

## **Analysis of Brownfields Clean-up Alternatives**

*Former Uniroyal Tire Complex  
City of Chicopee, Massachusetts*



*March 20, 2013*

## **Introduction and Background**

**Site Location:** Former Uniroyal Tire Complex- Parcel Numbers 124-03, 124-11, 147-09 & 147-06  
154 Grove Street  
Chicopee, MA 01020  
Owner: City of Chicopee

**Previous Uses of the Site:** *The Former Uniroyal Tire Complex* consists of approximately 28 acres of land, originally developed during the late 1800s. In 1870 the property was used as a lumber yard by the Chicopee Manufacturing Company. From 1896 to 1898 the property was owned by the Spaulding and Pepper Company, who manufactured bicycle tires. The Fisk Rubber Company, which later changed its name to United States Rubber Company and then to Uniroyal, Inc., manufactured bicycle automobile & truck tires and adhesives from 1898 to 1981. Uniroyal Inc. closed their plant in 1980 and sold the property to Facemate Corporation in 1981. Facemate leased portions of the Uniroyal buildings to various companies for manufacturing, printing, machine shops, office, storage and health care facilities. Currently, seventeen (17) vacant buildings, encompassing 1.5 million square feet, remain standing at the Site.

- Parcel #124-03 represents 4.33 acres of the Uniroyal property with four remaining buildings and various other structures. The footprint of Buildings 7, 8, 14 & 15 cover 27.3% (1.18 acres) of the site and total approximately 277,250 square feet of vacant industrial space.
- Parcel #124-11 represents 0.349 acres of the Uniroyal property with one remaining building. The footprint of Building 43 covers 37.2% (0.13 acres) of the Site and total approximately 5,550 square feet of vacant industrial spaces.
- Parcel #147-09 represents 8.78 acres of the Uniroyal property with eight remaining buildings on the parcel. The footprint of Buildings 27, 28 North, 28 South, 28 North Extension, 29, 33, 40 & 42 cover 51.9% (4.56 acres) of the Site and account for a total of 1,056,887 square feet of vacant industrial space.
- Parcel #147-06 represents 0.691 acres of the Uniroyal property with one remaining building on site. The footprint of Building 26 (Uniroyal Administration Building) covers 30.4% of the site and totals approximately 65,000 square feet of vacant industrial office space.

Former manufacturing operations entailed the use of approximately 22 underground storage tanks (USTs) and five aboveground storage tanks for the storage of various petroleum products and solvents. Twenty-five pad and/or wall mounted transformers were used to distribute electrical power for site operations. Of these, 23 contained PCB-based dielectric fluids. Also, the Boston and Maine Railroad tracks bisect the Site. Railcars historically delivered carbon black to the complex for use in tire manufacturing.

**Past Assessment Findings:** Michelin North America, Inc. (MNA) acquired the assets of Uniroyal, Inc. circa 1990 and is considered the primary responsible party (PRP) dealing with residual contamination at the Uniroyal property. To date, MNA has identified and removed all known USTs on the property and all transformers have been removed by MNA and the City. MNA has managed transformer fluids and PCB-impacted soils (>50 ppm) at appropriately licensed off-site waste management facilities. In addition, MNA has consolidated PCB-impacted soils (<50ppm) on the Site and has initiated construction of a cap under applicable Toxic Substances Control Act (TSCA) regulations.

Currently known residual site contamination includes PCBs, heavy metals, EPH, SVOCs & VOCs in soil and EPH & VOCs in groundwater. PCBs have also been identified in accumulated sediment in on-site stormwater drainage systems and in the toe drain system for the flood control dikes along the westerly boundary of the Site. MNA has executed cleaning of the storm water and toe drain systems during 2011 and 2012, under an EPA-approved TSCA Work Plan.

