RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
235 Promenade Street, Providence, RI 02908-5767 TDD 401-222-4462

August 17, 2011

Mr. Gregory L. Simpson
Project Manager
Textron, Inc.
40 Westminster Street
Providence, RI 02903

RE: Former Gorham Manufacturing Facility – Park Parcel (a.k.a. Parcel D)
333 Adelaide Ave., Providence, RI
Case No. 2005-059 (Associated with Case No. 97-030)

Dear Mr. Simpson:

On February 24, 2004, the Rhode Island Department of Environmental Management (the Department) amended the Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases, (the Remediation Regulations). The purpose of these regulations is to create an integrated program requiring reporting, investigation and remediation of contaminated sites in order to eliminate and/or control threats to human health and the environment in an efficient manner.

In the matter of the above referenced site, the Department's Office of Waste Management (OWM) has received the following documents concerning public comments regarding the technical feasibility of the preferred remedial alternative and environmental conditions at the Site, submitted in accordance with Rules 7.07 and 7.09 of the Remediation Regulations:

1. Notes from Textron Public Meeting on Parcel D Phase 1 Remediation Plan, July 12th, 2011, 6pm-8pm, Renaissance Church, 77 Reservoir Avenue, prepared by the Environmental Justice League of Rhode Island (EJLRI), and received via e-mail on July 20, 2011;

2. E-mail comments - Subject: Gorham – Textron Public Meeting – Tuesday, July 12th 6pm, dated July 15, 2011, and forwarded to the Department by the EJLRI on August 8, 2011;

3. Comment letter, submitted on behalf of the EJLRI, dated August 8, 2011, and received via e-mail on August 8, 2011;

4. Comment letter, submitted on behalf of the Brown University Superfund Research Program Community Engagement Core, received via e-mail on August 9, 2011; and

5. Technical Review of Recommended Remedial Action, Former Gorham Manufacturing Facility, 333 Adelaide Avenue, Providence, Rhode Island, prepared by GEI Consulting (GEI), dated August 9, 2011, and submitted via e-mail by the EJLRI on August 9, 2011.

In addition, the Department received the attached hand written comments from members of the community attending the Public Meeting on July 12, 2011.

Please review these submitted comments and prepare written responses to each of them as appropriate. A completed document, incorporating responses all of the comments, must be submitted to the Department for review and approval.

The Department will formally approve the SIR in the form of a *Remedial Decision Letter* upon Department approval of all final responses to relevant public comments. At that time, the Site will enter the Remediation phase, and Textron will be required to submit a Remedial Action Work Plan (RAWP) and a draft ELUR and SMP for Department review and approval in accordance with Sections 8.0 and 9.0 of the Remediation Regulations. The RAWP shall describe all technical details associated with the implementation of the approved remedy.

All correspondence regarding this Site should be sent to the attention of:

Joseph T. Martella II – Senior Engineer
RIDEM / Office of Waste Management
235 Promenade Street
Providence, RI 02908

If you have any questions regarding this letter, please contact me by telephone at (401) 222-2797 extension 7109 or by e-mail at joseph.martella@dem.ri.gov.

Sincerely,

Joseph T. Martella II
Senior Engineer
Rhode Island DEM
Office of Waste Management

cc: Terrence D. Gray, P.E., Assistant Director, RIDEM/AW&C
Kelly J. Owens, RIDEM/OWM
Susan Forcier, Esq., RIDEM/OLS
Elizabeth Scott, RIDEM/OWR
Ron Gagnon, RIDEM/OC&TA
Jenna McIntyre, RIDEM/ OC&TA
Robert Vanderslice, PhD, RIDOH
Hon. Angel Taveras, Mayor, City of Providence
Senator Juan M. Pichardo, District 2
Representative Scott A. Slater
Councilman Wilbur W. Jennings Jr., Ward 8
Thomas Deller, City of Providence
Robert F. McMahon, Providence Parks Department
David Heislein, Mactec
Amelia Rose, EJLRI
Knight Memorial Library – Project Repository

Notes from Textron Public Meeting on Parcel D Phase 1 Remedial Plan
July 12th, 2011
6pm-8pm
Renaissance Church, 77 Reservoir Avenue

Greg Simpson from Textron began the meeting outlining the agenda and stating the purpose of tonight's meeting—to review the planned remediation plan for Phase 1 of the Parcel D ("Park Parcel") plan. Phase 1 includes the westernmost portion of Parcel D as well as the length of the shore along the Mashapaug Pond cove. (Phase 2 will be draining the pond cove and capping the sediments, and Phase 3 will involve capping portions of the eastern part of Parcel D behind the Stop and Shop building).

Greg gave a summary of Textron's investigation activities on Parcel D (details are available in the slideshow presentation) and how this informed what remedy would be selected for the parcel. He went into specific detail on the removal of 1,300 cubic yards (or 75 truck loads) of lead slag in 2006 that was left over from the Gorham factory, which had been dumped in and on the shore directly next to Mashapaug Pond. The removal of this slag was part of the court order in 2006 that allowed the high school to be built on the site before the entire site was remediated.

