

Analysis of Brownfields Cleanup Alternatives

*Former Uniroyal Tire Complex – Building #15
City of Chicopee, Massachusetts*

Introduction and Background

Site Location: Former Uniroyal Tire Complex – Building #15
154 Grove Street
Chicopee, MA 01020
Owner: City of Chicopee

Previous Uses of the Site: *The former Uniroyal Tire Complex* consists of approximately twenty-eight (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, and truck tires as well as 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, five (5) vacant buildings, encompassing approximately one million square feet, remain standing at the Site.

Building #15 encompasses a footprint of approximately 8,214 square feet (0.19 acres) of the Uniroyal property with approximately 23,987 square feet of vacant industrial space on four (4) floors. The building historically functioned as the power generation station for the Uniroyal Complex, housing large turbines and transformers that utilized coal and oil to produce energy. The building is also connected to a conveyor system (coal delivery) and a large smokestack. A structural analysis was completed for the building in 2010 which rated the structure in poor condition with external masonry wall, roof deck, and steel column deterioration evident. Hazardous building materials including asbestos, lead, mercury, polychlorinated biphenyls (PCBs), bird guano & carcasses, and other miscellaneous hazardous materials have been identified within the building and are the subject of this cleanup proposal.

Former manufacturing operations entailed the use of approximately twenty-two (22) underground storage tanks (USTs) and five (5) aboveground storage tanks for the storage of various petroleum products and solvents. Twenty-five (25) pad and/or wall-mounted transformers were used to distribute electrical power for site operations. Of these, twenty-three (23) contained PCB based dielectric fluids. Also, 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 (<10ppm) on the Site and has initiated construction of a temporary cap under applicable Toxic Substances Control Act (TSCA) regulations. Further, MNA has submitted a Risk-based Disposal Plan (RBDP) to the United States Environmental Protection Agency (U.S. EPA) for review and approval. This RBDP would address remaining PCB-contaminated materials existing at the Site.

Currently known residual site contamination includes PCBs, heavy metals, extractable petroleum hydrocarbons (EPH), semi-volatile organic compounds (SVOCs) & volatile organic compounds (VOCs) in soil, and EPH & VOCs in groundwater. PCBs have also been identified in accumulated sediment in on-site storm water drainage systems and in the toe drain system for the flood control levees along the westerly boundary of the Site. MNA cleaned many of the storm water drains and toe drain systems during 2011 and 2014, under a U.S. 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 is implementing supplemental subsurface investigations. During 2014, subsurface investigations were conducted at the footprints of former Uniroyal Buildings #7, #33, and #43. 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 Massachusetts General Laws Chapter 21E, the Massachusetts Contingency Plan (MCP), and the Toxic Substances Control Act (TSCA) regulations. The assessment and abatement of hazardous building materials within the on-site buildings, along with actual demolition of most of the buildings, are the City's responsibility and are separately funded from MNA's efforts. To date, the City has demolished seventeen (17) buildings, leaving five (5) structures to be abated and/or demolished to allow redevelopment plans to move forward. Currently, the City intends to preserve and request development proposals for former Buildings #25, #26, #27, and #42 upon completion of all required assessment and cleanup activities.

A structural condition assessment report of the Uniroyal buildings was prepared by Tighe & Bond in May 2011 that documents the very poor structural condition of nine (9) of eleven (11) buildings on the former Uniroyal property. Subsequently, structural evaluations by BETA Group, Inc. (BETA) have identified additional buildings for demolition.

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

Project Goals: The former Uniroyal 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 one of the Commonwealth’s largest Brownfields redevelopment projects and the largest such project in Chicopee’s history.

The RiverMills Vision Plan was completed in December 2010. Extensive community outreach resulted in a plan that reflects community desires and is endorsed by the City as the official redevelopment guide for the former Uniroyal and neighboring Facemate properties. The Vision 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 to be molded. This mixed-use 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 Senior Center, which opened in September 2014, and a proposed Community 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 will include complementary uses that directly and indirectly enhance the area as a place to live, work, shop, dine, visit, and connect with recreational and environmental amenities. Schemes should provide for high-quality improvements 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, honoring 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 Canal & 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 Chicopee 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 Leadership in Energy and Environmental Design (LEED) certification for the City's new Senior 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.
- *Effective Public-Private Partnership:* With City, State, and Federal agency investments of over \$20,000,000 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 Uniroyal property over the past several years by GZA GeoEnvironmental, Inc. (GZA), on behalf of MNA, the company who acquired the assets of the former Uniroyal Company. With respect to hazardous building materials, several assessments have been performed at the subject buildings and supplemental hazardous materials inspections will be conducted, as required, to supplement inspections conducted to date. Non-traditional Work Plans (NTWP) for asbestos were prepared and implemented at former Uniroyal Buildings #7, #8, #14, and #33 in 2014, and the Building #28 series in 2019. The following assessments have been used in preparing the proposed cleanup project for Uniroyal Building #15:

