



FAY, SPOFFORD & THORNDIKE, LLC
5 BURLINGTON WOODS - BURLINGTON, MASSACHUSETTS 01803

Memorandum

To: Mr. Wayne Davies, Chairman
Hopkinton Board of Appeals

From: David P Glenn, Project Engineer
Fay, Spofford & Thorndike, LLC (FST)

Date: April 28, 2004

RE: Stormwater Management System – Materials Recovery and Recycling Facility

As requested, FST has completed a review of the latest stormwater management system related to the Special Permit Applications submitted to the Board of Appeals for the proposed Materials Recovery and Recycling Facility on Wood Street. Submitted materials provided for this review included the following:

- Proposed Site Conditions Plan, revised April 2, 2004; written response letter dated April 6, 2004 to the Board of Appeal's comments of March 17, 2004, each as prepared by Brown and Caldwell (B&C), Environmental Engineers and Consultants.

Stormwater Management System

- a) As stated in the response letter of April 6, 2004, modifications have been made to the on-site storm water management system and are provided on the revised site plan. The surface water hydrology analysis has also been revised to reflect these modifications. The revised surface water hydrology study provides an analysis of the site under pre and post-development conditions for the 2-, 10-, and 100-year storm. The on-site storm drainage and piping system have been designed for a 25-year storm event according to the calculations submitted. The analysis further states the stormwater basins are designed to accommodate the 100-year storm event. FST recommends the applicant address the mode of transmission of peak flows in excess of the 25-year storm event to the proposed stormwater basins. Based on our review, it appears modifications to the storm drainage system may be required to ensure the estimated drainage areas, as identified in the hydrology analysis, are tributary to these stormwater basins during the 100-year storm event.
- b) The latest submission included additional calculations and design details of the on-site storm drainage piping system, oil/water separators, stormwater basins and recharge systems, as shown on the site plan. Design information for the oil/water separators included a typical detail and computation form for the design of oil/water separator. We

recommend additional documentation concerning the design criteria used in the sizing of each unit and a shop drawing for each of the five (5) oil/water separators be provided to the Board.

- c) As shown on the site plan stormwater runoff from the proposed building roofs will be recharged to two on-site recharge systems. The maintenance garage and MRRF will discharge to a recharge system located west of the proposed MRRF building. The recharge system bottom elevation is approximately 156 inches below existing grade. Review of submitted soil log number 5B, located in the general vicinity, identified a seasonal high groundwater depth of 122 inches. An additional soil log (No. 5A) identified a seasonal high groundwater depth of 114 inches. FST recommends the proposed recharge system be designed as per the DEP Stormwater Guidelines, which recommends a minimum separation of two feet from the seasonal high groundwater table. The estimated retention time for each recharge system should also be documented by the applicant.
- d) As previously stated, no provisions for drainage are identified on the site plan for the access road to the C&D Processing Building and the northerly portion of the site (existing storage container area) and a portion of the parking lot area located over the existing landfill. We again recommend the applicant address the control of stormwater runoff from these locations on the site plan.
- e) In FST's opinion issues associated with the location of municipal services, erosion and sedimentation control plan and activities that will occur under the jurisdiction of the *Wetlands Protection Act* (MGL, Ch. 30, S40) remain to be addressed by the applicant.

If there are any questions regarding our comments and/or recommendations, please do not hesitate to contact me or Mr. Stephen A. Chapman, P.E. of this office at 1-800-835-8666.