DRAFT Analysis of Brownfield Cleanup Alternatives

Pullman Yard
225 Rogers Street, Atlanta, DeKalb County, Georgia

March 22, 2019

Prepared for:
City of Atlanta
EPA Cooperative Agreement BF-00D59517-0

Cardno
Shaping the Future

DRAFT Analysis of Brownfields Cleanup Alternatives

Prepared for: City of Atlanta
68 Mitchell Street SW
Atlanta, Georgia 30303
EPA Cooperative Agreement BF-00D59517-0

Project Name: **DRAFT Analysis of Brownfields Cleanup Alternatives**
Pullman Yard
225 Rogers Street
Atlanta, DeKalb County, Georgia

Initial
Submission Date: February 8, 2019
Revision Date: March 22, 2019

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1 Introduction

This Analysis of Brownfield Cleanup Alternatives (ABCA) has been prepared for the former Pullman Yard facility located at 225 Rogers Street, Atlanta, DeKalb County, Georgia. The site, further referred to as the "Subject Site" or "Subject Property", is known as the Pullman Yard facility and consists of one parcel totaling approximately 26.84 acres. The parcel ID # is 15 211 03 059. Legal descriptions with a site survey are included as **Attachment A**. On-site improvements of the property include 12 buildings ranging from 1,312 to 70,656 square feet. The subject site is currently vacant. According to DeKalb County Tax records, the subject site is currently owned by Atomic Entertainment Development, LLC. (Atomic). The subject site is located within the Southeast Atlanta, Georgia Topographic Quadrangle of the US Geological Survey (USGS) 7.5-minute series map as shown in **Figure 1.**

Multiple environmental investigations, including asbestos, lead-based paint, soil, and groundwater assessments, have occurred on the Subject Site as early as 2006. The information obtained during these assessments was utilized to guide site activities with respect to potential environmental impairment and liabilities associated with the property due to contamination by hazardous substances, controlled substances, or petroleum products on or near the site.

The City of Atlanta obtained a Brownfields Assessment Grant from the U.S. EPA (Grant No. BF-00D59517-0) in May 2017. This grant is funding the development of this and other documents associated with the abatement of hazardous buildings materials within the on-site buildings. This ABCA has been prepared to demonstrate to the U.S. EPA that appropriate cleanup methods have been evaluated and will be applied for the former Pullman Yard facility buildings located at 225 Rogers Street, as required by the Grant. In addition to meeting U.S.EPA requirements for an ABCA, this document is also designed to meet the requirements for the removal of asbestos and lead-based paint to meeting the abatement requirements outlined in the EPA Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP) and Toxic Substances and Control Act (TSCA).

Further, this document has been prepared to programmatically ready the site for cleanup and future redevelopment. Cleanup activities will be funded in part through a loan via the City of Atlanta's U.S. EPA Brownfields Revolving Loan Fund (RLF, Grant No. BF-95445109-0). Public notice will be given in accordance with the requirements of the RLF, and this document will be available for public review and comment prior to implementation.

Per EPA grant requirements, this ABCA includes:

- Information about the site and contamination issues (e.g., exposure pathways, identification of contaminant sources, etc.), cleanup standards, applicable laws, alternatives considered, and the proposed remediation approach.
- An analysis of reasonable remedial alternatives, including no action.
- A discussion of the effectiveness, implementability, and cost of the cleanup methods considered.
- An analysis of reasonable alternatives, including no action.

This ABCA will primarily address the following areas of concern with respect hazardous materials associated with the on-site buildings:

- Abatement of asbestos containing materials

- Abatement of lead-based paint coated surface

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2 Background

2.1 Site Description

The site consists of one parcel totaling approximately 26.84 acres that are classified in county records as “E1 – Public Property.” On-site improvements of the property include 12 buildings ranging from 1,312 to 70,656 square feet. Majority of the buildings are developed with a concrete foundation, with large sections utilized as warehouses containing metal sheeting walls and ceilings. The west and north portions are paved and gravel driveways/parking areas. A railroad traversed the western portion of the site. The remaining portion of the site is undeveloped wooded land. A Site Boundary Map is included as **Figure 2.**

2.2 Site History

The subject site has a long industrial history, primarily associated with its connection to the railroad. The earliest historical records indicate the property was originally was identified as the “Kirkwood Facility” in 1904, a division of a chemical and fertilizer company named N. P. Pratt Laboratory, later referred to as the Pratt Engineering and Machinery Company. This facility reportedly tested newly-constructed chemical process equipment. In 1922, the property transferred to the Chemical Engineering & Foundry Company and the United States Cast Iron & Foundry Company, continuing to manufacture chemical processing equipment.

In 1926, the property transferred to the Pullman Company, a manufacturer of passenger railcars. During this time, several large rail yards and a traveling train bridge for transporting cars were developed. In 1955 Pullman Company transferred the property to the Second American Iron and Metal Company, a metal manufacturing business. In 1965, the property again transferred to the Southern Iron and Equipment Company, another railcar manufacturing firm. The facility continued to manufacturer railcars and equipment until the 1980s.

In 1990, the property transferred to the Georgia Building Authority for the eventual use as a tourist railway into downtown Atlanta. In the early 1990s, this rail line was decommissioned and the facility was abandoned. Outside of the removal of a few buildings for the development of a pedestrian trail, the property has remained untouched until it was purchased by Atomic Entertainment Development, LLC on June 13, 2017.

2.3 Environmental Impact

Environmentally, the site has been used for industrial purposes, maintenance activities, and cleaning of rail cars. In addition, several large stockpiles of waste sandblasting materials were noted throughout the southern portion of the site.

Because of the above outlined issues, numerous soil and groundwater assessments and asbestos and lead-based paint inspections have been conducted on the property between 2006 and 2018 on behalf of the Georgia Building Authority, the EPA, potential purchasers, and Atomic. These assessments have identified significant asbestos and lead-based paint throughout the on-site buildings, minor groundwater contamination, and significant soil contamination to the south of the on-site buildings. Specifically, the site contains ten areas of metal and semi-volatile organic compound (SVOC) impacted soils. No vapor encroachment issues were identified in the latest assessments.

3 Regional Setting and Site Characterization

3.1 Physiographic Setting

The site is located in the Piedmont Physiographic Province. The Piedmont topography is characterized by low, rolling hills in the north and a broad rolling upland or plateaus in the south. The Piedmont is comprised of metamorphic and igneous rocks that are overlain by regolith of varying thickness. The regolith beneath the subject site is composed of semi-consolidated to unconsolidated saprolite (weathered bedrock), soil, and other surficial deposits.

3.2 Site Hydrogeology

Based on the USGS topographic map, surface water from the subject site generally flows to the south toward an unnamed tributary of Sugar Creek. The subject site is located in the Low Groundwater Pollution Susceptibility Class (Georgia Geological Survey, 1992). Lithology descriptions from the site indicate that the shallow subsurface is composed primarily of sandy micaceous silts and clays (weathered saprolite). Groundwater flow was determined in the latest groundwater sampling investigation to flow towards the south. Groundwater was encountered from 22 to 38 feet below ground surface (bgs).

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4 Previous Assessment Activities

Numerous investigations, including Phase I and II ESAs, soil and groundwater investigations, a Georgia Environmental Protection Division (EPD) corrective action plans and release notifications, and other assessment have been completed on the Subject Site since 2006. As the purpose of this document is to evaluate the cleanup alternatives associates with hazardous building materials, this section only summarizes the previous hazardous material assessment work completed to date upon which corrective action is based.

4.1 Hazardous Materials Survey dated June 8, 2017

United Consulting (United) conducted a limited asbestos, lead-based paint, and hazardous materials survey in June 2017 on all 12 buildings. United collected 39 bulk samples for asbestos containing materials, XRF analysis of 115 painted surfaces for lead-based paint identification, and identified several areas with mercury-vapor light bulbs, fluorescent light tubes, light ballasts, pad-mounted transformers, and several unlabeled 55-gallon drums. United identified the following:

- Four painted surfaces were identified as containing lead-based paint
- Eight building materials were identified as asbestos containing materials, including floor tile, floor mastic, and pipe insulation
- 139 unlabeled light ballasts and hundreds of different light tubes

United recommended that the identified materials be addressed in accordance with local, state, and federal regulations prior to disturbance during renovation or demolition. It should be noted that this report has building numbers and nomenclature that are not consistent with the most recent sampling report.

4.2 Hazardous Materials Survey Addendum 1, September 28, 2017

United performed additional sampling for asbestos containing materials at the Pullman Yard in September 2018. United collected 19 additional bulk samples from majority of the on-site building's roof tops. The only building's roof not sampled was Building 7 – Small Brick Building, which had no roofing materials. The following materials were identified as asbestos containing:

- Roof sealant of Buildings 1, 5, 6, and 12
- Roof flashing sealant and/or paper of Building 1 and 2
- Roof felt or paper of Buildings 2 and 6
- Roof shingles of Building 2
- Roof system of Building 13

United recommended that the identified materials be addressed in accordance with local, state, and federal regulations prior to disturbance during renovation or demolition.

4.3 Hazardous Material Survey Amendment 2, dated May 1, 2018

United completed an additional limited asbestos and lead-based paint survey on the on-site structures in April 2018. Lead-based paint was inspected through the use of an X-Ray Fluorescent (XRF), real-time instrument. The primary purpose of this document was to compile all prior sampling data, identify

any data gaps, and develop a data package with an overview diagram showing locations of impacted materials. This report also clearly defined the building numbers and nomenclature. In summary, the following materials were found in each building:

Building 1 – Machine Shop

- Asbestos
    - Roof sealant (flashing along edge of sealant)
- Lead-based paint
    - Steel columns
    - Yellow rails
    - Steel hoist arms
    - Wood window jambs and frames
    - Walling

Building 2 – Foundry

- Asbestos
    - Roofing felt/paper
- Lead-based paint
    - Metal vertical beams

Building 3, 4, 8, & 13 – Connector, Blacksmith, Brick Infill, and Metal Infill Buildings

- Asbestos
    - Roofing system (roof felt, tar, paper, and flashing of various buildings)
    - Floor tile
    - Asbestos pipe wrap
- Lead-based paint
    - White walling
    - Yellow walling
    - Hand rails
    - Green walling in closet

Building 5 – North Saw-Tooth

- Asbestos
    - Roofing felt/paper
    - Roof mastic
    - Window caulking
- Lead-based paint
    - Steel columns and cross beams

- White paint in corner office

Building 6 – South Saw-Tooth

- Asbestos
  - Roof paper and sealant
  - Window caulking
  - Furnace Insulation / Gaskets
- Lead-based paint
  - Yellow steel columns and beams

Building 7 – Small Brick Building

- Asbestos
  - Fire door
- Lead-based paint
  - Cross beams

Building 10 – Large Metal Prefab

- Asbestos
  - Interior pipe wrap
  - Exterior pipe insulation (metal jacket)
- Lead-based paint
  - Yellow hand rails
  - Hoists
  - Posts/corners at entrance corners

Building 11 – Small Block and Metal Building

- Asbestos
  - Roof mastic / sealant where roof meets building

Building 12 – Brick and Metal Building

- Asbestos
  - Roof sealant
  - Lower roof asphalt
- Lead-based paint
  - Steel beams, vertical and horizontal, in lower sections

A copy of this report are included as an Attachment B.

4.4 Summary and Data Gaps

Regarding the previous hazardous material surveys by United, Cardno identified the following additional concerns and/or data gaps:

- United identified painted surfaces above the EPA and US Housing and Urban Development (HUD) Guidelines, Chapter 7, 1997 Revision which identified lead-based paint as containing equal to or exceeding one milligram per square centimeter (1.0 mg/cm2) or 0.5% by weight. Numerous samples were identified by United that contained lead below this reporting limit but above the detection concentration. There are OSHA regulations and requirements which should be taken into consideration during any renovation and demolition activities that may disturb any concentration of lead containing building materials or paint.
- There is potential for unidentified asbestos and/or lead-based paint to be discovered which would need to be addressed prior to its disturbance during removal activities. However, for the purpose of this report, it is anticipated that no additional design phase investigation is necessary. Additional testing may be required during cleanup if conditions warrant. However, the level of characterization completed to date appear sufficient to provide basis for the completion of this report and the analysis of alternatives documented herein.
- Although additional testing of painted components is not necessarily needed, the extent of painted components to be impacted and the future use of the areas should be considered so as to minimize the quantity of lead contaminated paint to be removed and to identify alternative methods to address lead paint hazards for certain portions of the Subject Site.

