

**MassDOT Highway Construction Contract: 118623**  
**VENT STACK EXTERIOR REPLACEMENT TO THREE I-93 FAN**  
**CHAMBERS (DEWEY SQUARE) (Project #606801)**

MassDOT Board of Directors

May 2023

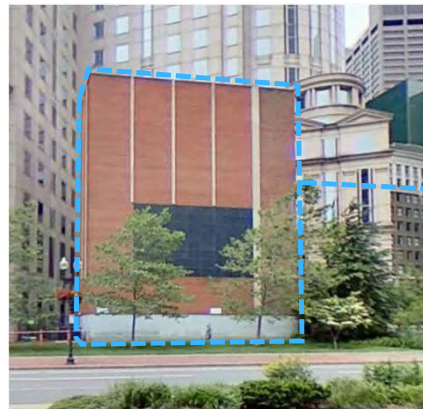
# Overview

- The three vent structures on Essex St, Summer St and Beach St were constructed in the 1950s to serve the Dewey Sq artery. These vent structures provide life safety ventilation to the tunnels
- The project requires the Essex St structure to be rebuilt and the Summer St and Beach St structures to be repaired.
- Construction will take approx. 3.5 years to complete; Only one structure will be permitted to be under construction.
- Requesting MassDOT Board approval of \$32.98M contract with WES Construction Corp.

# Purpose and Need

- All three vent structures are in need of repair or rebuilding due to extensive deterioration.
- Essex St deteriorated to the point of requiring a black canvas wrap to prevent the bricks from falling and poses a safety risk to the public.
- The three vent structures serve the central artery tunnels by providing a means of exhausting smoke from fires, maintaining a CO<sub>2</sub> level and general ventilation. The vent structure provide life safety to the general public and first responders.

