



Prepared for:
City of Ansonia
Ansonia, Connecticut

Prepared by:
AECOM
May 2021

REQUEST FOR PROPOSALS

Asbestos Abatement Project

**Pandel Property (Former SHW/Farrel Foundry)
35 North Main Street, Ansonia, Connecticut**



Contents

Instructions to Bidders

Scope of Work

Attachments 1 through 5

Appendix A Supplemental Terms and Conditions

Appendix B Project Closeout Requirements

Appendix C Prevailing Wage Rates

Appendix D Alternative Work Plans

Appendix E PCBs Report and Asbestos Pre-Renovation Inspection Report

Project Specifications

Division 1 Specifications – General Requirements

- Section 01 14 00 Work Restrictions
- Section 01 41 50 Health and Safety Requirements
- Section 01 58 00 Environmental Monitoring and Controls

Division 2 Specifications – Site Work

- Section 02 00 00 Hazardous Waste Abatement
- Section 02 06 00 Decontamination
- Section 02 81 00 Transportation and Disposal



**Ansonia RFP Asbestos Abatement Project
35 North Main Street, Ansonia, Connecticut**

INSTRUCTIONS TO BIDDERS

The City of Ansonia is seeking a contractor to remove and properly dispose of asbestos-containing materials (ACM) and asbestos debris from two areas in a group of buildings located at 35 North Main Street, Ansonia, Connecticut.

1. Statement of Work.

The project objective is to remove and properly dispose of asbestos-containing materials (ACM) and asbestos debris from two areas in a group of buildings formerly used for metalworking and other heavy industrial uses. The buildings have been unoccupied for at least 20 years and have not been maintained. Because of the building's condition of dilapidation and the distribution of the ACM, Alternative Work Practice (AWP) approvals have been obtained from the Connecticut Department of Public Health (DPH). Copies of the AWP Applications and the AWP Approvals are attached to the Scope of Work. The Contractor shall follow the requirements and procedures as stated in the AWP's when performing the abatement work. More details are provided in the Scope of Work document attached to this RFP.

Each firm will attend an initial site walk (TBD), and other visits will be allowed as scheduled by the Engineer or by appointment.

The project is funded in part by the State of Connecticut and prevailing wages apply.

2. Minimum Qualifications Required

The successful bidder will meet all requirements set forth including but not limited to those for bonding, insurance, safety, and schedule.

- a. Safety ratings and qualifications indicating an EMR below industry average in the current year and each of the prior 3 years.
- b. Minimum of 7 years providing project specific experience.
- c. Ability to prepare for and start physical work within 4 weeks of the notice to proceed and obtain substantial completion within 90 days based on current project conditions.
- d. Ability to bond and insure project work.

3. Notices

A. CHRO

The contractor who is selected to perform this State project must comply with CONN. GEN. STAT. §§ 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5.

State law requires a minimum of twenty-five (25%) percent of the state-funded portion of the contract for award to subcontractors holding current certification from the Connecticut Department of Administrative Services ("DAS") under the provisions of CONN. GEN. STAT. § 4a-60g. (25% of the work with DAS certified Small and Minority owned businesses and 25% of



that work with DAS certified Minority, Women and/or Disabled owned businesses.) The contractor must demonstrate good faith effort to meet the 25% set-aside goals.

For municipal public works contracts and quasi-public agency projects, the contractor must file a written or electronic non-discrimination certification with the Commission on Human Rights and Opportunities. Forms can be found at:

http://www.ct.gov/opm/cwp/view.asp?a=2982&q=390928&opmNav_GID=1806

All bidders must complete, sign and return the: "CHRO Contract Compliance Regulations Notification to Bidders" form to the grantee at the time of bid opening. Bids not including this form may be considered incomplete and rejected.

B. DAS

The firm must demonstrate compliance with the State of Connecticut DAS qualification requirements.

C. Project Schedule and Timing

Time is an essential element of the Contract. Since the execution of the Project may obstruct the Environmental Protection Agency (EPA) and Connecticut Department of Energy and Environmental Protection (CTDEEP) from additional waste removal efforts, it is important that the Project be pressed vigorously to completion. It is anticipated that this Project will have a duration of 30-60 days.

4. Affirmative Action Plan

The Affirmative Action plan must be filed with CHRO within 14 days following the intent to award notice and must be approved prior to the award of the construction contract.

5. Bid Bond

Each firm submitting a price proposal must deliver with the proposal a bid bond in the amount of 5% of the project cost. Prior bid bonds are no longer considered valid and may be returned upon request or destroyed by the City.

6. Evaluation Criteria

The City, as part of its selection process, will review the adequacy of the pricing schedule, proposal technical approach, proposed schedule, and ability to meet State requirements.

7. Each bidder must review this entire RFP package for completeness. There are references to other information included in this bid package. Each bidder must also be familiar with site conditions.

8. RESPONSE DUE

Response must be returned by:

Date: June 3, 2021

Time: 5:00 PM

Location: Emailed with delivery receipt



Submissions can be made via email to:

SOMalley@ansoniac.org

Each response must include the required complete forms along with the pricing schedule. Any alternatives to approach may be included but must be in addition to the base bid and clearly marked. Scanned, signed documents may be submitted via email. A return receipt is required to demonstrate delivery by time and date required.

9. Questions

Questions for this RFP may be accepted until 5 business days before the bid due date. Questions must be submitted to Sheila O'Malley (SOMalley@ansoniac.org) and Neil Thurber of AECOM (neil.thurber@aecom.com).

10. Refer to bid package requirements and attachments that follow.

11. Due to COVID restrictions, a single site walk will not be conducted. Rather, the site will be open for review on Tuesday May 25th from 10-2. Bidders can also arrange another visit through Sheila O'Malley. Bidders must contact the city if conducting a site walk. Contactors must attend in order to bid.



Scope of Work for Asbestos Abatement

**Pandel Property (Former SHW/Farrel Foundry)
35 North Main Street, Ansonia, Connecticut**

April 2021



Pandel Property
35 North Main Street, Ansonia, Connecticut
Scope of Work for Asbestos-Containing Materials Abatement and Asbestos-Contaminated
Debris and Asbestos Dust Removal in Portions of the Foundry Buildings and Building 12

Purpose:

The City of Ansonia is seeking a contractor to remove and properly dispose of asbestos-containing materials (ACM) and asbestos debris from two areas in a group of buildings formerly used for metalworking and other heavy industrial uses. The buildings have been unoccupied for at least 20 years and have not been maintained. Because of the building's condition of dilapidation and the distribution of the ACM, Alternative Work Practice (AWP) approvals have been obtained from the Connecticut Department of Public Health (DPH). Copies of the AWP Applications and the AWP Approvals are attached to this RFP. The Contractor shall follow the requirements and procedures as stated in the AWP's when performing the abatement work.

Terminology:

"The City" means the City of Ansonia, Connecticut

"Engineer" means the City's environmental engineering representative.

"Contractor" means the contractor selected to perform the Scope of Work described herein, and any subcontractors hired by said Contractor.

Permits and Notifications

The Contractor shall notify the Connecticut Department of Public Health (DPH) of the asbestos abatement work, as required by Connecticut General Statutes and DPH regulations. Contractor work must adhere to the approved AWP.

Site and Work Description

The attached **Figure 1** is an aerial view of the property, which includes the building sections to be abated. A schematic site plan (not to scale), attached as **Figure 2**, shows building area designations and the approximate boundaries of the work areas. One of the two work areas under this scope is designated as the Roll Mill, or Building Section 12, in which the work includes the removal of friable ACM from interior areas and a covered exterior driveway. The second work area is designated as the Foundry, or Building Sections 10, 11, 11A and 32, and includes the removal of ACM debris and ACM-impacted debris from the interior building spaces. More details follow below.

Roll Mill Work Area

Work in this area will consist of the removal and disposal of approximately 2,900 linear feet of thermal system insulation plus other friable ACM. The majority of the thermal system piping and other ACM is at significant heights above the building floor. Special attention is being called to hazards related to the condition of the ceilings/roofs in all sections, including wood and glass (sky lights) in Building 12.

The attached **Table 1** presents a listing of the friable ACM to be abated in this building section. **Table 1** is an excerpt of the Asbestos Pre-Renovation Inspection Report prepared for the entire property in 2019 by Hygenix, Inc., a copy of which is attached.

Foundry Work Area

Note that work at this time is scoped for the removal of debris that impacts the proper removal of other hazardous wastes (drums, transformer, etc) that will be removed by others. This work is not for removal of all debris at the site or demolition of any structure. Additional service will be at a later date under additional funding.

