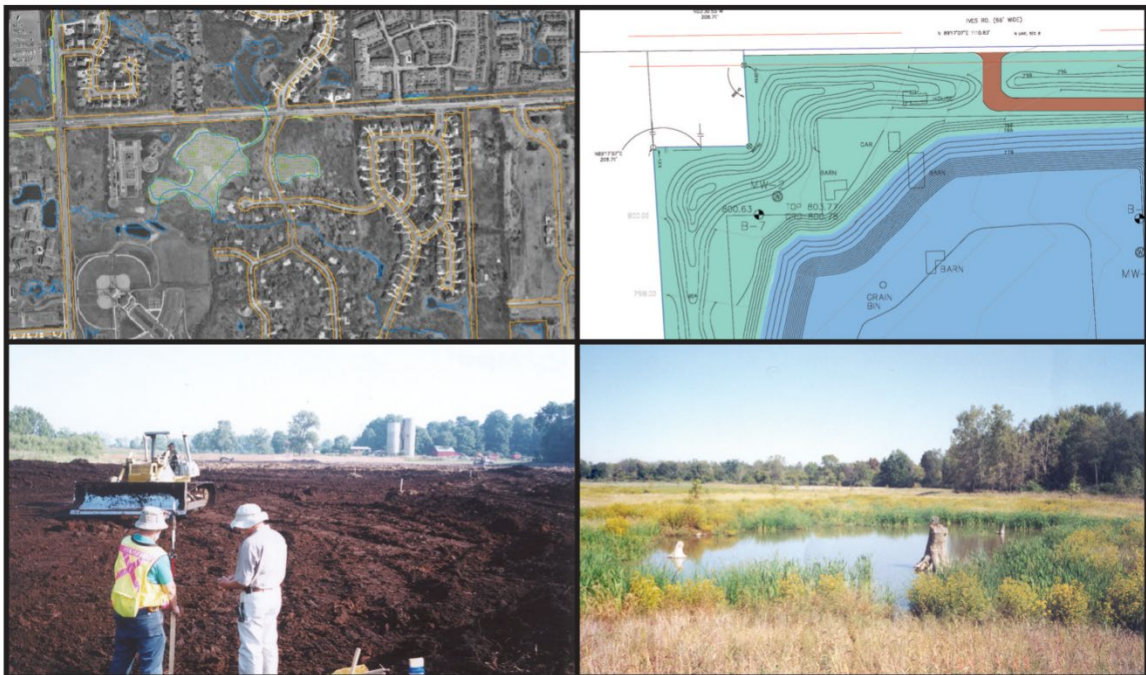


Analysis of Brownfield Cleanup Alternatives

817 North Stevenson Street, Flint, Michigan

May 26, 2020

ASTI ENVIRONMENTAL



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May 15, 2020

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1.0 INTRODUCTION

ASTI Environmental (ASTI) was retained by the Genesee County Land Bank Authority (GCLBA) to complete this Analysis of Brownfield Cleanup Alternatives (ABCA). The ABCA is a required element of the United States Environmental Protection Agency (USEPA) Multipurpose Grant awarded to the GCLBA.

In preparing the ABCA, the ASTI considered environmental factors, various site characteristics, surrounding properties, land use restrictions, potential future uses, and cleanup goals.

2.0 BACKGROUND

The 1.74-acre property was previously used as multi-family housing in four separate buildings. Currently, the four apartment structures occupy the central portion of the Property; additionally, three separate paved parking areas surround the structures. The structures are currently unoccupied, but miscellaneous debris remains inside the structures.

2.1 Site Location

The site consists of one (1) parcel located at 817 North Stevenson Street in City of Flint, in Genesee County, Michigan (herein referred to as “the Site”).

2.2 Site Ownership

GCLBA is the sole owner of the Property. The Property was acquired involuntarily through tax reversion on December 20, 2018.

2.3 Previous Site Uses

The Property was developed as residential as early as the 1920’s through the 1960’s and the four buildings were developed in 1973. The Property has been vacant for at least 5 years and is in a state of dilapidation. The Property has been scrapped and vandalized, damaging asbestos-containing materials (ACMs), leaving friable ACMs in the building with no restriction to access.

3.0 SITE ASSESSMENT FINDINGS

The following subsections provide a summary of previous environmental investigations, areas of known contamination, an evaluation of exposure pathways, and an evaluation of known or potential exposures at the Subject Property.

