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December 11, 2009

Mr. Scott Alfonse, Director  
City of New Bedford  
Department of Environmental Stewardship  
133 William Street  
New Bedford, Massachusetts 02740

**Subject:       Fall 2009 Cap Inspection  
                  Keith Middle School  
                  New Bedford, Massachusetts**

Dear Mr. Alfonse:

At the request of the City of New Bedford (City), TRC performed the second inspection of the protective cap installed at the Keith Middle School Site located at 225 Hathaway Boulevard in New Bedford, Massachusetts. A TRC engineer conducted the inspection on November 10, 2009 in accordance with the Long-term Monitoring and Maintenance Implementation Plan (LMMIP) dated October 20, 2006 prepared by the BETA Group, Incorporated (BETA). The LMMIP requires three inspections per year in April, August and November to confirm that the cap is being properly maintained to prevent exposure to the impacted fill beneath.

The inspection consisted of a walking traverse of the entire Site with visual observations of the entire cap including the first floor concrete slab of the building, the courtyard within the building footprint, and concrete, asphalt and landscaped surfaces outside the building. Access to locked rooms within the building was provided by the facility engineer, Gary Gomes and/or a school custodian. The inspection was documented in a log book. Copies of the log book pages are presented as Attachment 1. The findings of the inspection are documented in a site-specific Cap Inspection Form (Attachment 2) provided in the LMMIP. Annotated photographs taken during the inspection are presented as Attachment 3.

Based on TRC's inspection, the concrete floor within the footprint of the building is currently acting to prevent exposure to the impacted fill beneath. The courtyard within the building and pavement and concrete surfaces outside the building were also acceptable.

The landscaped areas outside the building were acceptable with the exception of the following:

- A shallow slope failure located on the steep slope between the wetland to the west and the southern parking lot to the east has been repaired. A photograph of the slope failure prior to the temporary repair is presented in Attachment 4. A permanent repair has been implemented and should not require additional work. Vegetation appears established and the hay bales and silt fence may be removed in the spring should the vegetation fill in adequately following the winter months.
- Sloughing riprap stabilization stone that is undermining the concrete fence support at the top of the slope and filling the outlet of the storm water drainage culvert on the west side of the Site. Design and planning of a permanent solution is currently underway.
- There is a gopher hole at the northwestern corner of the Site. The hole should be filled in and the area reseeded in the spring to minimize erosion.
- Woody vegetation is established at the culvert outlets and should be removed to allow unobstructed flow from each discharge.

At this time the black separation fabric that demarcates the underlying contaminated fill from the clean imported fill is not visible. However, these areas should be repaired in order to prevent further erosion or cap damage that could eventually expose the separation fabric. Please refer to the attached Cap Inspection Form for additional details concerning observed conditions.

If you have any questions, please contact me at 978-656-3560.

Sincerely,



David M. Sullivan, LSP, CHMM  
Senior Project Manager

Attachments

# **Attachment 1**

## **Log Book**

KMS CAP INSPECTION TUESDAY 11/10/69

0545 AMMUNITION RECEIVES ON SITE AT  
LEITH MILITARY SCHOOL (KMS) TO CONDUCT  
FALL CAP INSPECTION.

0600 THE PROVIDED ACCESS TO ALL AREAS  
OF THE FIRST FLOOR TO CONDUCT  
INSPECTIONS. SCHOOL IS IN SESSION  
THE CONDUCTED INSPECTIONS; NO AREAS  
OF CRACKING IN CONCRETE GREATER  
THAN 1/4 - INCH IN WIDTH WERE  
PRESENT IN ANY AREA WHERE CONCRETE  
IS VISIBLE, OTHER AREAS OF THE  
FLOOR COVERED W/TILES ARE WELL  
MAINTAINED AND THERE IS NO EVIDENCE  
OF ANY SIGNIFICANT WEAR OR  
SETTLEMENT, PIPE PENETRATIONS  
THROUGH FLOORING WERE INSPECTED  
AND THERE IS NO ~~ANY~~ CHANGE  
IN CONDITIONS.

0800 THE CONDUCTED INSPECTION OF  
THE BUILDING EXTERIOR. ALL  
PAVED AREAS ARE IN GOOD CONDITION,  
NO EVIDENCE OF CRACKING,  
ALL CONCRETE WALLWAYS ARE  
IN EXCELLENT CONDITION.

A. Hunt 11/10/69

KMS CAP INSPECTION 11/10/69

NO CRACKING FOUND.  
ALL CORNER JOINTS ARE WELL  
MAINTAINED. CAP PENETRATION  
INSPECTED. GATHER HOLE  
LOCATED AT THE NORTH WEST CORNER  
OF CAP, WOODY VEG,  
IN FRONT OF CURVE DISCHARGE  
OUTLETS.