Textron is planning to bring Parcel D up to residential standards (a more strict standard) in order to make it safe for recreational use by the public as a park and walking trails. This goes above the requirements laid out in a consent order with the City, at least for Parcel D, which states that Textron has to bring the entire site up to industrial/commercial standards.

The remedy proposed for Parcel D Phase 1 includes some limited excavation and removal of contaminated soil in specific areas, with three distinct caps for different portions of the parcel to prevent direct exposure to contaminants by future users/visitors (more details are available in the full remedial proposal written by Mactec for Textron at: http://www.dem.ri.gov/programs/benviron/waste/gorham/d10517ra.pdf). Greg mentioned that some trees will have to be removed from along the Mashapaug pond cove, but that larger trees on the western portion will not be removed. The tree removal is necessary on the parts of Parcel D where a cap is being placed because they need to lay down new clean soil for the cap, and they can't place this new soil on top of the existing tree roots without killing the trees anyway. There is a section of the parcel that will be a wetland buffer zone where they will replant plants and trees suitable for wetlands areas.

The projected schedule for Parcel D is:

For the rest of this year plans will be reviewed and improved and the final remediation plan should be in place to begin work on Parcel D Phase I in Spring 2012.

The Groundwater remediation will begin this year as well (pumping out and treating the groundwater to remove contamination), and will continue indefinitely until the groundwater is cleaned up.

Phase II (pond cove) plan will be submitted to RIDEM in early 2012, more public meetings will follow to allow for resident feedback. Once all approvals are in from RIDEM, the clean-up can begin—Textron is planning to start this Phase in Spring 2013.

Phase III (section of Parcel D behind Stop and Shop) plans will be developed and reviewed in 2013 with public meetings to follow in late 2013. Implementation of this final phase is projected to happen in Summer 2014.

A few questions were raised at this point in the meeting:

Doug Victor, a resident, asked: How will Textron help keep people (well into the future) informed about the conditions of the site and its history? Especially to make sure people are aware that there is a cap and contaminated soil below, in order to prevent digging, possible creation of new exposure pathways, etc).

> Greg Simpson responded that the site's deed will include a Soil Management Plan (SMP) and Environmental Land Use Restriction (ELUR) in order to keep future people who interact with the site informed about the contamination and the remedy, and require maintenance of the remedies by any future owners.
>
> A resident responded that this might not be good enough for people who don't look at the deed, and said there are other ways Textron could be more proactive in this regard, including the creation of historical signs detailing the Gorham history and remedial history, as well as informational signs with phone numbers and contact names for people who want to ask questions.

Nitchell Tapalu, a resident, then asked how Textron or the City is keeping parents, teachers, and students at Alvarez High School informed about the remediation plans, and the history of the site.

> Greg Simpson responded that notices are sent to the high school (or to PPSD Central office?) but after that he doesn't know how information is being communicated. Tom Deller from the City did not offer any comments or clarification.

Amelia Rose from the Environmental Justice League of RI asked about a better way to demarcate between the soil cap and contaminated soil below—through the use of a "marker liner" in all soil-capped areas that don't already plan to incorporate a geotextile or plastic membrane as part of the cap. This would make it visually easier to see if there are any problems/holes/breeches in the cap for people who are using the site later on.

> Greg responded that this wasn't part of the plan and reiterated that the ELUR and SMP would be recorded on the site's deed.

As a follow-up to this comment, Susan Feeley, a resident asked how Textron will ensure that the SMP and ELUR are enforced, and that the cap is well-maintained for as long as necessary to prevent exposure to the contaminated soil in the future.

> This question was taken up by Joe Martella, the site manager from the RI Department of Environmental Management (RIDEM). Joe answered that there will be annual inspections of the cap conducted by RIDEM to make sure there aren't any breeches, erosion, or other types of problems with the cap remedy.
>
> Susan emphasized that enforcement would be more effective if there was some kind of financial requirement (an escrow account, for example) in addition to the SMP and the ELUR to ensure that maintenance could be paid for by the responsible party. She asked how else can we ensure that problems with the cap will be fixed and well-maintained?

At this point we returned back to the presentation and left questions until the full presentation was complete. Textron hopes to begin work on Phase 1, actually implementing the remedy, in Spring 2012. The next steps in the process are for RIDEM to receive public comments on Textron's proposal and then meet with Textron about responding to these comments and/or incorporating them into their plan. Then Textron will be responsible for developing a Remedial Action Plan (RAP) laying out in more specifics their plan to implement the remedy. Public comments are due to RIDEM on July 26th before 4:30pm.

Joe said that he is willing to grant an extension to receive public comments if a formal request is made. This delays the approvals somewhat, but according to Textron's proposed timeline there is some room to allow for extra time for public comments—they cannot start actual work on the remedy until the Spring of 2012 in order to make the cap remedy effective (planting grass).