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5 Exposure Analysis

5.1 Evaluation

Preparation of an ABCA requires an evaluation be made as to the possible corrective actions and their respective costs to remedy effected areas. Not all remedies are physical or chemical and may include other types of remedies such as institutional controls (e.g. restriction on residential development recorded on the deed). Excess public risk requires four factors, all of which must be present to produce excess risk from contaminants at the site. These are:

- A chemical with sufficient toxicity to do harm (whether acute or chronic);
- A sufficient quantity of the chemical to be toxic and do harm;
- A receptor on which to do harm; and
- A pathway by which a sufficient amount of the contaminant can actually reach a receptor and do harm.

Corrective actions to remedy affected areas rarely eliminate all chemicals of concern or hazardous building materials. It is generally the intent to remove/abate, treat or immobilize/encapsulate impacted media or hazardous building materials to levels producing an acceptable risk to human health and the environment. The degree of acceptable risk has to be determined by the public through legislative and regulatory processes. This has been accomplished by the development and implementation of rules at the Federal, State, and Local levels.

5.2 Exposure Pathways

In order for possible contaminants of concern to do harm to public health or the environment, they must occupy a point of exposure accessible to the population at risk. Compounds to which populations are not currently, nor in the future likely to be exposed via complete exposure pathways do not constitute a probable condition of elevated risk.

The four potential receptor populations evaluated are:

- Atomic employees who access the building;
- Residents – persons who reside near the property;
- Construction workers during the potential redevelopment; and
- Future patrons and/or residences of the end use development.

Based on the historical assessment activities, there is hazardous building materials identified throughout all buildings.

For each of the potential receptors being considered, the applicable exposure pathway of concern is direct contact with hazardous materials via incidental ingestion, dermal contact, and/or inhalation of particulates. As a result, applicable exposure pathways are related primarily to ingestion and inhalation, or dermal contact to hazardous building materials.

6 Cleanup Objectives / Applicable Regulations

6.1 Cleanup Standards

6.1.1 Asbestos and Lead-Based Paint

Though cancer risk from exposure to asbestos is most appropriately viewed as a chronic concern, short-term standards have been established by OSHA's permissible exposure limits (PEL) to limit exposures to workers in the workplace. There are two types of short-term limits, as follows:

- Excursion Limit (EL) – 1.0 fibers per cubic centimeter (f/cc), analyzed by Phase Contract Microscopy (PCM)
- 8-Hr Time weighted average (TWA) – 0.1 f/cc, analyzed by PCM

For LBP, the OSHA limits lead exposure to workers in the workplace with the following standard:

- 8-Hr TWA – no greater than 50 micrograms per cubic meter ($\mu g/m^3$); PEL is reduced when an employee is exposed to lead for more than 8 hours in any work day with the equation PEL = 400/hours worked.

EPA Asbestos Hazard Emergency Response Act (AHERA) regulations (40 CFR 763) require aggressive clearance sampling after asbestos abatement activities. Leaf blowers and fans are used to disturb the interior air and air samples are collected according to the standard methods set forth in Appendix A of Subpart E of 40 CFR Part 763. The clearance criteria as set forth in this regulation are:

- PCM clearance: 0.01 f/cc
- Transition Electron Microscopy (TEM) clearance: 70 structures per square millimeter (structures/mm^2)

Although AHERA regulations apply to abatement in schools, the same standards are generally used for all abatement projects.

HUD Guidelines for Evaluation and Control of Lead-Based Paint Hazards Chapter 15 Clearance provide the following clearance criteria for lead-based paint abatement:

- 40 micrograms of lead in dust per square foot on floors;
- 250 micrograms of lead in dust per square foot on interior window sills; and
- 400 micrograms of lead in dust per square foot in window troughs.

Georgia EPD further established the following clearance criteria for lead-based paint abatement:

- 800 micrograms of lead in dust per square foot on exterior concrete.

6.1.2 Asbestos Laws and Regulations

Asbestos is regulated by the AHERA, the Toxic Substances Control Act (TSCA), the Clean Air Act (CAA), and Georgia Environmental Rule 391-3-14 and Official Code of Georgia Annotated §12-12-1. Further, to protect asbestos abatement workers all asbestos abatement work must be performed in accordance with Occupational Safety and Health Administration (OSHA) asbestos regulations as promulgated in Title 29 of the Code of Federal Regulations (29CFR), Section 1926.1101.

The following work practices should be followed whenever demolition/renovation activities involving asbestos-containing materials occur:

- Prepare and follow abatement specifications developed by an EPA accredited Asbestos Project Designer.
- Notify the Georgia EPD of intention to demolish/renovate by the required notification form;
- Removal of all asbestos-containing materials from facility being demolished or renovated before any disruptive activity begins by a Georgia licensed Asbestos Contractor;
- Handle and dispose of all asbestos-containing materials in an approved manner (USEPA, 2006a; Asbestos/NESHAP Regulated Asbestos-Containing Materials Guidance);
- Monitor asbestos abatement activities by an EPA accredited Asbestos Project Supervisor; and
- Perform air clearance testing upon completion of asbestos-containing materials abatement.

6.1.3 Lead-Based Paint Laws and Regulations

Lead-based paint in pre-1978 housing and children-occupied buildings is regulated under the authority of the Toxic Substances and Control Act (TSCA; 15 U.S.C. 2601 et seq.) as amended by the Residential Lead-Based Paint Hazard Reduction Act of 1992, generally referred to as Title X (of The Housing and Community Act of 1992 - Public Law 102-550). Title X mandates the training, certification and licensing of lead-based paint abatement contractors, inspectors, risk assessors, and the training and certification of abatement workers and project designers. The Act also amended the Toxic Substances Control Act section 402 & 403. The provisions of Title X apply to residential buildings and child-occupied facilities.

It should be noted that these laws and regulations pertain to Target Housing or Child Occupied Facilities as defined by HUD. The on-site structures are not currently considered Target Housing or a Child Occupied Facility, but there is potential for the redevelopment to consist of residences or commercial facilities that would be considered child-occupied. As a good work practice and to limit lead exposure to workers, it is recommended that the identified lead-based paint be abated prior to renovation.

HUD and Georgia EPD rules established the following clearance procedures shall be conducted on all abatement projects by a certified inspector or lead risk assessor after appropriate cleaning has been completed.

- 40 micrograms of lead in dust per square foot on floors;
- 250 micrograms of lead in dust per square foot on interior window sills;
- 400 micrograms of lead in dust per square foot in window troughs; and
- 800 micrograms of lead in dust per square foot on exterior concrete

The Georgia EPD regulates and licenses lead paint consultants and workers under Environmental Rule 391-3-24 and OCGA 31-41-1 lead-containing debris must be handled in accordance with the USEPA Resource Conservation and Recovery Act (RCRA) Hazardous Waste Regulations (40 CFR Parts 260 through 274).

The Occupational Safety and Health Administration has published regulations regarding worker safety during activities involving lead-based paint abatement. The Construction Standards (29 CFR Part 1926) and the OSHA (29 CFR Part 1910) promulgate a permissible exposure limit for lead

construction workers, including workers performing demolition, salvage, or renovation of lead-containing materials at sections 1926.62 and 1910.1025 as follows:

“The employer shall assure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air (50 µg/m^3) averaged over an 8-hour period.” (29 CFR 1926.62) Additional regulations under these chapters address other worker safety precautions such as respiratory protection programs, work practices, and medical monitoring. Lead-based paint debris (material containing or surfaced with lead-based-paint) from commercial buildings may be classified as hazardous waste if lead concentrations exceed the Toxicity Characteristic Rule (40 CFR 261.24, 40 CFR 262.11) concentration limit of 5.0 milligram per liter (mg/L) in sample extract prepared according to the Toxicity Characteristic Leaching Procedure, test Method 1311 in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846.

As previously noted, there is lead identified in painted surfaces above the detection limit but below the reportable thresholds which were not identified as lead-based paint. Upon the abatement of all lead-based paint, there will still be lead containing building materials and painted surfaces that would be regulated by OSHA as noted above.

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7 Brownfield Cleanup Alternatives

The following section presents a discussion of the cleanup objectives, alternatives screening process and rationale, alternative analysis, and presents a likely budget for the proposed cleanup. The primary cleanup objectives is to address the existing asbestos and lead-based paint prior to redevelopment. If funds are remaining, a secondary objective is the cleanup of metal and SVOC impacted soil.

7.1 Asbestos and Lead-Based Paint

7.1.1 Alternative 1 – No Action

The No Action alternative is included as a baseline comparison to other remedial alternatives. The No Action alternative assumes no action is taken and is not a valid option for the site, given the hazards to human health and the environment.

7.1.2 Alternative 2 – Encapsulation and/or Enclosure

Encapsulation involves the complete encapsulation of a hazardous material with another material. This mainly applies to lead-based paint, and the encapsulant is typically a sealant or coating that goes over the paint to prevent peeling, cracking, and deterioration which leads to the release of lead.

Enclosure involves the complete covering of a hazardous material with a solid, preferable dust tight, barrier. The enclosure prevents access, as well as prevents damage or dispersion of hazardous materials. Enclosure applies to both asbestos and lead-based paint.

The implementation of any encapsulation and/or enclosure would require the use of an Operations and Maintenance (O&M) plan to assess the effectiveness.

Neither encapsulation nor enclosure would be applicable given the location and types of ACM identified. As an example, encapsulation or enclosure of a roofing system would not be adequate due to exterior elements such as weather events. In addition, this option would ultimately require that hazardous materials remain on-site. Therefore this alternative is not a valid option for the site, given the hazards to human health and the environment.

7.1.3 Alternative 3 – Full Abatement

Full abatement would include the removal of all LBP and ACMs in accordance with applicable regulations.

Feasibility: This alternative is likely feasible given the site conditions. It should be noted that not all ACM and LBP is required to be removed given the current regulatory standards.

Typically the abatement of LBP involves scrapping of painted surfaces. Scrapping may not remove all lead-based paint. Given this, typically encapsulation is used after scrapping to ensure any remaining lead-based paint is fully encapsulated to prevent the risk of future exposure. Therefore, encapsulation of LBP is included as part of the full abatement alternative.

Effectiveness: Removal of contaminated material form a site is typically the most effective type of remediation, regardless of contaminant type. If encapsulation is included with the LBP abatement, then an O&M plan will need to be developed to assess the effectiveness.

Cost: At this time, given the amount of materials identified throughout, the estimated cost varies significantly depending on the scope of work to be required to facilitate building renovations. Owner provided bids for the asbestos and lead-based paint abatement range from $900,000 to $1,700,000.

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8 Recommended Cleanup Alternative

This section summarizes the recommended cleanup alternative as outlined in Section 7.

8.1 Abatement of LBP and ACM

Selected Action: Full Abatement

ACM

The identified ACM will be properly abated by a licensed abatement firm in accordance with the EPA NESHAP, Georgia EPD, and OSHA regulations.

Identified material will be abated by licensed asbestos abatement workers under the supervision of an accredited asbestos project supervisor. Abatement work will be conducted under an approved asbestos abatement design plan to be developed by others. This design will outline the required personal protection equipment (PPE), negative pressure enclosures, disposal methods, work zones, and decontamination/clean rooms.

Air monitoring is recommended to verify the efficiency of containment areas.

Asbestos containing waste material (ACWM) will be double-bagged with polyethylene sheeting and labelled as asbestos containing waste. ACWM will be disposed of in accordance with local, state, and federal regulations.

