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March 7, 2008

Mr. Joseph T. Martella II, Senior Engineer  
RIDEM Office of Waste Management  
Site Remediation Program  
235 Providence Street  
Providence, RI 02908

**RE: Retail Complex Groundwater and Adelaide Ave Soil Vapor Investigations  
Former Gorham Manufacturing Facility  
333 Adelaide Avenue, Providence, Rhode Island  
MACTEC Project No. 3650050041.16**

Dear Mr. Martella:

This letter describes the planned groundwater and soil vapor investigations for the former Gorham Manufacturing Facility. The objective of the groundwater investigation is to characterize nature and extent of impacted groundwater beneath and in the immediate vicinity of the retail complex at the former Gorham Manufacturing Site. The objective of the soil vapor investigation is to evaluate current soil vapor conditions along Adelaide Avenue adjacent to the site and confirm the conclusions of previous investigation activities which indicated soil vapor was not a concern for nearby homes.

#### **SCOPE OF WORK, RETAIL COMPLEX GROUNDWATER INVESTIGATION**

MACTEC and its sub-contractor will install three monitoring well couplets inside and three well couplets outside the retail complex. The three well couplets outside the retail complex will be installed upgradient and downgradient of the retail complex. Well couplets will consist of one shallow (water table) well and one deep (approximately 60 ft below ground surface [bgs]) well. See Figure 1 for existing and proposed well locations.

To optimize well placement, groundwater grab samples will be obtained using a direct push probe and analyzed on a 24 hour turn-around time at an off-site analytical lab, prior to final well placement. All new wells will consist of 10 ft slotted PVC screens with PVC risers and will be completed with flush mount road boxes. New wells will be located with GPS and elevations will be surveyed with a level using an existing benchmark on-site.

New groundwater monitoring wells will be developed using pump and surge techniques. The new wells and five existing area wells (MW-220S through MW-224S) will be sampled for VOCs using USEPA low-flow sampling methodology. In addition, the water level in the new wells and the five existing wells will be measured to verify groundwater flow directions at the site. Monitoring well development and sampling purge water will be containerized in 55-gallon drums staged on-site. MACTEC will collect soil samples if highly elevated VOC screening results are identified during well installation.

The new data for this area will be used to delineate horizontal and vertical extent of impacted

groundwater and to refine the conceptual site model for groundwater. A review of these results will help identify remaining data gaps for the site conceptual model.

### **SCOPE OF WORK, ADELAIDE AVE SOIL VAPOR INVESTIGATION**

MACTEC and its subcontractor will install one shallow groundwater monitoring well and seven temporary soil vapor probes in the grass strip in the City of Providence right of way on the south side of Adelaide Avenue (see Figure 2). The groundwater monitoring well will be developed and sampled according to the methods described above. The temporary soil vapor probes will be installed using a push probe (i.e. Geoprobe), advanced to approximately 5 ft bgs, and sampled via the post run tubing system (PRT). PRT involves pushing steel rods and an expendable steel tip to the sample depth; pulling the rods back 6 inches while the steel tip remains in place and exposes the sampling zone; and inserting polyethylene tubing with adapter into the tip holder to obtain the soil vapor sample.

After installation of the probes, three sampling train volumes (the volume of the sampling zone and tubing) will be purged with a syringe at less than 200 milliliters per minute (ml/min) prior to sampling to ensure collection of representative samples. The soil vapor samples will be collected with six liter Summa-type canisters with flow regulators set to 30 minutes per sample. Soil vapor samples will be shipped under chain of custody to the analytical laboratory for TO-15 analysis.

### **SITE PREPARATION ACTIVITIES**

MACTEC will contact Dig-Safe prior to conducting the investigation. MACTEC will update the Site-specific Health & Safety Plan (HASP), as necessary, to support the implementation of this Work Plan. The HASP will cover MACTEC personnel and any sub-contractors. MACTEC will distribute written notification of this work to the abutters, stakeholders and building owner/occupants in accordance with the Remediation Regulations prior to conducting the work. This notification will be issued in both English and Spanish. In addition, Textron and MACTEC will coordinate directly with residents in the immediate vicinity of the work to personally inform them about planned activities and answer questions they may have.

### **REPORTING**

A field activities report to document the sampling program and the analytical results will be prepared and submitted to RIDEM approximately 30 days following receipt of laboratory reports.

### **PROPOSED SCHEDULE**

MACTEC has scheduled field activities for these investigations beginning the week of March 10, 2008 and extending through March 28, 2008.

We look forward to working with RIDEM on the review and execution of this groundwater investigation. Feel free to contact either Dave Heislein at (781) 213-5655 or Greg Simpson of Textron at (401) 457-2635 with any questions. We are available either for a conference call or to meet with RIDEM to address any questions you may have on this work plan.