More questions that were asked about the plan include:

Senator Pichardo reiterated the need for Textron to help with education and informing the community well after the site is remediated. He asked Textron to be true partners in this effort. The Senator also identified the need to allow for more time for public comments because it's summer and many people are away, won't have time, etc. This is when Joe responded that an extension is possible. Amelia Rose from the Environmental Justice League said EJLRI would be submitting public comments and offered to organize a meeting with residents within the next two weeks to review these comments, and find out if residents had any more to include. Amelia also suggested we use the quarterly meetings (every three months) that EJLRI and residents have set up for the next year with the City, Textron, and RIDEM as a place to discuss long-term education and informational signs at the site, and identify the best ways to approach this.

The third comment from the Senator had to do with informing the community about the public meetings. Textron explained who they are legally-required to send public notices

to about their meetings (abutters—homes directly next to the Gorham site), but that they are open to sending out notices to more neighbors who may not live directly next to the site. Amelia offered to send Textron a list of 200 people and addresses she and residents have collected from doing door-knocking in the neighborhood. Textron agreed to include all these residents/addresses on future mailings they send out for public meetings. They agreed that it would be best to include "Or Current Resident" on the mailing label in case people have moved out of the neighborhood.

Someone asked how long a geotextile membrane, which will serve as one layer of the cap over the "lead slag" area of Phase 1, lasts.

> David Heislein from Mactec (the environmental consulting firm that Textron contracts with for this project) responded that the membrane is very very thick plastic and can last 30 years or more.

Senator Pichardo asked if there were any other examples of caps used for brownfields in the area or around the country that residents could look at to understand how it will work for the Gorham site. RIDEM or Textron (?) agreed to gather some examples and present these to residents and the Senator. Riverside Mills in Olneyville is the closest example of a cap being used on a brownfield site that is now being used for recreation—there's a park there now, playground, and a bike path. It's also next to a body of water, so there are many similarities to the Gorham site example.

A couple questions had to do with the pond cove. One resident asked to clarify that Textron's plan for Phase 2 included dredging sediments from the pond cove and laying out those sediments in the "red" labeled area on the Phase 3 part of Parcel D (it's red in their powerpoint presentation). Textron clarified that the land being remediated in Phase 3 will be the staging area for the work on Phases 1 and 2 (used for equipment, materials, etc).

Another resident asked about the 10,000-gallon tanks on the site and whatever happened to them.

> David Heislein from Mactec answered that it took a long time and a lot of effort to find those tanks—they were 20 feet below the ground surface. Evaluations of the tanks indicated that they only held water, nothing hazardous. They were filled with cement and left on the site buried underground. Neither David nor Greg knew what year this had been done in—2005, 2006, or 2007?

Another resident asked if there were any plans to inventory the native species that currently are growing along the pond cove shore, and save them to be re-used for the wetland buffer area part of the Phase 1 cap. Textron is planning to replant a wetland buffer zone to meet RIDEM wetlands requirements, which includes 50 feet inland from the cove all along the cove.

Greg responded that they hadn't considered saving the plants themselves, but that they were planning to do an inventory so that they could replant native/indigenous plant species along the cove.

Susan Feeley asked about the number of test pits being planned for the lead slag area before it's capped. Test pits are big holes that are dug in an area with a backhoe so that the environmental contractors can visually see if there is any remaining contamination that they didn't catch with soil borings (which are long, thin rods of soil that are taken out as soil samples). In the proposed remediation plan it says "up to 10 test pits" will be dug, but RIDEM had originally required Textron to do 10 and indicated that they should be done in 10 different places.

Textron clarified that they will be doing 10 test pits, and that RIDEM has to come out to the site and approve where the test pits are dug.

Bob McMahon from the City of Providence Parks Department made a few comments as well. He stated that the Parks Department will be the ultimate owner of the proposed park on Parcel D. He thought that Textron's plan needed to be modified in two ways. The first is if the park proposal includes an informal walking path along the ridge on the western part of the parcel and along the pond cove, Textron can't plan to have grass be the final top layer of the cap, as they have stated in their plan. People walking on grass wears away the grass and creates a dirt path, which would create a problem over time as the dirt/soil erodes away from wind or water. This erosion of the clean soil (the cap) would lead to exposure of the underlying contaminated soil and create a hazard for the public using the walking path. Suggestions for ways to approach this problem included creating a wooden plank walking path on top of the grass, but this would have to be incorporated into Textron's plan.

The second change to Textron's plan that Bob stated is necessary is to include methods to control stormwater coming from the still unremediated Parcel C and from the parking lots on Parcels A and B down the steep slope onto Parcel D, once Phase 1 is implemented. Uncontrolled stormwater could create erosion problems for the proposed cap. And stormwater could carry contaminated soil from Parcel C onto Parcel D.

Greg from Textron and David from Mactec talked about preventing public access to all of Parcel D with fences until the entire parcel is remediated. A resident stated that the gate leading down to the lead slag area was open right now—they saw it before the meeting. David said he would look into that. Textron clarified that details about the fence maintenance and posting of signs on the fences to inform people about the environmental conditions on the site would be included in their Remedial Action Plan (RAP), which will be developed after receiving public comments on the overall proposal.

Then Textron talked for a few minutes about some other ongoing activities at the site, including the subslab depressurization system that ventilates subslab vapor coming up from the groundwater contamination that could impact the indoor air of the Stop and Shop retail space and the other retail spaces on Parcel A (including Renaissance Church).