The City is working in cooperation with MNA to help prioritize site cleanup activities, but 'unknown subsurface conditions' remain under existing buildings and related structures. Additional sampling of sediments in the Chicopee River has also been required by the Massachusetts Department of Environmental Protection (MassDEP). As additional buildings are demolished at the Site, MNA has indicated they will implement supplemental subsurface investigations. It is important to note that MNA's obligation for response actions will not fully achieve redevelopment requirements and that additional environmental cleanup will likely be necessary.

MNA's responsibilities as a PRP at the Uniroyal property are primarily related to the assessment and remediation of existing environmental contamination under Chapter 21E, the Massachusetts Contingency Plan (MCP) and TSCA regulations. The assessment and abatement of hazardous substances within the on-site buildings, along with actual demolition of most of the buildings, are the City's responsibility and are funded separate from MNA's efforts. To date, the City has demolished only six buildings; 17 structures remain to be abated and demolished. Building 26, the Uniroyal Administration Building, located on Parcel #147-06 will be marketed for redevelopment as proposed in the RiverMills Vision Plan and as part of the City's Memorandum of Agreement with the Massachusetts Historical Commission (MHC).

A Phase I Existing Conditions Report detailing the structural condition of most Uniroyal buildings was prepared by Tighe & Bond in May 2010. This report details the very poor structural conditions of most of the studied buildings. However, Building 26 was rated in fair condition with the potential to be reused. Subsequent structural evaluations, including a Phase II Building Assessment completed by BETA Group, Inc. in August 2010 confirmed the findings of the Tighe & Bond report and found Building 26 to be in reasonably good condition and the most likely Uniroyal building to be redeveloped in the future.

Reference is made to the section of this application entitled "*Summary of Phase I & II Assessment Reports and Other Environmental Investigations*" for a discussion of the hazardous materials inspection reports completed to date.

**Project Goals:** The former Uniroyal Tire Complex property is part of a larger redevelopment project known as RiverMills at Chicopee Falls. Situated at the geographical center of the City, these post-industrial lands were once part of Factory Village, a complex of workforce housing, businesses and services that brought industrialization to Chicopee beginning in 1822. Today, RiverMills represents the City's largest Brownfields redevelopment project.

The RiverMills Vision Plan was completed in December 2010. Extensive community outreach resulted in a plan reflecting community desires and endorsed by the City as the official redevelopment guide. The plan proposes the creation of an active/passive recreational network that reconnects the neighborhood to the Chicopee River. This network is the armature around which a mixed-use community is molded. This mixed-used scheme includes 33,500 square feet of new commercial space, 131,000 square feet of new office space, 131 new housing units, the City's new Older Adult Community Center and a potential Family

Recreation Center. Estimates indicate that this scheme will leverage an estimated \$100,000,000 in private investment when full build out is achieved and support the creation of 275 new full and part time, local jobs.

City officials and residents alike have repeatedly underscored the importance of RiverMills redevelopment as the avenue through which Chicopee's heritage can be preserved. It is hoped that through redevelopment RiverMills can once again be a part of the community it helped to establish. With this in mind the City has established the following vision and objectives to guide redevelopment:

***“The City of Chicopee envisions the creation of a mixed-use, energy conscious, walkable community integrated within the historic framework of Chicopee Falls. With expanded business and job opportunities and new living options for residents, redevelopment will re-connect the neighborhood to its rich environmental context while re-forging links between Chicopee Falls and Chicopee Center...”***

