From: Fred <fwales@verizon.net>

Sent: Friday, June 24, 2022 2:00 PM

To: Sarah Mellish <ZBAChairperson@manchester.ma.us>

Subject: Shingle Hill comprised of Cape Ann Granite

ZBA Chairperson Sarah Mellish and board;

My name is Fred Wales and I am a very concerned citizen of Manchester dedicated to protecting its environment and especially its sensitive drinking water supply. Recently John, one of your board members, had requested more information about the technical investigation of the ground structure underneath the actual building planned for Shingle Hill. This request was in relation to the consideration of the support of such a large structure. Nothing was ever submitted with the applicant stating it was not required during conceptual design. More important, from the public environmental concerns, is the damage to the vernal pools on the site and contamination of the surrounding drinking water supply when the bedrock is disturbed and channels appear for site water carrying pollutants making its way into the swamp and brook.

Hamilton apparently understood these issues and requested a detailed plan for dealing with a similar amount of blasting for the Village to be built upon Chebacco Hill adjacent to Chebbaco Road and the town of Manchester land owned in Hamilton for the protection of our drinking water supply directly from the ground water supplying the Round Pond Wells

I have attached the report and blasting plan. Please note the term Cape Ann granite, which is a very special strain of granite forming both the Chebacco Hill and Shingle Hill as well as the entire bedrock from the easterly parts of Beverly, Wenham, Hamilton, Essex, and all of Manchester, Gloucester, and Rockport. The history of why the bedrock in our neighborhood missed the tectonic plate leaving with the continent of Africa and the plate movement that created the Atlantic Ocean is extremely interesting.

This local granite is very different from any other parts of the North American Plate and very similar to the bedrock of Western Africa and its offshore islands.

I am very concerned about the special nature of this granite that fractures easily into orthographic planes ,which are perpendicular to each other, when disturbed by blasting, hammering, and freeze thaw action. This is a direct threat to the vernal pools on and adjacent to the SLV development, as well as the public drinking water through the Saw Mill Brook surface water and the large groundwater aquifer that lies under the Cedar Swamp. Blasting could threaten the future use of the aquifer for our dwindling supply of drinking water as the climate change continues.

The Hamilton report addresses these issues for both the public and private potential of the ground water being contaminated during and after construction by the increased permeability of the ground water and the lessening of the overlying penetrable soil acting as a filter. Please, during the next hearing, or before if possible, insist upon a similar study and report from Mr. Engler and his design team.

Fred Wales, 11 Tappan Street, Manchester by the Sea.