Work in this area will consist of a) removal of asbestos-impacted debris from a limited portion of Building Section 10 near the entrance door, followed by the removal of asbestos dust and debris from an excavator located adjacent to the entrance door; and b) the removal and disposal of ACM-impacted debris over multiple floor areas in Building Sections 10, 11, 11A and 32, both in accordance with the AWP.

The majority of the asbestos debris was deposited during two recent events, in which portions of a transite-clad roof were demolished without proper controls. The excavator was contaminated during one of the events and is to be cleaned sufficiently to take it out of the building.

Additional debris piles adjacent to the damaged area were likely impacted by dust or mixed with demolition debris and are also to be removed. Some debris may have fallen into large furnace pits in the floors in Building Section 11; removal of debris from the pits is limited to material above the floor level..

The approximate work area boundary is shown on **Figure 2**; the Contractor will verify the actual extent of clean-up in coordination with the City, the Engineer and the EPA hazardous waste removal coordinator. The gross debris area, as shown on Figure 2, is estimated as 35,000 square feet, which quantity can be verified during the site walk. Note this is a portion of the 74,000 square foot total building area specified in the AWP. **Figure 2** also shows approximate locations of the containerized wastes, for informational purposes.

Management of Site Hazards:

Because of the condition of the building, there is the potential for debris such as glass, wood or masonry fragments falling from above. The former furnace pits in the Foundry present potential fall hazards. In addition to asbestos, there are also PCB-containing paints and sealants within the work areas. A copy of the PCB sampling report for the entire property is also attached, for informational purposes.

The Contractor shall, in accordance with the specifications in the AWP Application and the AWP Approval:

- Provide safeguards for the workers from overhead hazards and fall hazards (with special attention to overhead skylights in Building 12).
- Use personnel who have HAZWOPER with PCB-specific training in addition to being qualified and certified to perform asbestos abatement in Connecticut.
- Maintain proof of any training and certification.

The Contractor shall comply with all applicable federal, state and local laws and regulations, and follow industry-recognized standard procedures for abatement and disposal of the asbestos-contaminated debris, including but not limited to regulations under the Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), Connecticut Department of Energy and Environmental Protection (DEEP), Connecticut Department of Public Health (DPH) and other applicable environmental laws and regulations. Proper work practices shall be followed when handling hazardous and regulated materials.

The Contractor may, at his discretion, disclose discovery of potential hazardous materials to the Engineer to determine whether the material should be put aside for disposal with the hazardous wastes, or disposed as commingled ACM.

Monitoring and Post-Abatement Testing:

The City will provide a DPH-licensed Asbestos Project Monitor for monitoring during asbestos removal, and/or post-removal testing, as required by the AWP.



Waste Disposal

PCB-containing paints and caulking are present in most areas of the building. As stated in the attached AWP application documents, all wastes designated for this scope of work will be disposed as commingled asbestos and PCB <50ppm, >1ppm. Wastes shall be loaded into double-lined containers or trailers as specified in the AWP application letters, and the liners sealed to prevent fugitive dust or water leaks. Waste loads shall be sent to approved waste disposal facilities under manifest.

Liability:

The Contractor shall perform the work at his own risk and shall take all reasonable precautions to avoid injury to personnel and damage to structures and equipment during performance of the work. The Contractor shall assume all responsibility for any such injury or damage caused by his actions, including any spills or releases of unknown or known hazardous materials.

Submittals:

The Contractor shall provide the following submittals:

1. A copy (copies) of the Contractor's Certificate(s) of Insurance (the City will provide insurance requirements to the selected Contractor);
2. A Health and Safety Plan (HASP), to be reviewed by the Engineer prior to beginning the work;
3. Copies of results from any laboratory analyses upon receipt;
4. Profiles for all wastes, to be reviewed by the Engineer prior to transportation off-site; and
5. Copies of completed disposal documents, including manifests, weight tickets, and Certificates of Destruction, as applicable, following final disposition of each waste stream.
6. All project close-out documents and forms as required in **Appendix B**.

Site Walk:

Contractors wishing to bid on this work shall attend a walk-through of the site prior to bid submittal, at a time to be arranged.

Site Location



Roll Mill Abatement Area

Foundry Abatement Area

Site Entrance

North Main Street

Main Street

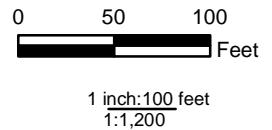
41°20'50"N

41°20'50"N

Legend
 Parcel Boundary

500 Enterprise Drive
Suite 1A / 3B
Rocky Hill, Connecticut
06067

SITE LOCATION
35 NORTH MAIN ST.
ANSONIA, CT

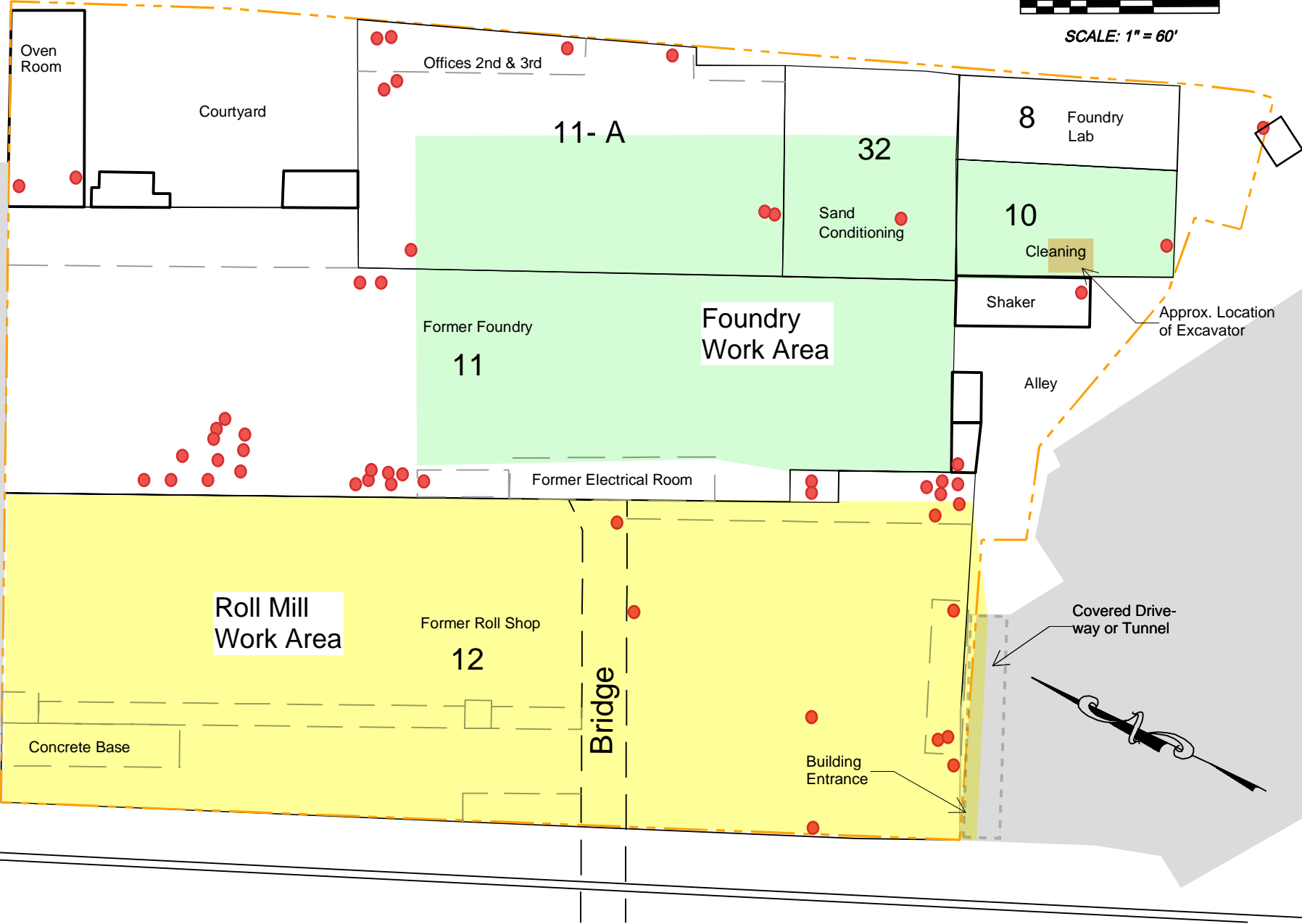


Date: 12/6/2019 Figure No. 1

Coordinate System: NAD 1983 StatePlane Connecticut FIPS 0600 Feet
Projection: Lambert Conformal Conic
Units: Foot US

DATE: April 2013

PATH/FILENAME: C:\USERS\BOGUCKIA\DOCUMENTS\WORK\ANSONIA\PANDEL\PANDEL_SITEPLAN.DWG



- - - - - PROPERTY LINE (APPROX. LOCATION)
- INTERIOR WALLS, COLUMN LINES, MEZZANINES (APPROX. LOCATIONS)
- ACTIVE RAILROAD TRACKS (METRO NORTH)
- ADJACENT BUILDING FOOTPRINT
- APPROX HAZARDOUS WASTE LOCATION

FIGURE 2. SITE PLAN
FORMER PANDEL PROPERTY (FARREL CORP.)
35 MAIN STREET, ANSONIA, CT



Table 1.

