Analysis of Brownfields Cleanup Alternatives
Former Facemate Property – Redevelopment Lot #1
West Main Street
City of Chicopee, Massachusetts

Introduction and Background

Site Location: Former Facemate Property – Redevelopment Lot #1
West Main Street
Chicopee, MA 01020
Owner: City of Chicopee

Previous Uses of the Site: *The former Facemate Corporation property* consisted of two parcels totaling approximately 20.2 acres and was developed in the early 1800s for the manufacture of textiles (see Figure 1). Between 1823 and 1915 the Site was owned by the Chicopee Manufacturing Company which manufactured and processed cotton cloth. The property was bought by Johnson & Johnson in 1915, who continued similar production activities. In 1977, the property was purchased by Facemate Corporation, which produced finished cotton and synthetic cloth. Facemate Corporation was forced to shut down in 2003 due to bankruptcy and foreclosure proceedings.

The City of Chicopee (City) completed approximately $10 million in site-wide demolition and remediation work during summer and fall of 2013. Additionally, the City has completed a Land Title Survey and Subdivision Plan for the property to create three redevelopment parcels. The middle parcel has already been redeveloped as a Senior Center for the City (known as RiverMills Center).

Redevelopment Lot #1 (the "Site") consists of approximately 4.05 acres and encompasses the southern portion of the former Facemate property (see Figure 2). It includes former Facemate Building C (known as the Baskin Building), a rectangular brick warehouse building consisting of two (2) levels. Dimensions are approximately 146 feet by 38 feet with a finished space of approximately 11,000 square feet.

Past Assessment Findings: An ASTM Phase I Environmental Site Assessment was completed in April 2010 for Redevelopment Lot #1. Historic use of Redevelopment Lot #1 included heavy manufacturing, with a canal, penstocks and tail races, making it very likely that buried demolition debris is located throughout much of the parcel. The Phase I identified the presence of current and former fuel oil underground storage tanks (USTs), an oil/water separator and PCB-containing electrical equipment as recognized environmental conditions (RECs). Numerous other sources of contamination were identified as environmental concerns, including the USTs, aboveground storage tanks and other oil and hazardous materials used in, stored and/or generated during historic manufacturing operations.

Since that time, there has been significant cleanup of rail beds and surficial solid wastes. Over 3,000 cubic yards of rail bed soils were excavated and relocated to a consolidation area located on an adjacent parcel and layered with crushed asphalt, brick and concrete. During on-going Phase II investigations, twelve exploratory test pits were excavated and buried demolition debris was encountered in many of them. Surface soil sampling conducted along abandoned rail lines identified the presence of heavy metals, polynuclear aromatic hydrocarbons (PAHs) and residual pesticides/herbicides. A total of eight soil borings were progressed at "suspect" locations on the Site and two of them were completed as groundwater

monitoring wells (see Figure 3 for well locations). No groundwater contamination was encountered at those locations.

Subsurface investigation activities conducted between August 2010 and September 2011 were documented in the Phase I Initial Site Investigation Report submitted to MassDEP in January 2012. Analytical results were compared to applicable Massachusetts Contingency Plan (MCP: 310 CMR 40.0000) Reportable Concentrations (RCs). The following compounds were detected in site soils at concentrations exceeding RCs: arsenic, cadmium, chromium, lead, PAHs and extractable petroleum hydrocarbons (EPH). Groundwater contamination was not detected.

Project Goals: The former Facemate 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 Senior Center (known as RiverMills Center) and a potential Family Recreation Center. Estimates indicate that this scheme will leverage an estimated $100 million in private investment when full buildout is achieved and will 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 is pursuing LEED certification for the City's new Senior Center, which is 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. The City will work with the preferred developer to incorporate such practices into the reuse of the Baskin Building.

- *Effective Public-Private Partnership:* With City, state and federal agency investments of nearly $30 million to date, redevelopment schemes should not place disproportionate requirements on City resources.

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 Facemate 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 Chicopee, 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 LSP License #2152, serves as the lead BETA Group, Inc. (BETA) representative for the City.