The groundwater contamination was caused by chlorinated solvents (which are volatile organic compounds or VOCs) used by Gorham to clean the silver and machines. These solvents seeped down into the groundwater and then off-gasses (gives off vapors) that rises up through the soil into the cracks of buildings. When the groundwater is cleaned up (which will take many years) the toxic gasses will no longer be present in the soil.

The subslab system was installed in the retail spaces in 2008/2009 when exceedances of contaminants associated with the site were found through sampling in the indoor air, after the Stop and Shop space had been vacant and closed up for a number of years. The system includes a granular treatment shed that filters the vapors (through a carbon filter) coming from the subslab before the vapors are emitted into the outdoor air. Textron (through Mactec) samples the indoor air of each of the retail spaces every three months and the results are posted online on DEM's website at http://www.dem.ri.gov/programs/benviron/waste/gorham.htm.

Diane Librandi asked if the soil on Parcel A had ever been tested for cyanide. Mike Murphy from Mactec said that it had, and that it doesn't affect the indoor air. He also clarified that cyanide is not a known human carcinogen (cancer-causing chemical).

Ron Mack from EA Engineering answered questions about the school's subslab ventilation system. It is similar to the one Textron had installed in the retail spaces, but there were some differences since Textron had to install it after the building was already built. The school's system was incorporated into the construction of the school. Another difference is that there is no filter on the emissions from the school's ventilation system. Ron stated this is because the emissions have such low levels of the contaminants associated with the site—they are well below RIDEM's outdoor air quality standards. Also the schools's indoor air sampling is done every three months as well and the results are posted here: http://www.dem.ri.gov/programs/benviron/waste/gorham.htm.

Last but not least, Greg showed some pictures provided by Holly Ewald from the Urban Pond Procession (UPP), a group that is working to restore Mashapaug Pond, of blue-green algae blooms on the pond that make it dangerous to swim in the pond. Greg invited Elizabeth Scott, Chief of Water Resources at RIDEM, to present about the slides and inform the audience about the risks associated with the algae blooms. Elizabeth said the blooms are a result of too much phosphorus going into the ponds from stormwater, pet and goose waste, detergents and fertilizers, and other pollutants from our urban environment. In addition, Spectacle Pond in Cranston is the largest source of phosphorus for Mashapaug Pond. The blooms aren't related to the Gorham site contamination. The algae blooms (which Elizabeth clarified aren't really algae but actually a type of bacteria) look like green slime on the surface of the pond, and can be dangerous even after the blooms look like they've gone away. It can be toxic to humans—causing skin irritation—and can be lethal to pets if they go swimming in the water and drink the water. People mentioned there are signs warning people about the pond water, but that some people still fish there and consume the fish, which is also a bad idea. The fish have been found to contain dioxins and PCBs, very dangerous chemicals.

Some other details about the site that were mentioned:

Parcel C (now sitting vacant) was the dumping site for casting sands from the Gorham silver manufacturing process (for creating the silver casts or molds), which was then covered to make a parking lot.

Any large cracks in the pavement at Mashapaug Commons (the shopping plaza and school parking lot) need to be reported to DEM so VOC's don't escape.

10 feet of soil at edge of the water (pond) will be removed with Textron's Phase II plan.

Also, Mactec, the environmental company Textron has hired to perform the remediation work at the Gorham site, will be changing their name soon to AMEC.

Joseph Martella

From: Amelia Rose [amelia.rose@ejlri.org]

Sent: Monday, August 08, 2011 8:20 PM

To: Joseph Martella

Subject: Fwd: Gorham--Textron Public Meeting-- Tuesday, July 12th 6pm!

Date: July 15, 2011 12:06:31 PM EDT
To: Amelia Rose <amelia.rose@ejlri.org>
Subject: RE: Gorham--Textron Public Meeting-- Tuesday, July 12th 6pm!

Ms. Rose,

Thanks for letting me know about the meeting. I attended and am glad I did. Rather than spend time looking for the RIDEM (correct name?) contacts, I figured I'd send my comments/questions to you instead. If you think they are pertinent, please forward them to the man (Joe??) who answered questions on the 12th.

- Once the land is capped, will it be safe to for students/staff to work the soil? When some attempted to plant flowers/bushes in front of the building last summer/fall, they were told (by whom, I'm not sure...I was not present) to stop because the soil was not safe.
- I've worked at Alvarez since it opened and was never told about the status of the building. Maybe the communication went to the school department (797 Westminster St.) and was not forwarded to the school.
- Does the Parcel Phase 1 Cleanup Plan include the high pile of sand next to the school?
- During the cleanup, will water be used to keep the dust from dispersing?
- There's been some erosion at the front of the school (in front of door located to the right side of the main entrance). This occurred during last winter and was not regraded.
- Will the teachers and students at Alvarez be allowed to use the completed path? Several of our science teachers would probably be eager to incorporate study of the area into environmental studies.
- Would it be possible for an Alvarez student to use the Parcel Phase 1 Cleanup as the focus of his/her senior project? I think that interviews with those in charge of the project would be part of the research.

