

5.3.16



BILLERICA BOARD OF HEALTH  
TOWN HALL  
BILLERICA, MA 01821  
TELEPHONE 508-671-0931

Arnold Ventresca, Chairman  
Wallace Mallett, Vice Chairman  
Paul Ranson, Secretary  
Marie O'Rourke  
XXXXXXXXXXXXXXXX

Robert Solomon

John Morris  
Director

March 6, 1991

Mr. Don McElroy, Remedial Project Manager  
U.S. Environmental Protection Agency  
J.F.K. Federal Building (HEC-CAN3)  
Boston, Mass. 02203

Dear Mr. McElroy:

The Board of Health has reviewed the Environmental Protection Agency's Final Draft, Phase 1C, Feasibility Study dated January 1991, and the Environmental Protection Agency's preferred alternative on the clean up of the Schaffer Landfill. The Board of Health would like to enter the following comments and recommendations into your official records.

The Board has many concerns that they feel need to be addressed and resolved before the E.P.A. finalizes its Record of Decision. The Board of Health requests that the following items be addressed and incorporated in the clean up:

1. That the E.P.A. require a ground water containment, collection, extraction, and treatment system. As you are aware our neighbors in the Town of Tewksbury rely heavily on well water, (30%-40% of their Public Water Supply). Four of their production wells are located just 4,000 feet northeast of the Schaffer landfill. (Health Assessment for Iron Horse Park; Page 6, Paragraph 8). As the Health Assessment report goes on, the reference to Content Brook clearly indicates that it drains Richardson Pond and the Middlesex Canal, which are tributary's to the Shawsheen River, which is also a public water supply downstream, (page 11, paragraph 3). There is thus a risk of contamination of water supplies in a widespread manner. We are no longer just affecting Billerica and Tewksbury but also, quite possibly, other Towns and Cities.

In the E.P.A.'s Phase 1C Remedial Investigation, page ES-1, paragraph 4, it states "Prior to its use as a landfill, the area was a wetland and the landfill does not contain any type of bottom liner to prevent the migration of leachate into the surrounding groundwater table." Further the report clearly states on Page ES-3, paragraph 2 and paragraph 5, that high concentrations of volatile organic contaminants were detected along Richardson Pond.

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed.

IRON HORSE PARK  
ADMINISTRATIVE RECORD

IRO 002

1316 F

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed.

IRON HORSE PARK  
ADMINISTRATIVE RECORD

IRO 002

1317

-2- EPA 3-6-91

On page ES-9 the report states "Tewksbury's public water supply well fields are not likely to become contaminated by leachate from the Schaffer Landfill in the future." This statement is not so reassuring just by its language (i.e. likely) and creates a very uncomfortable feeling about the potential for possible contamination. In essence it is vague. There is also evidence which contradicts this very statement.

This evidence is contained in a report entitled "Health Assessment for Iron Horse Park, dated December 5, 1988, and amended April 4, 1990". Page 1, paragraph 1 of that report states "Elevated benzene levels were detected in surface water samples monitored from Richardson Pond and hydrogeologic studies have shown a hydraulic connection between the pond and the Tewksbury Municipal Wells." In that same report it concludes that "pumping test's have shown a hydraulic connection between Richardson Pond and the Tewksbury municipal drinking wells." (Page 10, paragraph (1) Surface Water).

Even the Camp, Dresser, & McKee reports indicate that contamination of Tewksbury wells cannot be ruled out. Included in the Health Assessment Report, Page 15, paragraph 3; (1) Surface Water, it states "the contaminates in Richardson Pond pose the greatest health concern on the site. Visible plumes containing among other contaminants, high levels of benzene, arsenic,...All of these compounds were found in the pond at levels which are a public health concern."

As you can see, the evidence cited contradicts the notion that the E.P.A.'s preferred alternative for treatment of groundwater from the landfill will provide the best protection of public health.

2) The Board of Health believes that there must be a total cap reconstruction. This will not only correct the inadequate cap that has already been constructed but will further prevent the production of leachate.

As you are aware, one of the greatest sources of non-point pollution is storm water. That same storm water produces surface water, which has been cited as being "the greatest concern with the transport of hazardous substances" (Health Assessment Report, page 10, paragraph (1) Surface Water) at the landfill.

NOTE: If the film image  
is less clear than this  
notice, it is due to the  
quality of the document  
being filmed.