- GZA provided a preliminary hazardous materials inspection letter report of all buildings for the City of Chicopee in 2007;
- Smith & Wessel Associates, Inc. (Smith & Wessel), under subcontract to BETA Group, completed a more detailed inspection and sampling program of Building #15 in February 2016;
- CDW Consultants, Inc., using U.S. EPA grant funds, administered through MassDEP, conducted supplemental hazardous materials inspections of many of the remaining Uniroyal buildings in late 2011 and early 2012, where deteriorated building conditions did not prevent safe access; and
- BETA and Smith & Wessel using U.S. EPA grant funds conducted a supplemental hazardous materials inspection for Buildings #15, #27, and #42 in June through August of 2020. This work included sampling for PCBs, lead-based paint, and ACBM.

Applicable Regulations and Cleanup

Cleanup Oversight Responsibility: The Commonwealth requires property owners to hire a Licensed Site Professional (LSP) when 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 Commonwealth’s 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 (RFP) for Licensed Site Professional Services for the Uniroyal Site. The City followed all federal procurement requirements under Title 40 of the Code of Federal Regulations Part 31.36 (40 CFR 31.36) and state public procurement guidelines during the process and has retained BETA Group, Inc. of Chicopee, MA to provide LSP services related to oversight, assessment, and cleanup of residual contamination and management of hazardous materials at the Site. Robert Smith, MA LSP License #7839, serves as the lead BETA representative to the City. The primary environmental regulations governing cleanup of the Site include the MCP, the Wetlands Protection Act (WPA), the Resource Conservation and Recovery Act (RCRA) and TSCA.

BETA reports directly to the City’s Department of Planning & Development and BETA’s services related to subsurface contamination are primarily funded through the MassDevelopment Brownfields Priority Project Fund and through City funds appropriated by the Chicopee City Council. Services related to building inspections, demolition, and other related services are separately funded, when possible, through other funding sources. This ABCA documents that additional funding has been awarded through the U.S. EPA’s Brownfields Cleanup Program and BETA will continue to provide LSP and oversight services. Any additional services needed to perform the proposed cleanup projects will be retained following all applicable federal and state public procurement regulations and guidelines.

Cleanup 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;
 - Window glazing and caulking;
 - 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 federal and state 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 waste placed in a landfill. The primary cleanup standard that drives decision making for lead paint is the RCRA which regulates hazardous waste management.

In the case of lead paint, the leachate standard is 5 mg/l for the Toxicity Characteristic Leaching Procedure (TCLP) that simulates an acidic environment of 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 such as scrap metal. Surfaces with greater than 5% lead content that cannot be properly recycled will 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.

- PCBs are primarily regulated under TSCA, with U.S. EPA maintaining jurisdiction over all PCB releases greater than 50 parts per million (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 MCP. Releases to the environment less than 50 ppm may be regulated under the MCP.

Inspections and sampling conducted at Building #15 have identified only window glazing with PCBs above the 50 ppm threshold. Windows and surrounding substrate are proposed to be removed under a TSCA Performance Based Disposal Plan. Several materials were identified with PCBs below 50 ppm including, but not limited to paint on walls, and equipment and floor coatings. These materials are not subject to TSCA but will require disposal at a licensed disposal facility.

Laws & Regulations Applicable to the Cleanup: There are two (2) primary federal regulations that govern the pre-demolition abatement and disposal of regulated building materials at industrial facilities:

- RCRA; and
- TSCA.