Environmental Justice League of Rhode Island

Environmental Justice League of Rhode Island
1192 Westminster St. Providence, RI 02909
Tel: (401) 383-7441 Fax: (401) 941-8156
info@ejlri.org
www.ejlri.wordpress.com

August 8, 2011

Joseph Martella, Senior Engineer
RIDEM Office of Waste Management
Site Remediation Program
235 Promenade Street
Providence, RI 02908

Dear Mr. Martella,

I am submitting comments on behalf of the Environmental Justice League of Rhode Island (EJLRI) and the resident group we have been working with over the past year to monitor the progress of the Gorham site remediation. We are submitting comments ourselves in addition to submitting a review of Textron's plan conducted by GEI Consultants, an independent consultant who reviewed the plan at our request (through EPA funding) and also attended the public meeting on July 12th. EJLRI and residents fully support all of the recommendations put forward in GEI's review and recommend they be included in DEM's official response to Textron as they rework and improve their plan.

In general, residents and EJLRI are satisfied that the remedial plan Textron has put forth will be protective of public health and will allow the site to be put into positive use for the neighborhood. However, there are a number of items that feel uncertain and in the future could lead to potential risks, which we feel need to be addressed before moving forward. These include some items identified by GEI that we would like to highlight and emphasize, as well as a few additional comments, some of which were brought up in the public meeting. Our comments are as follows:

- In the past, many lab tests that have run samples collected at the site and for the pond cove on behalf of Textron have resulted in "ND" or "non-detect". GEI pointed out that some of the reporting limits in the past have been above state cleanup levels. We want to emphasize GEI's recommendation that all reporting limits for laboratory confirmation samples will be below the state cleanup levels.
- We would also like to emphasize GEI's comment regarding limiting potential exposure to occupants of the high school during any excavation or removal actions that will take place on Phase 1 while school is in session—possibly by scheduling these remedial actions on the weekends, after school hours, or during Spring vacation. We also recommend that RIDEM along with Textron and the City hold an informational meeting with students and staff before any work begins on Phase 1, which EJLRI would be happy to help arrange if needed.
- For parts of Phase 1 where there will be no geotextile or other barrier to demarcate contaminated soil from the clean soil cap, we want to emphasize GEI's recommendation to place a "marker fabric" below the soil cap. This is a standard practice for many states and is legally required in New York and New Jersey. It is also

inexpensive and makes logical sense to have a marker in case there is any disturbance of the cap and people using the site do not think to look at the property's deed or know the history of the site.

- We would also like to emphasize and elaborate on comments made by Bob McMahon from the City of Providence Parks Department at the public meeting in July. Textron should be financially responsible for any infrastructure (such as wooden planks for a boardwalk/walking trail) and stormwater controls that are needed to prevent the clean soil cap from being eroded by wind, water, or foot traffic from future users of the park/walking trails. Mr. McMahon mentioned the need for Textron to outline their plan to control stormwater from the parking lots that might run onto Parcel D and we would also add the need to control stormwater from Parcel C through the use of hay bales or other methods. These were not mentioned in Textron's plan.
- We would like further clarification on how the fences will be maintained on the site while the remediation continues. On page 5 of Textron's plan, MACTEC writes that the existing chain link fence will be relocated along the boundary between Parcels C and D, and describes some other changes as well. In the public meeting Textron and MACTEC emphasized that they will maintain fences and prevent any public access to Parcel D until the full remediation is complete. We would like further clarification about the fences, including a map showing where the fences will be located as the remedy is implemented. This could be accomplished at one of the quarterly meetings of all stakeholders held at the Providence Planning Department.
- Textron also should indicate in their Remedial Action Work Plan that they will place and maintain signs along the fences in English and Spanish as long as the cleanup continues, including a name of a contact person and phone number where individuals can call with any questions.

Our final comment is the one we believe to be the most important to ensure the safety and health of neighborhood residents and students/staff in the school. We strongly urge RIDEM to require Textron to assume financial responsibility for the long-term maintenance of the proposed cap. Given the City's financial constraints and past performance on maintenance duties at the site, we are concerned that future maintenance needs will go unresolved without any financial guarantee that the responsible party will respond to and fix problems that may develop. Our group was interested to learn that many of our neighboring states require financial assurances through regulation for the maintenance of cap remedies like the one proposed by Textron for Parcel D. Given the high profile of this site, and the use of the site for a school, now a church as well, and a future park—this heightens the probability of people coming into contact with contaminants at the site and the need for long-term maintenance becomes even more significant.

Thank you very much for receiving our comments and granting our group a 14-day extension to prepare them. We look forward to hearing a response.

Sincerely,

Amelia Rose, Director

BROWN

CENTER FOR

ENVIRONMENTAL STUDIES

Joseph T. Martella II, Senior Engineer
RI Department of Environmental Management
Office of Waste Management
235 Promenade Street
Providence, RI 02908

Dear Mr. Martella,

On behalf of the Brown University Superfund Research Program Community Engagement Core, I want to thank you for efforts in the Gorham site cleanup process. We want to take the opportunity to comment on the expected commitments for the remaining actions of the Phase 1 Parcel D remediation to be performed by Textron.

