

**Adelaide Avenue Environmental Justice Coalition**  
**60 Crescent Street**  
**Providence, Rhode Island 02907**

July 11, 2007

Mr. David Heislein  
Project Manager  
Mactec Engineering and Consulting  
107 Audubon Road, Bldg. 2, Suite 301  
Wakefield, Massachusetts 01880

**Re: Park Parcel – Accelerated Phase I Remediation  
Supplemental Site Investigation Report Addendum  
Community Concerns and Comments**

Dear Mr. Heislein:

We are in receipt of the Supplemental Site Investigation Report Addendum (SSIR) for the Phase I Park Parcel Remediation Plan for the Textron/Gorham property, located at 333 Adelaide Avenue, Providence RI. (Site). The Addendum was generated by MACTEC Engineering and Consulting, Inc. (MACTEC) and submitted to the Rhode Island Department of Environmental Management (RIDEM) on June 29, 2007.

Textron's recent efforts to accelerate the start date involving this component of the park parcel (Phase I) remediation will significantly impact the community's ability, as an active stakeholder, to adequately review and comment on this revised plan. Under approved and normal circumstances we would have actively participated in an established and sanctioned public review process; utilizing a realistic period of time (over months) for the review, analysis, and discussion of remediation investigations and work plans, as well as the modifications proposed and submitted by Textron Inc. We have been patiently waiting for precisely that opportunity in conjunction with the Park parcel for over six years. Mindful that there are three (3) phases to this most recent manifestation of the Park Parcel Remediation Work Plan, the first phase is none the less the most critical for the community, and other viable stakeholders, to fully understand. Certain conditions will need to be implemented during "Phase I" to successfully accomplish the necessary results, which can establish precedent for the remainder of the remediation phases, and guarantee protection for the community, our children, and all ecological stakeholders, now and in the future.

In the spirit of cooperation we have itemized below the most immediate issues impacting the community on the Park Parcel at this site. Issues, which must be addressed if we are to agree with the appropriateness of this, the expedited plan; and to move forward on the revised and accelerated schedule for “Phase One” of the Park Parcel Remediation Plan as proposed by Textron’s consultant, Mactec Engineering.

### **Accurate and Recent Model for the Southern Edge of the Cove**

We have designed an elevation drawing (not to scale) indicating the elevation of the cove shore line and north bluff in 1915, *(the year the secondary copper smelter was erected)* and as it is today after seventy years of being used as a repository for the manufacturing waste generated at the Textron/Gorham facility. Historical photographs, Sanborn Insurance Maps, professionally surveyed site maps, and oral history, as well as analytical results from the few sampling events that have occurred in this region, all support our model. The drawing is included as figure-1. We want to utilize this site elevation drawing in ongoing discussions and decisions that will take place concerning the future of the Park Parcel Remediation Work Plan and its impact on the tasks planned for Phase II. This next phase will be the dredging and remediation of Mashapaug Cove as Textron announced at a Community information session on June 20, 2007. According to the proposal being put forward now the work planned for the cove will commence in June of 2008.

### **Soil Bore Samples in the North Bank**

The fill area between Parcel B’s rear property line and the edge of the present day shoreline of the Cove has not been defined accurately or adequately (see figure-1). All responsible parties, and stakeholders acknowledge that this section of the property has been used as a waste site and industrial dump. The issues that continue to be in dispute are the actual parameters of this impacted area, which the community believes have not been delineated clearly or properly. The analytical sampling data for the north bank of the fill area identifying what contaminants are present and in what concentrations is still incomplete. When Building V, a secondary copper smelter, was constructed in 1915 it was erected directly on the shoreline of the cove. Since that time a vast area along the entire north bank has been filled with the industrial waste and debris generated by the entire silver and bronze manufacturing facility. Much of the cove itself has been filled, moving the shoreline approximately one hundred and twenty feet (120’) to the north and northwest (figure-2) We know and have reason to believe that a significant portion of fill area is below the water table along this quadrant of the north bank. This condition creates the opportunity for the groundwater flowing into the cove to move directly through a large area of impacted fill material.