INVENTORY OF ASBESTOS CONTAINING BUILDING MATERIALS:

All asbestos containing materials must be removed from the building prior to renovation/demolition activities that will disturb them. A Connecticut licensed asbestos abatement contractor must remove the material and a clearance must be performed by a Connecticut licensed project monitor.

Building 12

ACBM Description	Location (s) in Building	Estimated Quantity	Comments
Electrical Panel Clips & Backer Boards	Scattered locations on columns, units, walls, etc.	170 units	
9x9 Floor Tile & Mastie	Bay #1 Bay #2 Bridge	100 square feet 50 square feet 20 square feet	-
Transit Unit Panels	Scattered throughout	Unknown	The panels are in units on pallets and in boxes scattered throughout the building.
1. Exhaust Aircell/Fan Jacket	Bay #1	10 linear feet	
2. Stack Aircell	Bay #1	100 linear feet	
Exterior Window Caulk & Putty	All Windows	160 windows (perimeter) 250 windows (roof level)	
3. Block White Insulation	Bridge Above Doors	20 square feet	
4. Pipe Insulation	Ceiling level of all three bays	2,900 linear feet	The insulation is in poor condition with a lot of the insulation falling on surfaces below.
5. Mudded Insulation	NE Side, 2 nd Level	60 square feet	
Roof Field & Flashing	All Roofs	65,000 square feet	Flashing is present around all penetrations & skylights
Transite Panels	Exterior of Bridge	3,000 square feet	
6. Debris	Throughout all bays	65,000 square feet	Pipe, transite and roof debris is present throughout all three sections of building #2 on most horizontal surfaces.
7. Exterior Pipe Insulation & Debris	South Side of Building	30 linear feet	A lot of the insulation has fallen to the ground below.
Exterior Roofing Debris	Perimeter edge of building	Unknown	Roofing debris has fallen off of the building over time and is scattered around the building on the ground.

ACM to be abated are in white table cells; gray cells are outside this Scope of Work.

This table was excerpted from the Asbestos Pre-Renovation Inspection Report by Hygenix, Inc., dated June 2019.



Ansonia RFP Asbestos Abatement Project

35 North Main Street

ATTACHMENTS



ATTACHMENT 1

PROPOSAL CHECKLIST

By submission of the cover letter signed by an officer of the firm, the following information has been included as part of the firm's submission for consideration of its qualifications:

- Cover letter signed by an officer of the firm, with statement of availability, experience to complete the project, ability to meet project requirements including affirmative action plans (see next item)
- Commission on Human Rights and Opportunities, Contract Compliance Regulations, Notification To Bidders (Attachment 2)
- Bonding capacity information (Attachment 3)
- Insurance types and limits (Attachment 4)
- Demonstration of pre-qualification with State of Connecticut DAS, or the ability to meet this requirement prior to May 10th, 2021.
- Project price form (signed) (Attachment 5)
- Proposed schedule

**COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES
CONTRACT COMPLIANCE REGULATIONS
NOTIFICATION TO BIDDERS**

(Revised 09/3/15)

The contract to be awarded is subject to contract compliance requirements mandated by [Sections 4a-60](#) and [4a-60a](#) of the Connecticut General Statutes; and, when the awarding agency is the State, [Sections 46a-71\(d\)](#) and [46a-81i\(d\)](#) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at [Section 46a-68j-21 through 43](#) of the Regulations of Connecticut State Agencies, which establish a procedure for awarding all contracts covered by [Sections 4a-60](#) and [46a-71\(d\)](#) of the Connecticut General Statutes.

According to [Section 46a-68j-30\(9\)](#) of the Contract Compliance Regulations, every agency awarding a contract subject to the contract compliance requirements has an obligation to “aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors, subcontractors and suppliers of materials.” “Minority business enterprise” is defined in [Section 4a-60](#) of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: “(1) Who are active in daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in subsection (a) of [Section 32-9n.](#)” “Minority” groups are defined in [Section 32-9n](#) of the Connecticut General Statutes as “(1) Black Americans . . . (2) Hispanic Americans . . . (3) persons who have origins in the Iberian Peninsula . . . (4) Women . . . (5) Asian Pacific Americans and Pacific Islanders; (6) American Indians . . .” An individual with a disability is also a minority business enterprise as provided by [Section 4a-60g](#) of the Connecticut General Statutes. The above definitions apply to the contract compliance requirements by virtue of [Section 46a-68j-21\(11\)](#) of the Contract Compliance Regulations.

The awarding agency will consider the following factors when reviewing the bidder’s qualifications under the contract compliance requirements:

- (a) the bidder’s success in implementing an affirmative action plan;
- (b) the bidder’s success in developing an apprenticeship program complying with [Sections 46a-68-1 to 46a-68-17](#) of the Administrative Regulations of Connecticut State Agencies, inclusive;
- (c) the bidder’s promise to develop and implement a successful affirmative action plan;
- (d) the bidder’s submission of employment statistics contained in the “Employment Information Form”, indicating that the composition of its workforce is at or near parity when compared to the racial and sexual composition of the workforce in the relevant labor market area; and
- (e) the bidder’s promise to set aside a portion of the contract for legitimate minority business enterprises. [See Section 46a-68j-30\(10\)\(E\)](#) of the Contract Compliance Regulations.

INSTRUCTIONS AND OTHER INFORMATION

The following [BIDDER CONTRACT COMPLIANCE MONITORING REPORT](#) must be completed in full, signed, and submitted with the bid for this contract. The contract awarding agency and the Commission on Human Rights and Opportunities will use the information contained thereon to determine the bidders compliance to [Sections 4a-60](#) and [4a-60a](#) CONN. GEN. STAT., and [Sections 46a-68j-23](#) of the Regulations of Connecticut State Agencies regarding equal employment opportunity, and the bidder’s good faith efforts to include minority business enterprises as subcontractors and suppliers for the work of the contract.

1) Definition of Small Contractor

[Section 4a-60g](#) CONN. GEN. STAT. defines a small contractor as a company that has been doing business under the same management and control and has maintained its principal place of business in Connecticut for a one year period immediately prior to its application for certification under this section, had gross revenues not exceeding fifteen million dollars in the most recently completed fiscal year, and at least fifty-one percent of the ownership of which is held by a person or persons who are active in the daily affairs of the company, and have the power to direct the management and policies of the company, except that a nonprofit corporation shall be construed to be a small contractor if such nonprofit corporation meets the requirements of subparagraphs (A) and (B) of subdivision [4a-60g](#) CONN. GEN. STAT.

2) Description of Job Categories (as used in Part IV Bidder Employment Information) (Page 2)

MANAGEMENT: Managers plan, organize, direct, and control the major functions of an organization through subordinates who are at the managerial or supervisory level. They make policy decisions and set objectives for the company or departments. They are not usually directly involved in production or providing services. Examples include top executives, public relations managers, managers of operations specialties (such as financial, human resources, or purchasing managers), and construction and engineering managers.

BUSINESS AND FINANCIAL OPERATIONS: These occupations include managers and professionals who work with the financial aspects of the business. These occupations include accountants and auditors, purchasing agents, management analysts, labor relations specialists, and budget, credit, and financial analysts.

MARKETING AND SALES: Occupations related to the act or process of buying and selling products and/or services such as sales engineer, retail sales workers and sales representatives including wholesale.

LEGAL OCCUPATIONS: In-House Counsel who is charged with providing legal advice and services in regards to legal issues that may arise during the course of standard business practices. This category also includes assistive legal occupations such as paralegals, legal assistants.

COMPUTER SPECIALISTS: Professionals responsible for the computer operations within a company are grouped in this category. Examples of job titles in this category include computer programmers, software engineers, database administrators, computer scientists, systems analysts, and computer support specialists

ARCHITECTURE AND ENGINEERING: Occupations related to architecture, surveying, engineering, and drafting are included in this category. Some of the job titles in this category include electrical and electronic engineers, surveyors, architects, drafters, mechanical engineers, materials engineers, mapping technicians, and civil engineers.

OFFICE AND ADMINISTRATIVE SUPPORT: All clerical-type work is included in this category. These jobs involve the preparing, transcribing, and preserving of written communications and records; collecting accounts; gathering and distributing information; operating office machines and electronic data processing equipment; and distributing mail. Job titles listed in this category include telephone operators, bill and account collectors, customer service representatives, dispatchers, secretaries and administrative assistants, computer operators and clerks (such as payroll, shipping, stock, mail and file).