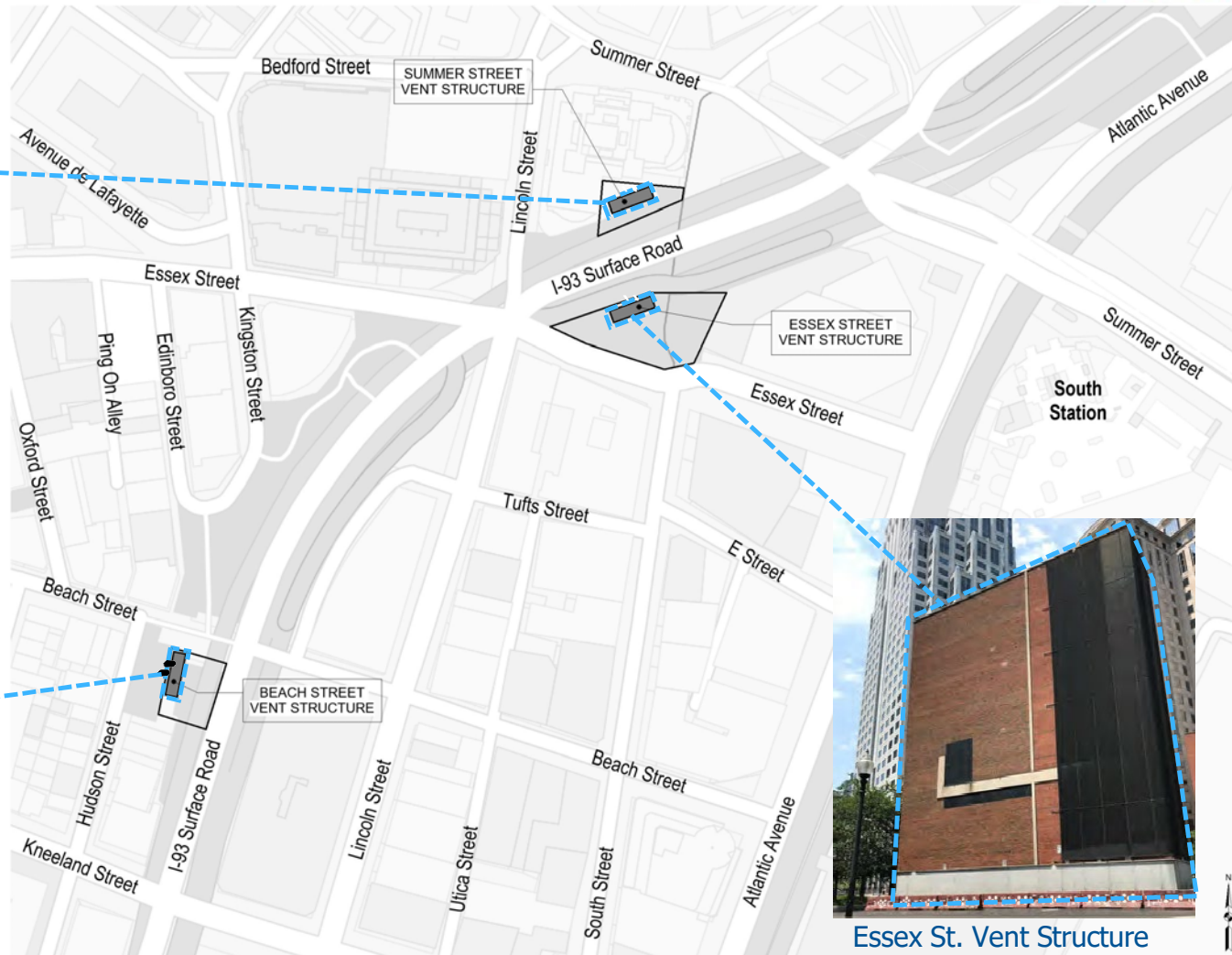
# 1. Existing Conditions: Map



Summer St. Vent Structure



Beach St. Vent Structure



Essex St. Vent Structure

## 1. Existing Conditions: Essex Street Structure



- Numerous cracks and missing bricks, missing mortar and concrete block.
- Netting added to protect the general public



## 1. Existing Conditions: Summer Street Structure



- Numerous cracks and missing bricks on the corners of the building.
- Missing mortar and bricks on the top of the vent structure

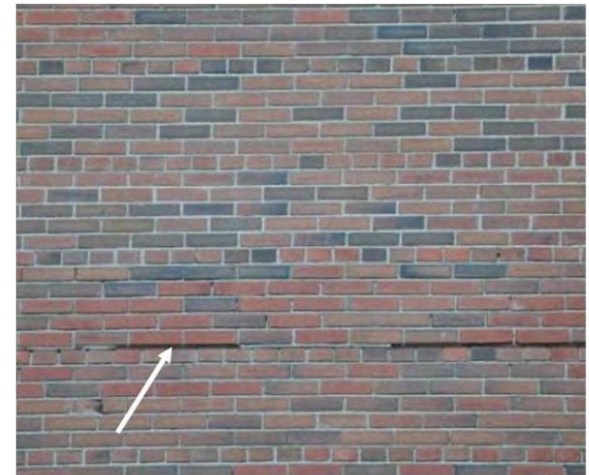
## 1. Existing Conditions: Beach Street Structure



- Numerous cracks and missing bricks on the corners of the building.
- Missing mortar and bricks on the top of the vent structure



