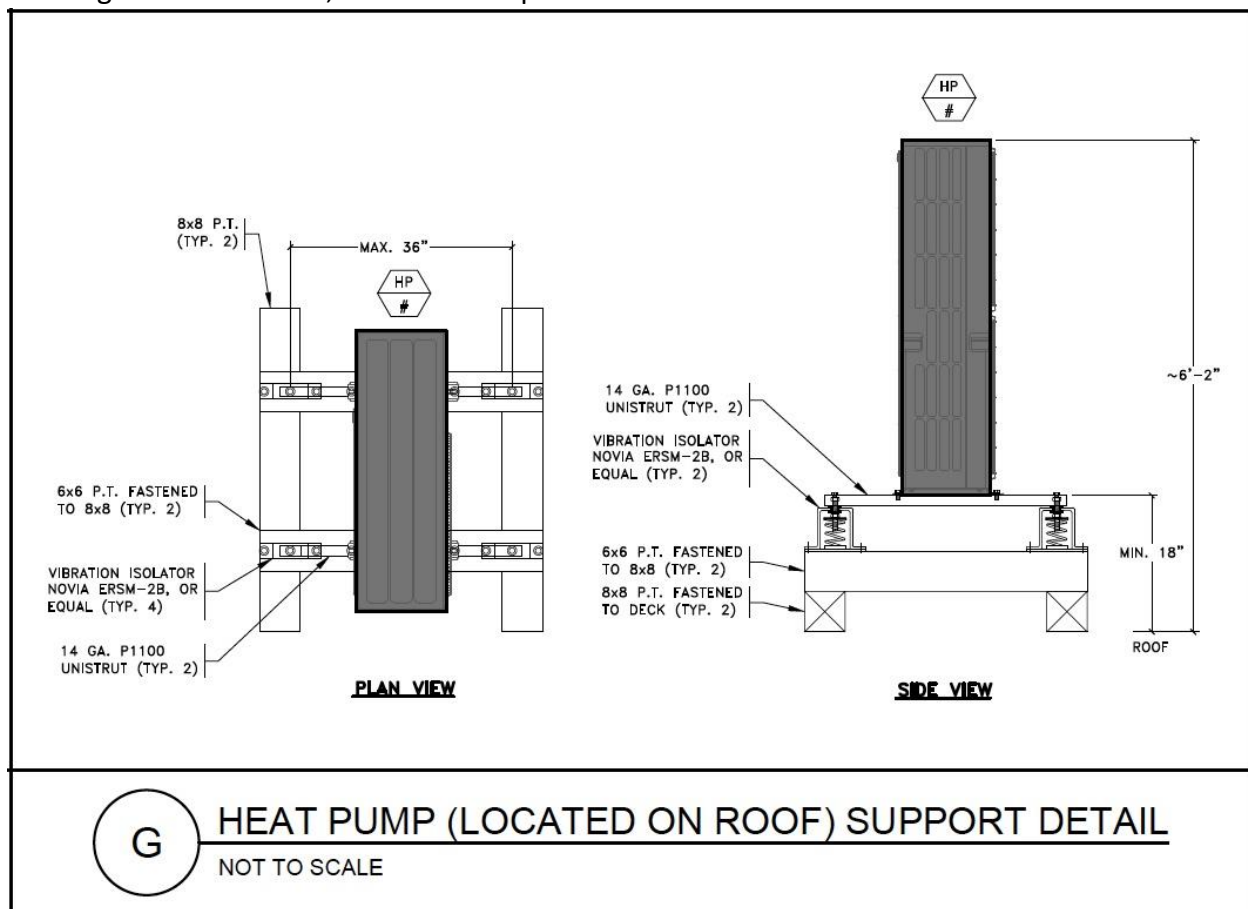
Each Heat Pump measures 3'-6" wide, 4'-4" high and 13" deep.

Heat Pumps at Grade are mounted on a 24" high stand to provide clearance from snow.

Overall height is 6'-4"

Rooftop Heat Pump Mounting Detail

To mitigate noise at roof, the Heat Pumps will be mounted on vibration isolators.