BUILDING AND GROUNDS CLEANING AND MAINTENANCE: This category includes occupations involving landscaping, housekeeping, and janitorial services. Job titles found in this category include supervisors of landscaping or housekeeping, janitors, maids, grounds maintenance workers, and pest control workers.

CONSTRUCTION AND EXTRACTION: This category includes construction trades and related occupations. Job titles found in this category include boilermakers, masons (all types), carpenters, construction laborers, electricians, plumbers (and related trades), roofers, sheet metal workers, elevator installers, hazardous materials removal workers, paperhangers, and painters. Paving, surfacing, and tamping equipment operators; drywall and ceiling tile installers; and carpet, floor and tile installers and finishers are also included in this category. First line supervisors, foremen, and helpers in these trades are also grouped in this category.

INSTALLATION, MAINTENANCE AND REPAIR: Occupations involving the installation, maintenance, and repair of equipment are included in this group. Examples of job titles found here are heating, ac, and refrigeration mechanics and installers; telecommunication line installers and repairers; heavy vehicle and mobile equipment service technicians and mechanics; small engine mechanics; security and fire alarm systems installers; electric/electronic repair, industrial, utility and transportation equipment; millwrights; riggers; and manufactured building and mobile home installers. First line supervisors, foremen, and helpers for these jobs are also included in the category.

MATERIAL MOVING WORKERS: The job titles included in this group are Crane and tower operators; dredge, excavating, and lading machine operators; hoist and winch operators; industrial truck and tractor operators; cleaners of vehicles and equipment; laborers and freight, stock, and material movers, hand; machine feeders and offbearers; packers and packagers, hand; pumping station operators; refuse and recyclable material collectors; and miscellaneous material moving workers.

PRODUCTION WORKERS: The job titles included in this category are chemical production machine setters, operators and tenders; crushing/grinding workers; cutting workers; inspectors, testers sorters, samplers, weighers; precious stone/metal workers; painting workers; cementing/gluing machine operators and tenders; etchers/engravers; molders, shapers and casters except for metal and plastic; and production workers.

3) Definition of Racial and Ethnic Terms (as used in Part IV Bidder Employment Information) (Page 3)

<p><u>White</u> (not of Hispanic Origin)-All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.</p> <p><u>Black</u> (not of Hispanic Origin)-All persons having origins in any of the Black racial groups of Africa.</p> <p><u>Hispanic</u>- All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.</p>	<p><u>Asian or Pacific Islander</u>- All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes China, India, Japan, Korea, the Philippine Islands, and Samoa.</p> <p><u>American Indian or Alaskan Native</u>- All persons having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.</p>
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BIDDER CONTRACT COMPLIANCE MONITORING REPORT

PART 1 – Bidder Information

<p>Company Name: Street Address: City & State: Chief Executive:</p>	<p>Bidder Federal Employer Identification Number: Or Social Security Number:</p>
<p>Major Business Activity: (brief description)</p>	<p>Bidder Identification (response optional/definitions on page 1)</p> <p>-Bidder is a small contractor? Yes No -Bidder is a minority business enterprise? Yes No (If yes, check ownership category) Black Hispanic Asian American American Indian/Alaskan Native Iberian Peninsula Individual(s) with a Physical Disability Female -Bidder is certified as above by State of CT? Yes No</p>
<p>Bidder Parent Company: (If any)</p>	
<p>Other Locations in CT: (If any)</p>	

PART II - Bidder Nondiscrimination Policies and Procedures

<p>1. Does your company have a written Affirmative Action/Equal Employment Opportunity statement posted on company bulletin boards? Yes No</p>	<p>7. Do all of your company contracts and purchase orders contain non-discrimination statements as required by Sections 4a-60 & 4a-60a Conn. Gen. Stat.? Yes No</p>
<p>2. Does your company have the state-mandated sexual harassment prevention in the workplace policy posted on company bulletin boards? Yes No</p>	<p>8. Do you, upon request, provide reasonable accommodation to employees, or applicants for employment, who have physical or mental disability? Yes No</p>
<p>3. Do you notify all recruitment sources in writing of your company's Affirmative Action/Equal Employment Opportunity employment policy? Yes No</p>	<p>9. Does your company have a mandatory retirement age for all employees? Yes No</p>
<p>4. Do your company advertisements contain a written statement that you are an Affirmative Action/Equal Opportunity Employer? Yes No</p>	<p>10. If your company has 50 or more employees, have you provided at least two (2) hours of sexual harassment training to all of your supervisors? Yes No N/A</p>
<p>5. Do you notify the Ct. State Employment Service of all employment openings with your company? Yes No</p>	<p>11. If your company has apprenticeship programs, do they meet the Affirmative Action/Equal Employment Opportunity requirements of the apprenticeship standards of the Ct. Dept. of Labor? Yes No N/A</p>
<p>6. Does your company have a collective bargaining agreement with workers? Yes No</p> <p>6a. If yes, do the collective bargaining agreements contain non-discrimination clauses covering all workers? Yes No</p> <p>6b. Have you notified each union in writing of your commitments under the nondiscrimination requirements of contracts with the state of CT? Yes No</p>	<p>12. Does your company have a written affirmative action Plan? Yes No If no, please explain.</p> <p>13. Is there a person in your company who is responsible for equal employment opportunity? Yes No If yes, give name and phone number:</p>

1. Will the work of this contract include subcontractors or suppliers? Yes No

1a. If yes, please list all subcontractors and suppliers and report if they are a small contractor and/or a minority business enterprise. (defined on page 1 / use additional sheet if necessary)

1b. Will the work of this contract require additional subcontractors or suppliers other than those identified in 1a. above? Yes No

PART IV - Bidder Employment Information

Date:

JOB CATEGORY*	OVERALL TOTALS	WHITE (not of Hispanic origin)		BLACK (not of Hispanic origin)		HISPANIC		ASIAN or PACIFIC ISLANDER		AMERICAN INDIAN or ALASKAN NATIVE	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Management											
Business & Financial Ops											
Marketing & Sales											
Legal Occupations											
Computer Specialists											
Architecture/Engineering											
Office & Admin Support											
Bldg/ Grounds Cleaning/Maintenance											
Construction & Extraction											
Installation , Maintenance & Repair											
Material Moving Workers											
Production Occupations											
TOTALS ABOVE											
Total One Year Ago											
FORMAL ON THE JOB TRAINEES (ENTER FIGURES FOR THE SAME CATEGORIES AS ARE SHOWN ABOVE)											
Apprentices											
Trainees											

*NOTE: JOB CATEGORIES CAN BE CHANGED OR ADDED TO (EX. SALES CAN BE ADDED OR REPLACE A CATEGORY NOT USED IN YOUR COMPANY)

1. Which of the following recruitment sources are used by you? (Check yes or no, and report percent used)				2. Check (X) any of the below listed requirements that you use as a hiring qualification (X)	3. Describe below any other practices or actions that you take which show that you hire, train, and promote employees without discrimination
SOURCE	YES	NO	% of applicants provided by source		
State Employment Service				Work Experience	
Private Employment Agencies				Ability to Speak or Write English	
Schools and Colleges				Written Tests	
Newspaper Advertisement				High School Diploma	
Walk Ins				College Degree	
Present Employees				Union Membership	
Labor Organizations				Personal Recommendation	
Minority/Community Organizations				Height or Weight	
Others (please identify)				Car Ownership	
				Arrest Record	
				Wage Garnishments	

Certification (Read this form and check your statements on it CAREFULLY before signing). I certify that the statements made by me on this BIDDER CONTRACT COMPLIANCE MONITORING REPORT are complete and true to the best of my knowledge and belief, and are made in good faith. I understand that if I knowingly make any misstatements of facts, I am subject to be declared in non-compliance with Section 4a-60, 4a-60a, and related sections of the CONN. GEN. STAT.

(Signature)	(Title)	(Date Signed)	(Telephone)
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Attachment 3 Bonding Capacity

Please indicate your firm's ability to provide bonds for the project, with an assumed value of \$200,000.

A Performance Bond and a Labor & Materials Bond will be required. Each must be for 100% of the value of work.

By submitting a response to this RFP, the firm acknowledges that it can provide the bonds listed above for the project if deemed qualified and selected for award after the price proposal phase of the process.

Bonding reference

Agent Name:

Surety Name:

Contact:

Phone Number:

Address:

Capacity

Single limit:

Total program bonding limit:

Net Capacity available:

Attachment 4 Insurance Requirement Sheet

Insurance Requirements: Before starting and until final completion and acceptance of the work called for in the Contract, the Contractor and its subcontractors, if any, shall procure and maintain insurance of the types and amounts checked in paragraphs A through F below for all Contract operations.