### Redevelopment Objectives

- Mixed Use Redevelopment: The City is interested in redevelopment schemes that provide a diverse mix of uses on the Site. This mix should preferably include complementary uses that will directly and indirectly enhance the area as a place to live, work, shop, dine, visit and as a place to connect with recreational and environmental amenities. Schemes should provide for high quality improvements with uses that will actively contribute to the economy of the City, provide public access where appropriate and add to the neighborhood's vitality and tax base.
- Site Legacy: The City has a vested interest in preserving the Site's history as part of the redevelopment process. It is hoped that redevelopment schemes will address how the Site's industrial past can be incorporated into its reuse, remembering the Site's history.
- Environmental Connections: Development schemes should strive to surround proposed buildings with a series of green spaces linked with pedestrian walkways, greenways or trails that also take advantage of the Chicopee RiverWalk that is currently under development. The entire RiverMills development should strive to be a pedestrian friendly environment, while enhancing the Chicopee River. Redevelopment schemes should propose avenues through which the river can be accessed and utilized from RiverMills by the public.
- Neighborhood Connections: The RiverMills property has been inaccessible to the Chicopee Falls neighborhood for nearly 30 years. Redevelopment schemes should propose avenues through which the site will be reintegrated into the surrounding neighborhood and enable new connections to Chicopee Center and Memorial Drive's commercial corridor.
- Green Development: The City of Chicopee supports the use of sustainable development practices and is targeting LEED Silver certification for the City's new Older Adult Community Center (known as the RiverMills Center). The use of 'green' development techniques, with respect to energy efficiency, materials, building systems, construction methods, long-term building operations and site planning will be key factors considered during the developer selection and bid process. The City will work with the preferred developer to incorporate such practices into the reuse of Uniroyal Building 26.

- Effective Public-Private Partnership: With local, state and federal agency investments of nearly three million dollars to date, redevelopment schemes should not place disproportionate requirements on City resources.

**Summary of Phase I & II Assessment Reports and Other Environmental Investigations:** Numerous environmental site investigations related to the release of oil and other hazardous materials have been performed at the referenced Uniroyal property over the past several years by Gannett Fleming and GZA, on behalf of Michelin North America (MNA), the company who acquired the assets of the former Uniroyal Company. With respect to hazardous building materials, two separate assessments have been performed at the subject buildings and supplemental hazardous materials inspections have been completed as follows:

- GZA provided a preliminary hazardous materials inspection letter report of all buildings for the City of Chicopee in 2007;
- Smith & Wessel, under subcontract to BETA Group, completed a more detailed inspection and sampling program of Buildings 28S, 28N, 28N Extension and 33 in June 2011;
- MassDEP has funded a supplemental hazardous materials inspection of the remaining site buildings, final report completed by CDW Consultants, Inc. on October 31, 2012; and
- Smith and Wessel, under subcontract to BETA Group, completed a Draft Report for Asbestos-Containing Building Materials, Lead-Based Paint, Polychlorinated Biphenyls and Mercury Containing Components in Uniroyal Building 26 in November 2012.

With the completion of the supplemental asbestos and hazardous building materials inspection, the City has developed a reasonably comprehensive assessment of the extent and nature of the abatement requirements for the Uniroyal buildings whether these buildings are to be demolished or redeveloped as in the case of Building 26.

### **Applicable Regulations and Cleanup**

**Cleanup Oversight Responsibility:** The Commonwealth requires property owners to hire a Licensed Site Professional (LSP) if site cleanup activities are deemed necessary. As defined by the Commonwealth, the LSP “ensures that actions taken to address contaminated property comply with Massachusetts regulations and protect public health, safety, welfare and the environment.” In Massachusetts, LSPs are licensed by the state Board of Registration of Hazardous Waste Site Cleanup Professionals.

Following designation as a Brownfield Priority Project by MassDevelopment, the City released a Request for Proposals for Licensed Site Professional Services for the Uniroyal Site. The City followed all federal (40 CFR 31.36) and state public procurement guidelines during the process and has retained BETA Group, Inc. of Norwood, MA to provide LSP services related to oversight, assessment and cleanup of residual contamination and management of hazardous materials at the Site. Alan Hanscom, MA License #2152 – serves as the lead BETA representative to the City. The primary environmental regulations governing abatement of regulated building materials and cleanup of the Site include both federal regulations (the Resource Conservation and Recovery Act (RCRA), the Toxic Substances Control Act (TSCA), the National Emission Standards for Hazardous Air Pollutants (NESHAPS), the Occupational Safety and Health Administration (OSHA), state regulations including the Massachusetts Contingency Plan (MCP), the Wetlands Protection Act (WPA), Solid Waste Regulations (including asbestos, land bans, beneficial reuse

determinations and related guidance) and Air Quality Regulations, which generally mimic NESHAPS requirements.

