EA Engineering, Science, and Technology, Inc.

2350 Post Road
Warwick, Rhode Island 02886
Telephone: 401-736-3440
Fax: 401-736-3423
www.eaest.com

7 May 2009

Mr. Timothy Fleury
RI Department of Environmental Management
Office of Waste Management
235 Promenade Street
Providence, RI 02908

RE: Remedial Alternatives Analysis
Lincoln Lace & Braid Remediation Project
Ponagansett Avenue
Providence, Rhode Island
EA Project No. 61891.05

Dear Mr. Fleury:

EA Engineering, Science, and Technology, Inc. (EA) is pleased to submit this remedial alternatives analysis on behalf of the City of Providence Parks Department to present the proposed remedial alternatives at the above-referenced site. Previous investigations at the site had determined that several contaminants, including polycyclic aromatic hydrocarbons (PAHs) and metals, were present within site soils above the Rhode Island Department of Environmental Management (RIDEM) Residential Direct Exposure Criteria (RDEC). These contaminants are typical of historic mill operations in an urban setting.

The site is located on the Woonasquatucket River adjacent to Merino Park. The Rhode Island Department of Transportation (RIDOT) has 30% design plans at this time to show the future construction of the Woonasquatucket River Bikepath through the site. The site is expected to be open space along the bikepath. Due to the sensitive environment of the river and the tailrace at the site, development will include the establishment of buffer areas to improve the quality of the wetland resources and wildlife habitat. EA presents the following three remedial alternatives for comparison and makes a recommendation for the preferred remedial alternative.

Option 1 – No Remedial Action

In this remedial alternative, no significant remedial activities would be conducted at the site. The existing debris would be removed, and the area in the vicinity of the future bikepath would be cleared in accordance with the design specifications.

This remedial option does not adequately provide protection from potential exposure to contaminated soils for future site visitors, nor does it prevent future migration of contaminated soils into the adjacent surface water bodies. Therefore, this is not the preferred remedial alternative for the site.

Option 2 – Excavation and Offsite Disposal

In this option, soils within this area would be excavated and transported offsite for disposal at a licensed waste facility. Excavation of soils above the applicable RIDEM RDEC would require the collection of numerous surface soil samples, as there is no apparent distribution pattern of the metals and PAHs. Therefore, it would be difficult to ensure that all contaminated material had been removed. This type of sporadic removal action would cause a significant amount of soil handling and stockpiling, which would increase the likelihood of impacts from contaminated soils to adjacent sensitive environments and residents. It would also add expense and time to the overall project and would be an inefficient method to address surface soil contamination. Therefore, this is not the preferred remedial alternative.

Option 3 – Engineered Cap Construction and Activity/Use Limitations

In their current state, site contaminated soils are prone to migration to the adjacent Woonasquatucket River or tailrace though stormwater runoff. Therefore, this alternative would include the construction of an engineered cap throughout the formerly developed portions of the site. This cap would have several configurations but would mainly consist of 1 ft of certified clean fill over a geotextile fabric throughout the majority of the site. In wetland buffer areas, the cap would consist of 1 ft of certified clean material to allow for wetland restoration plantings. An engineered cap constructed in this manner would effectively isolate future site visitors from the impacted soil.

In addition to the engineered cap, an Environmental Land Usage Restriction (ELUR) would be established in the Providence land evidence records describing the extent of the cap and including a site-specific Soil Management Plan (SMP). This SMP would provide instruction for future cap inspections and the proper measures to take in the event of any construction or cap disturbance, including RIDEM notification and soil handling procedures.

Option 3 is the preferred remedial alternative for the site. It will adequately isolate contaminated soils from future exposure and will include measures to check and repair the cap on an annual basis. The engineered cap will actually improve the site as green space and wetland habitat by removing the mill structure remnants and will allow for restoration plantings in wetland areas. It is expected that the site will become a valuable asset to future recreational users of the bikepath and native flora and fauna.

Please do not hesitate to contact me with any questions or concerns on this matter at (401) 736-3440, Ext. 204.

Sincerely,

EA ENGINEERING, SCIENCE,
AND TECHNOLOGY, INC.

Jill Ann Parrett

Jill Ann Parrett, P.G.
Project Manager/Geologist

JAP/elh

cc: R. McMahon, Superintendent – Providence Parks Department