

## Environmental Dust, Noise, and Vibration Monitoring Program Massachusetts General Hospital Cambridge Street Project

As part of the Massachusetts General Hospital's (MGH) comprehensive, proactive efforts for effectively mitigating disruptive and potentially adverse effects of project-related construction activities associated with the [Cambridge Street Project](#), Environmental Health & Engineering, Inc. (EH&E) and Acentech, Inc. (Acentech) are implementing an environmental dust, noise, and vibration (DNV) monitoring program. The objectives of the Program are to 1) continuously assess Project-related control measures at minimizing airborne dust, noise, and vibration impacts in the adjacent community and to MGH staff, visitors, and patients on campus; and 2) ensure that if deviations are detected, corrective actions can be implemented in a timely manner to effectively control potential sources.



### What is being done?

Airborne dust, noise, and vibration levels are being monitored 24 hours a day. The locations being monitored include outdoor air intakes, community and patient access routes, patient care areas, and the neighborhood in the vicinity of the CSP site (see Figure). Monitoring began in the summer of 2022, coinciding with preliminary site activities. Monitoring will continue throughout the major construction phases of CSP. The monitoring locations will be modified as needed as different phases of construction occur.

### What is being measured?

The primary air quality indicator being measured is respirable particle matter (PM), also called airborne dust. PM of two size ranges is being measured; particles that are 2.5 micrometers ( $\mu\text{m}$ ) or smaller in size ( $\text{PM}_{2.5}$ ) and particles 10  $\mu\text{m}$  or smaller in size ( $\text{PM}_{10}$ ). Sound pressure levels (noise) and vibration are also being measured.



### How are monitoring results being evaluated?

Results from the continuous (24/7) dust, noise, and vibration measurements are evaluated in comparison to "Action Levels" (ALs) developed by EH&E/Acentech specifically for the CSP Project. These are guidelines that allow detection of construction-related impacts with an adequate margin of safety so that controls can be put in place to ensure acceptable conditions are maintained at all times. The ALs for dust are based on the U.S. Environmental Protection Agency (EPA) National Ambient Air Quality Standards (NAAQS), which are designed to protect the health of all individuals, including "sensitive" populations, such as children, asthmatics and the elderly. The ALs for noise and vibration are based on baseline measurements, City of Boston Noise regulations, and guidance for vibration that are specific to the sensitivity of the space being monitored.

### What happens when readings are above the AL?

The DNV monitoring program is one part of a coordinated program to ensure the CSP construction project does not adversely impact the neighboring community or MGH. A key component of the project is rigorous site control and contractor oversight, which is supplemented by the DNV monitoring, notification, and reporting efforts. There is a comprehensive notification and communication plan in place to respond to readings above the ALs. If an AL is exceeded, a thorough investigation is initiated immediately to determine if there may be vulnerabilities in the site control measures.