Abatement of regulated building materials, whether prior to demolition or renovation of the subject buildings, is regulated under federal and state statutes that deal with air quality, solid and special waste management and worker protection. More specifically, there are two MassDEP Sections that deal with Multi-Media Compliance and Waste Site Cleanup, respectively, who are involved with monitoring compliance with applicable regulations that deal with abatement and management of regulated building materials, including federal RCRA and NESHAPS regulations. EPA Region 1 is responsible for dealing with TSCA regulations for dealing with PCB-impacted building materials and releases with concentrations greater than 50ppm. In addition, the Massachusetts Department of Labor Standards deal with Asbestos Worker licensing requirements, to ensure that asbestos planners, abatement designers, monitors and abatement workers have the requisite training to safely conduct their respective activities. Advance notification of asbestos abatement activities to MassDEP is required under the MassDEP Air Quality Regulations.

During the projects being funded under EPA's Cleanup Grants program, BETA will continue to provide LSP engineering and oversight services. BETA reports directly to the City's Office of Community Development (OCD) and BETA's services related to subsurface contamination are funded through the MassDevelopment Brownfields Priority Project Fund. Services related to building inspections, demolition and other related services are separately funded. Any additional contractors needed to perform the proposed cleanup projects will be retained following all federal (40 CFR 31.36) and state public procurement guidelines.

***Clean-up Standards for Major Contaminants and Planned Reuse:*** The various regulated building materials subject to pre-demolition abatement for this project include:

- *Asbestos containing building materials (ACBM)*, including both friable (easily crumbled, crushed or pulverized by hand) and non-friable suspect ACBM within the buildings, including the following types of materials:
  - Thermal system insulation, such as pipe, boiler, tank and duct insulation;
  - Surfacing materials, such as fireproofing, acoustical and decorative plasters, or other coatings applied by spray or trowel; and
  - Miscellaneous materials, such as floor and ceiling tiles, mastics, roofing materials and blown-in insulation.

***The applicable standards require segregation and off-site disposal of asbestos waste containing greater than 1% asbestos on a weight basis.***

Releases of asbestos containing materials to the environment are also regulated under the MCP.

- *Lead based painted surfaces* pose a potential risk to the environment due to leaching of lead from wastes placed in a landfill. The primary cleanup standard that drives decision making for lead paint is RCRA that regulates hazardous waste management.

***In the case of lead paint, the leachate standard is 5 mg/l for the Toxicity Characteristic Leaching Procedure Test (TCLP) that simulates an acidic environment in a landfill in the laboratory.***

The regulations require that representative sampling and testing be performed on the demolition debris that is to be disposed. In certain cases, exemptions apply when such materials are to be re-used or recycled. In either event, it is our opinion that surfaces with greater than five percent lead content be segregated and disposed of as RCRA hazardous waste. That threshold value may vary, depending upon the nature and volume of the lead painted materials with respect to the total volume to be disposed or recycled.

- Polychlorinated Biphenyls (PCBs) are primarily regulated under TSCA, with US EPA maintaining jurisdiction over all PCB releases greater than 50ppm. The management of most PCB-containing equipment and fluids is also regulated under TSCA, but may also be subject to various regulations under RCRA and the MCP. Releases to the environment less than 50ppm are regulated under the MCP.

***Laws & Regulations Applicable to the Cleanup:*** There are three primary federal regulations that govern the pre-demolition abatement and disposal of regulated building materials:

- Resource Conservation and Recovery Act (RCRA);
- Toxic Substances Control Act of 1976 (TSCA); and
- Asbestos Hazard Emergency Response Act (AHERA) of 1986.

In addition to the regulations promulgated under the referenced laws, the MassDEP and US EPA have provided numerous guidance documents and policies that govern the manner in which the presence of regulated building materials is determined and the manner in which they are removed, handled and disposed. Such regulations are very prescriptive and close adherence to the requirements is required, except in unusual circumstances when site-specific requirements are waived by state and/or federal regulators.