- A. General Liability, with minimum coverage for combined bodily injury and property damage liability of \$2,000,000 general aggregate, \$1,000,000 per occurrence including:
 - 1. Commercial General Liability.
 - 2. City as additional insured.
 - 3. State of Connecticut as additional insured.

- B. Comprehensive Automobile Liability, with minimum coverage of \$1,000,000 combined single limit for bodily injury and property damage, including, where applicable, coverage for any vehicle, all owned vehicles, scheduled vehicles, hired vehicles, non-owned vehicles and garage liability.

- C. Excess Liability, with minimum coverage of \$5,000,000 in umbrella form, or such other form as approved by the City.

- D. Workers' Compensation and Employer's Liability, with minimum coverage as provided by Connecticut State Statutes.

- E. Professional Liability (for design and other professionals for Errors and Omissions), with minimum coverage of \$1,000,000. If the policy is on a claims-made basis, coverage shall be continually renewed or extended for three (3) years after work is completed under the Contract.

- F. Pollution Liability Insurance.

- G. CERTIFICATE HOLDER: City of Ansonia; State of Connecticut

The Acord certificate of insurance form must be executed by your insurance agent/broker and returned to this office. Company name and address must conform on all documents including insurance documentation. It is required that agent/broker note the individual insurance companies providing coverage, rather than the insurance group, on the Acord form. The Contract number (provided to the awarded vendor), project name and a brief description must be inserted in the "Description of Operations" field. It must be confirmed on the Acord Form that the City of Ansonia is endorsed as an additional insured by having the appropriate box checked off and stating such in the "Description of Operations" field. A letter from the awarded vendor's agent/broker certifying that the City of Ansonia and the State of Connecticut has been endorsed onto the general liability policy as an additional insured is also mandatory. This letter must follow exactly the format provided by the Purchasing Department and must be signed by the same individual authorized representative who signed the Acord form. If the insurance coverage required is provided on more than one Acord certificate of insurance, then additional endorsement letters are also required. Contract development will begin upon receipt of complete, correct insurance documentation.

The Contractor shall be responsible for maintaining the above insurance coverage in force to secure all of the Contractor's obligations under the Contract with an insurance company or companies with an AM Best Rating of B+:VII or better, licensed to write such insurance in Connecticut and acceptable to the City of Ansonia. For excess liability only, non-admitted insurers are acceptable, provided they are permitted to do business through Connecticut excess line brokers per listing on the current list of Licensed Insurance Companies, Approved Reinsurers, Surplus Lines Insurers and Risk Retention Groups issued by the State of Connecticut Insurance Department.

Note additional requirements for subcontractors and disposal facilities in the Supplemental Terms and Conditions of the agreement.



ATTACHMENT 5
BID FORM
35 North Main Street

Bid prices listed in this Schedule are based on performance of the Work as specified in these Specifications shall include all overhead, profit, handling, taxes and all other related charges. The estimated quantities in this form are based on the best judgment of the Engineer and may vary from actual site conditions. Engineer believes the actual quantities may likely be greater than the quantities provided herein. No adjustment of unit prices will be allowed for any Bid Item due to any change in quantities.

Bid Item		Unit	Estimated Quantity	Unit Price \$	Total Amount \$
1	Mobilization, demobilization, all labor, equipment, supplies, per diems.	L.S.	1		
2	Roll Mill Work Area – Abatement and disposal of pipe insulation (item 4 in Table 1)	L.F.	3,300		
3	Roll Mill Work Area – Abatement and disposal of remaining specified friable interior ACM (items 1, 2, 3, 5, 6 and 7 on Table 1).	L.S.	1		
4	Foundry Work Area – Decontaminate Excavator	L.S.	1		
5	Foundry Work Area – Debris Removal	L.S.	1		
6	Foundry Work Area – Asbestos waste disposal, inclusive of container, cover, and transportation.	C.Y.	450		
	SUBTOTAL ALL ITEMS ABOVE				
7	Performance bond	L.S.	1		
8	Labor and Material Payment bond	L.S.	1		

TOTAL COST (Items 1 to 8)

\$ _____



Appendix A

Supplemental Terms and Conditions

CONTRACTOR RESPONSIBILITY

1. Contractor represents that it has and commits the expertise, experience, personnel and resources to properly perform the Contracted Services and that all personnel engaged in the Contracted Services shall be fully qualified, authorized, licensed, trained and permitted as required by applicable Law or the requirements of this Agreement to perform the Contracted Services. Contractor shall remove any employee or lower-tier subconsultant or subcontractor ("subcontractor"), from performance of the Contracted Services if so directed in writing by the City.
2. By executing this Agreement, Contractor warrants that for the duration of this Agreement, Contractor meets and will continue to meet all disclosure obligations and certifications ("Certifications") required for proper performance of the Contracted Services. Contractor shall immediately provide notice to the City of any changes to such Certifications. If equipment and materials are provided under this Agreement, Contractor further warrants to the City and its Client that all materials and equipment furnished shall be new unless otherwise specified, and that such equipment and materials shall be of good quality, free from faults and defects, in conformance with this Agreement and that any related warranties shall pass to the City's Client.
3. Contractor shall perform the Contracted Services in accordance with the degree of care and skill ordinarily exercised by members of the same profession currently performing the same or similar services under the same or similar circumstances or required by applicable Law, in which case that higher standard shall apply. Contractor shall be solely responsible for the professional quality, technical accuracy and the coordination of all designs, drawings, specifications, calculations, reports, documents or other Data to be provided under this Agreement, and shall, without additional compensation, correct any errors or deficiencies promptly upon notice or discovery thereof. Review, inspection, approval, acceptance or payment by the City of or for the Contracted Services does not release or otherwise waive Contractor's sole responsibility for the proper performance of the Contracted Services.
4. All communications with the Client and/or applicable governmental regulatory agencies will be exclusively through or pursuant to the express written direction of the City. Contractor shall direct inquiries from Client and/or governmental regulatory agencies to the City for appropriate response. Should the Client and/or the governmental regulatory agency insist on communications directly with Contractor, Contractor shall promptly advise the City of the nature, extent and substance of such communications.
5. Contractor shall attend periodic meetings or events as may reasonably be required by the City for the proper coordination of the Contracted Services. Contractor shall be prepared to accurately report on the current and projected status of the Contracted Services at those meetings or events and at such other times as requested by the City.
6. For purposes of this Agreement, CONTRACTOR shall work under the direction of the the City-assigned Project Manager or his/her designee(s). Any conflict in the scheduling of work for the CONTRACTOR shall be settled by the Project Manager.
7. CONTRACTOR shall not submit any proposal, bid for the Work separately or with others, take any action or make any agreement or representation inconsistent with this Agreement, or applicable Purchase Order or CONTRACTOR performing the services as set out in herein. CONTRACTOR hereby agrees that for a period continuing of four (4) years after the termination date of this Agreement it shall not perform any advisory or consulting services for, or enter into any agreement relating to the City's Clients.

TERMINATION

8. The City shall have the right to terminate this Agreement pursuant to the provisions of this Article.
9. The City shall have the right to terminate this Agreement in whole or in part for its convenience at any time by written notice to Contractor. Upon receipt of such notice, Contractor shall immediately discontinue performance of the Contracted Services on the date and to the extent specified in writing by the City.
10. This Agreement may be immediately terminated by the City in whole or in part in the event of a default consisting of substantial failure by the CONTRACTOR to fulfill its obligations under this Agreement through no fault of the City,

provided, that no such termination may be effected unless the CONTRACTOR is given written notice of default and, except for any failure to expeditiously cure defaults involving safety compliance, five (5) days to cure the default.

11. If termination is effected under Article 7(a) above, in whole or in part, for the City's convenience, and CONTRACTOR is not in default, the City will pay CONTRACTOR all reimbursable costs which are due as of the effective date of termination, and in addition, those reimbursable costs incurred in good faith by CONTRACTOR after the effective date of termination in connection with demobilization of equipment and personnel. the City shall not be liable for unabsorbed overhead or anticipatory profit on unperformed services and in no event shall the amount total payable to CONTRACTOR exceed the approved amount of the Purchase Order.
12. Upon receipt of termination notice pursuant to Paragraphs 7(a) or 7(b) above, CONTRACTOR shall (1) promptly discontinue all Work affected (unless the notice directs otherwise), and (2) deliver to the City all data, drawings, specifications, reports, summaries, and such other information and materials as may have been accumulated by CONTRACTOR in performing the Work, whether completed or in process, with the exception of one record copy of such information which shall be kept by CONTRACTOR.
13. If the City terminates this Agreement for cause and it is subsequently determined that Contractor was not in default, then the termination shall be deemed to have been issued for the convenience of the City as set forth above.
14. The rights and remedies of the City and CONTRACTOR provided in this Article are in addition to any other rights and remedies provided by law or under this Agreement.

