

Analysis of Brownfields Clean-up Alternatives

Former Uniroyal Tire Complex – Parcel #147-06

City of Chicopee, Massachusetts

Introduction and Background

Site Location: Former Uniroyal Tire Complex – Parcel #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 the 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, 17 vacant buildings, encompassing 1.5 million square feet, remain standing at the Site.

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.

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.

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 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 stormwater and toe drain systems during 2011, 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 Massachusetts Department of Environmental Protection (MassDEP). As additional buildings are demolished at the Site, MNA has indicated they will be implementing 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 required.

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 and the Toxic Substances Control Act 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 16 of which will ultimately be demolished. The final structure, Building 26, the Uniroyal Administration Building, located on Parcel #147-06 will be marketed for redevelopment 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 the BETA Group, Inc. in August 2010 confirmed the findings of the Tighe & Bond report and found Building 26 to be in reasonably good condition a the most likely Uniroyal building to be redeveloped in the future.

Reference is made to the section of this ABCA 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 the 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 River Walk 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 thirty (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 sustainable development practices, and plans to pursue LEED certification for the City's new Older Adult Community Center, which is considered the first RiverMills redevelopment project. - 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 and the City will work with the preferred developer to incorporate such practices into the redevelopment of Building 26.

- Effective Public-Private Partnership: With City, 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, 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 also 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, completed a more detailed inspection and sampling program of Buildings 28S, 28N, 28N Extension and 33 in June 2011;
- MassDEP funded supplemental hazardous materials inspections of Buildings 7, 8, 14, 27, 29, 28N, 28S, 28N. Ext., 28 Ext., 33, 40, 42, 43 & 45, draft report issued in August 2012; and
- Smith and Wessel, under subcontract to BETA, completed a more detailed inspection and sampling program of Building 26, the subject building of this proposal, in November 2012.

With the completion of the supplemental asbestos and hazardous building materials inspection, we have 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 in the case of Building 26, as part of -site redevelopment.

Applicable Regulations and Cleanup

Cleanup Oversight Responsibility: The Commonwealth requires property owners to hire a Licensed Site Professional (LSP) if 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 cleanup of the Site include the Massachusetts Contingency Plan (MCP), the Wetlands Protection Act (WPA), the Resource Conservation and Recovery Act (RCRA) and the Toxic Substances Control Act (TSCA).

BETA reports directly to the City's Office of Community Development and BETA's services related to subsurface contamination is funded through the MassDevelopment Brownfields Priority Project Fund. Services related to building inspections, demolition and other related services are separately funded. If funding is appropriated under EPA's Cleanup Grants program, BETA would continue to provide LSP and oversight services. 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, including both friable (easily crumbled, crushed, or pulverized by hand) and non-friable suspect ACM 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 Massachusetts Contingency Plan.

- 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 the Resource Conservation and Recovery Act (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 5% lead content be segregated and disposed 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 USEPA maintaining jurisdiction over all PCB releases greater than 50 ppm. 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 Massachusetts Contingency Plan (MCP). Releases to the environment less than 50 ppm 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, the 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 is simply not feasible/practical in light of the abovementioned project goals. While abatement of Building 26 could feasibly be left to redevelopers, the associated abatement costs would severely restrict the parcel’s appeal and marketability to such redevelopers, and in turn, serve to obstruct comprehensive realization of the project goals. Moreover, even if demolition were to occur, since abatement of the regulated building materials is/would be required before building demolition can commence. Therefore, abatement must occur in one form or another. 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. This alternative includes complete compliance with all of the regulatory requirements.

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 the MassDEP to relax certain abatement requirements, given the magnitude of the project and site-specific circumstances that enable abatement to proceed without many of the work zone set-up and monitoring requirements. That is primarily due to the 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 abatement work, is under discussion with the Brownfields Support Team, including MassDEP regulatory staff.

In the case of Building 26, where redevelopment not demolition is the key objective, completing abatement activities is key to the economic feasibility of the building’s reuse. The former Uniroyal property (south portion of the RiverMills project) is slated as Phase II of the redevelopment project, with the selection of a preferred developer awaiting the City’s ability to complete all necessary assessment, abatement, demolition as well as MNA’s fulfillment of environmental responsibilities. By completing the abatement of building 26, the City will be able to protect the structure from further water infiltration and deterioration until marketing materials are developed. Additionally, the completion of this work will remove a significant cost to redevelopment that would otherwise need to be shouldered by a private developer, which could realistically become economically infeasible based upon estimated redevelopment costs developed during the RiverMills Visioning process.

Cost Estimates for Each Alternative

Clean-up Alternative A – No Action

Not Applicable

Clean-up Alternative B - Conventional Abatement

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 \$#####, if done under convention abatement methods.

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

Clean-up Alternative C – Alternative Work Practices

Alternative work practices for this project are proposed to include relaxation of the pre-abatement work zone preparation requirements and construction of critical barriers at only windows, doors and other means of access and egress.

The estimate of probable costs for implementation of abatement of regulated building materials, using MassDEP-approved alternative work practices, is \$#####.

Recommended Clean-up Alternative:

We recommend that Alternative #3, Alternative Work Practices, be the selected clean-up alternative.