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ENVIRONMENTAL CONSULTING SERVICES
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July 28, 2009

James LaMountain
Northeast Concepts/ Huguenot Farm
14 Lakeridge Drive
Holland MA 01521

Re: Mashapaug Road, Holland MA

Subject: Review of Sediment Impact Investigation Report

Dear Mr. LaMountain:

In accordance with your request, I have reviewed the report:

Sediment Impact Investigation Report
Amber Brook/ Hamilton Reservoir Confluence
Mashapaug Road
Holland Massachusetts

Prepared by Malone and MacBroom, Inc. ("MMI") dated July, 2008. In addition, I inspected the subject property and portions of the contributing watershed on June 23, 2009 and July 24, 2009. The purpose of my evaluation was to provide a critical review of the MMI report with regard to MMI's conclusions that:

1. The sediment delta existing in Hamilton Reservoir pre-dates activities in the area by Northeast Concepts/ Huguenot Farm ("NC/HF");
2. The watershed to Amber Brook is that depicted on Figure 1 of the MMI report; and
3. The primary source of sediments that formed the subject delta is the network of unpaved roads and driveways in the watershed.

The NC/HF property includes approximately 76 acres on the west side of Mashapaug Road and approximately 0.15 acres on the east side of Mashapaug Road, adjacent to the Reservoir.

1. Age of the Sediment Delta:

MMI concluded that the sediment deposit in the form of a delta located within Hamilton Reservoir just east of the point where Amber Brook discharges to the Reservoir is the result of activities that pre-date any work in the area by NC/HF. MMI's conclusion that the observed delta was not due to activities by NC/HF was based upon MMI's interpretation of aerial photographs from 1999, 2003, and 2005 included in the MMI report. The dates of these photographs precede the reported ownership of and physical activity in the area by NC/HF. In my opinion, the presence of an essentially continuous

tract of forest on the NC/HF 76 acre property, with the exception of the cart path running southwest from Mashapaug Road, on all three photos corroborates the reported lack of site activity through the date of the last photo (2005, month unknown). Based upon their review, MMI concludes that the existence of the sediment delta could not be attributed to activity of NC/HF. It is my opinion that MMI's interpretation of the photos (i.e., that the delta is apparent in the photos) is correct, and that activity by NC/HF could not be responsible for the existence of the delta shown in the photos.

2. Watershed Boundary:
The MMI report provides a large scale (1" = 600') watershed boundary map superimposed onto a USGS Topographic Map of the area. This watershed boundary is intended to delineate the limits of the area that flows to Amber Brook and therefore into Hamilton Reservoir at the location of the sediment delta. It should be noted that the watershed boundary depicted was apparently based upon standard practice utilizing the USGS Topographic Map contours. Minor deviations from the precise watershed boundary might exist near the mapped boundaries, based upon subtle topographic conditions not apparent at the scale of the USGS Map, but in my opinion the watershed boundary presented in the MMI report reasonably depicts that contributing watershed.

3. Source of the Sediment Delta:
MMI evaluated the areas within the delineated watershed and concluded that the primary source of suspended sediments that formed the subject delta in Hamilton Reservoir is the series of unpaved existing roads and driveways in the neighborhood south of Amber Brook and west of Mashapaug Road. MMI describes significant erosion in this area and provides a series of supporting photos in the appendix of their report. During my June 23, 2009 and July 24, 2009 walking inspections of these roads, I observed conditions similar to those described and presented in photographs in the MMI report: significant ruts and rills that represent the downgradient movement of substantial volumes of soil toward Amber Brook and Hamilton Reservoir. My July 24, 2009 morning inspection immediately followed a period of heavy rain (Worcester Airport weather station: 2.7 inches of rain July 23 & 24). During that inspection, I observed significant rilling of the subject roads, and the presence of numerous 1 to 2 inch stones on the paved surface of Union Road just downgradient of Amber Road. The presence of these stones, which had obviously been placed there by water flowing down Amber Road, suggests that substantial volumes of smaller stones, sand and silt had also been moved by the preceding night's rain, and been washed off the road to the Brook and Reservoir by those rains. Based upon my field evaluation and review of materials provided in the MMI report, it is my opinion that the unpaved ways in the subject neighborhood are a significant historic and ongoing source of sediment to Amber Brook and Hamilton

Reservoir, and very likely the primary source of sediment to the delta in Hamilton Reservoir. Winter traction sand typically spread by municipalities and others may also be a significant source of solids to the watershed.

During my inspections, on both dates I observed significant scouring of the road shoulder just off the paved surface on the east side of Mashapaug Road, upgradient of and adjacent to the smaller (0.15 acre) NC/HF parcel located east of the road adjacent to Hamilton Reservoir. This scour, and associated movement and deposition of sand and stones, continued east to the Reservoir across the smaller NC/HF parcel. I saw no evidence (such as sand or other material) on the Mashapaug Road pavement to suggest that any soil had flowed off the larger NC/HF parcel onto Mashapaug Road from the NC/HF driveway or other location on that property. The shallow swale at the bottom of the driveway appears to have captured any flows coming down the driveway and directed that runoff in a southerly direction into the sediment trap just to the south.

