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Last year, in March 2010, we had two 50 year storms within three weeks of each other (NOAA says 100 year storms in some parts of the state) and our article covered the many and sudden Emergency Response (ER) calls associated with those storms. In June this year, we had a series of tornados in central and western Massachusetts, and intense thunderstorms in eastern Massachusetts. ER was again responding to numerous simultaneous unexpected and sudden events. This month's article will cover some of the events related to the tornados and then review enforcement issues that came up post-Response Action Outcome at a Brownfields redevelopment case.

One Agency Working Together

On Wednesday, June 1, 2011, shortly after 4:20 p.m., a category F3 tornado touched down in western Massachusetts. Aerial photos, like the satellite photo included here, later showed the destruction across the southwestern half of the state ending in south central Massachusetts. Ultimately, it is believed that there were four confirmed tornados in the state. Towns with substantial damage included Westfield, Agawam, West Springfield, Springfield, Wilbraham, Monson, Brimfield, Sturbridge and Southbridge. More than 5000 homes and properties had confirmed damage. In the week that followed, MassDEP's ER staff responded to approximately 60 releases of oil and/or hazardous material caused by the tornado, including releases of transformer oil, home heating fuel, propane, and petroleum from overturned cars, trucks and airplanes.

Bureau of Waste Site Cleanup (BWSC) worked with the Bureau of Waste Prevention (BWP) in "Disaster Assessment Teams" (DATs) to investigate potential releases at hazardous waste generating facilities that were within the tornado's path and to inspect critical public infrastructure such as sewage treatment plants and pumping stations. The DAT teams worked with the Massachusetts Emergency Management Agency (MEMA) and other public safety officials through June 10th at the Emergency Operations Center to quantify damage to public and private property and infrastructure.

BWSC also worked with the Bureau of Resource Protection (BRP) to issue emergency wetlands work permits to remove damaged trees and other debris (including cars and planes) from wetlands and waterways and to reduce potential for flooding. MassDEP coordinated with the tornado-affected towns to manage debris from the tornado, including expediting approvals of temporary storage locations and increasing capacity at various regional landfills and waste processing facilities. Emergency waivers were issued for disposal of some asbestos and demolition debris. The types of debris from the tornado's impact included wood waste,

construction and demolition material, white goods, electronics and metals. The MassDEP “FAST” vehicle was utilized on scene at a number of locations during the first two weeks of the month to provide air monitoring for asbestos and particulates during demolition activities.

BWSC assigned staff to various towns to provide technical assistance, investigate potential releases and observe demolition operations. They also attended public meetings to answer questions on debris management and releases of oil. As of June 19th, at least five homeowner fuel oil releases were identified. Work is still ongoing in the affected towns. For MassDEP images of some of the tornado damage, visit our Flickr site at: <http://bit.ly/jyi74U>.

From Town Dump to Town House

A recent EPA headline proclaimed: “\$3.5 Million to Cleanup and Revitalize Massachusetts Communities, Neighborhoods to gain economic, health, environmental benefits.” (The full article can be viewed at:

<http://yosemite.epa.gov/opa/admpress.nsf/0/938A608AD7FD6E04852578AE004CCCFC.>)

Brownfield redevelopment projects in a community can revitalize communities, provide jobs and increase a tax base when properly done, but care must be taken to address requirements when work is done at a site with residual contamination and Activity and Use Limitations. At a recent “regional training” session in the Northeast Regional Office, a few of the more problematic cases were presented. One, in particular, was a set of townhouses built on a former town dump converted to commercial and residential use.

Citizens on the Beat

In May 2010, MassDEP received a phone call from a local Board of Health after they had been contacted by a concerned citizen about large, uncovered soil piles that had been sitting uncovered at an apparent construction site for some time. Upon looking into the information, it was determined that the property was the location of a Class A-3 Response Action Outcome (RAO) and two Notices of Activity and Use Limitations (AUL) that had been submitted in 2005, yet no plan had been filed regarding soil excavation or soil management for the activities at the property.