In this case, MassDEP has jurisdiction over most activities involving the abatement and off-site management of regulated building materials. Several federal and state solid and hazardous waste regulations, including air and resource protection regulations govern the licensing and permitting of pertinent recycling and disposal facilities.

Specific state regulations that govern pre-demolition abatement and off-site recycling and disposal activities include:

- Solid Waste Regulations, administered through MassDEP (310 CMR 7.000 and 19.0000);
- Air Quality Regulations, Department of Labor Standards, Division of Occupational Safety (453 CMR 6.00);
- Massachusetts Contingency Plan (MCP) at 310 CMR 40.0000; and
- Massachusetts Hazardous Waste Regulations at 310 CMR 30.0000.

There are numerous policy and guidance documents that also regulate the handling, transportation and management of regulated building materials.

Sampling protocols for the inspection and assessment of asbestos containing building materials are based upon the following EPA guidance documents:

- *The Asbestos Hazard Emergency Response Act*, 40 CFR Part 763;
- *Asbestos in Buildings: A Simplified Sampling Scheme for Friable Surfacing Materials*, (EPA Document 560/5-85-030a, October, 1985);
- *Asbestos Exposure Assessment in Buildings, Inspection Manual* (Yellow Book); and
- *Guidance for Controlling Asbestos-Containing Materials in Buildings* (EPA Document 560/5-85-024).

### **Evaluation of Clean-up Alternatives**

#### ***Clean-up Alternative A – No Action***

The “no action” alternative, while implementable, is not considered effective, since asbestos and related hazards would remain and abatement of the regulated building materials is required before building demolition or redevelopment (Building 26) can commence. Therefore, no further consideration of this alternative will be made.

#### ***Clean-up Alternative B – Conventional Abatement***

As discussed previously, the abatement measures and off-site management requirements for all regulated building materials, including the handling, transportation, disposal and documentation requirements are very prescriptive and there are few opportunities to deviate from those requirements.

While a few situations exist (i.e. the basement of Building 33 and much of Building 26) where some degree of conventional abatement can be performed, the vast majority of the buildings will require limited demolition to establish a safe working environment. That approach would generate commingled demolition debris and regulated building materials that, under conventional abatement, would require off-site disposal of large quantities of commingled debris at appropriately licensed disposal facilities. While the approach would be effective and is implementable, it could only be accomplished at great expense. Consequently, only a small amount of abatement work could be accomplished with available funding. Due to the huge expense to address unsafe building conditions and transporting wastes to receiving facilities, plus adverse impacts to the environment due to emissions from transport vehicles, conventional abatement will have limited application on this project.

#### ***Clean-up Alternative C – Alternative Work Practices***

As a Brownfield Support Team (BST) site, there has been significant discussion and a willingness on the part of MassDEP to relax certain abatement requirements, given the magnitude of the project and site-specific circumstances that may enable abatement to proceed without all of the work zone set-up and monitoring requirements. That is primarily due to the poor structural condition of the buildings to be demolished and, with the exception of asbestos workers; there are no sensitive receptors in the immediate vicinity of the work.

A Generic Asbestos Abatement Work Plan, applicable for site-wide demolition work, is under discussion with the BST, including MassDEP regulatory staff. Furthermore, the following items are under consideration under this project, as well as under a grant from MassDevelopment:

- Segregation and re-use of clean asphalt, brick and concrete (ABC) materials;
- Application for beneficial reuse of building materials (BUD) (primarily coated asphalt, brick and concrete), at the Site; and
- On-site consolidation of processed waste materials, under either a BUD approval or under applicable provisions of the MCP.