## 1. Existing Conditions: Exterior





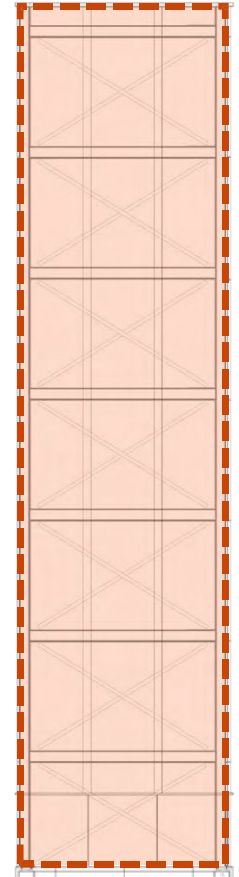
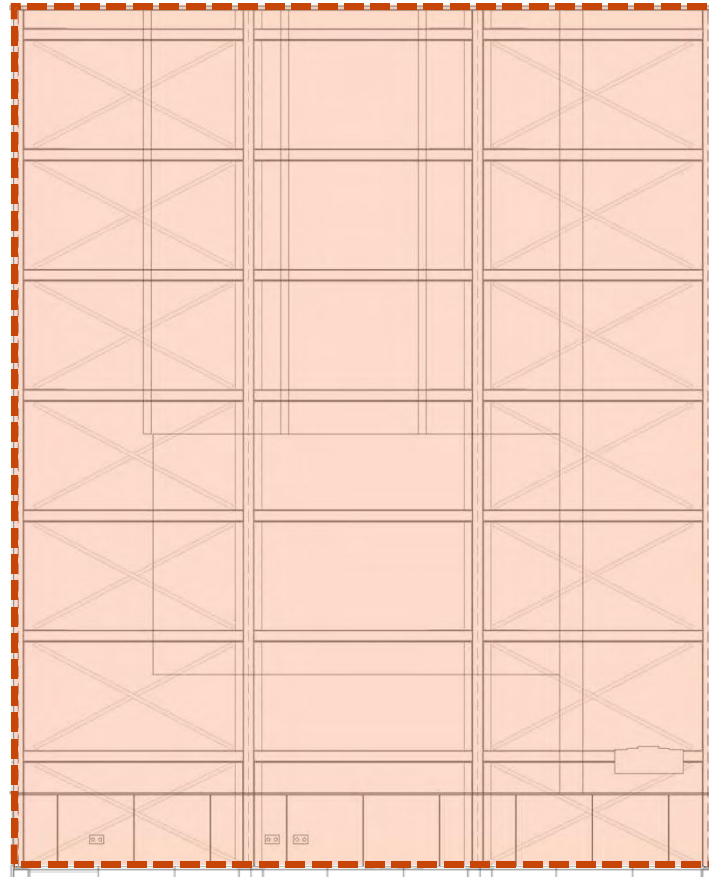
## 1. Existing Conditions: Interior