The primary environmental regulations governing cleanup of the Site include the Massachusetts Contingency Plan (MCP); the MassDEP Solid Waste Regulations (310 CMR 19.0000); the Wetlands

Protection Act (WPA), the Rivers Protection Act (RPA); 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 (OCD) and BETA's services related to subsurface contamination have been funded through the MassDevelopment Brownfields Priority Project Fund. Services related to building inspections, demolition and other related services are separately funded. BETA is under contract to the City's OCD to provide ongoing LSP and oversight services as part of this U.S. EPA Brownfields Cleanup project. 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.

Cleanup Standards for Major Contaminants and Planned Reuse: The Site is likely to include some combination of residential, commercial and recreational uses upon redevelopment. To that end, the primary regulations dealing with environmental contamination and buried demolition debris are the MCP, RCRA, TSCA and the MassDEP Solid Waste Regulations. Cleanup standards can vary under the applicable regulations, supported by risk characterization performed largely under the provisions of the MCP. Cleanup at the Site will involve some form of Activity and Use Limitation (AUL) under the MCP.

- Environmental releases of regulated contaminants, including heavy metals, petroleum and PAHs, are largely regulated under the MCP. Depending upon the concentrations, potential for exposure and Site inhabitants, varying standards apply. When such exposure is eliminated (or significantly limited) by capping and implementation of an activity and use limitation(s), higher concentrations of residual contamination can remain on the Site without impact to human health or the environment. In certain circumstances, contaminated soil will be characterized for off-site management for beneficial reuse (landfill cover, asphalt batching, etc.), when on-site management is either undesirable of infeasible.

- The presence of buried demolition debris is a significant issue at the Site. Of particular concern is the likely presence of asbestos and other regulated building materials, including PCBs, mercury, lead and other contamination regulated under the MCP. The remaining debris is largely comprised of solid waste. The inert factions of solid waste (asphalt, bricks and concrete) may be reused on-site under a generic beneficial use determination issued by MassDEP. This may require segregation of deleterious materials, including rebar, crushing to 3-6 inches and placement in a designated area of the Site. Trash, refuse and other similar materials require segregation and off-site management at an appropriately licensed disposal facility. Reusable and recyclable materials (i.e. wood, metal, glass, plastics, etc.) will be managed at appropriately licensed off-site reuse and/or recycling facilities. In certain circumstances, on-site containment of asbestos and other inert type contaminants may be permitted under the MCP or under certain provisions of the MassDEP Solid Waste regulations (i.e. special waste determination, beneficial use determination, demonstration of need, etc.).

- Polychlorinated Biphenyls (PCBs) are primarily regulated under TSCA, with U.S. EPA 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 MCP. Releases to the environment from sources containing less than 50 ppm are regulated under the MCP. Under certain circumstances, a risk based cleanup may justify leaving PCB concentrations less than 100 ppm in place, with appropriate capping and

implementation of an AUL. The current Risk Based Cleanup Plan for the Site provides for off-site management of all PCB-impacted soils with concentrations greater than 50 ppm.

- Contaminated wastes or byproducts generated from historical manufacturing operations may be encountered on the Site. These wastes are primarily regulated under RCRA and associated provisions under the MCP. The standards vary widely, depending upon the nature of the manufacturing and the categorical standards that apply. It will be established as to whether or not any such wastes are 'listed' or considered 'categorically hazardous' under the RCRA statute. Further, it will be established whether any such waste demonstrates 'hazardous' characteristics, as defined under RCRA. If wastes are determined to be hazardous, they will be managed off-site at an appropriately licensed hazardous waste landfill. In certain cases, on-site treatment may be used to allow for off-site management at a Special Waste Landfill.

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 U.S. EPA have provided numerous guidance documents and policies that govern the manner in which the presence of regulated building materials in buried demolition debris is handled and managed. 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 buried demolition debris. 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 environmental site investigations, characterization 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 also numerous state and federal policy and guidance documents that regulate the handling, transportation and off-site management of contaminated soil, groundwater and buried demolition debris.

