



College of Life Sciences and Agriculture  
Department of Natural Resources and the  
Environment

114 James Hall  
56 College Road  
Durham, NH 03824-2601

V: 603.862.2249 F: 603.862.4976  
bill.mcdowell@unh.edu

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To the Durham Planning Board,

By this letter, I wish to provide my considered professional opinion on the water quality degradation of College Brook that would occur upon construction of the proposed Church Hill Parking Lot. With the footprint of the parking lot and its close proximity to College Brook, it is virtually certain that additional impairment from road salt application will further degrade water quality. It is also highly likely to result in additional nitrogen and sediment delivery to College Brook and thus to Great Bay, because surface runoff from the parking lot will have little opportunity for natural nitrogen or sediment removal in groundwater or in the riparian zone.

My opinion is based on over 30 years spent studying water quality in Durham and adjoining towns. I am a Professor of Environmental Science in the Department of Natural Resources and the Environment (College of Life Sciences and Agriculture) at the University of New Hampshire, where I have held the position of Presidential Chair since 2010. This is an honor received by only a few other faculty in the past decade, and was awarded in recognition of my stature as a leading researcher in environmental science. I also received the honor of being named the UNH Distinguished Professor for 2017. I obtained my Ph.D. in Aquatic Ecology from Cornell University and have served as the Director of the New Hampshire Water Resources Research Center (NH WRRC) since 2000. Additional national recognition of my stature as a leading authority on aquatic ecosystems is evident in my election as a Fellow of the American Association for the Advancement of Science (2018), and of the American Geophysical Union (2020) for my work on small streams and their importance for water quality issues globally. I have published hundreds of peer-reviewed papers on water quality and have described water quality impairment in College Brook (e.g. Daley, M.L., J.D. Potter, and W.H. McDowell. 2009. Salinization of urbanizing New Hampshire streams and groundwater: effects of road salt and hydrologic variability. *Journal of the North American Benthological Society* 28:929-940).

As a citizen of Lee, I have no direct stake in the outcome of this town-level decision. But as a citizen of the Great Bay watershed and the state of New Hampshire, any further degradation of water quality is something that I feel should be avoided whenever possible.

Sincerely,

A handwritten signature in black ink, appearing to read 'W.H. McDowell', written in a cursive style.

William H. McDowell  
Professor of Environmental Science and Presidential Chair  
Director, NH Water Resources Research Center