## 2. Project Objective: Rebuild Essex Street Structure

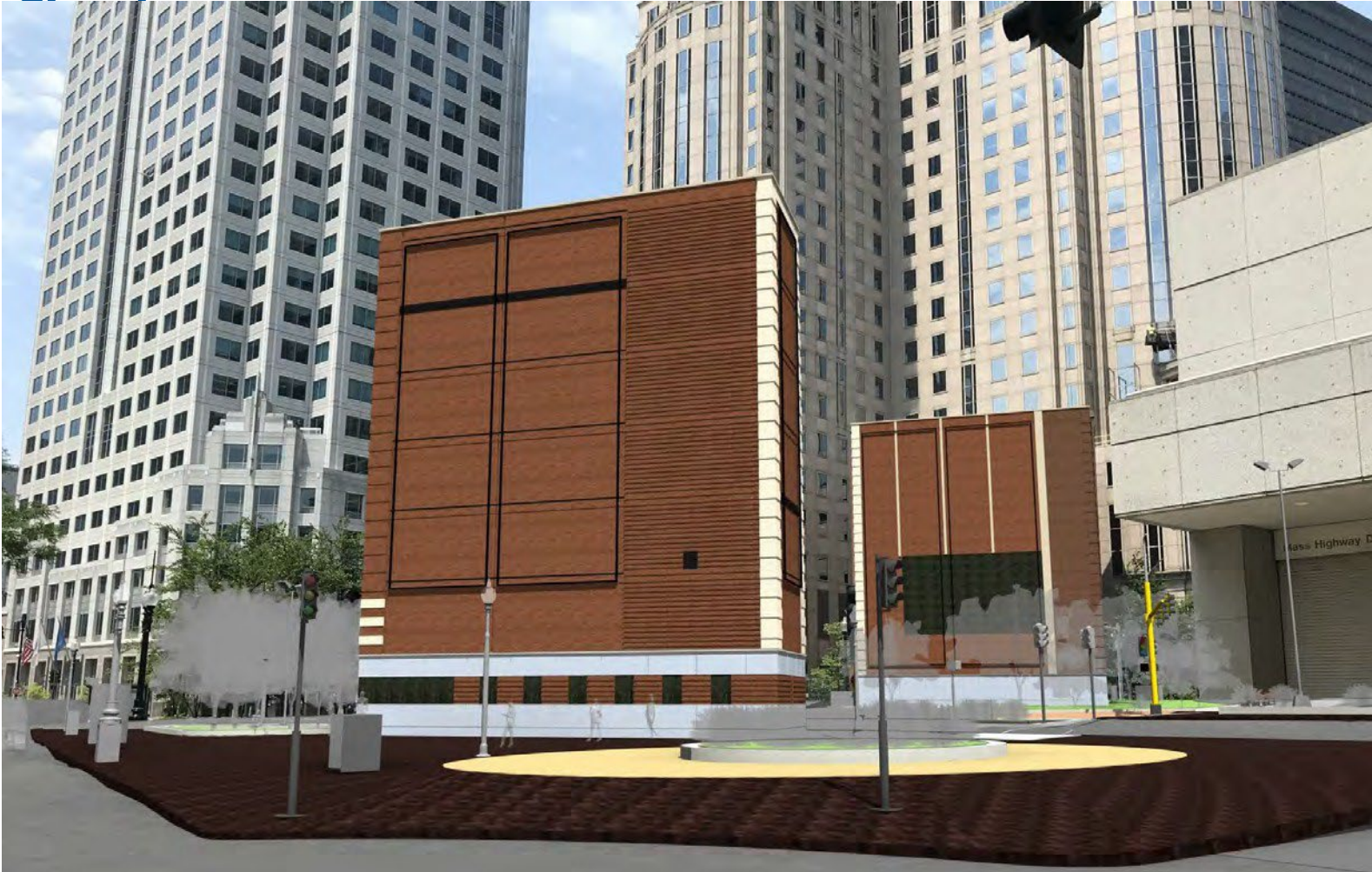


- Remove all existing brick and stone masonry
- Clean and repair existing steel structure
- Apply waterproofing to steel structure
- Build new brick and stone walls using updated construction techniques
- Reuse existing materials when feasible





## 2. Project Objective: Rebuild Essex Street

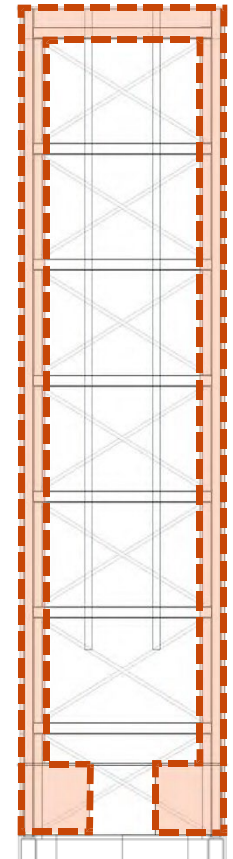
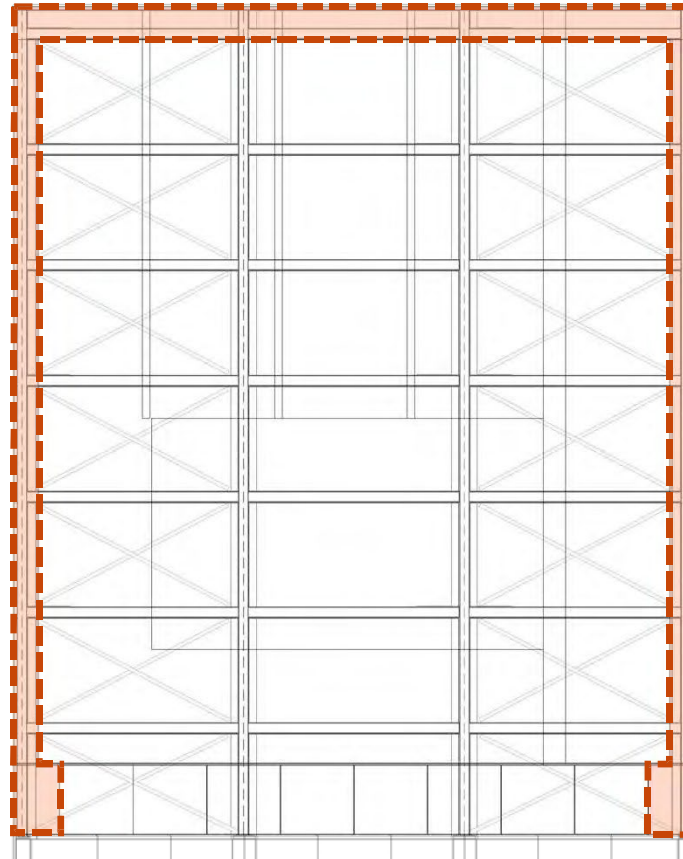