Changing Climate Concern

Changing climate conditions modeled for the Northeast may impact proposed Site cleanup remedies. Due to its interior urban, industrial location and the proposed reuse of the Site, the following changing climate conditions are not applicable: rising sea level, changing environmental/ecological zones, increased salt water intrusion, changing dates of ground thaw/freezing, changing groundwater tables, and increased risk of wildfires. Furthermore, the Site is not subject to flooding due to the presence of the Army Corp of Engineers (ACOE) flood protection system. The wall, in conjunction with the Barre Falls and Conant Brook dams, provides flood protection for the Chicopee Falls area.

According to the *Regional Climate Trends for the US National Climate Assessment Part 1. Climate of the Northeast US*, NOAA Technical Report. NESDIS 142-1 (2014), historical data indicates that temperatures are trending upward with more pronounced warming during the winter and spring seasons, and annual precipitation shows a clear shift towards greater variability and higher totals. Increased precipitation and extreme weather events are identified as climate changes that may impact the effectiveness of remedial alternatives identified at the Site. Under current Site conditions, increased precipitation and extreme weather could result in additional stormwater runoff and potential erosion to the Site. The likely remedial alternative is capping with a permeable cap, which will allow for infiltration of stormwater. Additionally, part of the design planning is to retain stormwater on the Site and direct excess stormwater to the ACOE stormwater interceptor, which is connected to a pumping station located to the east. Stormwater is then discharged to the Chicopee River. Therefore, increased stormwater discharge due to increased precipitation and greater storm intensity is not expected to impact the Site.

Evaluation of Cleanup Alternatives

Three different cleanup alternatives were considered to address contamination at the Site, including Alternative A – No Action, Alternative B – Cap in Place with On and Off Site Management of Debris, Wastes and Contaminated Soil, and Alternative C – Excavation and Off-Site Management of all Debris, Wastes and Contaminated Soil.

Cleanup Alternative A – No Action

Effectiveness: The 'no action' alternative is not effective in controlling or preventing the exposure of receptors to contamination at the Site. . The associated cleanup costs would severely restrict the parcel's appeal and marketability and in turn, serve to obstruct realization of the project goals.

Feasibility: The "no action" alternative requires no implementation.

Cost: There will be no costs associated with Cleanup Alternative A - No Action.

Cleanup Alternative B – Cap in Place with On- and Off-Site Management of Debris, Wastes and Contaminated Soil

Overview: Where the residual contaminant levels meet acceptable risk management objectives under the MCP, capping with two feet of an engineered barrier (i.e. parking areas) and/or three feet of soil in landscaped areas is often a cost effective strategy that is protective of both human health and the environment. It is likely that this alternative would also include off-site management of: recyclable and reusable materials, all hazardous and special wastes, and any other deleterious materials that are not suitable for capping on the Site. On-site consolidation of certain debris and/or contaminated soil in designated areas (i.e. parking, under buildings, etc.) may also be implemented where appropriate and consistent with applicable regulations.

This alternative has the potential to be compromised by the climate change concern identified above (increased storm frequency and intensity), if proper engineering and stormwater controls are not incorporated into the redevelopment plans. Increased stormwater runoff may promote erosion of proposed landscaped portions of the cover. Ongoing maintenance will be required in landscaped areas to reduce erosion potential. Erosion control best management practices (BMP) will be implemented to prevent erosion of the Site in the event of storms during construction. The cap will also be permeable to allow for infiltration of precipitation and stormwater. As discussed in the section above, stormwater management controls will be implemented to retain stormwater onsite and excess stormwater will be directed to the ACOE interceptor, with eventual discharge to the Chicopee River.

In addition to capping, an activity and use limitation (AUL) is proposed for the Site. The AUL will provide for the sustainability for this alternative through maintenance and substantially restrict access to contaminated materials by future owners, users or utility workers.

Effectiveness: Capping of the Site is an effective approach for preventing human and other receptors from coming into direct contact with contaminated soils and any consolidated debris or wastes. Based on current Site data, there is no impact to groundwater at the Site, and no significant concentrations of volatile organic compounds (VOCs) have been identified at the Site. Consequently, vapor intrusion is not considered to represent an exposure pathway at the Site.