Much discussion has taken place concerning the potential and likelihood for these contaminants to leach from the soils within the fill area into the groundwater and ultimately the cove sediments and surface water. Volatile organic compounds (VOCs),



dioxins and other unknowns deposited in the soil layers of the north bank fill area have not been a component of that dialog. We believe that the VOCs identified extensively throughout Textron's site are found in the North Bank's industrial waste in concentration, and need to be further investigated and identified. If VOCs are found in the soils of the fill both above and below the water table then there is a likelihood they are contributing to the significant VOC contamination found in the cove. To date there has not been a definitive explanation or Conceptual Site Model (CSM) designed for the high concentrations of VOCs deposited in the cove sediments and below. In the original SSIR for the park parcel Section 4.4.6 (Potential Groundwater/Sediment Interaction) you state:

- *“the June 2006 sediment sampling and analysis program in Mashapaug Cove did indicate that sediments at several sampling locations within the cove did contain a similar suite of VOCs as has been reported in groundwater... These data are suggestive of a link between groundwater discharge and sediment quality in Mashapaug Cove.”* And concludes that *“If the VOC concentrations reported in sediments are associated with discharging groundwater, further study appears to be needed to fully understand the accumulation or retardation mechanisms that would explain the sediment concentrations”*. Mactec continues to state further, *“Other explanations for the VOC concentrations reported in sediments may also need to be investigated.”*
- In the RIDEM's review of the Supplemental Site Investigation for the Park Parcel and subsequent comments to Textron, the RIDEM highlighted your statement, *“The vertical hydraulic gradient along the southern shore of Mashapaug Cove is upward, indicating that groundwater discharges into Mashapaug Pond”* [Sec. 4.4.4]. They then commented, *“The Department requires properly investigating groundwater migrating toward the cove. In addition to further study of the cove sediments, a representative number of new groundwater monitoring wells (shallow and deep) should be installed at appropriate locations within Parcel D, to properly assess and gauge (or conversely to definitively rule out) any on going impacts to cove sediments from the chlorinated solvent groundwater plume originating on Parcel A, and/or to determine if there are any other previously unidentified groundwater contamination sources.*
- Regarding the original SSIR Mactec submitted for the Park Parcel and Cove, and specifically Section 4.4.5 (Groundwater quality and Potential Chemical Transport) Page 4-16, paragraph 3, a conclusion has been drawn that *“Analytical data for deep wells between the VOC plume and Mashapaug Cove indicate the deep plume does not extend to the cove.”* Both Textron and Mactec have consistently used the existing investigation data to distance any significant relationship or correlation between the identified site solvent sources and the volatile organic compounds found in the cove. Frankly, until April of 2006 Textron and their contractors unequivocally refused to acknowledge any contamination was even present in Mashapaug Cove. And, again, as they state frequently, investigations have been ongoing at this site for more than twenty years. We propose that the minimally investigated fill area of the southern shore of the cove is likely one possible source



of the unexplained high concentrations of VOCs in the cove. The community insists that the responsible parties examine this potential source of contamination before it is capped and considered "In compliance".

We are requesting that Textron extract a series of soil borings from within the fill area surrounding the cove, at a depth of at least twelve (12) feet below the water table. Ideally these samples would profile the horizontal and vertical distribution of VOCs in the industrial waste and fill of the north bank and southern shore of the cove; within the groundwater zone and above. Soil samples would be collected every foot in depth until reaching the bottom of the industrial waste or soil deposited along the south edge of the cove. After recovering these initial samples, the borings could be continued to depth to help delineate the activity at the shallow and deeper aquifer, if any.

Please utilize the EPA Method 5035 for collection of soil boring samples. The objective of this particular test is to minimize VOC loss from volatilization and biodegradation during sampling collection and handling. The community is requesting that Textron and their contractors collect at a minimum sixteen (16) soil boring samples from the area designated in figure-2.