IRON HORSE PARK  
ADMINISTRATIVE RECORD

190 002

1318

Further, according to the Phase 1C Remedial Investigation, page ES-2, paragraph 1, it states "In 1968, the Town of Billerica's new regulations required that all refuse be placed above the water table, that the dump be operated as a sanitary landfill, and open burning be stopped. However, these regulations were not generally met: open burning continued and inadequate daily cover was used." The report also states about the existing cap that, "It is questionable whether the topsoil layer is consistently thick enough to support adequate vegetation." (page ES-6, paragraph 1) As recently as February 28, 1991, it was indicated that prior clay caps authorized by the Massachusetts Department of Environmental Protection are evidenced as allowing up to 200 gallons of leachate per day, per acre, to escape. This information was supplied by Mr. Phil Weinburg at a Solid Waste Seminar conducted at Wilmington High School. These few facts clearly indicate that the existing cap is not functioning properly. It is allowing continuous production of leachate which is being transported by surface runoff, thereby contaminating the surrounding wetlands, brooks, and Richardson pond. It is also further contaminating ground water, as previously stated. This evidence mentioned dictates that a total cap reconstruction must be required.

3) There surely exists a necessity for the upgrading of the current methane collection system. The current system is not operating properly. As observed by several Board members on several different occasions, odors from the landfill are overpowering. This problem demands our attention. The E.P.A.'s Record of Decision must incorporate a repair and if necessary expansion or replacement of the existing methane collection system. No one should have to live under the conditions which are imposed by the inadequate system now operating at the landfill.

4) The E.P.A.'s plan does not address any attempt to clean up Richardson Pond. In light of the facts mentioned earlier, RICHARDSON POND MUST BECOME A MAIN FOCUS OF THE LANDFILL CLEAN UP.

5) Lastly the Board of Health is hoping that the E.P.A. will require an extensive operation and maintenance program. This program must also include sufficient funding to sustain it for at least the next thirty (30) years. It must also set aside funds to correct future, unanticipated pollution problems.

In closing, we believe that the facts presented in this letter speak for themselves. It is imperative that your office reflect these issues in the final Record of Decision.

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed.

-4- EPA 3-6-91

We have also included comments for your review and consideration which were formulated by a coalition of several town officials and residents. We believe that those comments, as well, must be addressed before a Record of Decision is issued. As always the Board is available to the E.P.A. to discuss any solution which will improve the quality of life in Billerica and protect the public's health.

Thank you for your consideration.

Sincerely,

Arnold Vantresca  
Arnold Vantresca, Chairman

Wallace Mallett  
Wallace Mallett, Vice Chairman

Paul T. Ransom  
Paul Ransom, Secretary

Marie O'Rourke  
Marie O'Rourke

Robert Solomon  
Robert Solomon

John W. Morris  
John W. Morris, Director

IRON HORSE PARK  
ADMINISTRATIVE RECORD

IRO 002

1319

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed.

IRON HORSE PARK ADMINISTRATIVE RECORD

IRO 002

1320

### Shaffer Superfund Site at Iron Horse Park Comments on the Environmental Protection Agency's Remedial Investigation and Feasibility Study

The Board of Selectmen, Board of Health, Conservation Commission, Superfund Action Committee, other town agencies, and concerned citizens have indicated support for this paper. Each also has indicated an intent to file related comments, some of a more technical nature, for additional consideration. The following are general comments.

#### Cap Reconstruction

The most important issue and reasonable approach to consider is that of how a properly constructed and operated landfill compares to the Shaffer Superfund Site. A landfill, according to EPA's generally accepted recommended design, indicates that liners are the recommended approach and caps are fixes. In terms of the "fix" approach, a reconstructed cap must minimally include a liner, clay layer, drainage layer, filter layer, and an adequate vegetative cover.

The entire remedial design option selected by the EPA (alternative #4) for the Shaffer Superfund Site, is contingent upon the integrity of the existing cap, which is a departure from the recommended approach. This assumes a reliance on the notion that a repaired cap will completely isolate the Shaffer Superfund Site waste from infiltration of precipitation. This obviously also assumes that the existing cap was properly installed and that the appropriate soil moisture contents and soil compaction were both attained.

There is little information in current reports to support the conclusion that the cap was properly installed, and if once repaired, would be capable of meeting reasonable and customary landfill design objectives under current standards.

It is particularly this lack of documentation and oversight that separates a landfill from a dump. Plainly we do not know what is buried on the site, thus in many respects we are dealing with a "dump", not a landfill. We also believe that this site is listed in the early 1980s Federal Register on the "Open Dump Inventory". The remedy must meet the challenge.

The RI FS proposed various alternatives, including doing nothing or the minimum limit of remedy. But, it failed to include the maximum remedy. This alternative would have been the best or 100% solution which would convert the Shaffer Superfund Site to that of a completely acceptable landfill. The steps and costs in this process would provide a

**Shaffer Superfund Site at Iron Horse Park  
Comments on the Environmental Protection Agency's  
Remedial Investigation and Feasibility Study**

---

valuable basis for comparison to whatever final remedy is chosen. Without this analysis, how can we judge which remedy is reasonable?