The off-site management of debris, wastes and contaminated soil is effective, as the material will be removed from the Site and exposure to Site receptors will be eliminated.

Feasibility: Capping of the Site is relatively easy to implement, although ongoing monitoring and maintenance of the integrity of the cap will be required. This Alternative requires the filing of an AUL on the deed for the Site to limit inadvertent exposure to know subsurface contamination. If future Site activities require the disturbance of soils after the filing of the AUL, an LSP must be involved for the protection of workers and to make sure that the contaminated soil is properly managed in accordance with MCP and other applicable regulatory requirements.

Cost: The estimated cost for capping impacted areas of the Site would range from approximately **$750,000 to $1.5 million**, depending upon the nature and extent of subsurface contamination and debris encountered during redevelopment. The actual cleanup will be dependent upon the redevelopment plan for the Site, including considerations for subsurface utilities, stormwater management, the degree of fill materials placed on the Site and several other factors to be defined once the final redevelopment plan is known.

Cleanup Alternative C – Excavation & Off-Site Management of All Debris, Wastes and Contaminated Soil

Overview: This alternative would provide for the delineation, characterization and off-site management of all debris, wastes and contaminated soil, consistent with applicable regulations. Typical activities would include segregation and off-site recycling of recyclable materials (metal, glass, plastics, etc.) at appropriately licensed off-site recycling facilities, characterization and off-site reuse of contaminated soil (i.e. landfill cover material, asphalt batching, etc.), characterization and disposal at appropriately licensed disposal facilities (solid wastes, hazardous wastes, TSCA wastes, special wastes, etc.), and implementation of other applicable off-site management options, depending upon the nature of the materials encountered. In the event contaminated sludge or other similar materials are encountered, such materials would likely be chemically and/or physically stabilized prior to shipping.

This alternative requires significant off-site disposal of contaminated soils resulting in greater fuel consumption and greenhouse gas emissions during contaminated soil transport.

In the short term, this alternative has the potential to be compromised by the climate change concern identified above (increased storm frequency and intensity). However, proper engineering and stormwater controls will be incorporated into Site redevelopment plans. Erosion control BMPs will also be in place to prevent erosion of the Site during construction.

Since all contamination is proposed to be removed, this alternative has long term sustainability in a changing climate since the identified climate change concern will not affect this alternative, as it can be completed within a relatively short timeframe.

Effectiveness: The excavation and off-site management of debris, wastes and contaminated soil is an effective approach, as the material will be removed from the Site and the exposure to Site receptors will be eliminated.