INSURANCE

15. CONTRACTOR agrees to provide and maintain at its own expense, the following types and amounts of insurance covering the Work and all liabilities assumed under this Agreement and to furnish certificates of insurance.

(a) Required insurance for all scopes of work:

(i) Worker's Compensation, including coverage under United States Longshoremen's and Harbor Worker's Act where applicable, at the statutory limits for the state or states in which the Work is to be performed. Employer's Liability insurance in the amount of \$1,000,000 each accident/employee.

(ii) Commercial General Liability (CGL) insurance in the amount of \$1,000,000 per occurrence and \$2,000,000 in the aggregate for bodily injury, property damage, including product liability, independent contractors, contractual liability, personal injury and advertisement injury and, where applicable, coverage for damage caused by blasting, collapse or structural injury and/or damage to underground utilities, with additional insured endorsements for on-going and completed operations,

(iii) Automobile Liability insurance for any vehicle used in conjunction with the WORK, with limits of liability not less than \$1,000,000 coverage each accident combined single limit for both bodily injury and property damage.

(iv) An Umbrella or Excess Policy may be used to meet the Commercial General Liability and Automobile Liability insurance requirements.

(v) CONTRACTOR shall also carry **Asbestos, Lead and/or Mold** Liability Insurance in an amount not less than \$1,000,000 per occurrence/annual aggregate. The policy should be written on an "Occurrence Basis" with no sunset clause. Such insurance shall name the City and the City's Client specified in the Agreement and their subsidiaries and affiliates as Additional Insureds. The Certificates of Insurance must provide clear evidence that CONTRACTOR's Insurance Policies contain the minimum limits of coverage and the special provisions prescribed in this clause. Upon request, contractors must also provide a certified copy of their insurance policy which provides specific coverage(s) for working with asbestos, lead and/or mold.

(vi) For **transporting hazardous substances**, CONTRACTOR shall also carry, or require from its SUBCONTRACTOR, Business Automobile Insurance covering liability arising out of the transportation of hazardous materials in an amount not less than \$1,000,000 per occurrence. Such policy shall include Motor Carrier Endorsement MCS-90.

(vii) For **treatment, storage or disposal of hazardous wastes**, CONTRACTOR shall furnish an insurance certificate from the designated disposal facility establishing that the facility operator maintains current Pollution Legal Liability Insurance in the amount of not less than \$5,000,000 per occurrence/annual aggregate.

(viii) Should any of the Work involve **investigation, removal or remedial** action concerning the actual or threatened escape of hazardous substances, CONTRACTOR shall also carry Contractors Pollution Liability Insurance in an amount not less than \$2,000,000 per occurrence/annual aggregate. Such insurance shall be written on an occurrence basis with no sunset clause and provide coverage for both sudden and gradual occurrences arising from the Work performed under this Agreement. If Completed Operations is limited in the policy, such Completed Operation Coverage shall be for a period of not less than three (3) years. Such insurance shall name the City and the City's Client, specified in each Purchase Order, and their subsidiaries and affiliates as Additional Insureds.

(ix) For the Work involve professional services, CONTRACTOR shall also carry or require from its SUBCONTRACTOR Professional Liability Insurance in an amount not less than \$2,000,000 per claim and in the annual aggregate). Such insurance shall be written on a claims made basis with no sunset clause and provide coverage for CONTRACTOR's acts, errors and omissions arising from the Work performed under this Agreement. Coverage must be maintained uninterrupted period of at least five (5) years following completion of the Work.

16. All insurance, other than Professional Liability, Workers' Compensation and Employer Liability insurance(s), shall be primary, waive subrogation, and name the City and the State of Connecticut Department of Economic and Community Development as additional insureds.
17. CONTRACTOR shall require its lower-tier Contractor, if any, to maintain the insurance specified above, naming the City and the Client as additional insureds.
18. Prior to commencing the Contracted Services and upon any renewal of CONTRACTOR's insurance policies, CONTRACTOR shall promptly provide the City with updated certificates of insurance evidencing continued compliance with the foregoing requirements, accompanied by copies of the applicable endorsements. Acceptance of an incomplete or improper certificate when requested, or failure to identify a deficiency in coverage, shall not be construed as a waiver of CONTRACTOR's obligation to maintain in effect the coverages required by this Article. Certificates of insurance shall reference the applicable the City Project Name and Number and be mailed to the City.
19. CONTRACTOR shall provide the City with 30 days' advance written notice, 10 days for non-payment of premium, prior to cancellation or material change in policy coverage(s).
20. The insurance coverage limits required herein are minimum limits and shall not be construed as limits on CONTRACTOR's liability, limits on CONTRACTOR's indemnity obligations, or as adequate insurance coverage for CONTRACTOR's obligations under this Contract. Any failure by CONTRACTOR to comply with the insurance coverage requirements set forth above shall constitute a material breach of this Agreement and the City may withhold payment to CONTRACTOR pending cure of such breach.

HEALTH AND SAFETY

21. Work performed under this Agreement shall comply with all applicable federal, state and local safety and occupational health laws and regulations. This includes, but is not limited to Occupational Safety and Health Administration (OSHA) 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response.
22. The environmental, health and safety of any CONTRACTOR's employees and activities are solely the responsibility of that CONTRACTOR, who shall evaluate the hazards and/or potential hazards to their employees and activities and shall adhere to the CONTRACTOR'S own Plan. All CONTRACTOR'S Plans will, at a minimum conform to the requirements of the City's Plan. the City's Plan does not, nor is it intended to, address procedures of CONTRACTORS, or their SUBCONTRACTORS throughout the execution of this Agreement.
23. Before CONTRACTOR'S personnel are allowed on the job, CONTRACTOR must furnish proper documentation to the City representative a copy of the CONTRACTOR's Plan (to document completion, not approval), any required OSHA Training, identification of all Competent Persons, Drug Testing, Medical Surveillance and Respirator Fit-Testing for all CONTRACTOR personnel on the job.

BONDS

24. CONTRACTOR shall furnish performance and payment bonds, whenever required as part of the Work, each in an amount equal to the price for the Work as security for the faithful performance and payment of all CONTRACTOR's obligations under the Agreement. These bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by laws or regulations, whichever time period is greater. CONTRACTOR shall also furnish such other bonds as are required by the City. All bonds shall be in the form prescribed by the City except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.
25. If the surety on any bond furnished by CONTRACTOR is declared bankrupt or becomes solvent or its right to do business is terminated in any state where any part of the project is located, CONTRACTOR shall not later than thirty (30) days thereafter substitute another bond and surety, meeting the requirements of this Article.

COMPLIANCE WITH LAWS

26. CONTRACTOR shall comply with all applicable federal, state, and local laws, ordinances, rules, regulations, and orders in effect throughout the term of and pertaining to the Contracted Services under this Agreement, including, but not limited to Executive Order No. 11246 of September 24, 1965, as amended (regarding Equal Employment Opportunity), and the orders of the Secretary of Labor pursuant thereto.
27. No party to this Agreement shall, directly or indirectly, undertake nor cause nor permit to be undertaken any activity which is 1) illegal under any applicable laws or regulations, or 2) would have the effect of causing the City or its subsidiaries or affiliates to be in violation of the U.S. Foreign Corrupt Practices Act.
28. In connection with this Agreement, no party shall give, offer, promise, or authorize, directly or indirectly, anything of value to 1) an official or employee of any government, state-owned enterprise, international organization or any subdivisions, agents or advisors thereto, whether paid or unpaid (any such person referred to collectively as "Official"), including the government(s) of the territories in which work will be performed hereunder; or 2) any person(s) or party(s) while knowing or having reason to know that such thing of value is to be given, offered or promised to an Official in order to:
 - i. influence any official act or decision, or;
 - ii. induce an Official to use his or her influence to affect a decision of any government or international organization, or;
 - iii. assist the parties hereto in obtaining or retaining business, or in directing business to any person, or;
 - iv. to obtain an unfair advantage for the parties in any respect.
29. In connection with this Agreement, no party shall make a contribution to any political party or candidate for office on behalf of or associated with the parties or in connection with the purpose of this Agreement.
30. CONTRACTOR shall not retain or engage a third party to carry out sales or marketing obligations in connection with the scope of this Agreement without obtaining the City's prior written consent. The City reserves the right in its sole discretion to reject a request to engage or retain any such third party.
31. CONTRACTOR hereby covenants that no officer, director, owners, principal shareholder, family members thereof, agent, representative or employee of CONTRACTOR is an Official and that CONTRACTOR shall not employ any Official during the term of this Agreement. CONTRACTOR further covenants that no Official is deriving any benefit, directly or indirectly, from this Agreement.
32. In no case shall the City be obligated to take any action or make any payment to CONTRACTOR that would cause the City to suffer a penalty or contravene applicable laws or regulations, including but not limited to the laws of the territories in which work will be performed and those of the United States.
33. If CONTRACTOR breaches any of the covenants contained in this section, the City shall have the right to immediately terminate this Agreement without penalty or further payment of any sums due and owing or claimed by CONTRACTOR hereunder. In such instance, CONTRACTOR shall indemnify the City for any penalties, losses and expenses resulting from such breach of the provisions of this section.