3.1 Asbestos-Containing Materials

Asbestos-Containing Materials (ACMs)– an Asbestos & Hazardous Materials Survey (Hazardous Materials Survey) was completed on November 20, 2018 by Environmental Consulting &

Technology, Inc. (ECT) as a part of the pre-demolition evaluation. The Hazardous Materials Survey identified the following ACMs in the building: fire doors, textured ceiling, drywall adhesive, floor tile, floor tile mastic and roofing material that will require abatement.

The following table presents a summary of the materials supporting asbestos greater than 1%, based on the results of the bulk Polarized Light Microscopy (PLM) analyses for asbestos.

Materials	Location	~Volume	Units	Type
Fire Doors (Interior Doors- From Hallways -Brown Wood Exterior w/ White Matrix)	Buildings A-C	~26.25ft ² per door	Door (92) or ~2,415ft ²	TSI Friable
Ceiling Surface – All Room/Hallways White Textured – Over Concrete	Buildings A-C	~56,304	ft ²	S Friable
Tile Floor Beige and/or Black Mastic (Entryways)	Buildings A-C	~1,440	ft ²	M Cat I Non- Friable
Drywall	Buildings A-C	~60,500	ft ²	S Friable
Asphaltic Roofing Material	Buildings A-C	~18,700	ft ²	M Cat I Non- Friable

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Samples reported to contain asbestos are representative of the entire homogenous matrix from which they were sampled and therefore the remaining portions are considered positive for asbestos based upon the homogenous nature of the matrix sampled. The fire doors, asphalt roofing materials and tile floor/mastic contain 10% or greater asbestos and as such, are defined as requiring abatement. The drywall and ceiling surface materials containing less than 10% asbestos were further evaluated by point counting.

Friable ACMs must be removed by a certified asbestos abatement contractor using Class I removal techniques and disposed of as asbestos waste prior to conducting demolition activities that may disturb them. Select non-friable materials such as roofing materials may remain in the structure during demolition so long as the materials remain non-friable and the demolition is conducted in a manner to ensure that underlying site soils do not become contaminated with

¹ ASBESTOS & HAZARDOUS MATERIALS SURVEY, Environmental Consulting & Technology, Inc.
November 20, 2018

asbestos fibers or debris. If there is a potential for the non-friable materials to be rendered friable by demolition activities, the materials must be removed prior to demolition by a certified asbestos removal contractor utilizing the appropriate engineering controls. Due to the likelihood of the concrete to be recycled, all asbestos-containing mastics adhered to concrete must be removed prior to demolition of the building.

3.2 Phase I Environmental Site Assessment

Phase I Environmental Site Assessment - A Phase I Environmental Site Assessment (ESA) was completed on February 19, 2020 by ECT. ECT performed the Phase I ESA in conformance with the scope and limitations of ASTM Standard E 1527-13. The assessment has revealed evidence of no RECs, no HRECs, and no CRECs. Based on the findings, additional site investigation activities in the form of subsurface sampling has not been recommended at the Site.

4.0 APPLICABLE REGULATIONS AND CLEANUP STANDARDS

The United States Occupational Safety and Health Administration (OSHA) and the United States Environmental Protection Agency (USEPA) both have regulations that are applicable to this project. The OSHA Construction Industry Standard (29 CFR 1926.1101) covers employees engaged in demolition and construction activities likely to involve asbestos exposure. In Michigan, the Michigan Occupational Safety and Health Administration (MIOSHA) Asbestos Program enforces the federal standards. The EPA regulates asbestos application, removal, and disposal of ACMs, under the National Emission Standards for Hazardous Air Pollutants (NESHAP). The asbestos NESHAP protects the public and environment by minimizing the release of asbestos fibers during renovation and demolition activities. In Michigan the Air Quality Division (AQD) of the Michigan Department of Environment, Great Lakes and Energy (EGLE) has been delegated authority to implement the NESHAP program for asbestos. MIOSHA and EGLE are made aware of and provide oversight of asbestos removal projects by receiving and reviewing the “Notification of Intent to Renovate/Demolish” forms, which are required to be submitted a minimum of 10 working days prior to starting work. Other agencies promulgating regulations on asbestos include the Department of Transportation (DOT) – establishing regulations regarding the transport of asbestos. All cleanup work proposed at the property will comply with the above regulations and notification requirements. The proposed cleanup project will comply with all other applicable local, state, and federal regulations not specifically mentioned.