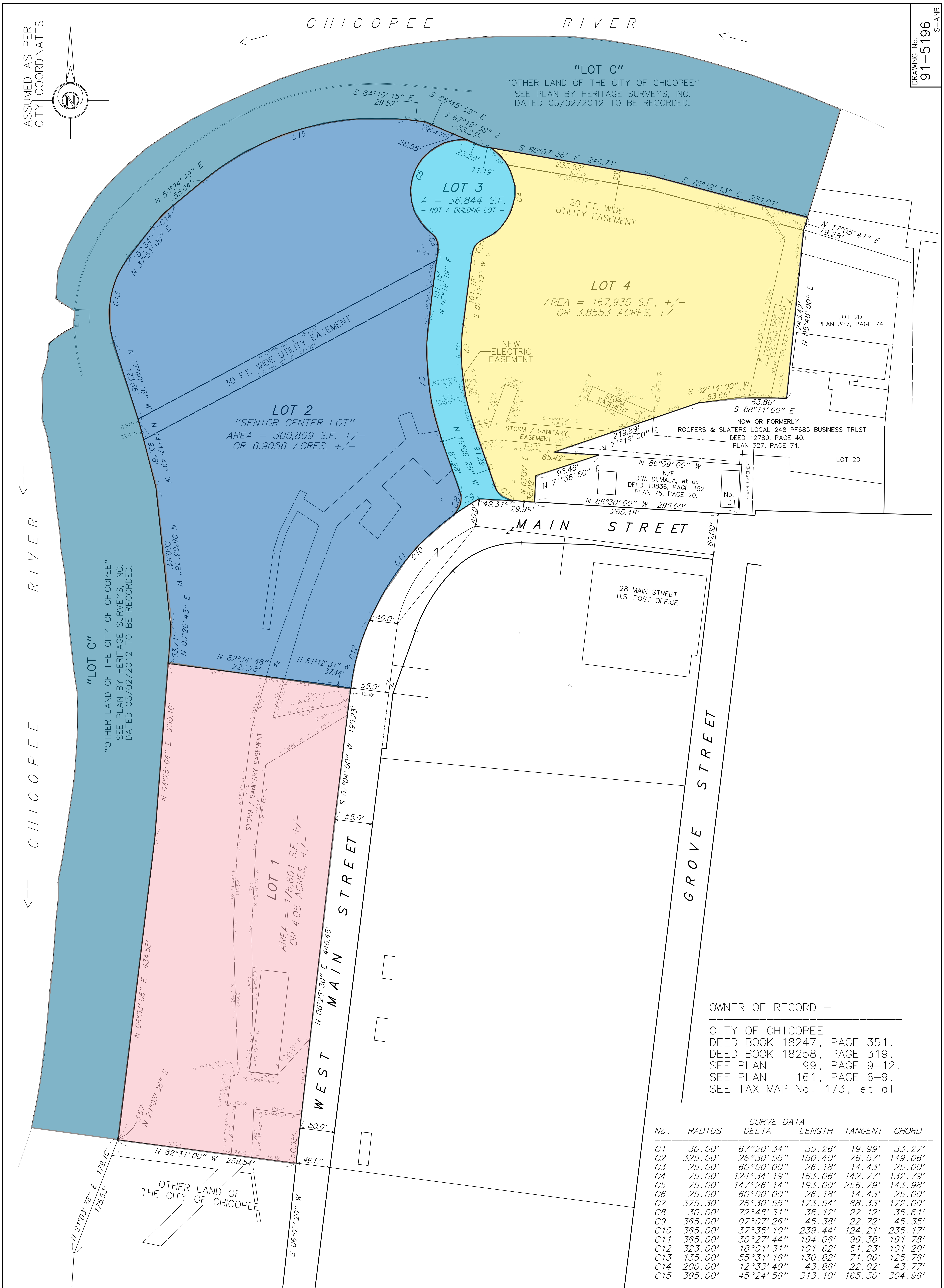
Feasibility: The excavation and off-Site management of all debris, wastes and contaminated soils is moderately difficult to implement. Dust suppression and monitoring activities may be required during loading activities and steps will need to be taken to prevent trucks from tracking soils on nearby roadways. Post-excavation sampling and analysis would need to be conducted to confirm the removal of contaminated soil, and fill material may need to be imported to the Site. Ongoing monitoring and/or maintenance would not be required following excavation and off-site disposal of debris, wastes and contaminated soil. However, the filing of an AUL would not be required.

Cost: To excavate, characterize and manage all debris, wastes and contaminated soil from the Site, estimated costs are on the order of **$3.2 million.** This estimate is based upon recent remediation work performed on adjacent Facemate parcels, assuming similar subsurface debris, wastes and soil contamination will be encountered.

Recommended Cleanup Alternative

Alternative B – Cap in Place with On- and Off-Site Management of Debris, Wastes and Contaminated Soil is the recommended cleanup alternative. This alternative will allow for cost-effective management of

subsurface debris, wastes and soil, using risk characterization and capping strategies, consistent with applicable regulations. In addition, it allows for coordination of response actions with the proposed redevelopment plan. Although slightly more susceptible to a changing climate (increased storm frequency and intensity), these effects can be minimized with appropriate cap and stormwater design. In addition, this alternative allows for coordination of response actions with the proposed redevelopment plan.