We make three recommendations to amend Textron's commitment to the Phase 1 cleanup and aftermath:

First, given that a section of the site will serve as a series of walking trails, attention must be paid to properly renovating the site with infrastructure necessary to prevent erosion to the buffer/cap between the contaminated soil and the surface. The contract should be explicit that Textron is financially responsible for (a) the construction of this infrastructure (e.g. wooden planks or some other material); and (b) for ongoing maintenance to ensure that this infrastructure is in proper working order. In addition, Textron should commit to financially providing upkeep to maintain the buffer zone/soil cap free of erosion.

Second, the contract should be explicit that Textron is financially responsible for the up-keep of the entire cap indefinitely. Given that the geotextile material is only designed to last without decomposition for approximately thirty years, the financial burden of replacing the cap at that time should not be the financial responsibility of the public, including the City of Providence. Textron should also take responsibility for ongoing maintenance costs to the cap.

Third, the contract should be explicit in how Textron will continue to engage with the public through communications and public meetings in the future. Textron should consult on a regular basis, at least twice a year, with representatives of community organizations that have been involved in the Gorham clean-up. And the definition of the public with which Textron communicates should be broadened to include residents within a mile radius of the site. In addition, all announcements should be made in a major Spanish-language newspaper.

We look forward to working with DEM, Textron and the City of Providence to ensure that effective cleanup actions take place at the Gorham site.

Sincerely,

Phil Brown

Phil Brown, Ph.D.
Professor of Sociology and Environmental Studies
Director, Community Engagement Core of the Superfund Research Program
Director, Community Outreach and Translation Core of the Children's Environmental Health Center

1970TO2010 YEARS

GEI Consultants

Geotechnical
Environmental
Water Resources
Ecological

August 9, 2011

Ms. Amelia Rose
Environmental Justice League of Rhode Island
1192 Westminster St.
Providence, RI 02909

RE: Technical Review of Recommended Remedial Action
Former Gorham Manufacturing Facility
333 Adelaide Avenue, Providence, Rhode Island

Dear Ms. Rose:

As a member of the Technical Assistance for the Brownfield program at the New Jersey Institute of Technology, GEI Consultants, Inc. reviewed the Phase I Recommended Remedial Action (Plan) for the Park Parcel (Parcel D) at the Former Gorham Manufacturing Site in Providence, Rhode Island. We also attended the presentation on July 12, 2011, provided by Textron, Inc., discussing the proposed remedial actions.

The Plan was developed by MACTEC on behalf of Textron and dated May 17, 2011. Our review provides an assessment of proposed remediation activities, consistency with previous submittals, and recommendations for further clarification for each proposed remedial activity. As part of the remedial process, the Plan is available for public comment prior to approval by the Rhode Island Department of Environmental Management (RIDEM).

The Plan provides a description for remedial activities for the Phase I area of Parcel D. Phase II and III remedial plans have not yet been developed but include the remediation of Mashapaug Cove and the open area north of the stormwater detention pond, respectively. The phased approach for remediation, proposed in 2006, was designed to eliminate human exposure by conducting remedial activities nearest to the high school prior to the school opening. The installation of a soil cap was to proceed from west to east going away from the school. Additional investigations and regulatory approvals delayed site remedial activities beyond the opening of the school. The phased approach was also developed to assist in the logistics of sediment stockpiling anticipated to occur during the Phase II removal of sediments from Mashapaug Cove.

GEI Consultants, Inc.
56 Pine Street, #2B, Providence, RI 02903
401.533.5151

www.geiconsultants.com

Textron initially provided a Phase I remedial approach in its July 2006 Supplemental Investigation Report (SIR). A recommended remedial action was selected from three alternatives. Textron collected additional data, provided a Supplemental SIR Addendum, and reissued a recommended remedial action in 2007. Following additional investigation and discussions with RIDEM, Textron provided a Draft Negotiation and Draft Remedial Action Work Plan in July 2007. The Plan provides the most recent iteration of the Remedial Action Plan. The proposed remedial activities included in this Plan focus on limited soil excavation, soil capping, and land use restrictions. All previous recommended remediation plans submitted by Textron have included these remedial approaches with some variation. A discussion of each remedial activity is provided below.

Western Shoreline Soil Excavation

Textron is proposing to spot excavate three areas exceeding RIDEM's applicable cleanup standards in the western area of Parcel D. These three samples exceeded established standards for either polyaromatic hydrocarbons (PAH), lead, or dioxin. These samples were collected as part of the 2006 Supplemental SIR and 2007 Supplemental SIR Addendum and extended to a depth of 0-1 foot below grade. These samples are located outside any of the proposed cap areas and therefore present a risk of residential direct exposure. No samples from these three areas have been collected at depths greater than one foot.

Because they are being excavated, the three soil areas are the only RI Residential direct exposure exceedances on the western shoreline not proposed to be capped. These areas are bounded by previous samples that were below those criteria. However, many of these samples are limited to the depth of 0-1 foot.