Lead-Based Paint

The identified lead-based paint will be abated by a licensed abatement firm in accordance with EPA and OSHA regulations. It should be noted again that lead-based paint abatement is not required as the buildings are not currently considered Target Housing or Child Occupied Facilities. There is potential for the redevelopment to consist of residences or commercial facilities that would be considered child-occupied. As a good work practice and to limit lead exposure to workers, it is recommended that the identified lead-based paint be abated prior to renovation.

The lead-based paint will be scrapped to the substrate and any debris will be collected utilizing a Class H wet/dry shop vacuum equipped with a High Efficiency Particulate Air (HEPA) filter. After all scrapable paint is removed, two coats of a clear lead encapsulate will be applied to stabilize and remaining lead-based paint. The lead encapsulate will be applied using an airless sprayer.

A toxicity characteristic leachate procedure (TCLP) lead test will be performed on all waste to determine the proper disposal methods.

9 Schedule & Cost

It is anticipated that all work will be started in late spring or early summer 2019, with completion by the end of 2020.

Cardno is in the process of working with Atomic and their consultants to evaluate costs for the activities discussed herein. A concept level budget will be provided in the final ABCA.

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10 Certification

I, Douglas Strait, Professional Engineer (PE) #041500, certify that I currently hold an active license in the State of Georgia and am competent through education and experience to provide the geologic services contained in this report. I further certify that this report was prepared by me or under my direct supervision.

Prepared by:

Douglas Strait, PE
Georgia Professional Engineer # 041500

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11 References

- *Hazardous Material Survey, with Addendums 1 & 2* – Former Pullman Yard, 225 Rogers Street NW, Atlanta, Georgia, Original June 8, Addendum 1 September 28, 2017, and Addendum 2 May 1, 2018, United Consulting
- DeKalb County Board of Tax Assessors GIS, https://maps.dekalbcountyga.gov/parcel/

Figures

Cardno
Shaping the Future

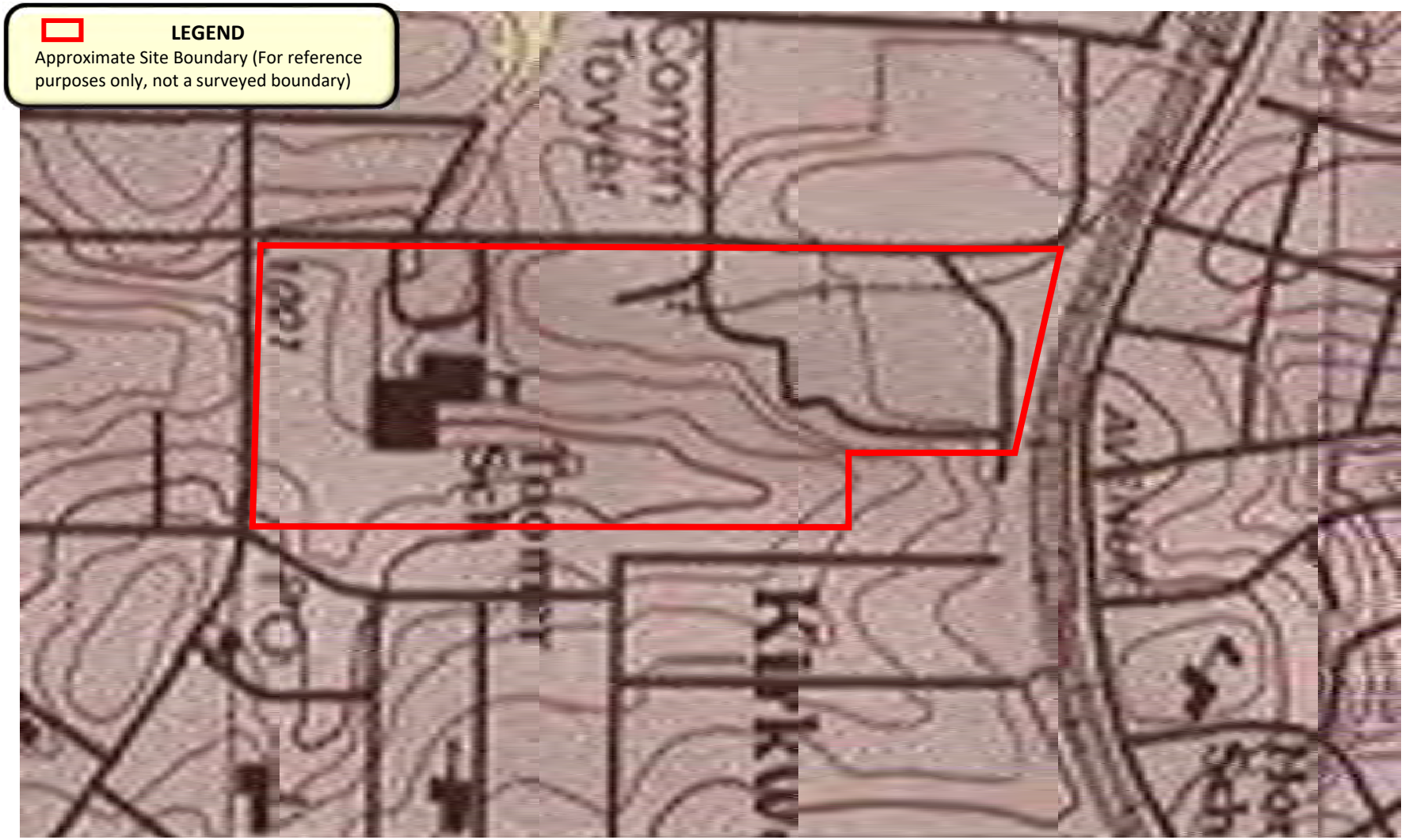
"This is not a map of survey."

50 0 50

Not to Scale

ABCA
Pullman Yard Tract
Fulton County, Atlanta, GA
Cardno Project: 0002420000

Figure 1
Site Boundary Map
Source: GoogleEarth



Cardno
Shaping the Future

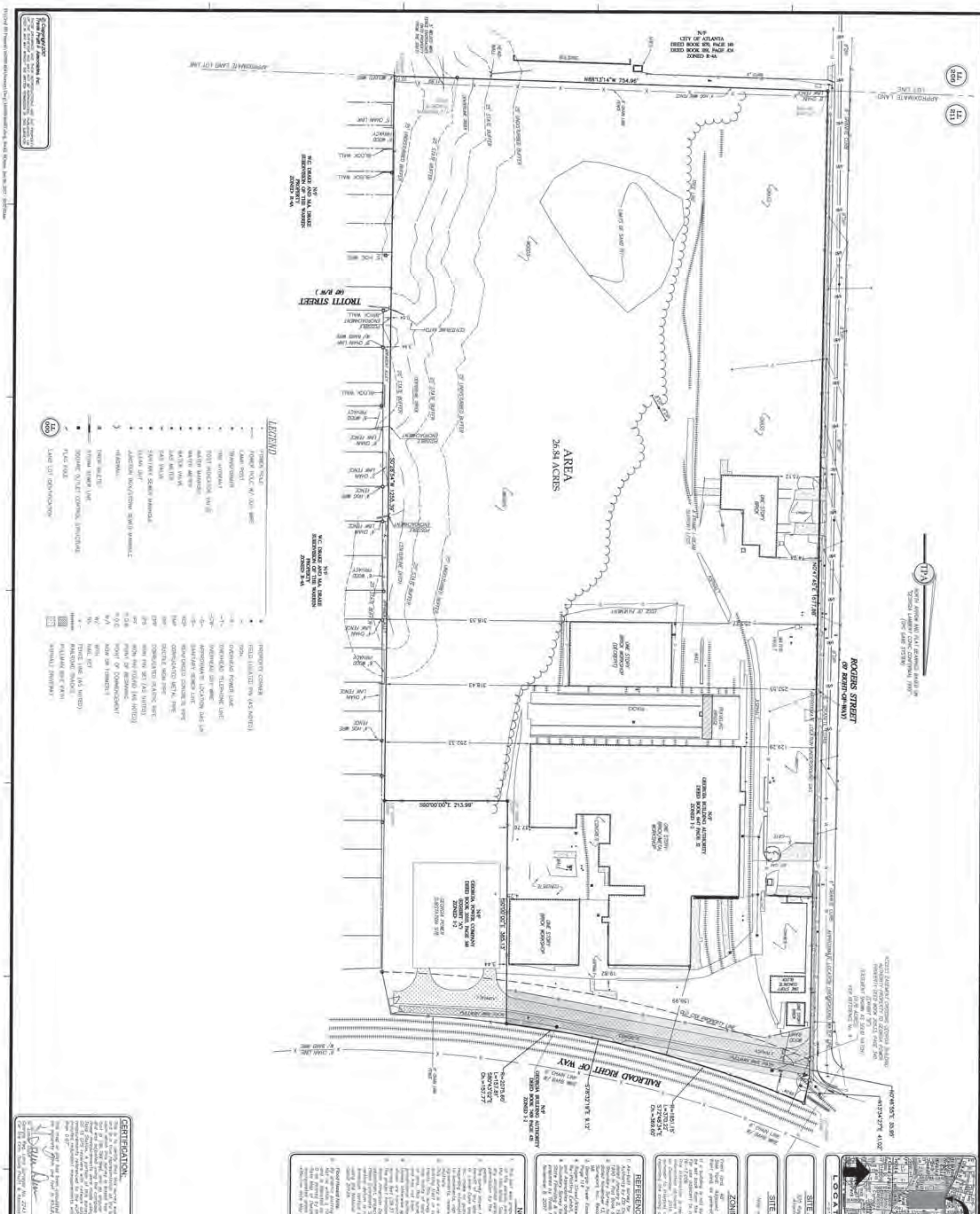
250 0 250
Not to Scale

ABCA
Pullman Yard Tract
Fulton County, Atlanta, GA
Cardno Project: 0002420000

Figure 2
USGS/Site Vicinity Map
Source: USGS 2014

Appendix A

Legal Description and Site Survey



BOUNDARY SURVEY

GEORGIA BUILDING AUTHORITY - PULLMAN YARD TRACT - 26.84 ACRES

AUTHORIZED BY STATE PROPERTIES COMMISSION

LAND LOT 211 - 15th DISTRICT - CITY OF ATLANTA, DEKALB COUNTY, GEORGIA

GRAPHIC SCALE — IN FEET

Travis Pruitt & Associates, Inc.

4317 Park Drive, Suite 400
Norcross, Georgia 30093
Phone: (770)416-7511
Fax: (770)416-6799
www.travispruitt.com

Certificate of Authorization Number 615

Sheet No. 1 of 1

DESCRIPTION OF

Pullman Yard

All that tract or parcel of land lying and being in Land Lot 211 of the 15th District, City of Atlanta, DeKalb County, Georgia and being more particularly described as follows:

BEGINNING at a 2" open top pipe at the intersection of the southerly line of Land Lot 211 and the easterly right-of-way of Rogers Road (50" right-of-way), THENCE north along said easterly right-of-way of Rogers Road (50" right-of-way) North 00 degrees 47 minutes 45 seconds East, a distance of 1677.88 feet to a nail set; THENCE leaving said easterly right-of-way of Rogers Road (50' right-of-way) North 00 degrees 46 minutes 55 seconds East a distance of 35.95 feet to an iron pin set; THENCE North 13 degrees 34 minutes 27 seconds East a distance of 41.02 feet to a 1/2" rebar found; THENCE along a curve to the left with a radius of 1851.15 feet and an arc length of. 370.22 feet, said curve being subtended by a chord bearing of South 72 degrees 48 minutes 34 seconds East and a chord distance of 369.60 feet to a point; THENCE South 78 degrees 32 minutes 19 seconds East a distance of 9.12 feet to a point; THENCE along a curve to the left with a radius of 2075.60 feet and an arc length of 157.81 feet, said curve being subtended by a chord bearing of South 80 degrees 43 minutes 02 seconds East and a chord distance of 157.77 feet to a 1/2" rebar found; THENCE South 00 degrees 00 minutes 00 seconds East a distance of 385.13 feet to a 1/2" rebar found; THENCE South 90 degrees 00 minutes 00 seconds East a distance of 213.99 feet to a 1/2" rebar found; THENCE South 00 degrees 28 minutes 54 seconds West a distance of 1255.39 feet to a 1/2" rebar found on the southerly Line of Land lot 211; THENCE west along the southerly line of Land Lot 211 North 88 degrees 13 minutes 14 seconds West a distance of 754.96 feet to a 2" open top pipe, and the **POINT OF BEGINNING.**

Said tract or parcel contains 1,169,032 square feet or 26.84 acres.

