



Photo by -Six03- Aerial Photography

# The Marek South

343 MOUNT SUPPORT ROAD  
Lebanon, New Hampshire



## GROUNDWATER

The finish floor of the south building is situated 15 feet below the groundwater table, and the geotechnical report addressed recommendations to control the groundwater using crushed stone below the perimeter footings and floor slab and a gravity drainage underdrain system around the perimeter of the building and below the floor slab.



Photo courtesy of DEW Construction

## BEDROCK

Bedrock removal by blasting was required for the amenity building and a portion of the north building. The configuration of the bedrock and subsequent blasting operations resulted in blasting to depths below the proposed foundation depths and created loose, overblasted bedrock that required removal to an in-tact bedrock surface for building support. S.W.COLE provided construction observations and consultation to assist in determining the loose rock was adequately removed.



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## LOCATION

A notable part of the region's housing demand is driven by the need to house medical professionals that work for Dartmouth Hitchcock Medical Center, the flagship campus of Dartmouth Health and the state's only academic medical center.

## MEETING A CRITICAL HOUSING NEED

In 2020, Saxon Partners began planning to develop an apartment complex on Mount Support Road in Lebanon, New Hampshire. The Upper Valley of New Hampshire has experienced a housing shortage for quite some time and it is estimated that 10,000 housing units are needed by 2030 to meet the region's demand.

The project site is a 38 acre parcel located one mile from Dartmouth Hitchcock Medical Center and on the multi-modal path and along a bus route to the medical center. The project consists of two, 5-story residential buildings linked by a 2-story, 5,000 square foot amenity connector building. Each building includes a below grade parking garage. The two buildings include a combined 250 housing units.

S. W. Cole Engineering, Inc. was retained in 2020 to provide geotechnical engineering and provided solutions for dewatering of the site and recommendations for site improvements to create proper support for the buildings.

### THE SITE'S GEOTECHNICAL CHALLENGES INCLUDED:

- large grade changes
- the need for multiple retaining structures
- existing uncontrolled site fills
- sensitive bearing soils
- shallow groundwater



Owner: Saxon Partners

Architect: Market Square Architects

General Contractor: DEW Construction

Civil Engineer: VHB