Spot excavation at all three locations is proposed to be 10 feet by 10 feet by 1 foot in depth. The excavated soils are proposed to be spread under the fill area cap. Confirmation samples will be collected from the bottom of the excavation areas for comparison to RI Residential direct exposure criteria for PAHs, metals, and a risk-based derivation dioxin concentration.

The 2007 Draft Remedial Action Plan discussed capping the exceedances with two feet of clean soil or removing the exceedances. RIDEM has not provided comment on either option. It is assumed that removal and placement under a cap will be accepted by the agency.

Recommendations for Clarification

- Residential direct exposure criteria apply to depths extending to the vadose zone. Since soil samples were collected primarily within the upper one foot, it is unclear how the soils outside the cap have demonstrated compliance with the residential direct exposure criteria.
- The Plan should specify that all the reporting limits for laboratory confirmation samples, especially for dioxin, will be below the state cleanup levels.
- The Plan should detail the actions to be taken by Textron for additional excavation should the confirmation samples exceed Residential direct exposure criteria.
- Sidewall confirmation samples are not specified in the Plan. These confirmation samples would document horizontal delineation of the impacted soil. The Plan should specify side- wall samples or provide a rationale for why these samples are not necessary.
- The Plan should discuss efforts, possibly through scheduling, to limit potential exposure to the occupants of the high school.

Former Slag Area Removal and Testing

In June and July of 2006, Textron removed over 1,000 cubic yards of slag material in this area. RIDEM provided extensive comment on the removal activities and subsequent confirmation sampling. Two soil areas containing elevated lead concentration, referred to as hot spots, remain in the former slag area. In addition, the extent of residual soil lead contamination below four feet (the primary depth of previous excavation) and impacts to the groundwater is unknown. However, one monitoring well, GZ-5, historically did not indicate the presence of lead in the underlying groundwater.

Based on RIDEM comments on the Slag Removal Summary Report dated September 2006, Textron committed to provide additional excavation, test pitting, and sampling within the location of the former slag pile. RIDEM has recommended that the two elevated lead concentration areas should be excavated and removed from the site. In addition, RIDEM recommended that a series of test pits be performed in areas with lead concentrations above Industrial/Commercial direct exposure criteria. The Plan includes both of these recommendations.

Recommendations for Clarification

- The Plan specifies up to ten test pits to be installed along the perimeter of the former slag pile. However, RIDEM has previously requested that test pits be collected in all areas where the lead concentrations exceed the Industrial/Commercial direct exposure standards. During the public meeting,

Textron indicated that it would perform ten test pits under the supervision of RIDEM. The Plan should be revised to define these actions.

- Textron has previously stated that confirmation samples will be collected and analyzed for total and synthetic precipitate leaching procedure lead. Textron indicated during the public meeting that both types of lead analysis would be performed. The Plan should specify the confirmation sampling scheme and confirmation analytical parameters.

Park Parcel Soil Cap

Soil capping represents the most significant remedial action in this phase of remediation. There are three types of caps proposed based on the location: fill area, wetland buffer, and former slag area. It is assumed that these caps should remain effective for at least 30 years.

The stated remediation goal of the caps is to achieve compliance with the soil Residential direct exposure criteria. The compliance demonstration is accomplished by using the Method 1 and Method 2 soil objectives approach. The exposure assumptions used to calculate the Residential direct exposure criteria are protective of human health for the proposed end use of the site as a park.

Fill Area Cap

The fill area cap was termed waste fill cap in the 2007 Remedial Action Work Plan. Both plans include the specifications for two feet of clean soil (18 inches of cover soil and six inches of topsoil.) The two foot of clean soil was specified by RIDEM in its December 2006 comment letter.

The Recommended Remedial Action provides a discussion of grading and stabilization. This is a response to previous RIDEM comments on reducing soil erosion.

Recommendations for Clarification

- There is no discussion of compaction requirements. Compaction requirements, if necessary to stabilize the cap, should be discussed in the Plan.
- A marker fabric below the cap should be considered to indicate the vertical location of the cap. This would provide an "in the field" indicator to protect human health and assist in the implementation of the soil management plan. The installation of marker fabric or demarcation layers is included as part of a presumptive remedy or required by several neighboring state regulatory agencies, including New York and New Jersey, and is strongly recommended for this project.

Wetland Buffer Cap

Special consideration of the wetland area adjacent to Mashapaug Cove is addressed through the wetland buffer cap. One foot of clean soil will be spread throughout the buffer to provide the cap. One foot of soil at the toe of the buffer zone will be removed to meet existing grade

Recommendations for Clarification

- The wetland buffer cap will require state and local wetland approval and permitting. The Plan should specify these actions and anticipated timetables to meet these permitting requirements. The planting activities are proposed for spring of 2012. It is critical that these permitting requirements are satisfied to meet these deadlines.
- The Plan does not specify where the removed soil at the toe of the buffer will be placed. The Plan should provide these details.

Former Slag Area Cap

In response to RIDEM comments regarding the potential leaching from the soil in contact with the former slag pile, the cap design for these areas contains a geotextile membrane to limit infiltration and restrict contact with underlying soil.

Recommendations for Clarification

- The Plan should provide specifications for infiltration rates for the geotextile liner.
- There is no discussion of compaction requirements. Compaction requirements, if necessary to stabilize the cap, should be discussed in the Plan.