~~Y. Hunt~~  
11/10/69

**Attachment 2**  
**Cap Inspection Form**

## CAP INSPECTION FORM KEITH MIDDLE SCHOOL

Use this inspection form to document cap inspections. If unacceptable conditions are observed, complete an additional form immediately after repairs are completed.

Inspection Date: November 11, 2009      Inspection by: Amy Hamilton

A. ASPHALT AND CONCRET PAVING – observe asphalt and concrete paving for cracking, holes, asphalt removed during construction, other damage.

**All Asphalt and concrete paving acceptable?**  YES     NO

**If no, attach photograph**

If no, describe unacceptable condition:

Location

Condition

Describe any repairs to asphalt and/or concrete paving conducted since previous inspection

All repairs adequate     YES     NO      Photograph of repair attached   

B. INTERIOR CONCRETE FLOORS – observe concrete for cracking, holes, concrete removed during construction, other damage.

**All interior concrete floors acceptable?**  YES       NO

The two cracks in the boiler room floor are still less than ¼-inch wide. The majority of interior concrete floors are covered with tiles or other type of flooring material. Based on visual inspection and conversations with current employees, there are no breaches or other significant damage or deterioration of the interior surficial flooring materials or, where visible, concrete floors. No construction was occurring within the building at the time of the inspection.

**If no, attach photograph**

If no, describe unacceptable condition:

Location

Condition

Describe any repairs to interior concrete floors conducted since previous inspection

All repairs adequate     YES     NO      Photograph of repair attached

C. LANDSCAPING – observe landscaping for erosion animal holes, excavation, erosion control vegetation health.

All landscaped areas acceptable?  YES  NO

If no, attach photograph

If no, describe unacceptable condition:

Location: The southeastern and northeastern ends of the school property and the steep slope just above the wetland and to the west of the southern parking lot and school.

Condition:

1. The repair to the slope failure between the wetland to the west and the southern parking lot to the east is currently functioning as intended. The hay bales and silt fence are still in place as shown in Photograph #9. The vegetation surrounding the repair is established and the hay bales and silt fence at the base of the repair may be removed.
2. Riprap stabilization rock placed around the outlet of one of the storm water drainage culverts is falling down the slope and filling the end of the culvert. The outlet in question is the fourth outlet south of the above ground oil storage tank. The falling riprap undermined the concrete fence support at the top of the slope. See Photographs #10 and #11. Photograph #10 shows a crack in the concrete support of the fence along the top of slope. The structural integrity of the fence may be compromised if the sloughing of the riprap continues. The cap soils beneath the riprap may also become exposed and susceptible to erosion. The area appears stable at the moment. The extent of erosion seems similar to the conditions observed during the previous inspection. See inspection report letter dated May 7, 2009, Attachment 3, Photographs #11 through #13.
3. There is a gopher hole located at the northwestern corner of the cap, Photograph 12. Measures should be taken to remove the burrowing animal from the area. The hole should be filled in with suitable soil material and reseeded to minimize the chance of erosion.
4. Woody vegetation is becoming more established, Photographs #8 and #13. Woody vegetation should be removed from the culvert outlets so unobstructed flow occurs at each discharge.

Describe any repairs to landscaping since previous inspection: This is the fifth cap inspection to be completed as required by the December 2006 Long-term Monitoring Plan.

All repairs adequate  YES  NO      Photograph of repair attached

D. Areas Not Inspected:

Southern end of cap.

Reason:

Perimeter fence installed

A perimeter security fence installed around the Bethel A.M.E. property (immediately south of the KMS property) limits access to the southern end of the KMS cap.