## 2. Project Objective: Repair Summer Street Structure



- Remove existing masonry at corners and top
- Clean, repair, and waterproof existing steel structure at corners, top, and inside shaft
- Rebuild brick and stone corners and top using updated construction techniques
- Repair remaining brick and stone in place
- Clean remaining brick and stone



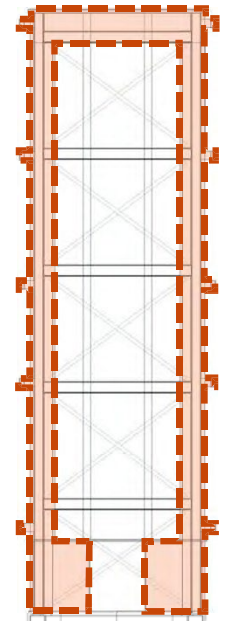
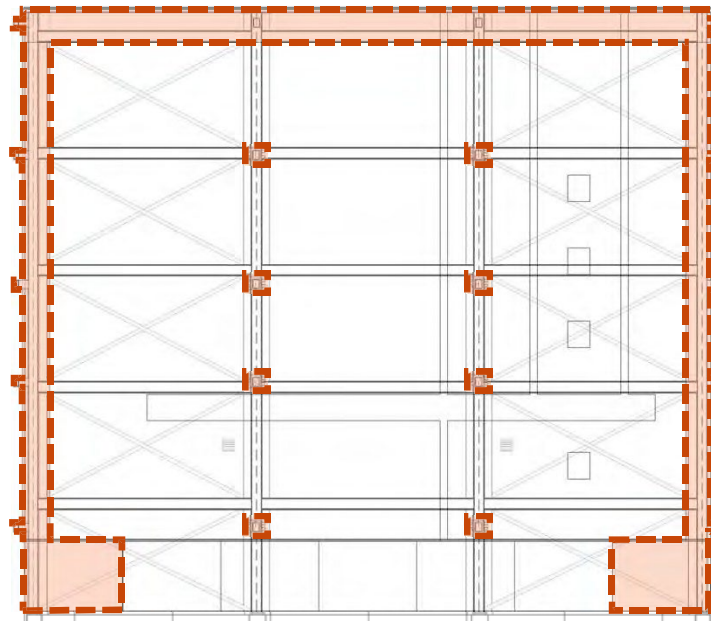
## 2. Project Objective: Repair Summer Street



## 2. Project Objective: Repair Beach Street Structure



- Remove existing masonry at corners and top
- Clean, repair, and waterproof existing steel structure at corners, top, and inside shaft
- Remove existing fabric art wrap and brackets
- Rebuild brick and stone corners and top using updated construction techniques
- Repair remaining brick and stone in place
- Clean remaining brick and stone