Appendix B

Project Closeout Requirements



**APPENDIX B
PROJECT CLOSE-OUT REQUIREMENTS**

PER THE STATE OF CONNECTICUT DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT, THE FOLLOWING DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER AT THE COMPLETION OF THE PROJECT:

1. ~~Certificate of occupancy (where applicable)~~
2. Certificate of Substantial Completion (AIA form G704)
3. Contractor's Affidavit of Payment of Debts and Claims (AIA form G706)
4. Contractor's Affidavit of Release of Liens (AIA form G706A)
5. Subcontractors and Suppliers Release or Waiver of Liens.
6. Consent of Surety Company to Final Payment (AIA G707)
7. All of the Contractor's Application and Certificate for Payments (AIA form G702, and continuation sheet G703).



Appendix C
Prevailing Wage Rates

Building Rates

County	Town	Classification	Hourly Rate	Hourly Benefit
Middlesex	Westbrook	13) Roofer (composition)	\$38.40	21.35
Middlesex	Westbrook	14) Roofer (slate & tile)	\$38.90	21.35
Middlesex	Westbrook	15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	\$38.90	39.46
Middlesex	Westbrook	16) Pipefitter (Including HVAC work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4, G-1, G-2, G-8 & G-9)	\$44.63	32.95
Middlesex	Westbrook	-----TRUCK DRIVERS-----		
Middlesex	Westbrook	17a) 2 Axle	\$29.86	25.79 + a
Middlesex	Westbrook	17b) 3 Axle, 2 Axle Ready Mix	\$29.97	25.79 + a
Middlesex	Westbrook	17c) 3 Axle Ready Mix	\$30.03	25.79 + a
Middlesex	Westbrook	17d) 4 Axle, Heavy Duty Trailer up to 40 tons	\$30.08	25.79 + a
Middlesex	Westbrook	17e) 4 Axle Ready Mix	\$30.13	25.79 + a
Middlesex	Westbrook	17f) Heavy Duty Trailer (40 Tons and Over)	\$30.35	25.79 + a
Middlesex	Westbrook	17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids)	\$30.13	25.79 + a
Middlesex	Westbrook	18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	\$45.92	26.08 + a
Middlesex	Westbrook	19) Theatrical Stage Journeyman	\$25.76	7.34
New Haven	Ansonia	1b) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters.**See Laborers Group 7**		
New Haven	Ansonia	1c) Asbestos Worker/Heat and Frost Insulator	\$40.21	30.99
New Haven	Ansonia	2) Boilermaker	\$38.34	26.01
New Haven	Ansonia	3a) Bricklayer, Cement Mason, Concrete Finisher (including caulking), Stone Masons	\$35.71	33.31 + a

Building Rates

County	Town	Classification	Hourly Rate	Hourly Benefit
New Haven	Ansonia	3b) Tile Setter	\$34.90	25.87
New Haven	Ansonia	3c) Terrazzo Mechanics and Marble Setters	\$31.69	22.35
New Haven	Ansonia	3d) Tile, Marble & Terrazzo Finishers	\$26.70	21.75
New Haven	Ansonia	3e) Plasterer	\$33.48	32.06
New Haven	Ansonia	-----LABORERS-----		
New Haven	Ansonia	4) Group 1: Laborers (common or general), acetylene burners, concrete specialists, wrecking laborers, fire watchers.	\$31.00	22.15
New Haven	Ansonia	4a) Group 2: Mortar mixers, plaster tender, power buggy operators, powdermen, fireproofers/mixer/nozzleman (Person running mixer and spraying fireproof only).	\$31.25	22.15
New Haven	Ansonia	4b) Group 3: Jackhammer operators/pavement breaker, mason tender (brick), mason tender (cement/concrete), forklift operators and forklift operators (masonry).	\$31.50	22.15
New Haven	Ansonia	4c) **Group 4: Pipelayers (Installation of water, storm drainage or sewage lines outside of the building line with P6, P7 license) (the pipelayer rate shall apply only to one or two employees of the total crew who primary task is to actually perform the mating of pipe sections) P6 and P7 rate is \$26.80.	\$32.00	22.15
New Haven	Ansonia	4d) Group 5: Air track operator, sand blaster and hydraulic drills.	\$31.75	22.15
New Haven	Ansonia	4e) Group 6: Blasters, nuclear and toxic waste removal.	\$34.00	22.15
New Haven	Ansonia	4f) Group 7: Asbestos/lead removal and encapsulation (except it's removal from mechanical systems which are not to be scrapped).	\$32.00	22.15
New Haven	Ansonia	4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew.	\$29.28	22.15
New Haven	Ansonia	4h) Group 9: Top men on open air caisson, cylindrical work and boring crew.	\$28.74	22.15
New Haven	Ansonia	4i) Group 10: Traffic Control Signalman	\$18.00	22.15
New Haven	Ansonia	5) Carpenter, Acoustical Ceiling Installation, Soft Floor/Carpet Laying, Metal Stud Installation, Form Work and Scaffold Building, Drywall Hanging, Modular-Furniture Systems Installers, Lathers, Piledrivers, Resilient Floor Layers.	\$34.53	25.64
New Haven	Ansonia	5a) Millwrights	\$34.94	26.19

Building Rates

County	Town	Classification	Hourly Rate	Hourly Benefit
New Haven	Ansonia	6) Electrical Worker (including low voltage wiring) (Trade License required: E1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	\$39.00	29.91+3% of gross wage
New Haven	Ansonia	7a) Elevator Mechanic (Trade License required: R-1,2,5,6)	\$55.12	34.765+a+b
New Haven	Ansonia	----LINE CONSTRUCTION----		
New Haven	Ansonia	Groundman	\$26.50	6.5% + 9.00
New Haven	Ansonia	Linemen/Cable Splicer	\$48.19	6.5% + 22.00
New Haven	Ansonia	8) Glazier (Trade License required: FG-1,2)	\$39.18	22.55 + a
New Haven	Ansonia	9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection	\$36.67	37.62 + a
New Haven	Ansonia	----OPERATORS----		
New Haven	Ansonia	Group 1: Crane handling or erecting structural steel or stone, hoisting engineer 2 drums or over, front end loader (7 cubic yards or over), work boat 26 ft. and over and Tunnel Boring Machines. (Trade License Required)	\$42.45	25.30 + a
New Haven	Ansonia	Group 2: Cranes (100 ton rate capacity and over); Excavator over 2 cubic yards; Piledriver (\$3.00 premium when operator controls hammer); Bauer Drill/Caisson. (Trade License Required)	\$42.11	25.30 + a
New Haven	Ansonia	Group 3: Excavator; Backhoe/Excavator under 2 cubic yards; Cranes (under 100 ton rated capacity), Grader/Blade; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade. (slopes, shaping, laser or GPS, etc.). (Trade License Required)	\$41.32	25.30 + a
New Haven	Ansonia	Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper).	\$40.91	25.30 + a
New Haven	Ansonia	Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24	\$40.28	25.30 + a
New Haven	Ansonia	Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller; Pile Testing Machine.	\$40.28	25.30 + a
New Haven	Ansonia	Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	\$39.95	25.30 + a