The above described property is shown on a Boundary Survey for State Properties Commission, dated December 21, 2016, last revised January 25, 2017, prepared by Travis Pruitt and Associates, a copy of which is recorded in Plat Book 248, Page 35, in the Office of the Clerk of Superior Court of DeKalb County, Georgia, incorporated herein, and by this reference made a part hereof.

Appendix B

United Consulting's Hazardous Material Survey Amendment #2, May 2018

UNITED
CONSULTING

May 1, 2018

Maureen Meulen
Atomic Entertainment Development, LLC
120 Rogers Street NE
Atlanta, GA 30317

RE: Amendment 2 – Hazardous Material Survey – Location and Estimated Quantities Data Package for Asbestos Containing Materials and Lead Base Paint
Pullman Yard Property
225 Rogers Street, Atlanta, DeKalb County, Georgia
Project No. ATENT-17-GA-01288-01

United Consulting has completed the limited Asbestos Containing Materials (ACM) and Lead Base Paint (LBP) survey at the Pullman Yard property (Project Site). The purpose of this survey was to locate and/or identify common building materials for the presence of asbestos fibers or lead base paint, that may be present at the Project Site.

Bulk sampling was performed in substantial conformance with the United States Environmental Protection Agency's (EPA's), "Guidance for Controlling Asbestos-Containing Materials in Buildings" (EPA 560/5-85-024, 1985). Lead Base Paint testing was performed using an XRF, a real-time instrument, and sampling was performed in accordance to EPA/HUD sampling guidelines. No LBP samples were sent to the laboratory. Sample locations were chosen in the field, based on the identification of visible suspect materials.

The enclosed data package includes an overview diagram (provided by Lord Aeck, Sargent, project architect), and individual building data and photographs showing the locations of the impacted materials. Laboratory identified ACM are shown in yellow, and LBP identified materials are shown in blue.

A site plan overview is provided, a table listing the individual building numbers, the roofing square footage, approximate building areas, and summary of ACM and LBP impact areas.

A separate page is provided identifying the identified locations of materials which need to be abated or managed under an O&M plan. For example, there is a page showing the identified locations of ACM inside a building (if applicable), there is a separate page showing the identified locations of ACM outside of a building (if applicable), there is a page showing identified locations of a LBP inside (if applicable), and there is a page showing the identified locations of LBP outside the building (if applicable).

The National Emissions Standard for Hazardous Air Pollutants (NESHAP) requires the removal of ACM prior to activities which would disturb them. United Consulting recommends that the ACM be removed by a qualified asbestos abatement contractor, prior to renovations or demolition, using State of Georgia accredited personnel, in accordance with applicable federal, state and local regulations governing the removal of ACM.

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A Ten-Day Notification should be forwarded to the Georgia Department of Natural Resources (DNR), Georgia Environmental Protection Division (EPD), by the building owner or demolition contractor prior to the start of any building demolition activities.

Representative areas of the Project Site were sampled on a limited basis where a visual identification of suspect materials could be made. United Consulting shall not be held responsible for errors, miscalculations, assumptions, misinterpretations or other problems or liabilities arising from, or associated with, firms or individuals bidding on asbestos abatement work that rely solely, or in part, on this document.

This report has been prepared on behalf of the client, Atomic Entertainment Development. Should any other person, partnership, or corporation desire to rely upon this report, it will be necessary for United Consulting to update the report for the new user.

Sincerely,

UNITED CONSULTING

Leonard J. Diprima, Jr., P.G,
Associate Environmental Specialist

Luke von Oldenburg, CHMM, CIH, CSP
Industrial Hygienist

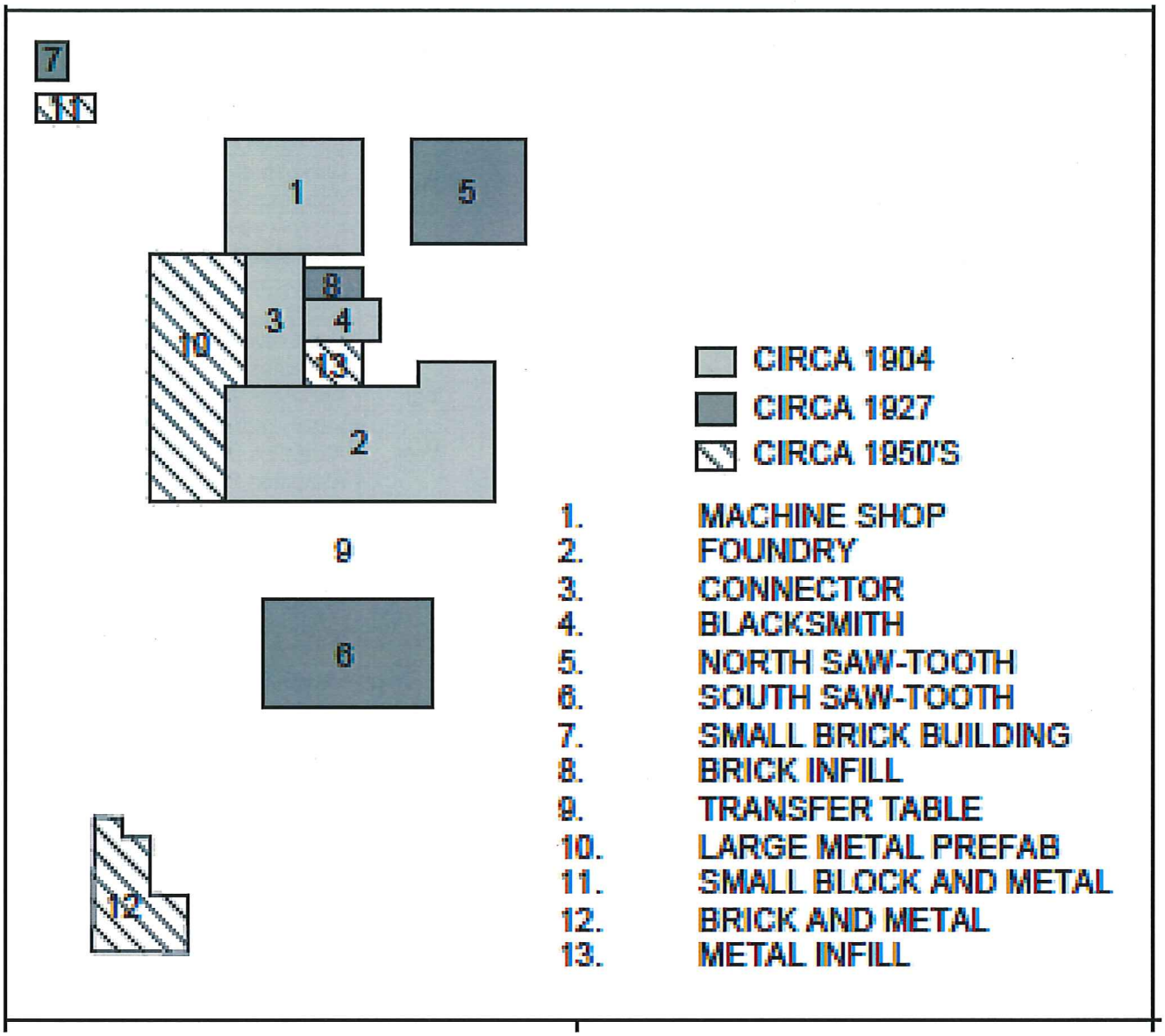
LVO/LJD/slv

cc: Andrea L. Rimer, Troutman Sanders LLP
Ben Norton, Brasfield & Gorrie

SharePoint: ATENT-17-GA-01288-01

APPENDICES

Attachment A Laboratory Results



NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

ACM – Lead Base Paint Summary

Building Number	Roof* Area sq. ft.	Building foot print sq. ft.	Lead Inside	Lead Outside	Asbestos Inside	Asbestos Outside	Comment
1	16,915	~18,000	Yes	No	No	Yes	Lead – steel and hand rail Asbestos Roof Flashing
2	37,387	~34,250	Yes	No	No	Yes	Lead steel Asbestos Roof
3	9,210	~8400	Yes	No	Yes	Yes	Lead – yellow hand rails Asbestos roof and flashing Asbestos mastic, tile, under paper
4 - west	3,787	~1600	Yes	No	No	Yes	Lead – yellow walls Asbestos roof
4 - east		~1600	No	No	No	Yes	Asbestos Roof
5	12,045	~13,800	Yes	No	Yes	Yes	Lead – steel Asbestos caulking Asbestos Roof
6	17,412	~20,350	Yes	No	Yes	Yes	Lead – steel Asbestos caulking Asbestos Roof
7	1,162	~1200	Yes	No	-	No	Lead Steel rafters
8	2,128	~2400	Yes	No	No	Yes	Lead – white interior wall paint Asbestos roof
10	20,315	~23,500	Yes	Yes	Yes	No	Lead – Yellow painted pipe and steel Asbestos – pipe wrap
11	-	~	No	No	No	Yes	Asbestos – Silver Mastic
12	10,264	~10,200	Yes	No	No	Yes	Lead – Orange steel Asbestos Sealant along building
13	~3,040	~3,040	No	No	Yes	Yes	Asbestos Pipe Wrap Asbestos Roof

Notes:

*Roof Areas are calculated by Lord Aeck Sargent – The information is attached to this package

Aside from "Roof Areas," building areas, perimeters, lengths and volumes are approximations based on site visits, measuring wheel, and provided PDF drawings.

The above measurements are related to the buildings and not the amount, size, or volume of asbestos or lead base paint.

Final responsibility of the estimations of the amount of Asbestos and Lead Base Paint to be abated will rely solely on the contractor who will be performing the task of abatement and removal.

As with all environmental investigations, there may be hidden pipe chases, vaults, etc... and other areas which may not have been visible during the surficial site walk.

The exterior pipe chase, located on the western edge of Building 10, is approximately 390 feet long. We do not know the start or the end of the pipe chase. Currently there appears to be two sets of pipes partially wrapped in asbestos insulation.

NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

LORD
AECK
SARGENT

Roof Schedule

Type	Area	Comments
Generic - 6"	4,337 SF	BUILDING 1
Generic - 6"	8,420 SF	BUILDING 1
Generic - 6"	4,158 SF	BUILDING 1
Clearstory - Windows	1,854 SF	BUILDING 1
Clearstory - Windows	1,854 SF	BUILDING 1
Generic - 6"	26,006 SF	BUILDING 2
Generic - 6"	2,139 SF	BUILDING 2
Generic - 6"	2,093 SF	BUILDING 2
Generic - 6"	4,033 SF	BUILDING 2
Generic - 6"	3,116 SF	BUILDING 2
Clearstory - Windows	1,553 SF	BUILDING 2
Clearstory - Windows	1,115 SF	BUILDING 2
Generic - 6"	9,210 SF	BUILDING 3
Generic - 6"	1,961 SF	BUILDING 4
Generic - 6"	1,826 SF	BUILDING 4
SawTooth Solid Roofs	2,409 SF	BUILDING 5
SawTooth Solid Roofs	2,409 SF	BUILDING 5
SawTooth Solid Roofs	2,409 SF	BUILDING 5
SawTooth Solid Roofs	2,409 SF	BUILDING 5
SawTooth Solid Roofs	2,409 SF	BUILDING 5
Clearstory - Windows	1,157 SF	BUILDING 5
Clearstory - Windows	1,111 SF	BUILDING 5
Clearstory - Windows	1,111 SF	BUILDING 5
Clearstory - Windows	1,111 SF	BUILDING 5
Clearstory - Windows	1,111 SF	BUILDING 5
SawTooth Solid Roofs	4,353 SF	BUILDING 6
SawTooth Solid Roofs	4,353 SF	BUILDING 6
SawTooth Solid Roofs	4,353 SF	BUILDING 6
SawTooth Solid Roofs	4,353 SF	BUILDING 6
Clearstory - Windows	2,065 SF	BUILDING 6
Clearstory - Windows	2,065 SF	BUILDING 6
Clearstory - Windows	2,065 SF	BUILDING 6
Clearstory - Windows	2,065 SF	BUILDING 6
Flat Roof	1,162 SF	BUILDING 7
Generic - 6"	2,128 SF	BUILDING 8
Metal-Low Slope	343 SF	BUILDING 10
Metal-Low Slope	19,972 SF	BUILDING 10
Roof in Question	4,971 SF	BUILDING 10
Metal-Low Slope	6,192 SF	BUILDING 12
Flat Roof	4,072 SF	BUILDING 12
Concrete - BLDG 12	41 SF	BUILDING 12
Grand total: 41	155,878 SF	

Window Schedule

Steel
- 67 Openings
- 9,338 S.F.