DRAWING No. 91–5196 S–ANR
ASSUMED AS PER CITY COORDINATES
N
CHICOPEE RIVER
"LOT C"
"OTHER LAND OF THE CITY OF CHICOPEE"
SEE PLAN BY HERITAGE SURVEYS, INC.
DATED 05/02/2012 TO BE RECORDED.
LOT 2
"SENIOR CENTER LOT"
AREA = 300,809 S.F. +/–
OR 6.9056 ACRES, +/–
30 FT. WIDE UTILITY EASEMENT
LOT 3
A = 36,844 S.F.
– NOT A BUILDING LOT –
LOT 4
AREA = 167,935 S.F., +/–
OR 3.8553 ACRES, +/–
20 FT. WIDE UTILITY EASEMENT
NEW ELECTRIC EASEMENT
STORM / SANITARY EASEMENT
STORM EASEMENT
SEWER EASEMENT DEED 3440, PAGE 20
LOT 1
AREA = 176,601 S.F. +/–
OR 4.05 ACRES, +/–
STORM / SANITARY EASEMENT
LOT 2D
PLAN 327, PAGE 74.
NOW OR FORMERLY
ROOFERS & SLATERS LOCAL 248 PF685 BUSINESS TRUST
DEED 12789, PAGE 40.
PLAN 327, PAGE 74.
LOT 2D
N/F
D.W. DUMALA, et ux
DEED 10836, PAGE 152.
PLAN 75, PAGE 20.
No. 31
SEWER EASEMENT
MAIN STREET
28 MAIN STREET
U.S. POST OFFICE
GROVE STREET
WEST MAIN STREET
OTHER LAND OF THE CITY OF CHICOPEE
S 84°10' 15" E 29.52'
S 65°45' 59" E 36.47'
S 67°19' 38" E 53.83'
S 80°07' 36" E 246.71'
S 75°12' 13" E 231.01'
N 17°05' 41" E 19.28'
N 05°48' 00" E 243.42'
S 82°14' 00" W 63.66'
S 88°11' 00" E 63.86'
N 71°19' 00" E 219.89'
N 71°56' 50" E 95.46'
N 86°09' 00" W
N 03°30' E 38.02'
N 86°30' 00" W 295.00'
265.48'
N 07°19' 19" E 101.15'
S 07°19' 19" W 101.15'
N 19°09' 26" W 81.98' 91.29'
N 50°24' 49" E 55.04'
N 37°51' 00" E 52.84'
N 17°40' 16" W 123.58'
N 14°17' 49" W 93.16'
N 06°03' 18" W 200.84'
N 03°20' 43" E 53.71'
N 82°34' 48" W 227.28'
N 81°12' 31" W 37.44'
S 07°04' 00" W 190.23'
N 04°26' 04" E 250.10'
N 06°53' 06" E 434.58'
N 06°25' 30" E 446.45'
N 21°03' 36" E 3.57'
N 82°31' 00" W 258.54'
N 21°03' 36" E 179.10' 175.53'
S 06°07' 20" W
60.00'
55.0'
50.0'
49.17'
50.58'
40.0'
49.31'
29.98'

OWNER OF RECORD –

CITY OF CHICOPEE
DEED BOOK 18247, PAGE 351.
DEED BOOK 18258, PAGE 319.
SEE PLAN 99, PAGE 9–12.
SEE PLAN 161, PAGE 6–9.
SEE TAX MAP No. 173, et al

CURVE DATA –

No.	RADIUS	DELTA	LENGTH	TANGENT	CHORD
C1	30.00'	67°20'34"	35.26'	19.99'	33.27'
C2	325.00'	26°30'55"	150.40'	76.57'	149.06'
C3	25.00'	60°00'00"	26.18'	14.43'	25.00'
C4	75.00'	124°34'19"	163.06'	142.77'	132.79'
C5	75.00'	147°26'14"	193.00'	256.79'	143.98'
C6	25.00'	60°00'00"	26.18'	14.43'	25.00'
C7	375.30'	26°30'55"	173.54'	88.33'	172.00'
C8	30.00'	72°48'31"	38.12'	22.12'	35.61'
C9	365.00'	07°07'26"	45.38'	22.72'	45.35'
C10	365.00'	37°35'10"	239.44'	124.21'	235.17'
C11	365.00'	30°27'44"	194.06'	99.38'	191.78'
C12	323.00'	18°01'31"	101.62'	51.23'	101.20'
C13	135.00'	55°31'16"	130.82'	71.06'	125.76'
C14	200.00'	12°33'49"	43.86'	22.02'	43.77'
C15	395.00'	45°24'56"	313.10'	165.30'	304.96'