There are numerous items of evidence in the EPA's own RI report where concerns were raised regarding the integrity of the existing cap. In particular, there are concerns that, in the absence of a drainage layer, the existing cap may not be adequate to prevent frost damage of the existing clay layer, even after the cap is repaired according to alternative #4.

Therefore in general comment, we question the recommended EPA remedy and many of the EPA's assumptions and/or conclusions, based on the past history of activities, attempts at clean-up operations, and documentation at this site.

In addition, the Shaffer Superfund Site cap reconstruction will necessitate the implementation of strict institutional controls to prevent human exposure to on-site contaminants, and to ensure that the groundwater aquifer beneath the site will not be used as a source of drinking water until it is deemed to be free of risks to public health. We have not seen how this will be done in any detail.

A Natural Resource Damage Assessment (NRDA), as provided by Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), Section 107, Liability should be required.

Given the concerns raised in the RI and other reports regarding the existing cap, it would appear obvious that to base a remedial design based on questionable assumptions and the obvious suspect nature of the existing cap, is not practical, reasonable or prudent. Therefore without groundwater extraction and treatment, Total Cap Reconstruction is the only reasonable and feasible alternative.

Specifically, the following factors must be considered when concluding that the most reasonable and feasible remedy is that of requiring that the Shaffer Superfund Site cap be completely reconstructed:

- 1) The Shaffer Superfund Site does not have a liner; this is also in apparent conflict with the Department of Natural Resources mid 1960's requirement for a conditional liner.

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed

IRON HORSE PARK  
ADMINISTRATIVE RECORD

IRO 002

1322

**Shaffer Superfund Site at Iron Horse Park  
Comments on the Environmental Protection Agency's  
Remedial Investigation and Feasibility Study**

---

- 2) In addition to the absence of a liner, the Shaffer Superfund Site was likely excavated approximately fifteen (15) feet below grade indicating a direct and potentially dangerous and on-going infusion of leachate with the natural groundwater system.
- 3) The current cap has flat spots, depressions, fractures and outbreaks in many areas indicating significant exposure to generating increased leachate levels; the cap closure plans relying on current closure methodology has proved unreliable and may not be a good baseline worthy of augmentation.
- 4) The Shaffer Superfund Site slopes are in excess of the prescribed 3:1 standard ratio indicating a need for one or more of the following physical control devices and/or actions:
  - a) Surface anti-soil migration fencing.
  - b) Terracing with retaining walls.
  - c) Trap rock (i.e. rip-rap construction).
  - d) Moving material from steep slopes to fill flat spots in the cap.
  - e) Encroachment on wetlands.
  - f) Shaving slopes.
  - g) Material removal off-site.
- 5) The lack of Shaffer Superfund Site manifest records requires a response to an extraordinary and pervasive, cap and leachate control plan, since the potential for the presence of a wide array of hazardous waste and the levels of these chemicals can neither be confirmed or denied.
- 6) The subsurface bedrock is fractured exposing underground aquifers to infiltration of leachate; the leachate control plan must be thorough and uncompromised.
- 7) The rail bed adjacent to the Shaffer Superfund Site apparently has several subsurface pipes indicating an unchecked leachate discharge into Richardson Pond; interception and closure must be performed (i.e. concrete plugs).



NOTICE: If the film image  
is less clear than this  
notice, it is due to the  
quality of the document  
being filmed

IRON HORSE PARK  
ADMINISTRATIVE RECORD

IRO 002

1323

## Shaffer Superfund Site at Iron Horse Park Comments on the Environmental Protection Agency's Remedial Investigation and Feasibility Study

---

- 8) Shaffer Superfund Site security is minimal; perimeter and internal fencing is required to ensure against trespasser damage, trespasser exposure, the potential for added unauthorized materials and the protection for site remedy equipment and containment vessels.

### Groundwater Monitoring Program

A conclusion one could draw from the EPAs recommended remedy is that over time, contamination levels in the groundwater will decrease. This is likely relying on a projected success of the recommended remedy, particularly that of dealing with the issue of correcting cap problems.

However, in the absence of groundwater treatment, we feel that a detailed and rigorous groundwater monitoring program is necessary to ensure that the cap is achieving its design objectives.

Several inconsistencies were found in the RI report regarding groundwater flow through the glacial till and the hydrologic connection between Richardson Pond and the Tewksbury wells.

According to the Health Assessment Report, dated April 4, 1990, from the Agency For Toxic Substances and Disease Registry (ATSDR) on page 10, "pumping tests have shown a hydraulic connection between Richardson Pond and the Tewksbury Municipal drinking wells". According to the EPA's RI, page ES-3, "in the central portion of the landfill, groundwater flow is ... toward Richardson Pond". Thus there is evidence that Richardson Pond, the Shaffer Superfund Site, Content Brook and the Tewksbury wells are all hydrologically connected.