Sincerely,  
**MACTEC Engineering and Consulting, Inc.**



Phil Muller  
Project Engineer



David E. Heislein  
Principal Engineer

Attachments: Figures

cc: T. Dellar, City of Providence  
P. Grivers, EA Engineering, Science, and Technology  
T. Regan, EA Engineering, Science, and Technology  
G. Simpson, Textron, Inc.  
J. Schiff, Textron, Inc.  
G. Wilson, Kimco Realty  
J. Morgan, Stop & Shop, LLC  
Knight Memorial Library Repository  
MACTEC Project File [P:\TEXTRON\GORHAM\Stop & Shop\gw investigation 2008\Work Plan - Groundwater and soil vapor migration investigation.doc]

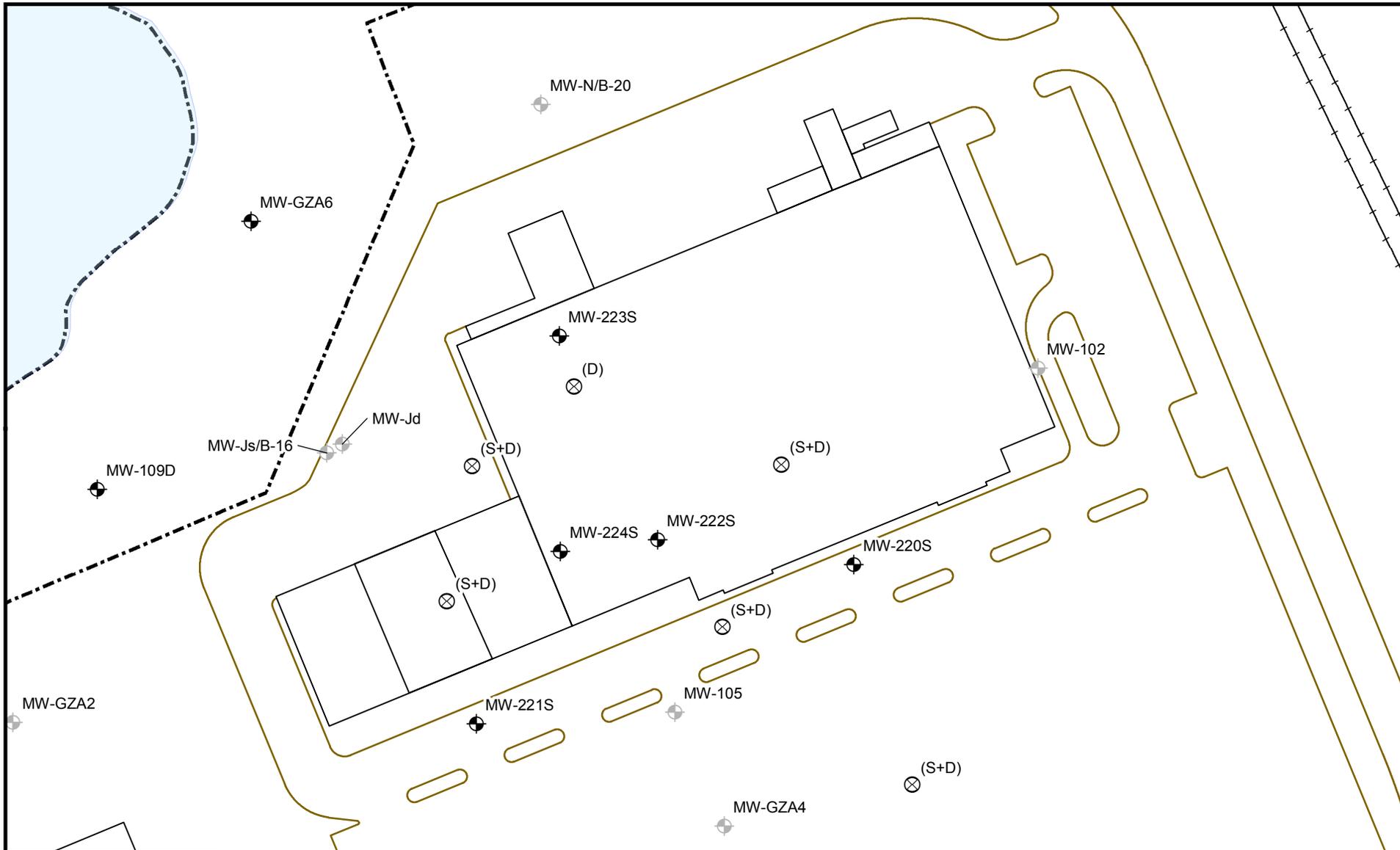


Figure 1  