DATE	NOTES / REVISIONS
NOTE	CONTACT DIG–SAFE PRIOR TO ANY EXCAVATIONS 1–888–344–7233
NOTE	SUBJECT TO EASEMENTS, RESTRICTIONS AND R.O.W.'S OF RECORD, IF ANY AND APPLICABLE.

I CERTIFY THAT THIS PLAN WAS MADE IN ACCORDANCE WITH THE MINIMUM RULES AND REGULATIONS OF THE REGISTRAR OF DEEDS.

SIGNED ____________________
EDWARD J. CHAPDELAINE No. 38378.

SCALE 1" = 60'

0' 20' 40' 60' 80' 100' 140' 180' 200' 260'

PLANNING BOARD DATE:________
CHICOPEE, MASS.

APPROVAL UNDER THE SUBDIVISION CONTROL LAW NOT REQUIRED.

No determination has been made as to the buildability of any lot shown hereon this plan.

SIGNED ____________________

"APPROVAL NOT REQUIRED SUBDIVISION"

INDEXED ________

COMMONWEALTH OF MASSACHUSETTS
EDWARD J. CHAPDELAINE 38378
PROFESSIONAL LAND SURVEYOR

PLAN OF LAND IN THE CITY OF CHICOPEE, MASSACHUSETTS

HAMPDEN COUNTY – PREPARED FOR
THE CITY OF CHICOPEE

DURKEE, WHITE, TOWNE AND CHAPDELAINE
CIVIL ENGINEERS AND LAND SURVEYORS
356 FRONT STREET
CHICOPEE, MASSACHUSETTS – 01013
PHONE (413) 592–5164

SHEET 1 OF 1
FILE CH1172–ANR–REV.S90

DRAWN BY EJC
CHECKED BY ___
APPROVED BY EJC
SCANNED_____

DATE:05/23/2013
SCALE 1" = 60'