This approach is both implementable and effective, as demonstrated on the RiverMills Remediation Project, located immediately adjacent to this Site. Through the BST, the City successfully obtained a BUD approval and conducted a Release Abatement Measure (RAM) under the provisions of the MCP, to consolidate both asbestos-impacted soil/debris and PCB-impacted building demolition debris in a secure cell on the Site. Assuming the waste characterization data for the Uniroyal Buildings support on-site re-use of coated ABC materials, after segregation, processing and/or crushing, it is anticipated that a BUD approval through the MassDEP Solid Waste Section will be granted. While there will be site-specific conditions issued with such approval, significant savings would be realized and that any such re-use can be implemented in a manner that is protective of human health and the environment. Furthermore, significant benefits to the environment would be realized, since there would be limited off-site trucking and much less need to consume limited landfill capacity.

In addition, this project will include the following site-specific approaches for each parcel:

#### Parcel #124-03

On this parcel, Buildings 7 and 14 are targeted, since they are the most readily accessible. An assessment will be completed to determine the various means of safely accessing the regulated building materials through sequential demolition activities, supplemented with the removal of commingled building demolition debris and bulky items that may be more cost effectively abated under containment and safe working conditions. Under the MassDevelopment grant, we will be planning to assess alternative locations on the Site for a central processing/wash/load-out station for dealing with such commingled debris and bulky waste items.

#### Parcel #124-11

The condition of Building 43 lends itself to conventional abatement, however, it may be possible to take advantage of some other precedence for cost effective abatement. For example, it may be possible to remove bulky materials for abatement or decontamination at a central processing location. Once the nature of the materials to be abated is fully defined, an appropriate abatement strategy will be developed for implementation.

#### Parcel #147-09

The focus on this parcel is Building 33. The building's foundation represents a potential solution to a substantial impediment to site development. The PCB consolidation area, currently located between Uniroyal Buildings 7 and 29 needs to be relocated so that it does not impact redevelopment of that portion of the Site. Our approach will be to abate the regulated building materials in Building 33, much or all of which will require building demolition, so that the PCB-impacted soils can be relocated to the building's

basement. There is adequate capacity in Building 33's basement to accommodate the PCB-impacted soil, at least two feet above the seasonal high groundwater table and below an engineered barrier. An activity and use limitation (deed restriction; AUL) would be placed over the area upon completion; however, this plan for relocation of the waste materials is consistent with the overall site redevelopment plan.

#### Parcel #147-06

The former Uniroyal Administration Building is located on this 0.691-acre parcel and has been targeted for redevelopment. Based upon a Hazardous Materials Survey conducted by Smith & Wessel, there are significant quantities of asbestos containing building materials (piping, floor tile, roofing, etc.) that will require abatement. However, most of the abatement work can be conducted using conventional abatement measures.

### **Cost Estimates for Each Alternative**

#### **Clean-up Alternative A – No Action**

There would be no cost under this alternative.

#### **Clean-up Alternative B - Conventional Abatement**

##### Parcel #124-03 – Building 7

Conventional abatement will be feasible in approximately 5% of Building 7. Due to its deteriorated condition, some degree of structural stabilization and/or commingling of demolition debris (with or without segregation of asbestos containing building materials and Construction and Demolition (C&D debris) will be required to comply with conventional abatement requirements. The estimate of probable pre-demolition abatement costs for the regulated building materials related to Building 7 is well over **\$400,000**.

##### Parcel #124-11 – Building 43

Conventional abatement is largely feasible at Building 43; however, as part of the overall planning for the site redevelopment, the BST has laid the groundwork for alternative work practices. The probable pre-demolition abatement and management cost for regulated building materials at Building 43, including a 20% contingency, is **\$140,000**.

##### Parcel #147-09 – Building 33

Conventional abatement will be feasible in approximately 75% of Buildings 28, 29 and 33. Due to the deteriorated condition of Building 33, some degree of structural stabilization and/or commingling of demolition debris (with or without segregation of asbestos containing building materials and C&D debris) would be required to comply with conventional abatement requirements. The estimate of probable pre-demolition abatement costs for the regulated building materials related to all of the buildings located within this parcel is well over two million dollars. For Building 33 alone, the estimated cost for conventional abatement is approximately **\$280,000**.

