Excavation of Material Study Committee

January 11, 2016 Minutes
Prepared by: Lee Hartmann

These minutes are not verbatim – they are staff's interpretation of what took place at the meeting. – Open Meeting Law – Section III.

Committee Members in attendance: Brian Wick, Ed Angley, Russ Appleyard, Marc Garrett, Betsy Hall, Malcolm MacGregor, David Malaguti and Jack Risso.

Staff Member: Lee Hartmann

Mr. Wick opened the meeting.

Minutes
Mr. Angely moved to accept the minutes of December 7, 2015. Mr. Malaguti seconded the motion. The vote was 5-0.

Mr. Wick welcomed Mr. William Madden from GAF Engineers to the meeting.

Mr. Madden noted that he has permitted a number of gravel operations in Massachusetts. The majority of these operations were related to agricultural uses. He has worked in many towns including Plymouth, Wareham, Middleboro, Carver and Lakeville. He is involved in both the design process and in the construction oversight process. He stated that the requirements of various towns are pretty consistent for items such as phasing, maximum acreage open, truck trips and hours of operation. Truck trip limitations tend to drag out the time required to complete projects. He stated that the purpose and intent of a bylaw is important. It explains the town's goals such as preventing erosion and limiting impacts on abutting properties and town ways. It is up to the engineer to design a project that meets the standards of a town.

Setting a hard and fast standard of maximum area disturbed can be an issue for cranberry bogs. He indicated that Plymouth has a 5 acre maximum area of disturbance but fortunately you have the ability in Plymouth to ask (with justification) for an increase in that limitation. Typically to create 3 acres of bogs requires an excavation area of 6 acres (side slopes, roads, ditches, etc.). Setting a 5 acre limitation would force a bog owner to split construction of a bog which is really not practicable. Most new bog segments are between 2 ½ and 5 acres in size.

Plymouth allows a maximum side slope of 3 to 1. Given the Town's sandy soils, a steeper slope of up to 2 to 1 is probably acceptable.

Mr. Wick asked Mr. Madden how other towns permit earth removal operations.

Mr. Madden said that most towns use one of three boards (Planning Board, Zoning Board or Board of Selectmen) but on these boards you tend not to see board members with a lot of earth removal expertise. These boards tend to focus on striking a balance between the proponent, the abutters and truck traffic versus expediting the time to complete an operation. A separate soils board tends to be comprised of people who work in the industry. They often focus on ways to complete a project in a timely manner.

Ms. Hall suggested creating a review process that combines both regulatory type people and people from the industry. She also asked Mr. Madden about his involvement in earth removal operations.

Mr. Madden said he is typically involved from the beginning to end (design, permitting and construction). We stake areas of work, prepare quarterly reports and prepare final as-built plans and documents.

Mr. Wick asked about the differences between an earth removal operations associated with cranberries and commercial gravel operations.

Mr. Madden said that for cranberries, since the property owner is going to be the end user and they work in the community they have a vested interest in properly completing the project. Sometimes commercial gravel operators do not do as good of a job.

Mr. Madden pointed out that the target depth to groundwater for bogs is three to four feet. The steeper the side slopes of ponds are, the less water evaporation occurs.

Ms. Hall asked about the safety of a 2 to 1 side slope during construction.

Mr. Madden said that 2 to 1 side slopes are usually not an issue. One to one side slopes can be very challenging. You can't readily walk up a 1 to 1 side slope. A 2 to 1 slope at 26 degrees is still steep. Three to one slopes are at 18 degrees. Anything between 2 to 1 and 3 to 1 is safe and workable. The moisture content of soil is also a factor. Slope regulations vary from town to town.

Ms. Hall asked about the range of maximum disturbed area allowed in various towns.

Mr. Angley asked Mr. Madden if he would recommend flexibility in side slope and maximum work area acreage.

Mr. Madden suggested using such standards as guides but allow for variations to make better projects.

Mr. Hartmann said that Plymouth's 5 acre limitation came from issues associated with the abandonment of the Plympton Road and William Gould Boulevard projects.

Mr. Madden said that he was chair of the Plymouth County Conservation District. He found that national standards for best practices tend to be too conservative for this area.

Mr. Garrett noted that it can be very difficult to explain science to a board without such expertise.

Ms. Hall asked about the inspection process that occurs during construction.

Mr. Angley said that the Department of Inspectional services does not have the manpower to properly inspect these operations. Projects can't be constantly watched.

Mr. Morrison presented information to the committee on the Federal Furnace Cranberry Company. He noted that the company has a bog that is partly in Plymouth and Carver. It is adjacent to Federal Pond. Years ago the wetlands were mined for iron ore and later converted to cranberry production. Federal Furnace owns approximately 900 acres in Plymouth and Carver. Only 200 of those acres are actual cranberry bogs. The company looked at other revenue alternatives including a 170 unit housing development. They determined that it made more sense to create one large consolidated bog operation but it

required the removal of 2 million cubic yards of gravel. The company received a financial benefit from the gravel operation but it was needed to create the bogs. It is an 18 year project, which involves the removal of about 5 percent of the gravel each year. An additional 300 acres of bogs will be created after the 2 million cubic yards are reviewed. It's a great alternative to 170 housing units.

Jeff Kapell noted that bogs, bypass canals, reservoirs and tailwater recovery ponds require different depths to water table. He feels that Plymouth's Zoning Board does not treat cranberry operations as an agricultural use. They are lumped in with all commercial gravel operations. The new bylaw needs flexibility especially when dealing with agricultural uses.

Mr. Morrison noted that it costs about $22,000 an acre to upgrade bogs. Mr. Kapell thought the cost was more like $30,000 to $50,000 an acre.

Mr. Garrett noted that two cranberry bog owners (Kapell and Morey) invested over $520,000 in improvements to their bogs to eliminate direct discharges into Billington Sea.

The Committee agreed to invite Mr. Fletcher to the next meeting as a guest speaker.

The committee agreed to hold its next meeting on Monday, January 25th at 5:30 p.m.

The meeting was adjourned at 6:50 p.m.

Respectfully Submitted,

Lee Hartmann, AICP
Director of Planning & Development

Approved: January __, 2016