5.0 CLEANUP OBJECTIVES

817 N Stevenson is a blighted and abandoned former apartment complex, within view of the playgrounds of Durant-Tuuri-Mott Elementary, the newly built \$9 million EduCare Campus for early childhood development, Hurley Hospital and Mott Children's Health Center. 817 N Stevenson contains damaged friable ACMs throughout the buildings with no access restrictions to the interior of the structures. The project goal is to clean-up the damaged asbestos, abate the remaining ACMs prior to demolition, demolish the buildings, remove connected utilities, remove remaining debris around the buildings and return to grade. This project will rid the area of a public nuisance and to prepare the Property for future redevelopment.

The Master Plan defines an "anchor development" strategy for the Innovation District and encourages the re-use of brownfields and vacant properties by maximizing cooperation between key institutions to increase residential density, shift institution procurement and employee spending to local businesses, and increase urban vitality. The revitalization strategy envisions a strong and economically diverse corridor promoting economic and social resiliency for community residents.

Institutional partners are currently implementing this strategy by investing more than \$888 million in revitalizing brownfields, eliminating blight, and stabilizing neighborhoods, in addition to creating incentives for workers to live in surrounding neighborhoods. The GCLBA is working with the to identify development partners to construct multifamily housing at 817 N Stevenson after remediation and demolition. Communities First, Inc. a local non-profit developer and partner, has plans to build a multi-family, mixed income development on a nearby vacant property on University Ave. The GCLBA plans to work with its partners to support the revitalization of this Site.

5.1 Cleanup Alternatives

Three alternatives were considered for the Site which include:

Alternative #1: No Action

Alternative #2: Asbestos Hazard Mitigation

Alternative #3: Remediation of Asbestos-Containing Materials prior to Demolition of Site Structures

5.1.1 Alternative # 1 – No Action Alternative

Effectiveness – The No Action alternative is not effective in controlling or preventing the exposure of ACM contamination at the Site.

Implementation – No Action is easy to implement since no actions will be conducted

Cost - \$0, but a No Action alternative would leave the Site in its existing condition making it undesirable for redevelopment, and difficult to obtain private interest for the redevelopment of the Site. Additionally, there will be costs to secure the building that will continue indefinitely.

Summary - The Site would be left in the current dilapidated state. The damaged ACM and remaining in-place ACM would still pose a health risk to legal and illegal visitors entering the buildings. Transfer of the property to other parties would require notification of the presence of asbestos-containing materials, and controls would be necessary to manage exposure to those entering the buildings. Under the No Action Alternative, if the Site remains unused for an extended period of time, the Site will continue to deteriorate, creating an attractive nuisance and increasing the risk to those entering the Site Building.

5.1.2 Alternative #2 – Asbestos Hazard Mitigation

Effectiveness – Because of the presence of damaged ACMs, this method is a short-term fix to protect site entrants from potential exposure to friable asbestos. This, and the extensive amount of friable ceiling tile and dry wall adhesive, encapsulation of ACMs is not an effective method for containing contamination and preventing direct exposure.

Implementation – The implementation of this alternative will require that the structure is secured by means of sealing door and window entrances to prevent easy access to the interior and reduce exposure to weather and minimize further degradation of the building interior and deterioration of ACMs left in place. In addition, all debris on horizontal surfaces will be cleaned and all damaged friable ACMs removed where damaged and the surrounding material stabilized to minimize further deterioration. All the above work will need to be completed using Class I asbestos removal techniques in a negative pressure enclosure. This method will suffice as a short-term solution if demolition is delayed.

Cost - \$302,750 (\$285,000 for abatement; \$17,750 for site security fencing)

Summary - The Hazard Mitigation alternative would leave some hazardous building materials and components in place and would pose a health risk if the barriers are damaged by the wind or vandalized.

5.1.3 Alternative #3 – Remediation of Asbestos Containing Materials and Demolition of Site Structures

Effectiveness – Removal of ACMs is an effective method for preventing exposure to and stopping further deterioration and exacerbation.

Implementation - Removal and disposal of ACMs and building demolition are technically feasible and are common actions for reducing or eliminating the human health risks of exposure to hazardous building materials. Services and materials are readily available.