Additional Notes: None

**Attachment 3**  
**Site Inspection Photographs**

**SITE PHOTOGRAPHS**  
**November 2009 Cap Inspection**  
**Keith Middle School**  
**New Bedford, Massachusetts**



**1) Pipe penetrations in boiler room.**

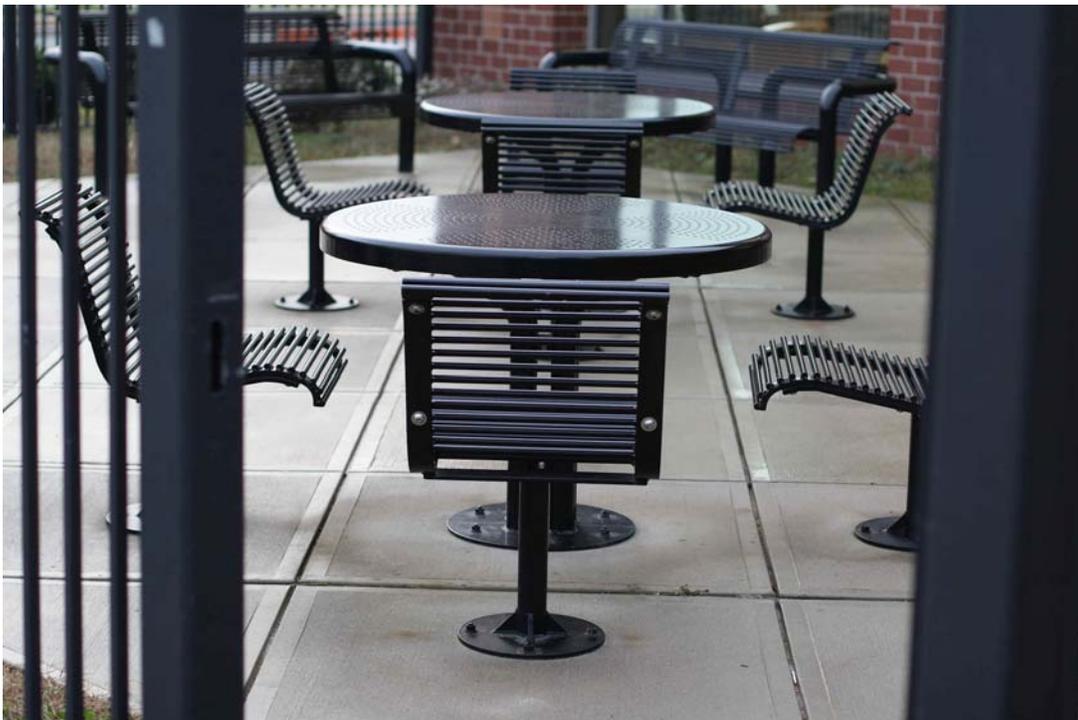


**2) Kitchen.**

**SITE PHOTOGRAPHS**  
**November 2009 Cap Inspection**  
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**3) Courtyard looking North.**



**4) Community room courtyard.**

**SITE PHOTOGRAPHS**  
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**5) West side of school looking South.**

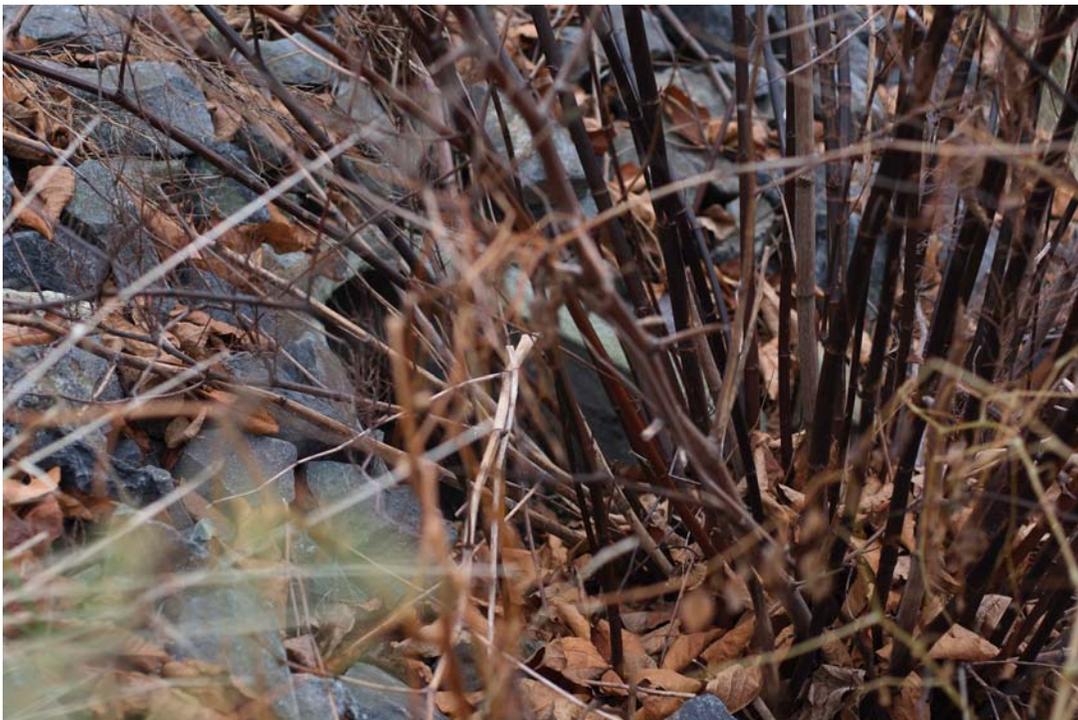


**6) North parking lot facing Southwest.**

**SITE PHOTOGRAPHS**  
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**7) East side of school facing North.**



**8) Woody Vegetation in front of culvert outlet.**

**SITE PHOTOGRAPHS**  
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**9) Temporary slope failure repair and slope facing north.**



**10) Undermining of fence support south of above ground storage tank.**

**SITE PHOTOGRAPHS**  
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**11) Culvert on steep slope below the fence support. South of above ground storage tank.**



**12) Gopher hole Northwest corner.**

**SITE PHOTOGRAPHS**  
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**13) Woody vegetation on Eastern slope facing North.**



**13) Eastern slope facing South.**

**Attachment 4**  
**Slope Failure Photograph**