Wood
- 192 Openings
- 22,875 S.F.
- 6 Louvers

Aluminum
- 3 Openings
- 360 S.F.

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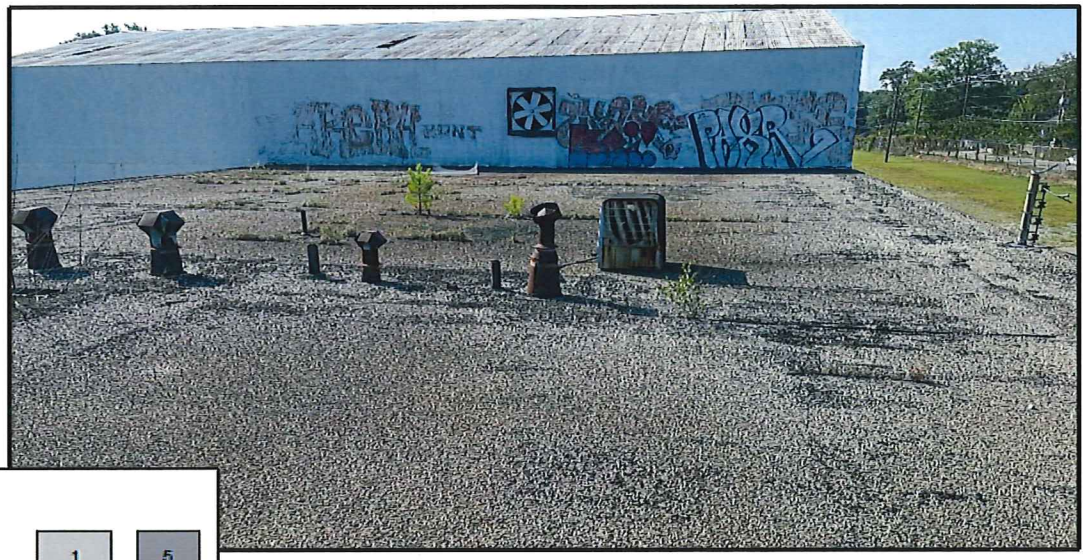
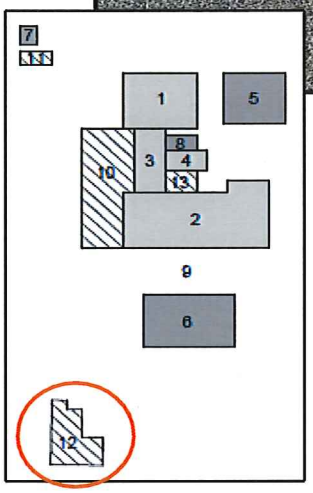
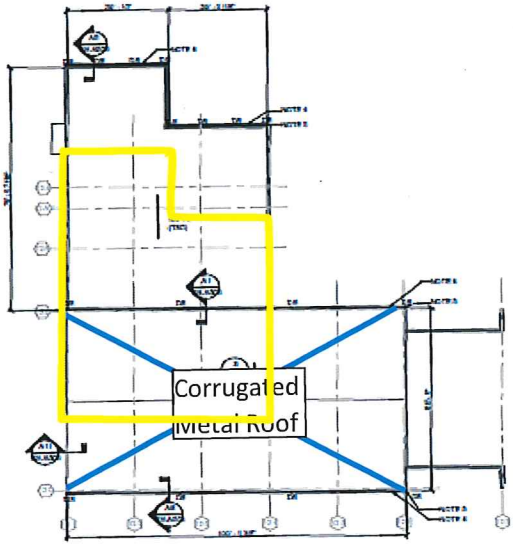
Building 12

Asbestos

Roof Sealantg







Building 12 – Outside Roof

Asbestos roof sealant - asbestos

Lower asphalt roof – The Sealant between the two buildings and sealant along the edge is positive for Asbestos.

Estimated: Lower asphalt roof perimeter ~ 280 linear feet

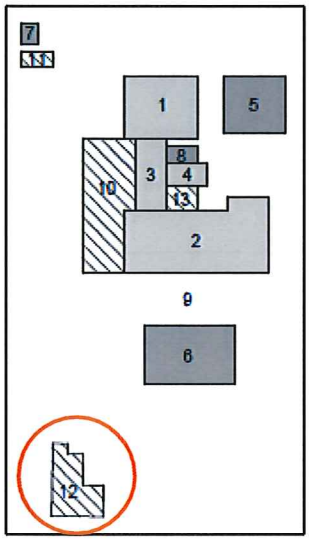
The overall tar/gravel roof is Non-detect for asbestos.

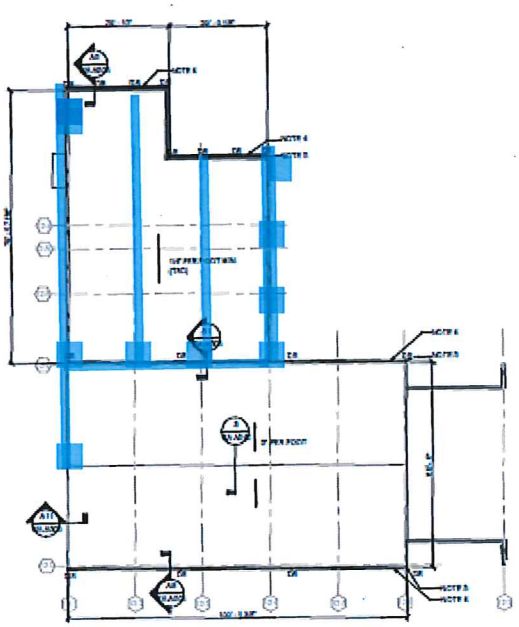
NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

Building 12

Lead Base Paint

Steel beams (lower sections)





Building 12 Inside – Lower section

LBP – vertical and horizontal, steel supports, orange I-Beams (mostly in the lower roof section).

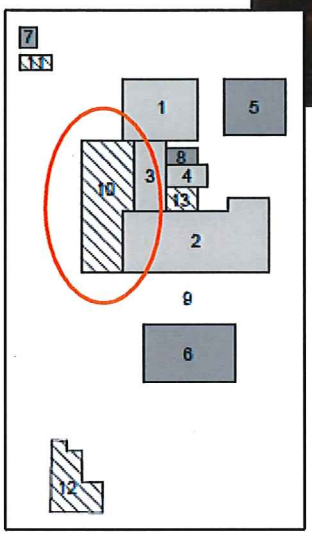
Estimated: ~600 linear feet of steel.

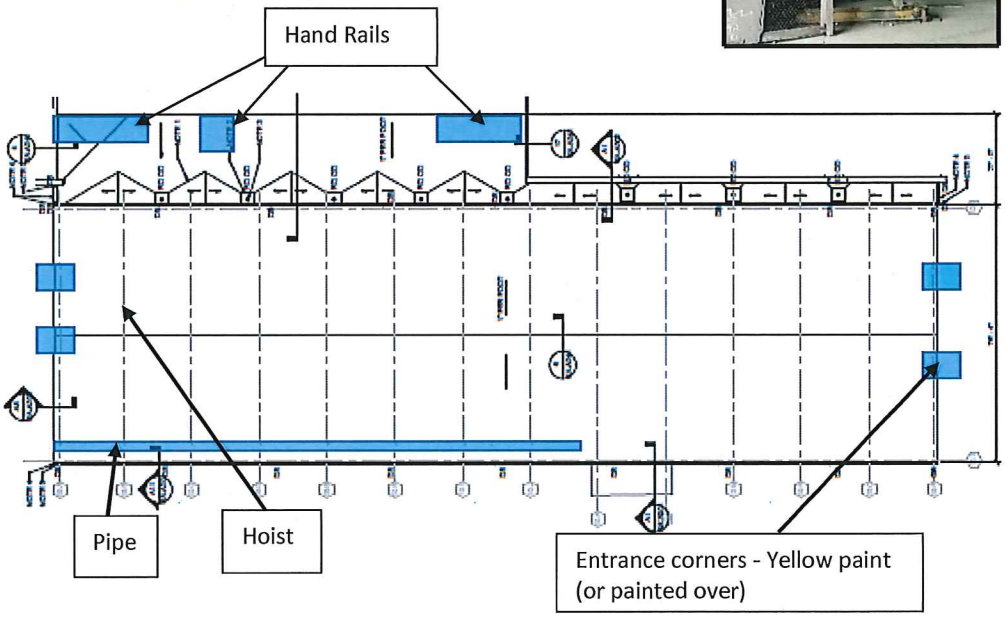
NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

Building 10

Lead Base Paint

Yellow Hand Rails Hoist, and Entrance Corners





Building 10: Inside -

LBP – Hand Rails - Painted Yellow – (Three sets of rails, Estimated: ~125 linear feet). Hoist, Water pipe (yellow paint) along west wall (Estimated: ~ 120 linear feet) and the Posts/corners at entrances on north and south ends (note yellow paint).

Note, the metal roof and walls are Non-LBP.