Cost – \$1,115,000

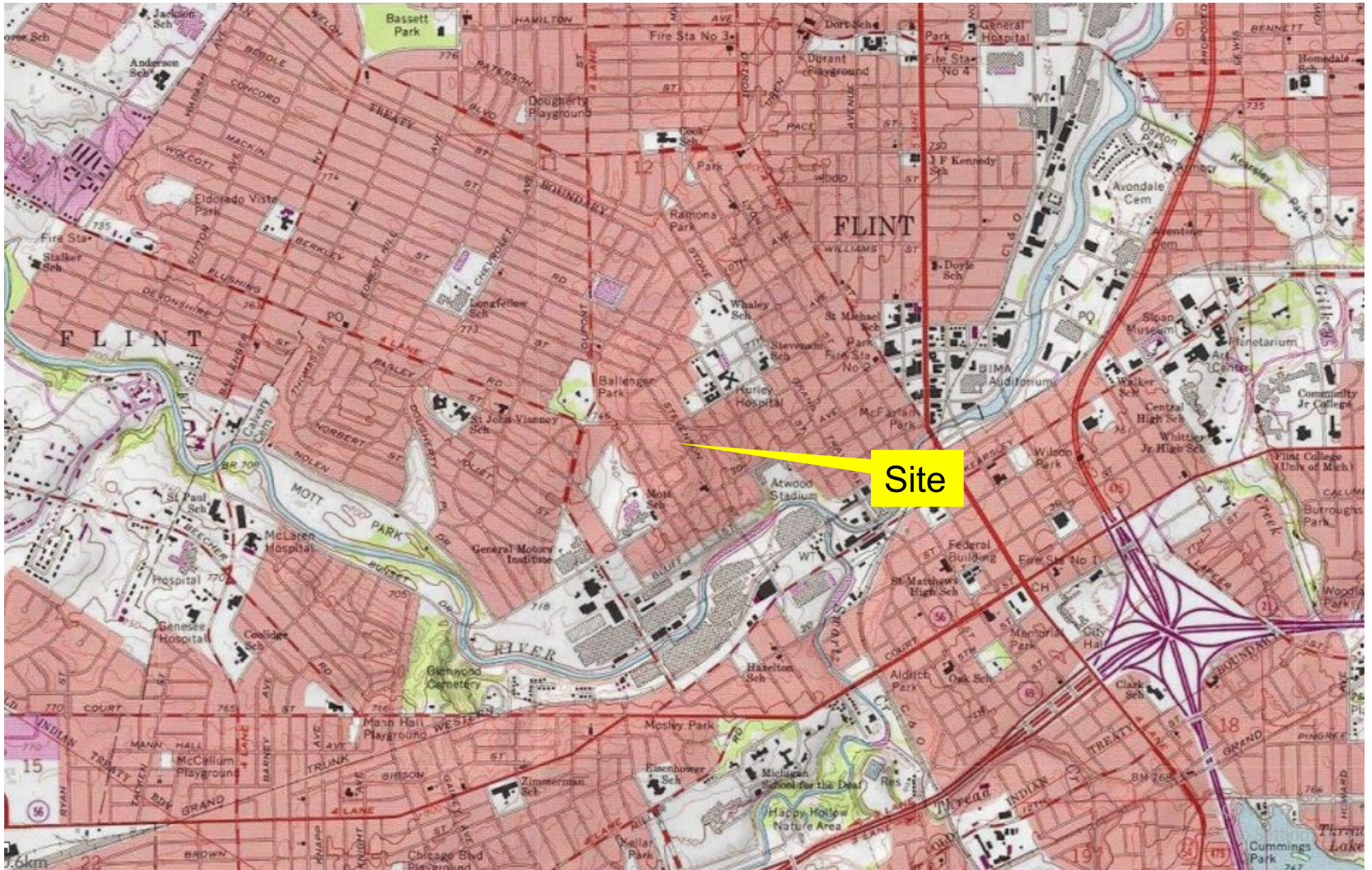
Summary - The ACM Remediation and Building Demolition alternative will properly manage the hazardous building materials and achieves the project goals of providing a Site ready for redevelopment. This alternative provides the safest environment for demolition due to complete removal of ACMs prior to demolition thereby preventing exposure to workers. The removal of the Site buildings will provide the maximum flexibility for site redevelopment.

5.1.4 Recommended Cleanup Alternative

The recommended cleanup alternative is Alternative #3: Remediation of Asbestos Containing Materials and Demolition of Site Structures. Alternative #1: No Action cannot be recommended since it does not address Site risks or project objectives. Alternative #2: Hazard Mitigation of ACMs is a short-term solution and more difficult to implement considering the state of disrepair to the buildings and the costs to secure and maintain the Site indefinitely while leaving the property unusable until the building is demolished.

Figures

- 1 Site Location Map
- 2 Site Features Map



817 N Stevenson St

Flint, MI



Created for: Genesee County Land Bank Authority
 Created by: SJS, April 3, 2020
 GCLBA Project No: 19-018



Figure I: Site Location



817 N Stevenson St

Flint, MI



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Figure 2: Site Features