General Commentary and Recommendations:
I support all of the recommendations by MMI in their July, 2008 report. Please also note that while strong evidence indicates that the sediment delta in Hamilton Reservoir existed prior to activities in the watershed by NC/HF, all activities that disturb soils in the watershed, including agricultural and any other activities by NC/HF and others, have the potential to result in soil detachment and transport to Amber Brook and Hamilton Reservoir. Areas of disturbed soil should be minimized, and stabilized as soon as possible with vegetation. In addition, perimeter erosion controls and interior measures to capture, slow, and transit flows in a non-erosive manner should be maintained throughout the time when soils are exposed and potentially erodible.

I hope that this information is helpful. Please contact me if you have any questions concerning this or other matters.

Sincerely,

Paul J. McManus, LSP, PWS
President

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Enclosure: Resume

EcoTec, Inc.

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Paul J. McManus, LSP, PWS
President

Paul McManus is the President and owner of EcoTec, Inc., which he founded in 1990. He has received certification as a Professional Wetlands Scientist (PWS) from the International Society of Wetlands Scientists (SWS), the leading professional organization in the field. In 2005, he was elected President of the New England Chapter of SWS, and represents the Chapter on the International Board of Directors. Prior to the founding of EcoTec, Mr. McManus was employed as the Senior Scientist at Harborline Engineering Inc. of New Bedford, MA and served for several years as a project manager at the Gulf of Maine Research Center Inc. in Salem, MA. His experience also includes employment as an aquatic ecologist at the Massachusetts Division of Water Pollution Control. Mr. McManus brings a wide variety of environmental consulting experience to EcoTec, including wetland evaluation and delineation, lake and stream assessment, wildlife habitat evaluation, oil and hazardous materials assessment/ remediation, and a variety of other types of environmental impact assessment. Included among the major wetland projects he has completed are detailed wetland community surveys and impact restoration specifications for lengthy pipeline crossings of the Fowl Meadow "Area of Critical Environmental Concern" (ACEC). At the MWRA's Norumbega Reservoir property in Weston, he conducted the state and federal wetland delineations, was project manager for the related town-wide off-site vernal pool mitigation evaluation, and authored the project's wetland mitigation program, including vernal pool mitigation. He has directed hundreds of other wetlands projects at sites including large and small residential and commercial developments. He has completed all phases of environmental permitting work, including wetland delineation, replication and mitigation design, implementation, and monitoring in freshwater wetlands and salt marsh, as well as general wildlife and rare species assessments and trapping, including 4-toed salamander, marbled salamander, spotted turtle, and eastern box turtle, under the MA Endangered Species Act and Wetlands Protection Act Regulations. Permitting efforts regularly include federal, local, and state permitting, including filings under the Massachusetts Environmental Policy Act (MEPA) regulations. Additional projects he has directed include major biological and chemical marine sampling programs; he has been involved in a variety of freshwater system evaluations, and conducted evaluations and sampling for proposed fresh water and marine dredging projects. He has conducted ecological risk assessments for aquatic and terrestrial biota, including state-listed species, at numerous locations of contamination by oil and hazardous materials. Mr. McManus has served as consultant on behalf of government, business, major utility companies, the development community, conservation commissions, and concerned citizens' groups. He presently serves on a regular basis as technical wetlands consultant for the Town of Dover Conservation Commission, and works regularly for other Commissions. This work has included numerous municipalities and a variety of projects. Mr. McManus is also a Massachusetts-certified Licensed Site Professional with experience that has included a wide range of site assessment and remediation projects, focused on the field of ecological risk assessment at contaminated sites.

Education: Master of Science: Applied Marine Ecology - University of Massachusetts/Boston, 1988
Bachelor of Arts: Biology (Ecology emphasis) – College of the Holy Cross, Worcester, MA, 1984
U.S. Fish and Wildlife Service: Habitat Evaluation Procedure (HEP) Certification
Massachusetts Division of Water Pollution Control: Algal Assay (eutrophication) Short Course

Professional Affiliations: Massachusetts Association of Conservation Commissioners
Society of Wetland Scientists (President of the New England Chapter)
Association of Massachusetts Wetlands Scientists
Society of Environmental Toxicology and Chemistry

Certifications: Society of Wetlands Scientists Professional Wetlands Scientist # 962
Commonwealth of Massachusetts Licensed Site Professional # 5711
OSHA Health & Safety Hazardous Waste Safety Training, 29 CFR 1910.120 (40 hr & refresher)