It is imperative that monitoring program will include contingencies to actually perform groundwater treatment if the monitoring program exceeds preestablished thresholds, that is, should contaminant levels increase above Maximum Contamination Levels (MCL). Obviously the establishment of these thresholds are a requirement for the project's success and must be part of the overall monitoring and disaster recovery planning portions of the cleanup project.



NOTICE: If the film image  
is less clear than this  
notice, it is due to the  
quality of the document  
being filmed.

IRON HORSE PARK  
ADMINISTRATIVE RECORD

IRO 002

1324

## Shaffer Superfund Site at Iron Horse Park Comments on the Environmental Protection Agency's Remedial Investigation and Feasibility Study

---

Along these same lines, the last partial round of sampling was taken two years ago in 1988, with groundwater migration rates in the order of 50 to 500 feet per year. Thus one approach would be to supplement these tests with the remaining tests to complete the cycle. However a two year gap seems to be rather long period for a statistically valid total assessment of current contamination levels.

Therefore we believe that the foregoing supplementary testing methodology is an inadequate basis for current design criteria and remedial action plans. More on this is included in the following comments.

### Leachate Treatment

Based on the previously noted risks, the following activities are required and appear to be reasonable, cost effective and environmentally sound:

- 1) Content Brook must be insulated from its current role as an effluent vehicle.
- 2) A full and pervasive array of baseline (i.e. current standard for future comparisons) testing must be performed in a tight timeframe to serve as a criteria for site remedy success.
- 3) Test results must be stored for the full thirty (30) year maintenance cycle for future baseline testing.
- 4) Test wells must be maintained along the full perimeter of the site at statistically valid intervals; wells must be constructed in "perimeter shells" at reasonable distances in order to monitor lateral migration; monitoring must be at regular intervals in order to react to unanticipated migration levels and/or unanticipated chemical compounds found (i.e. due to the EPA's 50 to 500 feet per year migration estimates).
- 5) Control plans regarding leachate treatment, groundwater treatment and surface water treatment must be committed to a **fully funded** commitment, which includes reacting to discoveries of chemical compounds not anticipated, contaminant levels not anticipated and/or other variables.

**Shaffer Superfund Site at Iron Horse Park  
Comments on the Environmental Protection Agency's  
Remedial Investigation and Feasibility Study**

---

Groundwater treatment must be approached as a future alternative, which will be implemented if the cap reconstruction approach proves ineffective.

- 6) Stack monitoring must be on a before and after combustion basis (e.g. to sample for PBB's and PCB's to guard against creating dioxin compounds) to ensure that incineration is thorough and performed on compounds safe for incineration. The current methane collection system must be redesigned and a new design implemented as soon as possible.
- 7) Leachate treatment must be off-site; this appears to be the most cost effective approach considering the alternative of constructing and protecting a new plant on site.
- 8) On-site equipment must include adequate disaster recovery procedures for spillage, vandalism, mechanical failures, and other uncontrollable events; training for staff must be documented, updated periodically and certification programs put in place; secondary events resulting from inadequate procedures must precipitate a complete remedy review, public comments and negotiated corrective measures.
- 9) Emergency impact plans must include contaminated groundwater containment procedures and emergency event management methods and procedures.
- 10) Any implemented leachate collection and ground water collection systems must have backup and overflow management plans.
- 11) All of the above methods, procedures, plans, certifications, training, and reporting must be public records sent to the Board of Selectmen, the Board of Health and the public library on a timely basis (i.e. within 24 hours); in no case should any of the remedy documentation be deemed confidential. Some particular controls are required for the Board of Health to verify total compliance with the recommended remedies.
- 12) The testing and site management must be accomplished by an independent (i.e. arms-length and unbiased) corporation, including

NOTICE: If the film image  
is less clear than this  
notice, it is due to the  
quality of the document  
being filmed.

IRON HORSE PARK  
ADMINISTRATIVE RECORD

IRO 002

1325

**Shaffer Superfund Site at Iron Horse Park  
Comments on the Environmental Protection Agency's  
Remedial Investigation and Feasibility Study**

---

monitoring and testing; this is the only way of to ensure that a repeat of past performance does not occur.

- 13) The project must include a fully funded program up-front, including a contingency plan in the event of an escalation of the damage assessment. A significant escrow account must be created for timely remedies to reasonable emergency situations. The control of, disbursement of, and timelines for the expenditure of funds must be in the hands of an independent agency whose sole role is the implementation of the required remedies and disaster recovery plans. In no case should cost compromise public health and safety. As an example, the General Accounting Office (GAO) could be deemed as an agency that must have full access to all documents, expenditure approvals and details of transactions concerning this project.
- 14) Transportation of materials, including particularly those of a hazardous nature, must be done via rail.
- 15) The cleanup of Richardson Pond will be required due to the known hydraulic connection.

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed.

IRON HORSE PARK  
ADMINISTRATIVE RECORD

IRO 002

1326 L