In addition to the regulations promulgated under the referenced laws, MassDEP and U.S. EPA have provided numerous guidance documents and policies that govern the manner in which the presence of regulated building materials are determined and the manner in which they are removed, handled, and disposed. Such regulations are very prescriptive and close adherence with

these 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 under the Secretary of State's Code of Massachusetts Regulations (CMR) that govern pre-demolition abatement and off-site recycling and disposal activities include:

- Solid Waste Regulations, administered through MassDEP (19.0000);
- Air Pollution Control Regulations - Asbestos, administered through MassDEP (310 CMR 7.15);
- Air Quality Regulations, Department of Labor Standards, Division of Occupational Safety (453 CMR 6.00);
- 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 U.S. EPA guidance documents:

- 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 Cleanup Alternatives

Cleanup Alternative A – No Action

The “No Action” alternative is not feasible, since abatement of regulated building materials are required before building demolition can commence. Therefore, no further consideration of this alternative will be made.

Impacts on Regional Climate Change Projections: As the “No Action” alternative is not feasible, a discussion of the impacts of climate change is not applicable.

Cleanup 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 regulatory requirements.

Only limited materials in the building can be abated through conventional methods such as pipe insulation, transite piping, electrical power components, boiler breeching, etc. Exterior material such as roofing, galbestos siding, and exterior skim coats would require non-traditional abatement methods due to their elevated location and potential structural issues. Large areas of the building including the basement and first floor contain loose ACBM which have been released from their source and contaminated equipment and are co-mingled with other debris and contaminants which requires non-traditional abatement methods. Conventional Abatement will have a limited application for Building #15 and will not be considered the primary alternative.

Impacts from Regional Climate Change Projections: The Northeast region is projected to see increased temperatures in addition to an increase in the magnitude and frequency of heavy precipitation events should changes to regional climate characteristics continue. An increase in heavy precipitation events increases the potential of flooding. For Conventional Abatement, regional climate change impacts would not be expected to have any influence over the successful completion of the proposed work. As this project encompasses the abatement and off-site management of regulated building materials, all such materials would be removed and disposed of at appropriate facilities – no hazardous materials to be managed as part of the proposed project would be expected to be managed on-site.

Cleanup Alternative C – Alternative Work Practices

As a previous 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 **deteriorated condition of the building**, presence of large quantities of asbestos containing building materials and lack of human receptors in the immediate vicinity of the work. Under this Alternative, the City will seek a NTWP for asbestos to allow abatement of ACBM that are not currently feasible for Conventional Abatement.

Impacts from Regional Climate Change Projections: The Northeast region is projected to see increased temperatures, in addition, to an increase in the magnitude and frequency of heavy precipitation events should changes to regional climate characteristics continue. An increase in heavy precipitation events increases the potential of flooding. For Alternative Work Practices, regional climate change impacts would not be expected to have any influence over the successful completion of the proposed work. As this project encompasses the abatement and off-site management of regulated building materials, all such materials would be removed and disposed of at appropriate facilities – no hazardous materials to be managed as part of the proposed project would be expected to be managed on-site.

Cost Estimates for Each Cleanup Alternative

Cleanup Alternative A – No Action

Not Applicable

Cleanup Alternative B - Conventional Abatement

Conventional Abatement of asbestos and other regulated building materials will be feasible in select portions of Building #15. The estimate of probable pre-demolition abatement costs for the regulated building materials related to all of the remaining buildings located within the Uniroyal Complex is well over \$2.5 million. For the project contemplated under this ABCA, Conventional Abatement prior to demolition inclusive of a 20% contingency is estimated to cost approximately \$750,000.

The abatement methods to be involved are routinely provided on similar projects and there is little concern that these methods would not be effective, however Conventional Abatement is not feasible in large areas of the building.

Cleanup Alternative C – Alternative Work Practices

Alternative Work Practices (AWPs) for this project are proposed to include:

- Relaxation of the pre-abatement work zone preparation requirements and construction of critical barriers only at windows, doors, and other means of access and egress to allow decontamination of large areas of the building;
- Other AWPs that may be identified by a selected cleanup contractor during execution of abatement activities to allow market forces to identify the most cost-effective alternatives;
- Decontamination of large equipment with non-porous surfaces;
- Partial demolition of selected areas of the building including galbestos siding, skim coated walls, and other areas containing ACBM; and
- Conventional Abatement of selected areas of the building are proposed where feasible.

The estimate of probable costs for implementation of the pre-demolition abatement of regulated building materials through Alternative Work Practices inclusive of a MassDEP-approved NTWP and Conventional Abatement Plan for a portion of the building is \$600,000.

Recommended Cleanup Alternative

It is recommended that Alternative C – Alternative Work Practices with selective Conventional Abatement be the selected Cleanup Alternative.