On May 24 and 25, 2010, MassDEP personnel visited the site to investigate the activities taking place, inspect the excavated soil piles and collect samples for laboratory analysis. At the time of the inspection, a new, multi-family residential building was under construction and excavation for a second building was underway. Several large uncovered soil piles were observed, apparently excavated for building foundations. In June 2010, MassDEP issued a Notice of Responsibility with a Request for Information (NOR/RFI) and an Interim Deadline by which to respond. The questions in the NOR/RFI pertained largely to details about the excavation of the soil piles, where they were from, the size of the original excavations, volumes of soil,

dimensions of the excavations and disposition of any soils that may have been moved, reused or removed from the site.

History of the Site

Based on some of the information available in the files and correspondence, it appears that the area comprising the site had originally been covered by extensive marshland. Starting in 1900 through the early 1940s, much of the area was used by the city as a disposal area for trash and refuse. A large building was constructed on the site circa 1953, with an addition constructed in 1956.

Various environmental assessments took place from 1984 through 2004. In 2004, the Phase II site assessment determined that there was various municipal waste related “fill” from depths of 16 to 40 feet around the area. The practice at the time was to burn the trash before burying it, however not all waste was completely combusted before burial. Materials found in the subsurface included glass, brick, metal, wood, newspaper, rubber, leather and car tires, wood ash, cinders, coal ash and other generic “ash.” After the landfill activities stopped, the property was redeveloped and used for industrial and commercial businesses including:

- Trucking terminal and garage (until 1978)
- Variety of commercial entities from 1978 until the RAO was filed in 2005 including construction, towing, rubbish removal, marble cutting, truck and auto repair companies and a commercial goods distribution center. These businesses, at various times, stored:
 - Construction materials and equipment
 - Antique vehicles
 - Vehicles
 - Hang gliders
 - Fuel

At the time of the MassDEP site visit in 2010, the large building was in use as contractor offices and storage space.

The 2004 Phase II suggested that rather than specific source areas, the contamination at the site was related to the landfill activities and small surface spills or releases from vehicles over time. At the time the RAO was filed, there were plans in the works to divide and sell the larger northwestern portion of the property and that it was likely to be developed as residential once sold. The rest would remain in use as commercial/industrial. The soil piles were from excavation activities that had initially begun on the residential parcel in 2008 and soil was stockpiled in various areas of the site.

Post Site Inspection

When MassDEP personnel visited the site in May 2010, they collected soil samples from the stockpiles. The subsequent laboratory analysis revealed that the samples had several site contaminants (arsenic, cadmium, chromium, lead and several polycyclic aromatic hydrocarbons) above reportable concentrations. MassDEP issued a Notice of Noncompliance requiring that the stockpiles be properly managed (including covering) until they could be appropriately disposed.

In addition to sampling the soil stockpiles, MassDEP audited the original RAO and reviewed site characterization data both from the original Phase II assessment, and from the more recent (2010) sampling that had taking place during excavation activities. Questions were raised about the updated risk characterization and sample selections used in the revised characterization.

One of the concerns at the site was the presence of methane in four of the groundwater monitoring wells,. The methane was presumed to be from decomposition of organic materials that had been buried in the marsh following incomplete combustion. However, the presence of methane suggested another level of precaution to be taken for the building under construction.

Final Outcome

In the end, an Administrative Consent Order with a Penalty (ACOP) was issued for \$10,350 for various issues at the site. Soil had originally been excavated in 2008 including from the area where the Activity and Use Limitation had been placed, but no Release Abatement Measure Plan had been filed as required for excavation or remediation activities within the AUL area. The remediation waste was uncovered and sat on site for greater than 120 days.

The soils that had been excavated (including from the AUL area) had several site contaminants above reportable concentrations as previously described. Following the MassDEP site visit, a letter was sent to the respondent indicating a July 29, 2010 deadline to cover the soil piles. (The deadline was met.)

Additional requirements outlined in the ACOP included:

Submittal of a revised site assessment, risk characterization, feasibility evaluation and additional sampling data to confirm that there were no Upper Concentration Limit exceedences in the building footprint(s); a health and safety plan for continued excavation and a soil management plan for the residential construction activities; and, submittal of RAM Status report(s) in accordance with appropriate deadlines until the work was completed.