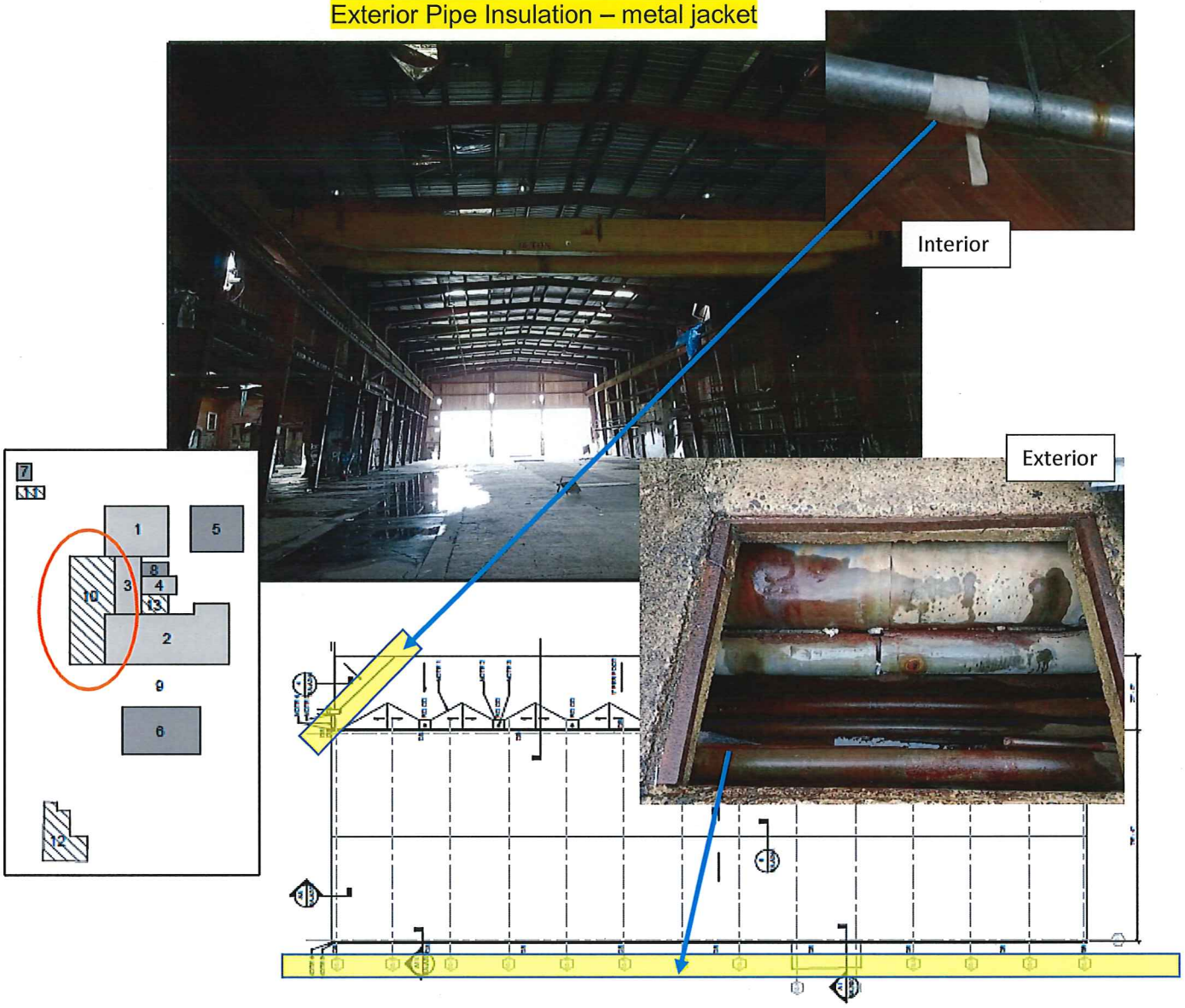
NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

Building 10

Asbestos

Interior Pipe Wrap

Exterior Pipe Insulation – metal jacket



Building 10 - Inside

Pipe Wrap - two joint spots.

Estimated: < 10 linear feet.

Building 10 - Outside

Pipe Insulation in chase.

Estimated: pipe chase length: ~ 390 linear feet (at least two lines with partial asbestos wrap).

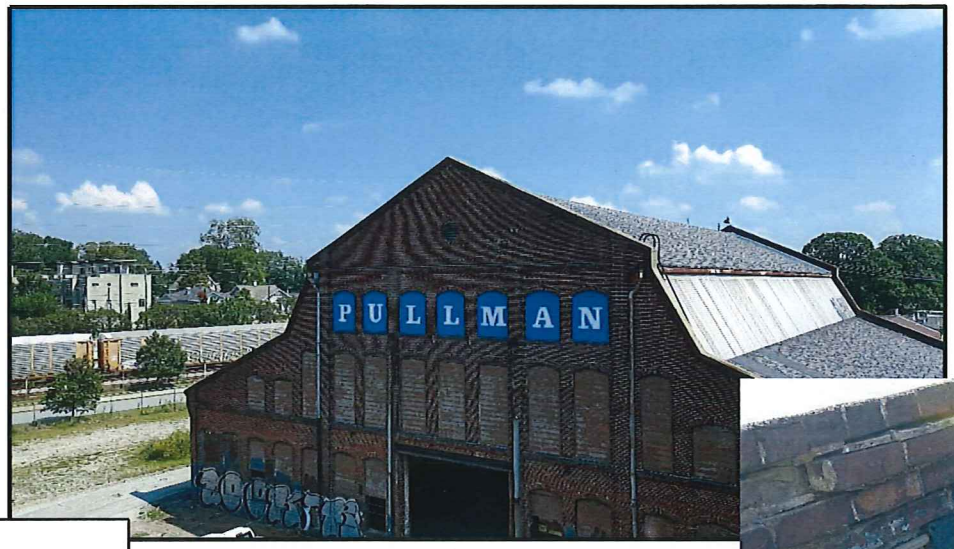
WE DO NOT KNOW WHERE THE PIPES IN THE PIPE CHASE START AND STOP.

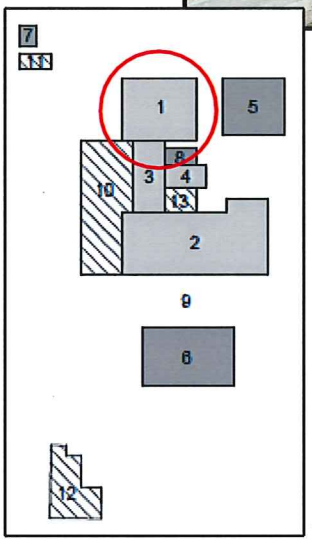
NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

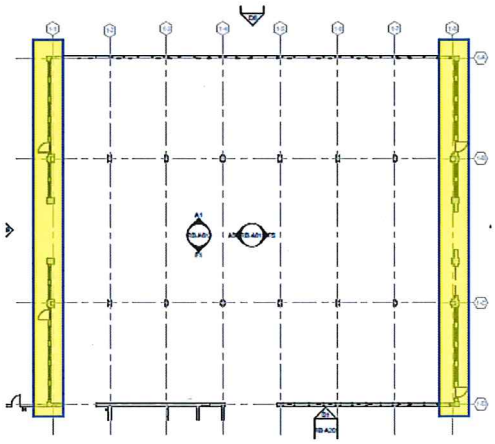
Building 1

Asbestos

Roof Sealant (Flashing along edge and sealant)







Building 1 – Outside

Asbestos roof sealant along flashing paper.

Estimated: ~ 370 linear feet.

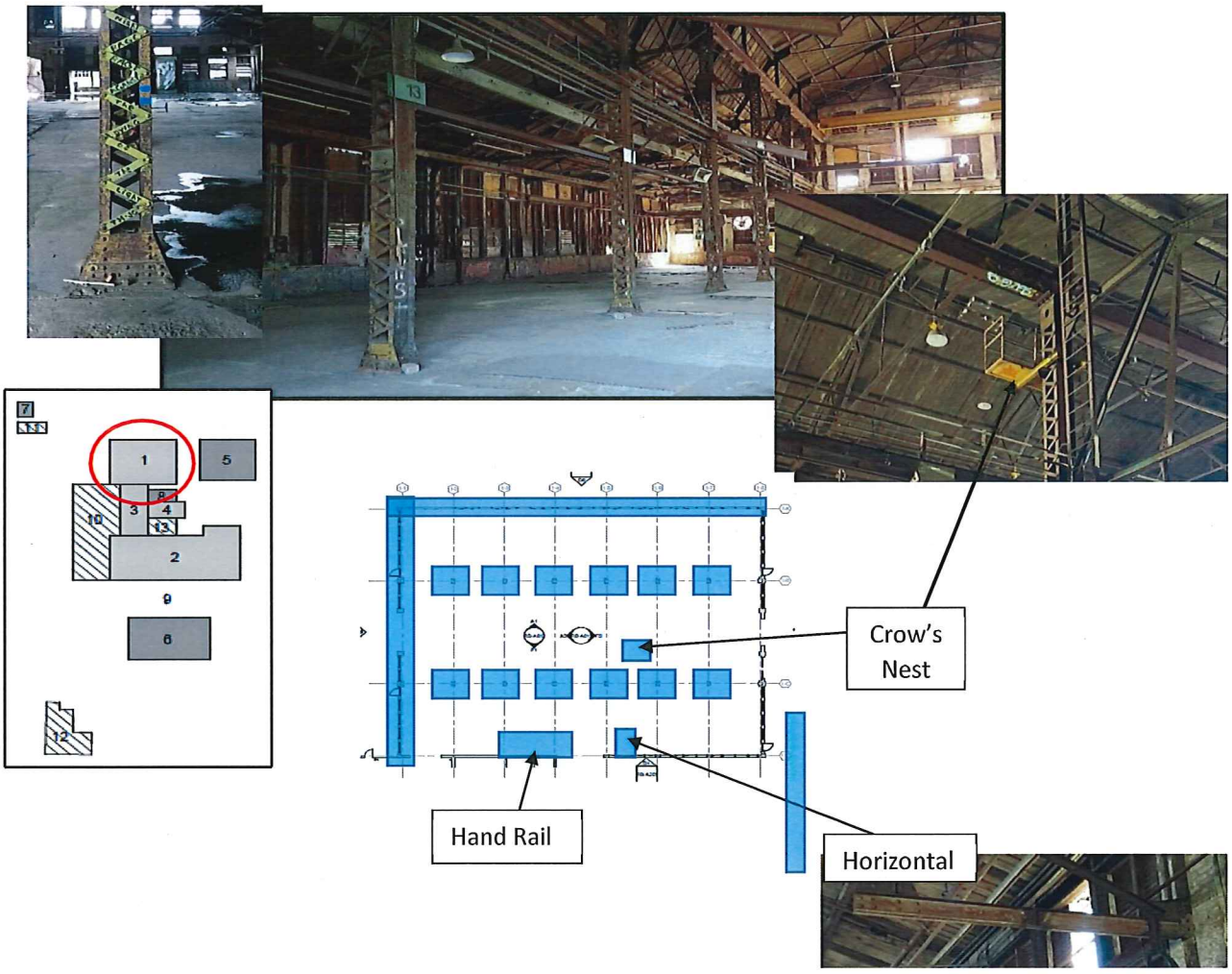
Asphalt Shingles on roof paper (non- asbestos) directly on wood.

NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

Building 1

Lead Base Paint

Steel columns, crow's nest, hoist arms, lower wall, window jambs, yellow rail



Building 1 – Inside

(12 - vertical, painted, lattice post – the lower 10 feet only).

Estimated: ~120 linear feet

Upper Crow's nest (yellow) and horizontal I beam (yellow) - linear feet undetermined.

Hand painted rail (yellow).

Estimated: ~23 linear feet of

Wall surface – lower 4 feet of west, north and northeast walls.

Estimated: ~2200 sq. ft.

LBP - on the painted, wooden window jambs and frames.

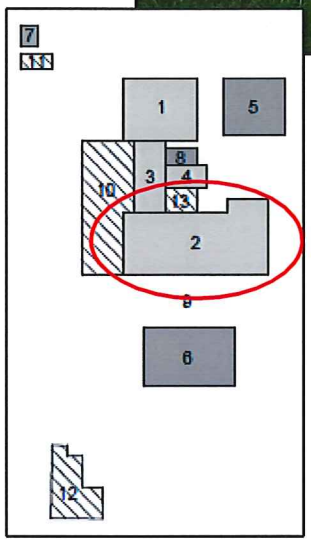
Estimated Number of Windows: 107

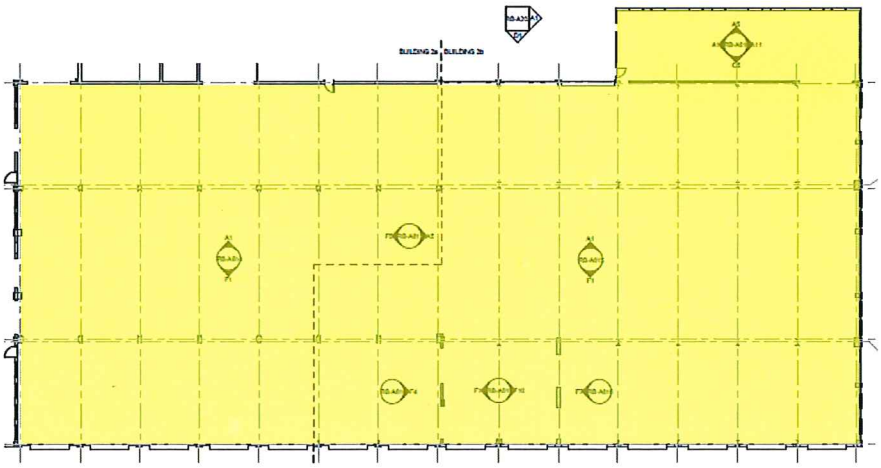
NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

Building 2

Asbestos

Roofing Felt/Paper





Building 2 - Outside

Asbestos roof flashing, sealant, and tar paper.