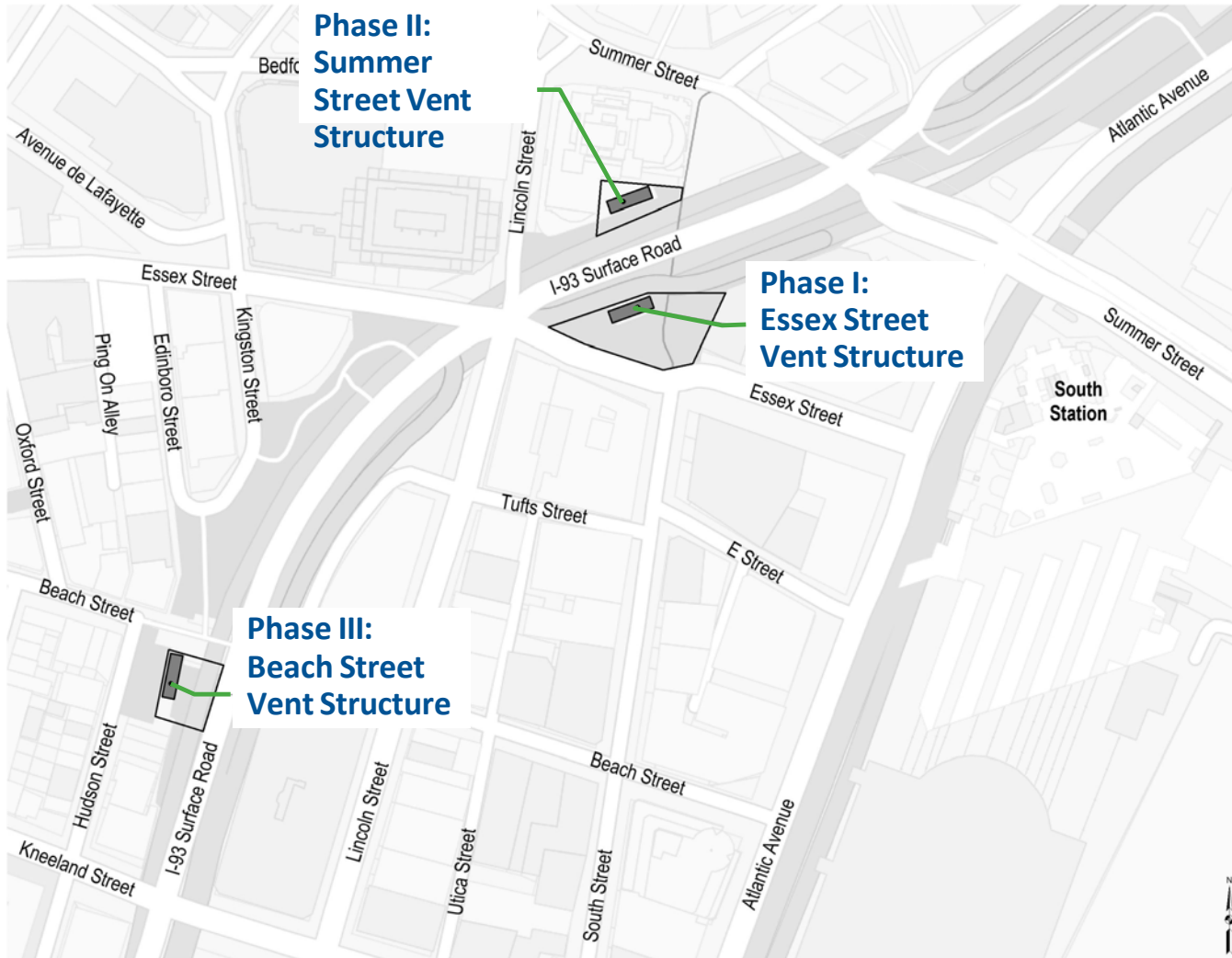




## 2. Project Objective: Repair Beach Street Structure



### 3. Construction Impact – Preliminary Schedule



#### Phase I: Essex Street Vent Structure

- August 2023 estimated start
- 16 – 20 months estimated construction time

#### Phase II: Summer Street Vent Structure

- Winter 2025 estimated start
- 11 – 14 months estimated construction time

#### Phase III: Beach Street Vent Structure

- Winter 2026 estimated start
- 11 – 14 months estimated construction time

**Work Hours:**  
**7am – 4pm**  
**Monday – Friday**

After hours work will  
require MassDOT approval

# Procurement



- Project was advertised January 7, 2023
- Engineers Estimate was \$23,488,030.00
- Bid Opening was April 11, 2023
- Two (2) bids were received:
  - **WES Construction Corp.** **\$32,977,940.00**
  - JF White Contracting Co. **\$39,417,940.00**



# Overall Project Budget



Line Item	Budget
Bid Amount	\$32,977,940.00
Contingencies	\$4,946,691.00
<b>Total</b>	<b>\$37,924,631.00</b>

- 100% MHS State funding

# Request of the Board



- Staff request that the MassDOT Board authorize the Secretary of the Massachusetts Department of Transportation, or her designee, to award and execute MassDOT Construction Contract 118623: VENT STACK EXTERIOR REPLACEMENT TO THREE I-93 FAN CHAMBERS (DEWEY SQUARE) with WES CONSTRUCTION CORP. in the amount of \$32,977,940.00.