### **Underground Storage Tanks - Building N**

Apparently Mactec was able to locate a series of photographs memorializing the removal of underground storage tanks. If this information is accurate, and the tanks were removed from beneath building N in 1998, then we are relieved and delighted. The additional issue of whether the tanks were initially designed to house naphtha or water has not yet been settled. The community believes these two 15,000 gallon tanks held naphtha or other solvent like compounds. Textron, and their contractor Mactec, continue to insist the tanks held water and were used for fire suppression at the manufacturing facility. We ask that Textron submit the same data shared with the community in a letter addressed to Robert F. L. Dorr, directly to the RIDEM in a formalized and officially signed report. Please have both Textron personnel as well as Mactec sign off on this formal report, not unlike the certification of an investigation report. We feel the discussion concerning the original intended use of the underground tanks needs to continue further, but does not have to interfere with an expedited schedule for the Park Parcel; if indeed Textron can resolve or comply with the additional community issues and concerns that will need to be addressed to move this program ahead swiftly and successfully.

### **Incomplete Sampling Data – Western Park Area**

For the sake of clarity the community is defining the western park area as that property bound by Mashapaug pond on the east, Parcel C on the west, Adelaide Avenue right-of-way (paper road) to the south and everything south of soil sample SS-SI001 to the north. By not including the remainder of the park parcel located on the western peninsula within our area of concern, and contiguous to the section mentioned above, does not mean that we necessarily agree that section of the proposed park is in compliance either. As is mentioned



frequently by Textron and their consultant Mactec engineering, the Textron/Gorham site has been extensively sampled and investigated since 1986. The western park area has had only six surface soil samples; no soil borings and no groundwater investigations during the last twenty years. Our logic for demarcating the park area as indicated is partly because the entire eastern property line is comprised of the leading edge of an industrial waste landfill approximately sixteen (16') feet deep which runs the entire length of the quadrant we are identifying as the western park area. The impacts from this open edge of the industrial waste site on this section of the site presents very different conditions and possibly unique consequences that may not exist elsewhere on site, and deserve a more complete and thorough investigation. Below are some, but not all of our concerns for this section of "Phase I":

- Monitoring Well C was installed in 1989 along the leading edge of the park parcel, in the northwest corner of the YMCA property. This well is relatively shallow in depth and was screened across the elevations 19'bgs to 29'bgs. Trichloroethylene (TCE) has been recorded in groundwater at this well as high as 1,500 ug/L. This general area has also been the location of numerous upper contaminant level exceedences (UCLs). The western park parcel is typically less than sixty (60) feet wide along its north-south axis. Clearly more investigative work needs to take place in this section of the Parcel D property.
- As set forth in Section 8.10 of the Remediation Regulations, Textron declares that the soils outside of the footprint of the "Recreational Use" Cap are in compliance with the RDEC. Our test results indicate otherwise. We insist that Textron retrieve sixteen additional surface soil samples from this quadrant of the park parcel. The original six samples previously retrieved from this section of the parcel can be combined with the sixteen (16) new samples, and together they will incorporate the twenty-two samples necessary to successfully utilize Section 8.10 of the Remediation Regulations to establish regulatory compliance.
- In the spring of 2006 the community collected approximately fifty (50) surface soil samples from all of "Parcel D" as it was recently reconfigured in the March 29, 2006 consent order. Twelve of those samples were retrieved from the edge of the western park area. Of those samples, three (3) are UCLs, and nine (9) are exceedences of the Residential Direct Exposure Criteria for metals. Clearly your work is not complete in this section of the property for "Phase I." Nor does it now seem realistic to have cast such a wide net over the entire Parcel D to obtain the minimum number of samples needed to use a statistical approach for determining compliance. Would it be your intention in the future to reverse the listed samples in your data set and proclaim that Phase III (the north-east corner) is also in regulatory compliance using Section 8.10?
- Since Textron and the City of Providence implemented this "Showcase Brownfield" in 1995, there has always been clear language indicating a comprehensive and structurally engineered retaining system for the leading edge of the industrial waste landfill. Please explain how conditions have changed which