### Parcel #147-06 – Building 26

Conventional abatement will be feasible in Building 26. For the project contemplated for under this grant application, we estimate that the abatement, including a 20% contingency, will cost approximately **\$650,000** if done under conventional abatement methods in conjunction with in-place management of selected asbestos containing building materials.

The conventional abatement methods involved are routinely provided on similar projects and there is little concern that they would not be effective.

### **Clean-up Alternative C – Alternative Work Practices**

The site-wide Generic Alternative Work Practices (AWP) Document, currently under development, will allow for one or more of the following:

- Relaxation of the pre-abatement work zone preparation requirements for construction of critical barriers at only windows, doors and other means of access and egress;
- Segregation and on or off-site management of commingled building demolition debris;
- Potential abatement and/or decontamination of bulky waste items at a central processing/wash/load-out facility on the site; and
- Other AWP's that may be identified.

The estimates of probable costs for implementation of pre-demolition abatement of regulated building materials, using MassDEP-approved alternative work practices, are summarized below, by parcel:

### Parcel #124-03 – Building 7

AWP abatement is anticipated to cost in excess of **\$240,000**, due to the deteriorated condition of the building and the sequential demolition that will be required. It is anticipated that a central processing/wash/load-out facility will allow for more cost effective abatement and decontamination than conventional abatement with disposal of commingled demolition debris. It will also benefit the Site and the environment, since less material will need to be managed off site, while allowing suitable materials to be reused as on-site fill.

### Parcel #124-11 – Building 43

AWP abatement is likely to reduce abatement costs by the approximate cost for erecting and removing critical barriers and other minor AWP's. The probable pre-demolition abatement and management cost for regulated building materials at Building 43, including a 20% contingency, is **\$120,000**.

### Parcel #147-09 – Building 33

AWP abatement is anticipated to cost on the order of **\$200,000**, assuming demolition of the building and salvage of the structural steel. We anticipate that demolition will be the most cost effective option to deal with the abatement of regulated building materials, due to unsafe building conditions in most of the building.

### Parcel #147-06 – Building 26

Building 26 has been targeted for redevelopment as part of the RiverMills redevelopment project. As the building currently has not experienced any structural collapses nor have any been deemed imminent and the main structural systems have been rated in fair condition – it is likely that most of the required abatement work will be conducted using conventional abatement measures. Any potential cost savings during the abatement will be realized more from ‘novel’ approaches to the work (i.e. the potential for in-place management and containment, vacuum collection through filtration system to collect materials in a contained collection vessel, etc.), which will likely be determined by the procured abatement contractor with input from the City’s LSP and MassDEP.

At this time, we are not anticipating the ability to utilize AWP’s as identified for the previously described parcels. Based upon current ideas and estimates, we believe the pre-renovation abatement costs may be reduced slightly from the **\$650,000** estimate.

While the building, to date, has been deemed in fair condition, the potential for further degradation prior to the commencement of abatement activities exists. Therefore, we may need to re-assess possible AWP options during the abatement design stage to see if viable, implementable and effective alternatives to conventional abatement are available.

### **Recommended Clean-up Alternative**

For all parcels, except Parcel #147-06, we recommend that **Cleanup Alternative C, Alternative Work Practices**, be the selected clean-up alternative. For Parcel #147-06, we recommend that **Cleanup Alternative B, Conventional Abatement**, be the selected clean-up alternative as the use of AWP’s is unlikely. Once approved, BETA would prepare contract and technical documents, suitable for public bidding, including a variety of options and payment items that will allow for prioritization of construction activities, by parcel. While the groundwork will be substantially laid for regulatory approvals during the design phase, the selected Contractor will be required to prepare and submit various Health & Safety, Asbestos Abatement and Related Plans and Work Schedules to demonstrate compliance with the Contract Documents. The Contractor will be solely responsible for all construction means and methods.

Currently, the City anticipates bidding these abatement projects in April/May 2013 and competing abatement activities in September/October 2013. A final report that documents the completion of all cleanup activities planned as part of this project and complete documentation of the disposal of asbestos and other waste streams will be compiled following the completion of the project.