Proposed Monitoring Well Locations

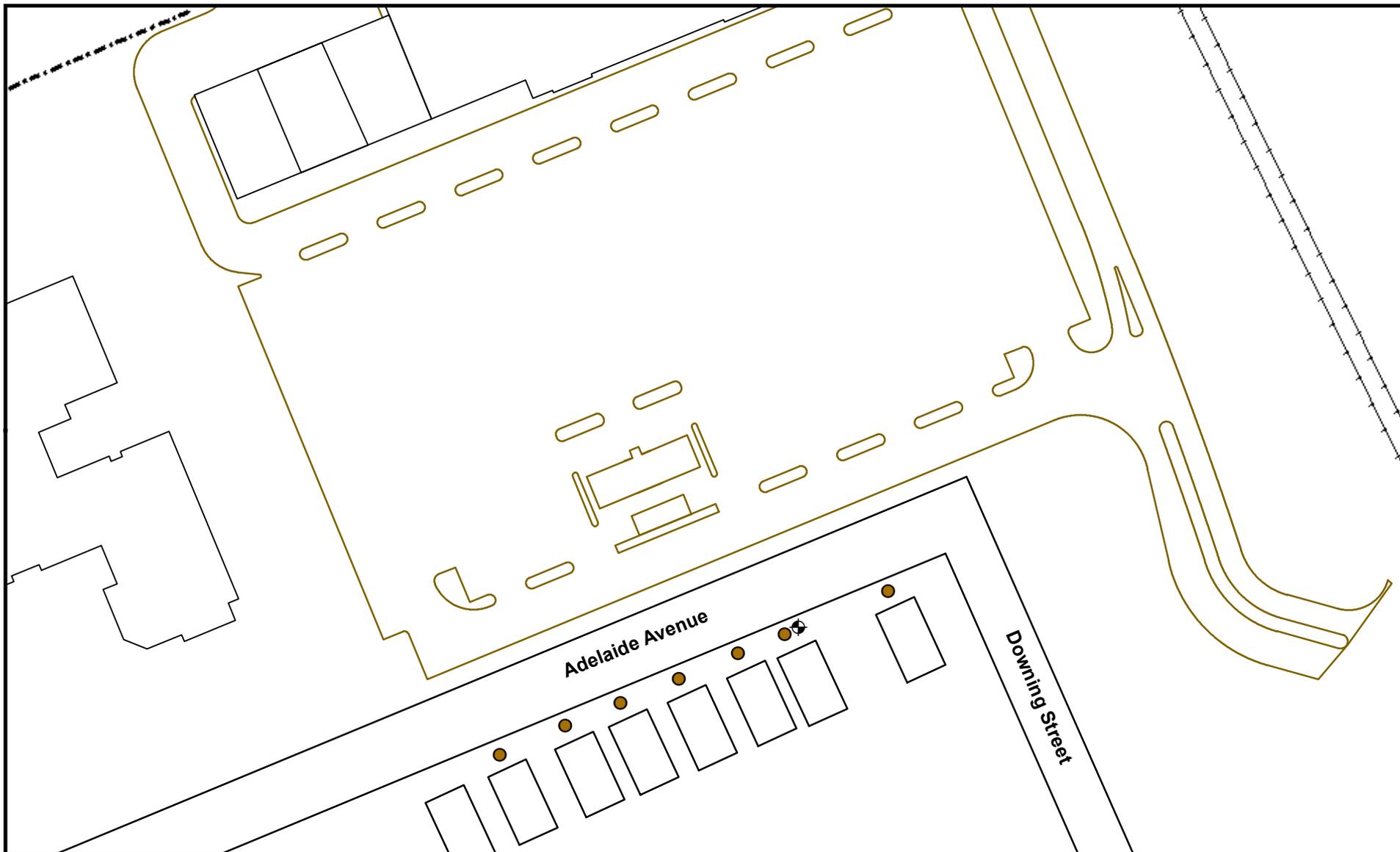
**Legend**

- ⊗ Proposed Monitoring Well
- ⊕ Historical Monitoring Well
- S = water table (approximately 30 ft)
- ⊙ Current Monitoring Well
- D = to approximately 60 ft
- Current Building
- Pavement Outline



Prepared by BJR | Checked by PJM

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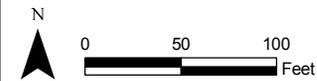


**Legend**

- ⊕ Proposed Monitoring Well
- Proposed Soil Vapor Probe
- Current Building
- - - Pavement Outline

Figure 2  
Proposed Monitoring Well  
and Soil Vapor Probes

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