DRAWING No. 91–5196
S–ANR–REV

Site Context Map

Legend

- Parcel 173-1
- Parcel Boundary

N
W E
S

75 37.5 0 Feet

Notes

1. Aerial Photography courtesy of MassGIS, Spring 2013.
2. Parcel data courtesy of City of Chicopee, 2015.

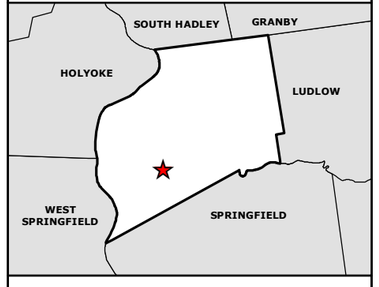
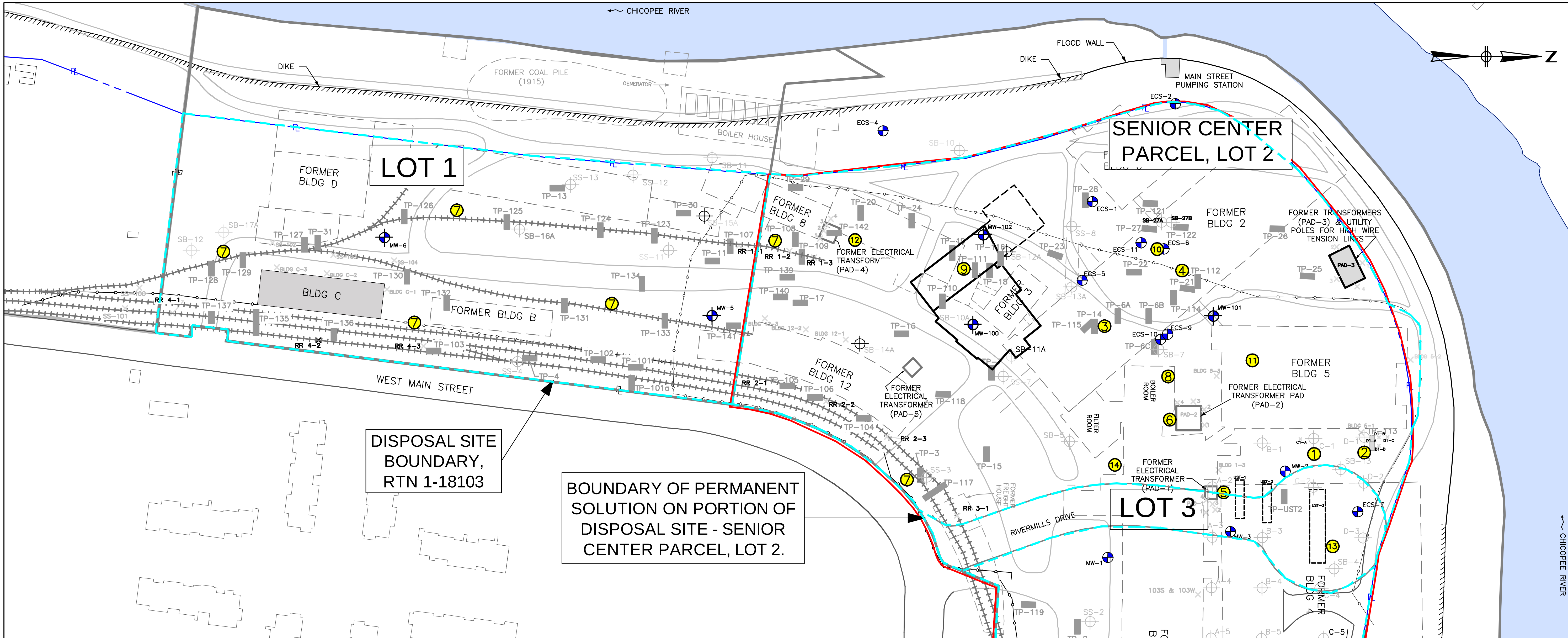


FIGURE 1

Clean Up Site
Parcel 173-1
West Main Street
Chicopee, Massachusetts

Developed by City of Chicopee Planning Department
April 2016

Document Path: X:\Maps\Planning\Special Projects\ABCA_2016\Aerial_Parcel173-1.mxd



LEGEND

- SOIL BORING
- TEST PIT
- MONITORING WELL
- SURFICIAL/GRAB SOIL SAMPLE
- PROPERTY LINE
- DISPOSAL SITE BOUNDARY
- PARTIAL PERMANENT SOLUTION BOUNDARY
- RESPONSE ACTION LOCATION

NOTE: PERMANENT SOLUTION FILED FOR PORTION OF DISPOSAL SITE IDENTIFIED AS LOT 2 AND LOT 4.

AREAS WHERE RESPONSE ACTIONS WERE CONDUCTED

1. GRID POINT C-1
2. GRID POINT D-1
3. TEST PIT TP-14
4. TEST PIT TP-21
5. TRANSFORMER PAD 1
6. TRANSFORMER PAD 2
7. RAIL BED SOILS
8. TAILRACES
9. ASBESTOS CONTAMINATED SOIL
10. TSCA CONTAMINATED SOIL
11. PCB IMPACTED BUD MATERIAL (<25 PPM)
12. ASBESTOS & TSCA (<10 PPM) CONSOLIDATION AREA
13. UST #3
14. UST #4-6
15. LOT 4 - AREA A, C, D
16. WATER TREATMENT BUILDING

BETA Group, Inc.
Engineers • Planners • Landscape Architects • Scientists
315 Norwood Park South
Norwood, MA 02062
781.255.1982
email: BETA@BETA-inc.com

120 60 0 60 120 240
(IN FEET)
1 inch = 120 ft.
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

Rivermills Development at Chicopee Falls
West Main Street
Chicopee, Massachusetts

Figure 2
Pre-Remediation Sampling Plan