would allow you to deviate from that concept. The original Order of Approval was based on your representation that a retaining barrier would be utilized on both the north and western exposed landfill edges. It seem illogical not to incorporate this edge of the park parcel with the remediation work which will be implemented by the YMCA on Parcel C. Textron needs to work hand in hand with the YMCA to successfully solve these issues. This entire concept makes very little sense if the use of Parcel C cannot be combined with all of the advantages of having a pond shoreline park. We applaud the decision by Textron to facilitate a residential remediation for Parcel D, but it must make sense and be safe for all our children. The YMCA is installing a daycare center on the edge of this landfill, after all.

## **Park Parcel Dioxin**

Mactec Engineering and Consulting Inc. designed and implemented a testing event for the park parcel on the 28<sup>th</sup> of February 2007. The stated purpose of this exercise was to gather additional surface soil samples. It is now clear that the intent was to augment the sampling data from existing sampling locations with a complete suite of dioxin and furan testing results. It is also now clear that Textron and Mactec have intended since March 2007 to utilize a special method of defining regulatory compliance called Section 8.10 in the RIDEM Remediation Regulations. Introducing this concept in Textron's SSIR addendum in the first week of July, and expecting the community to "get on board by July 23" is insulting, yet consistent with the strategy of "hurry up and wait" that Mactec, Textron and the City of Providence have employed since 1994.

Had any of the responsible parties considered including the community when it really mattered (March 2007 or earlier), we would have made it clear then, this regulatory compliance methodology is unacceptable. As was stated in the previous section of this letter, the community wants additional testing done on the western quadrant of the park parcel. For the record, the community information session held by Textron and the city on June 20, 2007 is not part of any formal public notification process. The community of South Providence was given approximately three (3) business days notice to this meeting. We suggest you prepare an additional presentation, addressing all of these issues, and please allow the community at least twenty (20) business day's notice. Also, the question has been asked within the community, "if the dioxin test results gathered secretly by Textron were bad, would we have ever been made aware, would they have become part of the sampling data used to make such profound decisions affecting our children".

Textron, as a Responsible Party, must notify all abutting property owners, tenants, and interested parties that additional investigation (*additional dioxin testing*) is about to occur prior to the implementation of any investigation field activities in accordance with the Industrial Property Remediation and Reuse Act (Rhode Island General Law 23-19.14-5) and the Remediation Regulations.

The notice should be printed in English and Spanish and should briefly indicate the purpose of the investigation, the work to be performed, the approximate scheduled date of activities, and the names and telephone numbers of contact from Textron, MACTEC and

the RIDEM. Failure to comply with any of the aforementioned laws and regulations may result in enforcement actions as specified in Rhode Island General Law 23-19.1-17 and 23-19.1-18.

Just as it appears this process may actually be able to succeed in bringing an end to this environmental disaster in our backyards, we are either misled by presentations, or the facts are misrepresented to the community. We have pleaded in the past, and now ask again, please let the brinkmanship end. Our children deserve better.

Sincerely,

## Adelaide Avenue Environmental Justice Coalition

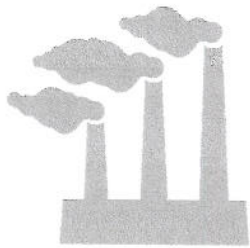
*Concerned Citizens of the Reservoir Triangle and South Providence*