Groundwater Monitoring Wells

The recommended Remedial Action includes the installation of two monitoring wells and the protection of existing monitoring wells within the former slag area. RIDEM has requested these two new wells be installed and monitored to understand the leaching of metals, if any, from the former slag materials. GZ-5 was removed during soil removal activities in 2006 and will be reinstalled during this proposed remedial action. The second, unnamed well will be installed on the east side of the former slag area and outside the cap. Future groundwater sampling will include GZ-5, the unnamed well, and MW-237S (located to the west of the slag area) to assess the leaching of metals, specifically lead, from the capped, former slag area.

The installation of these wells is consistent with the 2007 draft Remedial Action Plan and addresses previous comments by RIDEM. The installation of the two additional wells will adequately characterize the quality of groundwater in the slag area.

Recommendations for Clarification

- The Plan indicates that existing monitoring wells will be secured and maintained during the construction of the soil cap. However, the Plan also indicates that the

number of existing monitoring wells maintained may be modified pending the design of the groundwater treatment system. Textron should specify the exact number of wells to be maintained prior to implementation of the work.

Institutional Controls

The institutional controls include an environmental land use restriction. The restriction serves as public notice so future owners, utility workers, or general public don't disturb the contaminated soil remaining on Site. The restriction should also specify actions, such as personal protective equipment, required if disturbance of the soil is necessary. The restriction will include maintenance requirements to assure the proposed caps are functioning as intended.

The land use restriction will be recorded on the deed and implemented in tandem with a Soil Management Plan. Textron will maintain and monitor the soil cap until the responsibility is taken over by either the City of Providence or the Providence Redevelopment Authority.

RIDEM has commented and appears supportive of the land use restriction and Soil Management Plan. However, in 2006 RIDEM requested that Textron specify long-term maintenance, erosion control, monitoring, and inspection requirements.

The primary benefits of the caps and land use restrictions are to ultimately provide recreational public access. The Site will provide scenic and recreational value and will likely be heavily trafficked by the general public. This anticipated high use of the property amplifies the need for proper long-term maintenance and controls of these caps.

Recommendations for Clarification

- The Plan should include a description of who will assume long term monitoring and maintenance of the engineered caps, including but not limited to periodic inspections, tending of any restored vegetation, repair of damaged or eroded areas, and annual certification requirements under the land use restriction.
- RIDEM should consider specifying long-term financial assurance requirements as part of approval of the institutional controls. The financial assurance is designed to eliminate future financial constraints that would prevent long-term maintenance. Financial assurance requirements are provided in many neighboring state environmental regulations including New York, New Jersey, and Connecticut.

Conclusions

The Plan, proposed by Textron, is the culmination of several previous investigations and reports dating back to 2006. We have reviewed these documents as well as many of the subsequent regulatory comments. Textron, through this Plan, has addressed the regulatory comments and included them in the remedial proposal. The proposed remediation strategy is

sound and protective of human health and the environment. Future use of the property will provide public access and increased recreational area for the community.

Further clarifications specified in this letter should be addressed through revision of this Plan or in future remedial design documents. These clarifications do not substantively alter the remedial design or add significant cost to the project.

Of greatest concern is the long-term maintenance of the proposed caps. It is assumed that these caps should remain effective for at least 30 years. Maintenance over this period may be costly. A significant financial commitment from the property owner will be required. We recommend that RIDEM require a funding mechanism as part of approving the institutional controls to assure that monies are available to complete these anticipated maintenance activities.

Please contact us directly at (860) 368-5412 or (856) 608-6860, with any questions or additional information.

Sincerely,

GEI Consultants, Inc.

Brian Conte, MSPH CHMM
Staff Scientist

Sue Boyle
Sr. Project Manager

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COMMENTS, QUESTIONS
Related to Textron's Cleanup of the Former Gorham Manufacturing Company Site

You may use this form to provide comments or ask questions related to Textron's cleanup of the former Gorham Manufacturing Company Site.

Comments and/or Questions:

Clear signage on all public access entries giving the history of the site and naming the site as "reclaimed contaminated site" with details & a web site to get more information/complete info. as any user may choose. The signs must be also inspected & maintained on a regular basis

COMMENTS, QUESTIONS
Related to Textron's Cleanup of the Former Gorham Manufacturing Company Site

You may use this form to provide comments or ask questions related to Textron's cleanup of the former Gorham Manufacturing Company Site.

Comments and/or Questions:

Can you have a Representative from the City of Providence present to answer questions specific to the City's responsibility? That would be helpful.

COMMENTS, QUESTIONS
Related to Textron's Cleanup of the Former Gorham Manufacturing Company Site

You may use this form to provide comments or ask questions related to Textron's cleanup of the former Gorham Manufacturing Company Site.

Comments and/or Questions:

- How will you tell residents whats going on other than Adelaide Ave?
- Future testing on all past work and present (future) work? Groundwater under school, Stop & Shop, work along parcel "dig up"?
- What knowledge + past exposure to instances like this are you? Do you get more than one test (more than one opinion?)