

Memo

To: Rachna Balakrishna
From: Doug Aghjayan, P.E.; Catherine Johnson, P.G., LSP
c: Raj Dhanda
Date: February 27, 2019
Re: Revised Project Changes and Evaluation of Potential Geotechnical and Environmental Impacts
1180 Boylston Street
Brookline, Massachusetts
GEI Project No. 1702642

This memo summarizes our understanding of the proposed revisions to the 1180 Boylston Street project, our evaluation of the revised project's potential impacts to our current environmental and geotechnical recommendations, and provides recommendations for additional studies or explorations.

Original Project and Proposed Project Revisions

The original 1180 Boylston Street project was located at the southeast corner of the intersection of Boylston Street and Hammond Street. The original site had a total area of about 16,900 square feet and was bounded by Boylston Street (Route 9) to the north; 612-614 Hammond Street, 517 Heath Street, and 521 Heath Street to the south; 1162-1164 Boylston Street to the east; and Hammond Street to the west.

The original project consisted of constructing a six-story commercial/retail building with one level of below-grade space. The main floor of the below-grade space would have extended to about 17 feet below existing grade. Pits for stacked parking, sand traps, and stormwater management equipment would have extended up to an additional 19 feet below the main floor. The deepest pit would have extended to a depth of about 36 feet below existing grade.

The major revisions to the project include acquiring the property at 612-614 Hammond Street along the south side of the original site, demolishing the existing building at the property, and expanding the proposed 1180 Boylston Street building and below-grade parking to the west and south property lines of 612-614 Hammond Street. The below-grade garage will now include two levels of parking, with the bottom floor of the garage extending to a depth of about 23 feet below street level. The building footprint will also be modified slightly.

Geotechnical Evaluation of Proposed Project Revisions

Based on our review of the project revisions, we expect most of the recommendations contained in our April 2015 geotechnical report will remain essentially the same. However, the following are additional tasks that should be performed prior to final design and construction of the revised project:

- **Geotechnical Borings:** We recommend that one to two geotechnical borings be performed to collect additional information on the subsurface conditions on the 612-614 Hammond Street

property. This additional subsurface information will be needed for the design of the support of excavation and building foundation.

- Basement Visit and Test Pits: The property at 616-624 Hammond Street will now abut the site on the south and will require protection both during and after construction. We recommend conducting a basement visit to document the depth and limits of the basement and to perform one to two test pits to locate and document the building foundation. It may not be possible to perform the test pits until after the building at 612-614 Hammond Street is demolished.
- Revised Geotechnical Report: Our April 2015 report was written under the Massachusetts Building Code, 8th Edition. The Massachusetts Building Code has since moved to a 9th Edition. Thus, our geotechnical report needs to be updated per the 9th edition of the Code. The revised geotechnical report would also incorporate the additional explorations and studies described above.

Environmental Evaluation of Proposed Project Revisions

GEI evaluated the current and historic use of properties abutting 1180 Boylston Street as part of an ASTM Phase I Environmental Site Assessment. According to historical documents, including Sanborn maps from 1925 to 1969, and building permits, the Property has been abutted by storefronts, single-family residences and apartment buildings for over 90 years. The 612-614 Hammond Street property has been a combination of a storefront and a three-story apartment building since at least 1925.

The 612-614 Hammond Street property is not listed as a Massachusetts Department of Environmental Protection (MassDEP) disposal site, nor are there available records of spills there since 1980. It is heated by natural gas.

According to the Brookline Assessor's card, the building is reportedly clad with asbestos shingles. Hazardous building materials will be appropriately assessed and managed by licensed hazardous materials and demolition contractors when the building is removed.

After the building is removed, GEI will conduct an environmental soil characterization investigation. The purpose of the investigation will be to evaluate soil conditions and identify appropriate disposal facilities for soil removed as part of the excavation for the underground parking garage. The investigation will consist of the installation of 5 to 10 soil borings, up to 25 feet deep. We will collect soil samples from each boring, which will be tested for common disposal parameters, including volatile organic compounds (VOCs), semi-VOCs, total petroleum hydrocarbons (TPH), Massachusetts Contingency Plan (MCP) MCP 14 priority pollutants metals, polychlorinated biphenyls (PCBs), and characteristic waste parameters: ignitability, corrosivity, reactive cyanide and sulfide, and conductivity. The boring investigation will be scheduled to closely precede excavation, so the soil testing results will be current for the disposal facilities.

We do not expect to encounter oil or hazardous materials (OHM) in these borings. However, if OHM is identified at concentrations in excess of the applicable MCP reporting standards, we will make the appropriate submittal to MassDEP and manage the release in accordance with state regulations.

Because the planned excavation for the entire project will be below the water table, and because 1180 Boylston is a MassDEP disposal site, groundwater will need to be treated and discharged to the storm

drain, under a US EPA Remediation General Permit (RGP). We will collect a groundwater sample from a well at the abutting 1180 Boylston Street site to support preparation of this permit.

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