Construction Plans for HVAC SYSTEM REPLACEMENT PROJECT dated 12-6-2024

Mechanical Plans M1 to M11 MD1 to MD4

Plumbing Plans P1 to P2

Electrical Plans ES-1 E1 to E5

Architectural Plans A1 to A7

WILLIAM SLOAN ASSOCIATES
A R C H I T E C T S

27 February 2025

Joseph Cornish
Director of Design Review
City of Boston
Landmarks Commission
1 City Hall Sq Suite 500
Boston, Massachusetts 02201

RE: **242 BEACON STREET HVAC System Replacement**
Application for Design Review

SUBJ: **Addendum to Application for Design Review**
Question regarding screening of the Heat Pumps

Dear Mr. Cornish,

We are writing in response to your question posted earlier this week regarding screening of the heat pumps located at grade.

While it is necessary to maintain a certain amount of clearance and air movement around the heat pumps, we can effectively screen the pumps with a board-on-board wooden fence that still allows the passage of air through the staggered arrangement of the boarding. Attached are plans and an illustrative image of what such a fence would look like in this context.

Please review and let us know if you have any further comments or questions regarding this application.

Yours very truly,

A handwritten signature in black ink, appearing to be 'CS' or 'Chip Sloan', written in a cursive, fluid style.

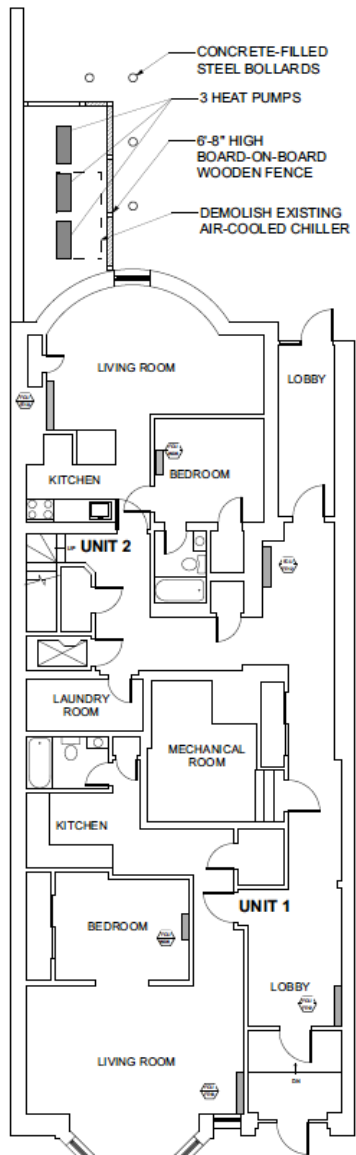
Chip Sloan
WILLIAM SLOAN ASSOCIATES

cc: Annie Steffanelli, The Steffanelli Company
Jared Humphreys, VAV International Engineers

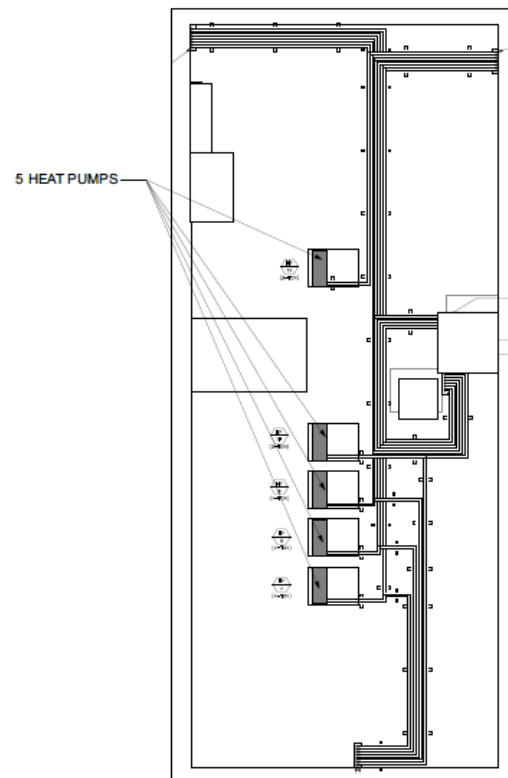
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1 FIRST FLOOR PLAN
Scale: 3/16" = 1'-0"



2 ROOF PLAN
Scale: 3/16" = 1'-0"



The existing Air-Cooled Condensing Chiller will be removed and replaced.



Three new Heat Pumps will be screened with a 6'-8" high, board-on board wooden fence