Estimated: 39,200 sq. ft.

Metal Roof on top attached to wood strappings. The corrugated roof lays on top of Asphalt shingles and asbestos felt/roofing paper.

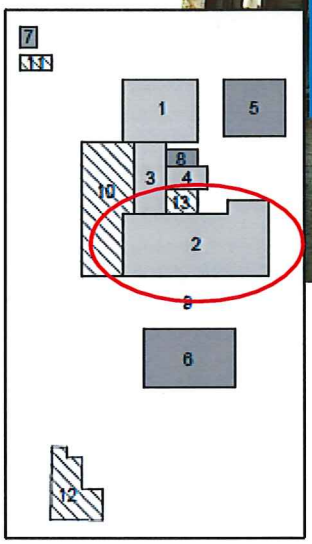
Gutter Sealant, (non- asbestos).

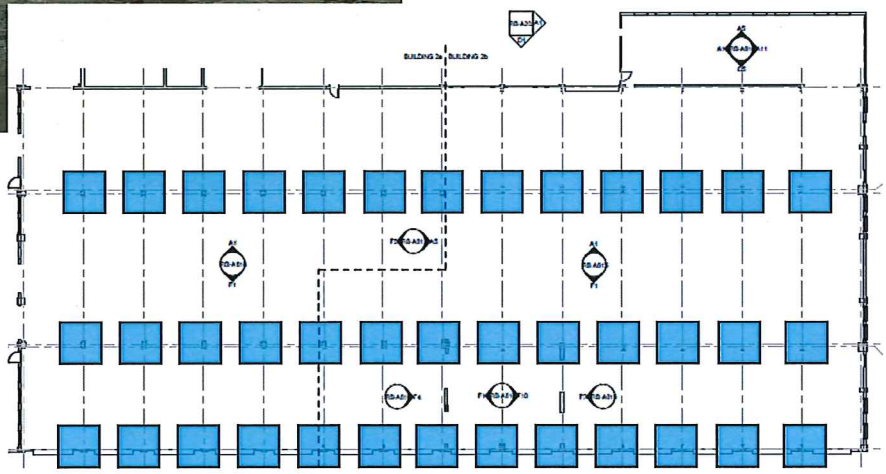
NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

Building 2

Lead Base Paint

Interior metal vertical beams





Building 2 - Inside

39 Vertical lattice beams – full length.

Estimated: each post ~25 feet each steel post; total ~975 linear feet

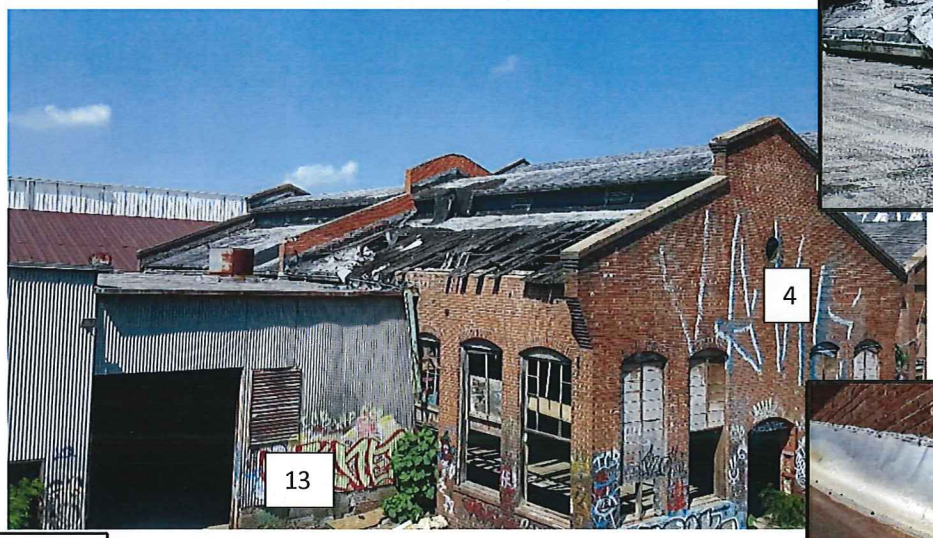
Painted walls were negative for LBP.

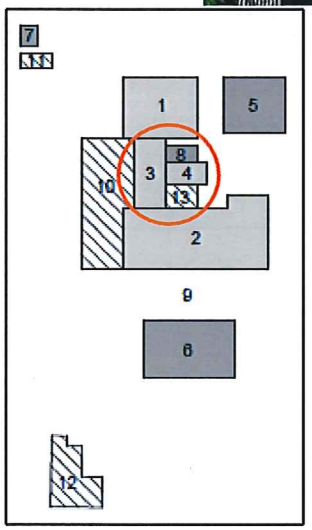
NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

Buildings 3, 4, 8, 13

Asbestos

Roofing System





Building 13 is a flat roof – the Roofing system is Asbestos.

Estimated: Building 13 Area ~ 3040 sq. ft.

Building 4, and 8 are pitched roofs with asbestos felt paper and asbestos shingles.

Estimated: Building 4 Area ~ 3200 sq. ft.

Estimated: Building 8 Area ~2400 sq. ft.

Building 3 is pitched – metal roof with asphalt / tar paper roof system below a metal roof– asbestos.

Estimated: Building 3 Area ~8,400 sq. ft.

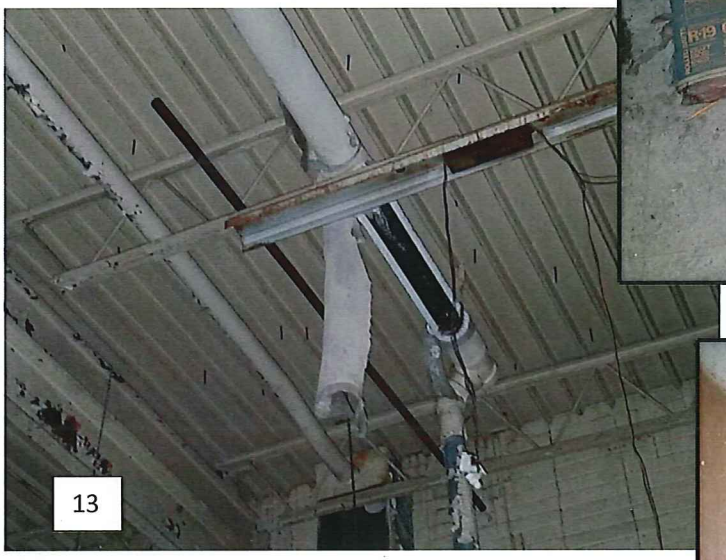
In addition, Building 3 has asbestos in the gray flashing sealant.

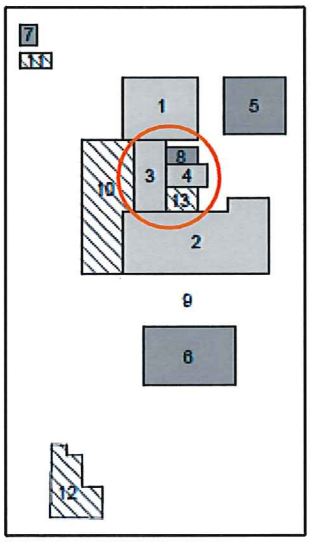
NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

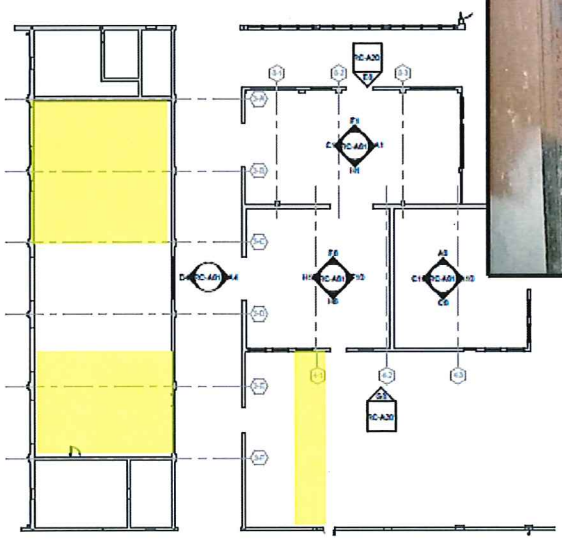
Buildings 3, 4, 8, 13

Asbestos

Floor tile, Pipe Insulation







Building 3 – Inside

Office area has asbestos floor tiles, mastic, and asbestos paper under the floor tile.

Estimated: ~ 2500 sq. ft.

Building 13 - Inside

Area: length of asbestos pipe wrap overhead.

Estimated: ~ 27 linear feet.

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Buildings 3, 4, 8, 13

Lead Painted

White Wall Paint Yellow Hand Rail, Green Wall Paint

Building 8 – white paint on all walls is LBP. Surface area undetermined.

Building 4 – Yellow Paint on walls is LBP. Surface area undetermined.

Building 3 - Painted hand rail.

Estimated: ~ 23 linear feet of rails plus base.

Building 3 - Green painted closet (access from Building 1).

Estimated: lower 10 feet (room 8 x 20), ~1,600 sq. ft.

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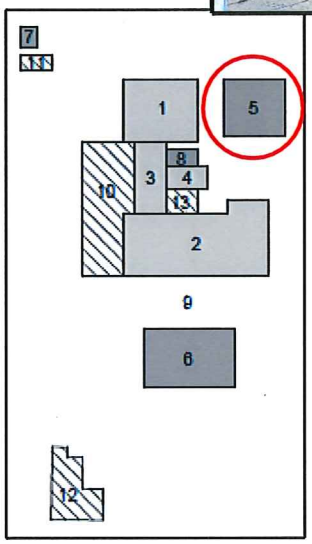
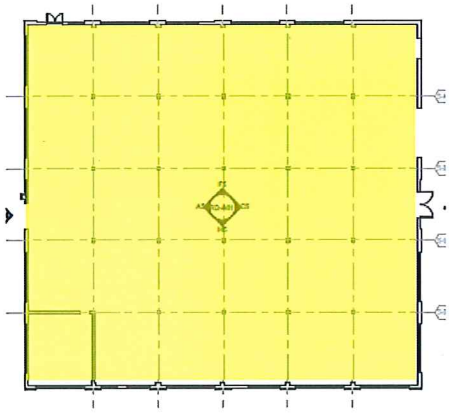
Building 5

Asbestos

Roofing Felt/Paper and Mastic





Building 5 – Outside

Asbestos roof flashing sealant and Roofing paper

Estimated: ~12,000 sq. ft.

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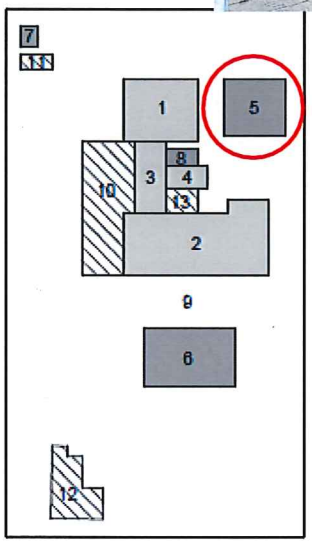
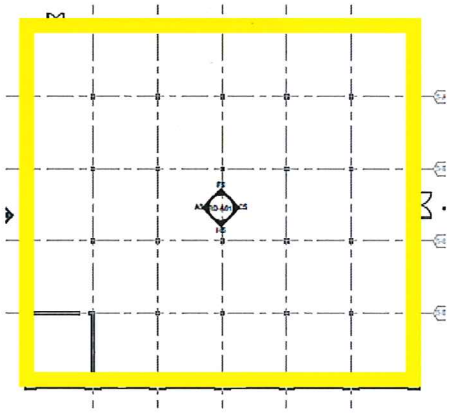
Building 5

Asbestos

Window Caulk





Building 5 - inside

Asbestos window caulk – amount varies in each window.