Future Parents Group for the Adelaide Avenue High School

**cc:**

Terrence D. Gray, P.E., Assistant Director, RIDEM/AW&C  
John Langlois, Esq., RIDEM/LEGAL  
Leo Hellested, RIDEM/OWM  
Joseph T. Martella II, RIDEM/OWM  
Richard Enander, PhD, RIDEM/OTCA/Risk Assessment  
Karen Leslie, CEO, YMCA  
Scott K. Smith, District Executive, YMCA  
Senator Juan Pichardo, District 2  
Representative Thomas Slater  
Leon Tejada, Councilman  
Miguel Luna, Councilman  
Balbina Young, Councilwomen  
John J. Lombardi, City of Providence  
Greg Simpson, Textron  
Dave Macabe, Textron  
James Ryan, Esq., Partridge, Snow, & Hahn  
Thomas Deller, City of Providence  
John Simmons, City of Providence  
Sara Rapport, Esq., City of Providence  
John Boehnert, Esq., Partridge, Snow, & Hahn  
Glenn Wilson, Kimco Realty  
Tammie A. McRae, ATSDR  
Richard A. Sullivan, ATSDR  
Peter M. Grivers, P.E., EA Engineering





# DIOXIN FACT SHEET

## WHAT IS DIOXIN?

Dioxin is the name given to a group of persistent, very toxic chemicals. The most toxic form of dioxin is 2,3,7,8-tetrachlorodibenzo-p-dioxin or TCDD. TCDD is more commonly recognized as the toxic contaminant found in Agent Orange and at Times Beach, Missouri. Dioxin is not deliberately manufactured. Rather, it is the unintended by-product of industrial processes that use or burn chlorine. Garbage and medical waste incinerators are two of the largest sources of dioxin identified by the U.S. Environmental Protection Agency (US EPA).

Dioxin is a potent, cancer-causing agent, and causes reproductive harm. It has been called "the most toxic substance known to science" because of its wide array of adverse health effects and its ability to cause harm at very low exposure levels.

A number of chemicals have toxicity similar to TCDD - but are less potent - and are called "dioxin-like". Of the 75 dioxins, seven have TCDD-like toxicity. A number of the 209 polychlorinated biphenyls (PCBs) and 135 dibenzofurans are dioxin-like.

The toxicity of dioxin-like substances is generally measured against TCDD using "toxicity equivalence factors." In this system, compounds are assigned a fractional potency relative to TCDD. In most cases, TCDD contributes a small fraction of the total amount of toxic equivalents found in the environment.

## HEALTH EFFECTS

Most of our information about the health effects of dioxin comes from studying laboratory animals. Some effects have also been observed in accidentally exposed people and workers exposed to dioxin. With additional studies of exposed populations, other effects may be demonstrated in humans.

Scientists have identified a series of steps that lead up to most and possibly all of the observed effects of dioxin and related compounds. Once in the body, the molecules of dioxin "attach" to specific receptor molecules in cells, much like a key fitting into a lock. This leads to changes in the regulation of genes and alters cell function. Scientists are trying to figure out how this mechanism leads to toxic effects. Both animals and humans possess the receptor.

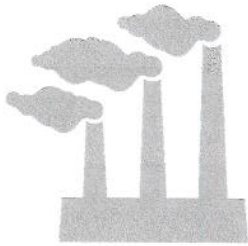
Dioxin is a potent cancer-causing agent. In June, 2000, the US EPA released a draft report on dioxin's health effects, which estimated that the levels of dioxin-like compounds found in the general population may cause a lifetime

cancer risk between one in 1,000 to one in 100. This is 1,000 to 10,000 times higher than the generally "acceptable" risk level of one in a million. In 1997, the International Agency for Research on Cancer concluded that there was sufficient evidence from studies in people to classify dioxin as a known human carcinogen and in its 2000 draft reassessment the EPA described dioxin as "carcinogenic to humans."

Dioxin causes reproductive and developmental effects in animals at very low doses. Dioxin exposure damages the immune system, leading to increased susceptibility to infectious disease. It can disrupt the proper functioning of hormones - chemical messengers that the body uses for growth and regulation.

The US EPA's report found that non-cancer health effects of dioxin may be quite important for public health. Subtle effects, such as an impact on learning ability, thyroid and liver functions, and increased susceptibility to infections, have been seen in children exposed to "background" levels of dioxin. Therefore, people are close to "full" when it comes to the amount of dioxin that is expected to cause adverse health effects. Prudent policy would reduce exposure to dioxin and dioxin-like compounds.





