



**Town of Arlington  
Legal Department**

Douglas W. Heim  
Town Counsel

50 Pleasant Street  
Arlington, MA 02476  
Phone: 781.316.3150  
Fax: 781.316.3159  
E-mail: [dheim@town.arlington.ma.us](mailto:dheim@town.arlington.ma.us)  
Website: [www.arlingtonma.gov](http://www.arlingtonma.gov)

To: Arlington High School Building Committee

Cc: Adam Chapdelaine, Town Manager

Date: April 16, 2020

Re: INFORMATION RELEASE RE: GEOTHERMAL WELLS & ENVIRONMENTAL  
CONDITIONS

---

**DRAFT INFORMATION RELEASE RE: GEOTHERMAL WELLS &  
ENVIRONMENTAL CONDITIONS**

**History of Pierce Field at Arlington High School**

As many residents of Arlington will recall, significant portions of Arlington High School's Pierce Field and its athletic complex, as well as the current site of the Department of Public Works (DPW) at 51 Grove Street, were historically used for a variety of industrial purposes. Prior site uses include a saw blade manufacturing company that chrome plated the saw blades, a manufactured gas plant, a chrome manufacturing facility, and a DPW Garage. During the 1990s, it was discovered that these historical uses and operations resulted in the releases of contaminants, some of which remained in the environment long after those uses were decommissioned or repurposed.

Since 1996, Massachusetts Electric, Honeywell, and KeySpan Energy (collectively, the "Industrial Parties") and the Town of Arlington have worked together to assess, remediate, and mitigate such residual contamination. Such mitigation was directed by the strict standards set forth in G.L. c. 21E, by the Massachusetts Department of Environmental Protection (MADEP) in the Massachusetts Contingency Plan (MCP) at 310 CMR 40.0000, and pursuant to a 2001

Agreement between the Town and the Industrial Parties ratified by Town Meeting, as amended(the “Agreement”).

In the Agreement, the Industrial Parties and the Town committed to comprehensively improving the site and continuously monitoring conditions. As part of that comprehensive effort, a variety of barriers were created at the site to separate elevated level soils from surface soils, and the Industrial Parties and the Town each engaged a Licensed Site Professional (“LSP”) to provide periodic monitoring, and certain activities, including construction were required to follow environmental protocols.

### **AHS Building Project Test Wells**

Given the foregoing, from the early stages of the current High School Building project, the conditions of the Pierce Field site were integrated into plans, and LSPs for both the Project and the Industrial Parties were closely involved. On February 24, 2020, the Town’s LSP was supervising the drilling of test wells from the Project Design’s geothermal well field. The geothermal wells designed for the new school would operate by boring hundreds of feet below the surface and establishing a “closed-loop” system that takes advantage of geothermal energy to heat and cool buildings. While drilling test wells, the presence of an unexpected contaminant was discovered in the bedrock at a depth of approximately 100 feet. While it was not anticipated in bedrock, nor at the location discovered, the Town’s LSP was on site in the event that such a discovery was made in keeping with the high monitoring standards for the site. Geothermal test well drilling was halted when contaminants were discovered.

The contaminant does not pose a risk to public health as proper measures were taken. However, the discovery of the contaminant is required to be reported to the MADEP and poses challenges for the project in terms of risk, cost and timelines.

### **Options Moving Forward**

The discovery of unanticipated contaminants in deep bedrock poses a significant complication insofar as it requires additional precautions and measures be taken under the current design or the exploration of alternative designs, both of which come at risk and cost. The health and safety of students and site workers is the Town’s paramount concern, but with modifications to already existing safety plans, those concerns can be well managed with certitude. The issue of whether or not the Town can proceed in a cost-effective manner without exacerbating environmental conditions presents a more complex challenge.

The AHS Building Project has three primary options:

1. Proceed with the geothermal well field as designed in its current location;
2. Move the geothermal well field to another location and redesign portions of the mechanical systems; or
3. Forego a geothermal system, and redesign a portion of the building’s mechanical systems.

Each of these items carries additional costs and varying levels of risk.

Proceeding with the system as designed may require the purchase and use of additional material to drill and seal each of the geothermal wells in a manner that mitigates risk of spreading contaminants in bedrock. It will be difficult to know for absolute certainty whether the contamination is within a single, isolated spot, or if a large number of wells in the field would require such additional measures. The project would likely have to prepare for the most expensive scenario.

Moving the system to an alternate location meanwhile, will require some redesign and adjustment of present staging plans and work schedules and related costs. Moreover, there is some risk that unanticipated conditions could be discovered in an alternate location as well.

Finally, a re-design of the heating and cooling system without geothermal technology is the course of action with the lowest risk, but presents its own costs and disruptions to schedule and plans while losing some of the benefits sought from geothermal energy.

The AHS Building Committee requested the project team and the Town's LSP to clarify these options. The project team subsequently prepared an analysis of the options (Refer to [HMFH Architect's 3/21/20 memo to the AHS Building Committee](#)). The Industrial Parties meanwhile are conducting further testing and reporting.