Estimated: ~900 windows panes

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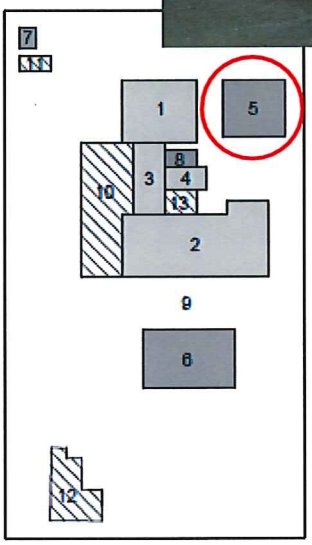
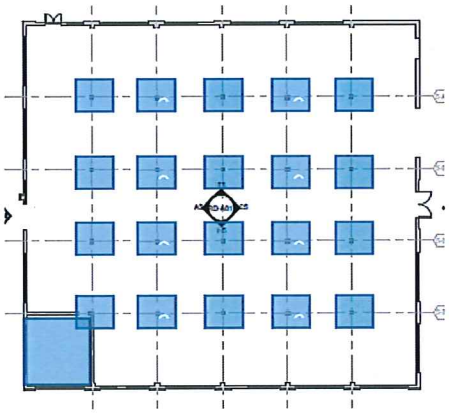
Building 5

Lead Base Paint

Steel columns, cross beams and office





Building 5 - Inside

Vertical Steel support columns (Red and yellow paint – 14 feet tall) – LBP.

Estimated: ~280 linear feet

White, steel cross beams/trusses – LBP.

Estimated: undetermined

Corner office – white paint is LBP.

Estimated: ~20 x 22 x 14 feet, ~6,160 sq. ft.

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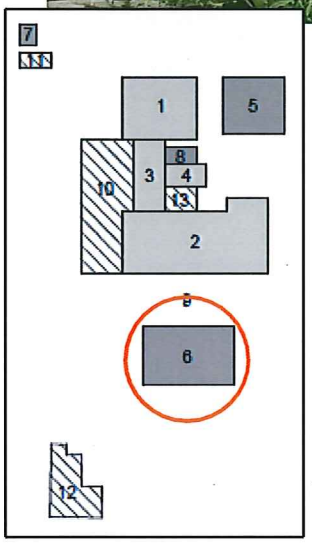
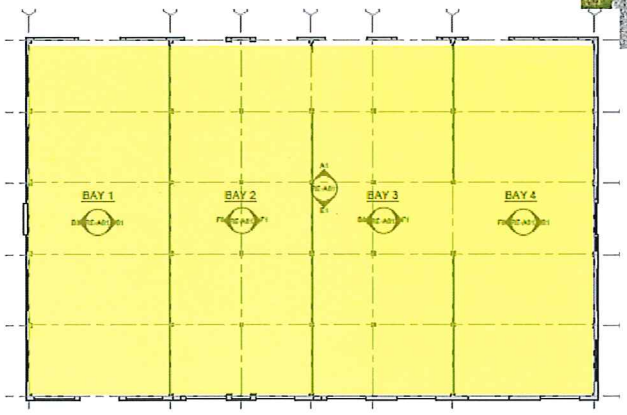
Buildings 6

Asbestos

Roofing Paper and Sealant





Building 6 - Outside

Roofing system is Asbestos – tar paper and black sealant.

Estimated: ~ 17,500 sq. ft.

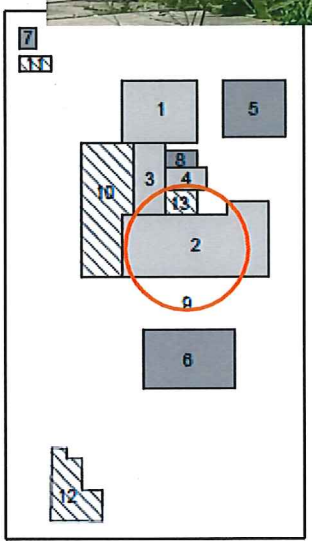
NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

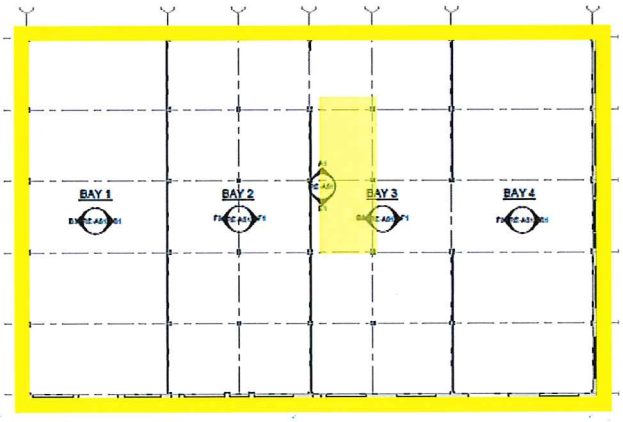
Buildings 6

Asbestos

Window Caulk and Furnace Insulation/Gaskets

Asbestos gasket





Building 6 - Inside

Asbestos window caulk - various amounts in each window.

Asbestos in gaskets and insulation of furnace.

Building Perimeter: ~590

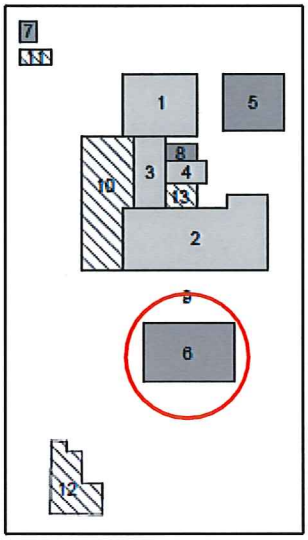
Estimated: Number of window panes 1450

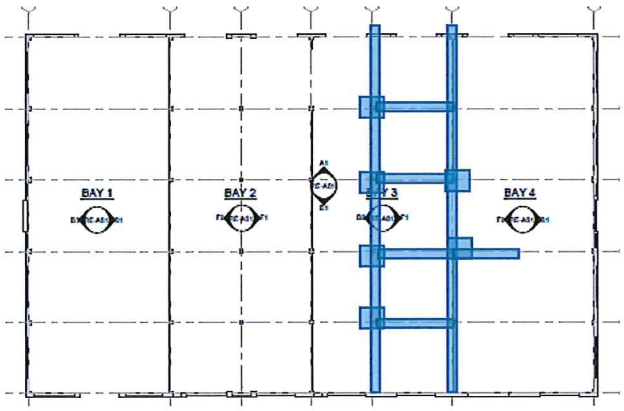
NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

Buildings 6

Lead base paint

Inside – Yellow Steel





Building 6 - Inside

Yellow steel structure LBP.

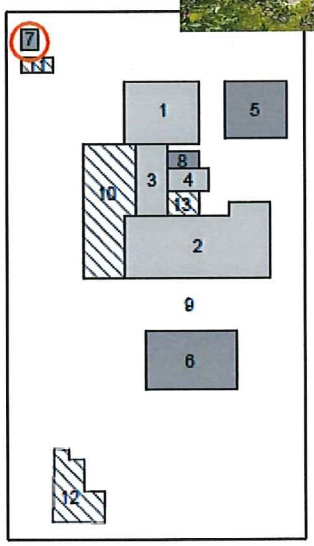
Estimated: ~450 linear feet

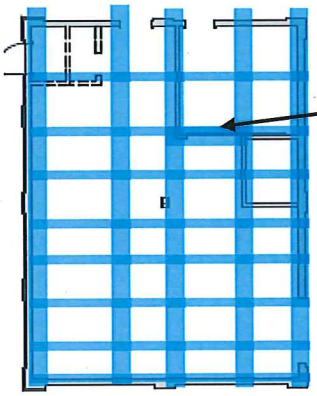
NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

Buildings 7

Lead Base Paint

Cross Beams – No Roof





Building 7 - inside

5 I-beams (40 feet each), 14 smaller cross beams (31 feet each), and 7 minor beams (5-feet each) with white LBP across the open top.

Estimated: ~669 linear feet

Walls are non-LBP.

NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

Building 7

Asbestos Fire Door

Corner section "Almetl" door showing construction. Note reinforcing.

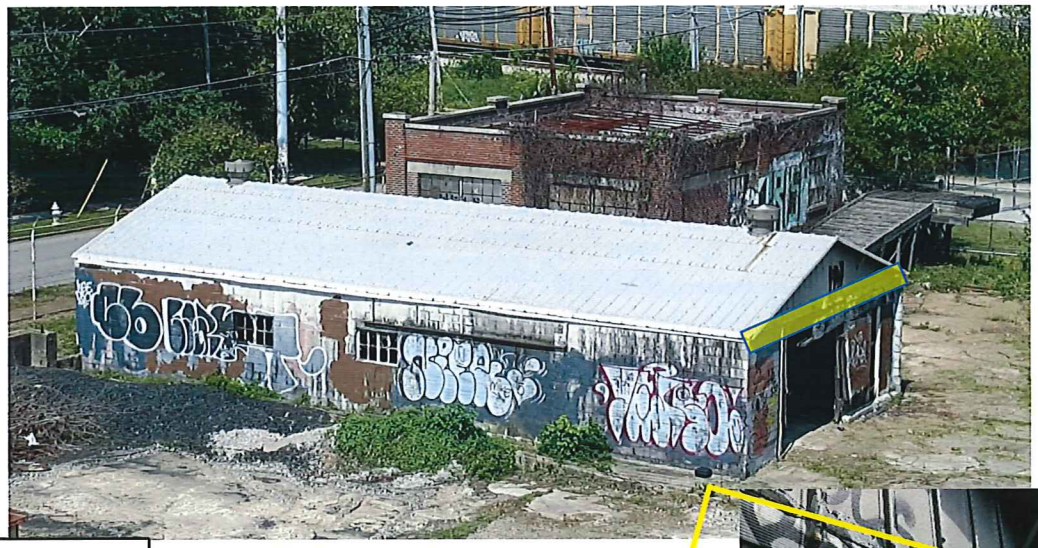
of someone, the livelihood of many, may lay smoldering in a pile of ashes—because of someone's carelessness. Proper and complete protective equipment might have made the story entirely different.

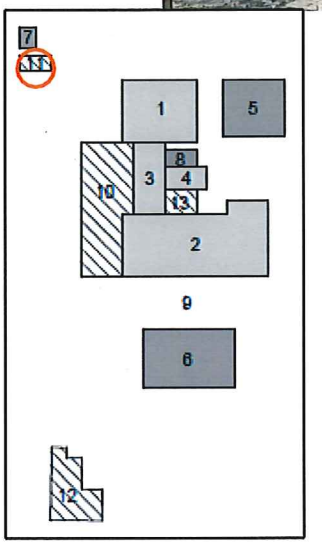
To overcome a seemingly unfilled want in this direction the Merchant & Evans Company originated and designed the Evans Almetl Fire Doors and Shutters. They are made of two sheets of corrugated galvanized steel (interlined with asbestos) bound securely in a rigid continuous welded frame of heavy corrugated steel, which is reinforced on all edges with an extra heavy galvanized steel binder. The absence of a wood core make these doors unusually light, bringing the average weight down to less than five pounds per square foot, thus allowing very easy operation. The heavy reinforcing steel binder protects the frame from damage that might be caused by trucking. There is ample provision for expansion and contraction so that any distortion or warping of the door is impossible. The con-

Buildings 11

Asbestos

Mastic





Building 11 - Outside

ASBESTOS mastic sealant, gray, where the roof meets the building.

Estimated: ~60 linear feet (30 feet each side)

MASTIC IS ON BOTH SIDES, EAST AND WEST.

NOTE ALL ESTIMATES ARE APPROXIMATE. ABATEMENT CONTRACTOR(S) SHOULD VERIFY ALL ESTIMATES PROVIDED.

ATTACHMENT A

Analytical Data