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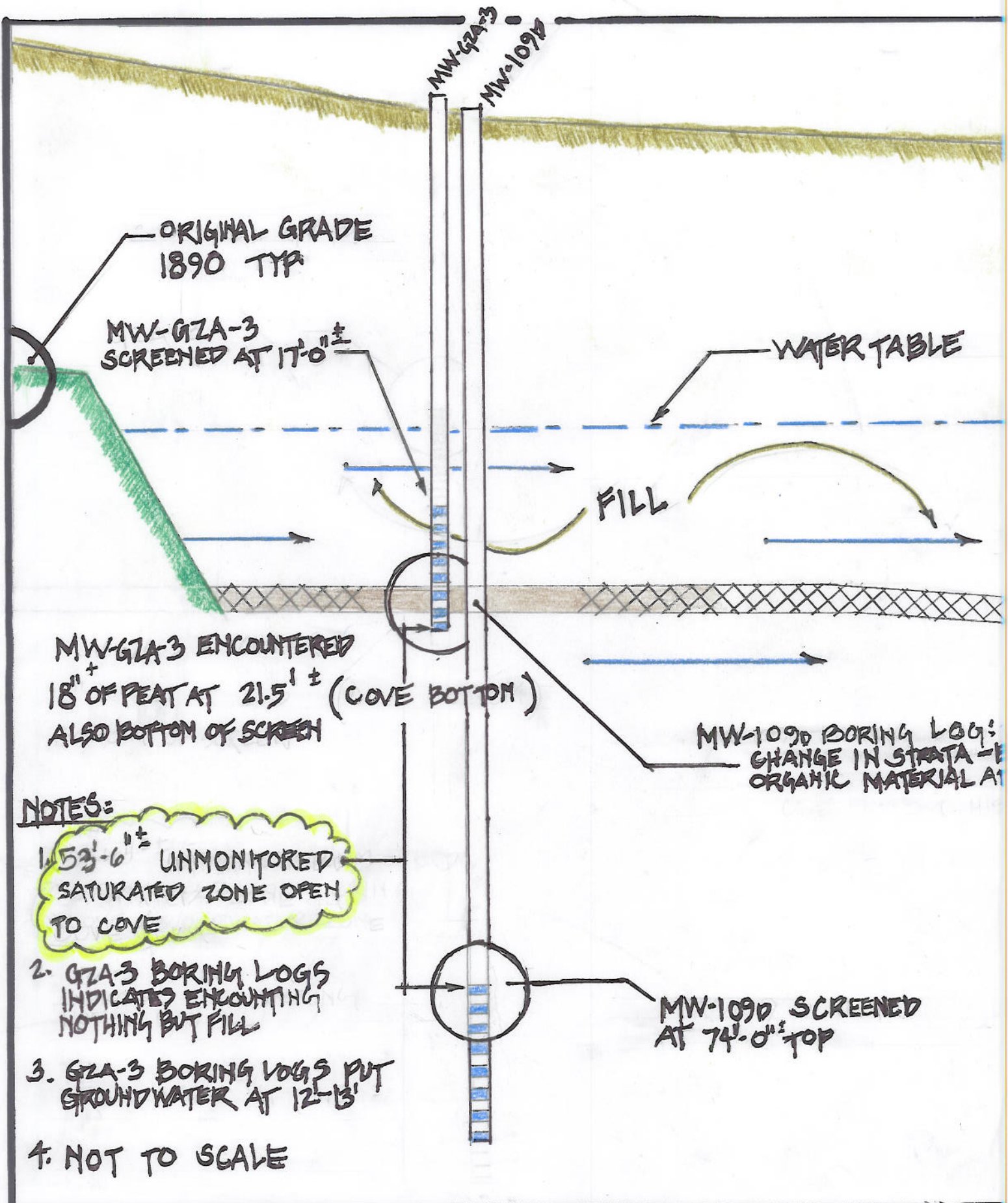
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**Figure No. 1**

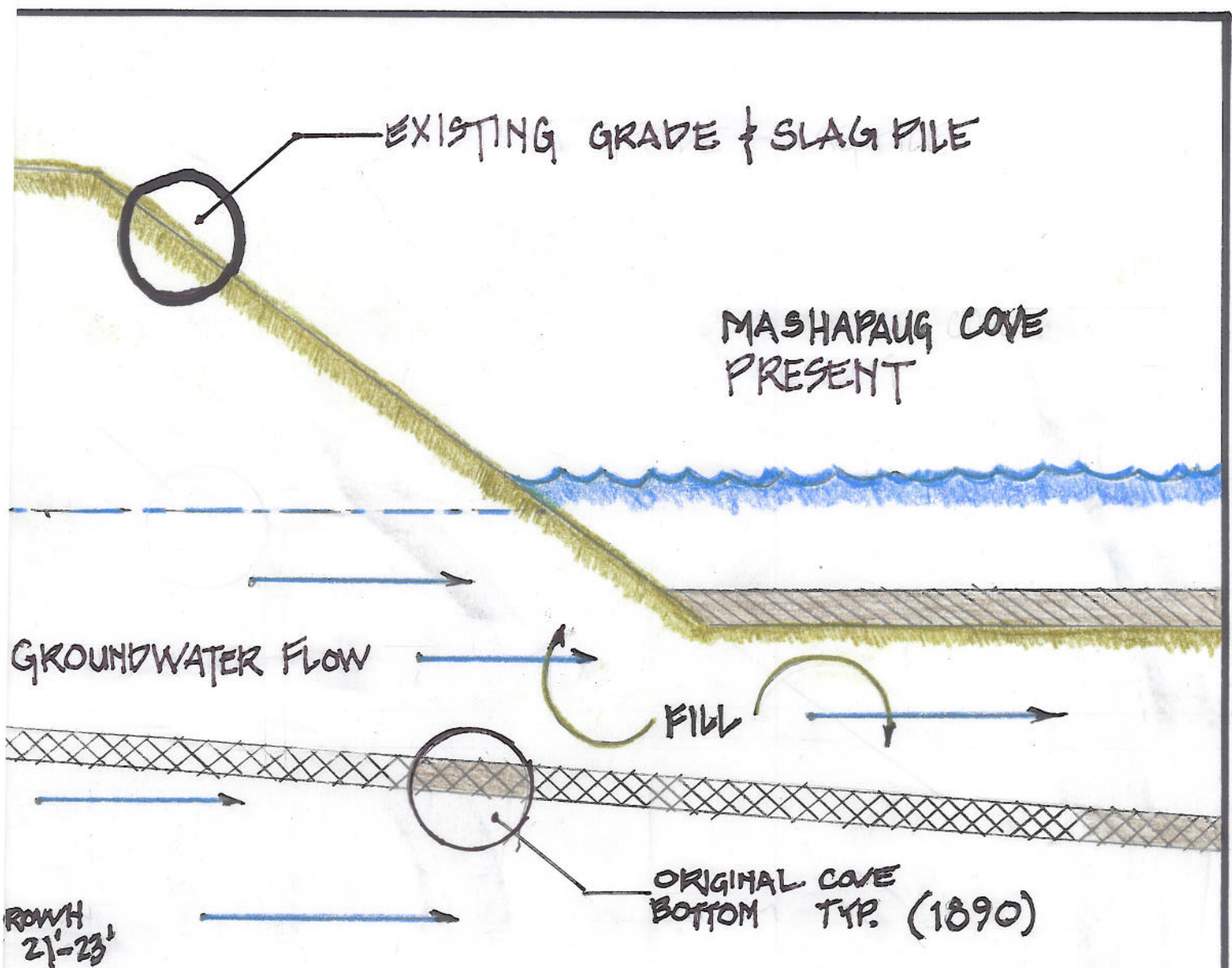
**Mashapaug Cove Fill Area**





MASHAUG COV  
ELEVATION - CROSS

FIGURE NO. 1



E FILL  
SECTION

DATE: 07-12-07  
SCALE: NOT TO SCALE