Building Rates

County	Town	Classification	Hourly Rate	Hourly Benefit
New Haven	Ansonia	Group 7: Asphalt roller, concrete saws and cutters (ride on types), vermeer concrete cutter, Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24	\$39.59	25.30 + a
New Haven	Ansonia	Group 8: Mechanic, grease truck operator, hydroblaster; barrier mover; power stone spreader; welding; work boat under 26 ft.; transfer machine.	\$39.17	25.30 + a
New Haven	Ansonia	Group 9: Front end loader (under 3 cubic yards), skid steer loader regardless of attachments, (Bobcat or Similar): forklift, power chipper; landscape equipment (including Hydroseeder).	\$38.71	25.30 + a
New Haven	Ansonia	Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc.	\$36.54	25.30 + a
New Haven	Ansonia	Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.	\$36.54	25.30 + a
New Haven	Ansonia	Group 12: Wellpoint operator.	\$36.48	25.30 + a
New Haven	Ansonia	Group 13: Compressor battery operator.	\$35.86	25.30 + a
New Haven	Ansonia	Group 14: Elevator operator; tow motor operator (solid tire no rough terrain).	\$34.66	25.30 + a
New Haven	Ansonia	Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	\$34.23	25.30 + a
New Haven	Ansonia	Group 16: Maintenance Engineer/Oiler.	\$33.54	25.30 + a
New Haven	Ansonia	Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.	\$38.11	25.30 + a
New Haven	Ansonia	Group 18: Power safety boat; vacuum truck; zim mixer; sweeper; (Minimum for any job requiring a CDL license).	\$35.53	25.30 + a
New Haven	Ansonia	-----PAINTERS (Including Drywall Finishing)-----		
New Haven	Ansonia	10a) Brush and Roller	\$35.62	22.55
New Haven	Ansonia	10b) Taping Only/Drywall Finishing	\$36.37	22.55
New Haven	Ansonia	10c) Paperhanger and Red Label	\$36.12	22.55
New Haven	Ansonia	10e) Blast and Spray	\$38.62	22.55
New Haven	Ansonia	11) Plumber (excluding HVAC pipe installation) (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)	\$44.63	32.95
New Haven	Ansonia	12) Well Digger, Pile Testing Machine	\$37.26	24.05 + a

Building Rates

County	Town	Classification	Hourly Rate	Hourly Benefit
New Haven	Ansonia	Roofer: Cole Tar Pitch	\$42.00	19.55 + a
New Haven	Ansonia	Roofer: Slate, Tile, Composition, Shingles, Singly Ply and Damp/Waterproofing	\$40.50	19.55 + a
New Haven	Ansonia	15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	\$38.90	39.46
New Haven	Ansonia	16) Pipefitter (Including HVAC work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4, G-1, G-2, G-8 & G-9)	\$44.63	32.95
New Haven	Ansonia	-----TRUCK DRIVERS-----		
New Haven	Ansonia	17a) 2 Axle	\$29.86	25.79 + a
New Haven	Ansonia	17b) 3 Axle, 2 Axle Ready Mix	\$29.97	25.79 + a
New Haven	Ansonia	17c) 3 Axle Ready Mix	\$30.03	25.79 + a
New Haven	Ansonia	17d) 4 Axle, Heavy Duty Trailer up to 40 tons	\$30.08	25.79 + a
New Haven	Ansonia	17e) 4 Axle Ready Mix	\$30.13	25.79 + a
New Haven	Ansonia	17f) Heavy Duty Trailer (40 Tons and Over)	\$30.35	25.79 + a
New Haven	Ansonia	17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids)	\$30.13	25.79 + a
New Haven	Ansonia	18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	\$45.92	26.08 + a
New Haven	Ansonia	19) Theatrical Stage Journeyman	\$25.76	7.34
New Haven	Beacon Falls	1b) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters.**See Laborers Group 7**		
New Haven	Beacon Falls	1c) Asbestos Worker/Heat and Frost Insulator	\$40.21	30.99
New Haven	Beacon Falls	2) Boilermaker	\$38.34	26.01
New Haven	Beacon Falls	3a) Bricklayer, Cement Mason, Concrete Finisher (including caulking), Stone Masons	\$35.71	33.31 + a

Important Information:

For use with Building, Heavy/Highway, and Residential

Welders: Rate for craft to which welding is incidental.

*Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.

**Note: Hazardous waste premium \$3.00 per hour over classified rate.

ALL Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra \$4.00 premium in addition to the hourly wage rate and benefit contributions:

- 1) Crane handling or erecting structural steel or stone; hoisting engineer (2 drums or over)
- 2) Cranes (100 ton rate capacity and over) Bauer Drill/Caisson
- 3) Cranes (under 100 ton rated capacity)

Crane with boom including jib, 150 feet - \$1.50 extra.

Crane with boom including jib, 200 feet - \$2.50 extra.

Crane with boom including jib, 250 feet - \$5.00 extra.

Crane with boom including jib, 300 feet - \$7.00 extra.

Crane with boom including jib, 400 feet - \$10.00 extra.

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

- Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of one apprentice in a specific trade.

Connecticut General Statute Section 31-55a: Annual Adjustments to wage rates by contractors doing state work

- The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.
- Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.
- It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.
- The annual adjustments will be posted on the Department of Labor's Web page: www.ctdol.state.ct.us.
- The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.
- All subsequent annual adjustments will be posted on our Web Site for contractor access.

Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage.

- All Persons who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.
- All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)
- Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

**Connecticut Department of Labor
Wage and Workplace Standards Division
FOOTNOTES**

⇒ Please Note: If the “Benefits” listed on the schedule for the following occupations includes a letter(s) (+ a or + a+b for instance), refer to the information below.

Benefits to be paid at the appropriate prevailing wage rate for the listed occupation.

If the “Benefits” section for the occupation lists only a dollar amount, disregard the information below.

**Bricklayers, Cement Masons, Cement Finishers, Concrete Finishers, Stone Masons
(Building Construction) and
(Residential- Hartford, Middlesex, New Haven, New London and Tolland Counties)**

- a. Paid Holiday: Employees shall receive 4 hours for Christmas Eve holiday provided the employee works the regularly scheduled day before and after the holiday. Employers may schedule work on Christmas Eve and employees shall receive pay for actual hours worked in addition to holiday pay.

Elevator Constructors: Mechanics

- a. Paid Holidays: New Year’s Day, Memorial Day, Independence Day, Labor Day, Veterans’ Day, Thanksgiving Day, Christmas Day, plus the Friday after Thanksgiving.
- b. Vacation: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

Glaziers

- a. Paid Holidays: Labor Day and Christmas Day.

**Power Equipment Operators
(Heavy and Highway Construction & Building Construction)**

- a. Paid Holidays: New Year’s Day, Good Friday, Memorial day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday. Holidays falling on Saturday may be observed on Saturday, or if the employer so elects, on the preceding Friday.

Ironworkers

- a. Paid Holiday: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

Laborers (Tunnel Construction)

- a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

Roofers

- a. Paid Holidays: July 4th, Labor Day, and Christmas Day provided the employee is employed 15 days prior to the holiday.

Sprinkler Fitters

- a. Paid Holidays: Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

Truck Drivers

(Heavy and Highway Construction & Building Construction)

- a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas day, and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.



Appendix D

Alternative Work Plans

**FORMER SHW CASTING COMPANY
35 NORTH MAIN STREET
BUILDING #10, #11, #11A & #32
ANSONIA, CT**

ASBESTOS ALTERNATE WORK PLAN

1. Scope of Work

- 1.1 The commercial structure at 35 North Main Street in Ansonia has sat vacant for an extended period and is in poor condition. An asbestos NESHAP inspection of the building was performed in June Of 2019 which identified multiple asbestos containing materials, as well as low-level PCB containing materials.
- 1.2 The work described in this document includes the decontamination and removal of the excavator in the SW section of Building #10 and an initial cleaning of the floor in Building #10, Building #11, Building #11A, and Building #32 to remove the large piles of debris and clean gross contamination of the floor. By removing the piles and cleaning gross contamination, it will allow for further remediation and ultimately demolition of the building.

2. Site Security

- 2.1 Signage and fencing has been placed at most of the entrances to the entire site. Access to the work area will be restricted by construction fencing and warning signs.

3. Personnel

- 3.1 A Connecticut licensed asbestos project monitor shall always be present at the site when building materials are being loaded, moved, uncovered, or otherwise disturbed.
- 3.2 All persons who will handle or otherwise encounter the building materials shall be trained and licensed in accordance with the Section 20-440-1 through 20-440-9 of the Regulations of Connecticut State Agencies (RCSA) for Asbestos Workers or Asbestos Worker Supervisors and trained in handling PCB containing materials (>1ppm<50ppm). The abatement contractor shall document the training by providing dates of training and the name and address of the training entity. Every Worker and Worker/Supervisor shall provide copies of current state licenses and evidence of respirator training, medical clearance, and respirator fit testing as required by 29 CFR 1926.1101. An asbestos abatement supervisor will always be required to be on site during abatement activities.
- 3.3 All equipment operators who will be operating machines inside the abatement zone, shall be trained, and licensed in accordance with the Section 20-440-1 through 20-440-9 of the Regulations of Connecticut State Agencies (RCSA) for

Asbestos Workers or Asbestos Worker Supervisors and trained in handling PCB containing materials (>1ppm<50ppm). The abatement contractor shall document the training by providing dates of training and the name and address of the training entity. Every Worker and Worker/Supervisor shall provide copies of current state licenses and evidence of respirator training, medical clearance, and respirator fit testing as required by 29 CFR 1926.1101.

4. Worker Protection

- 4.1 The Project monitor will direct the abatement contractor to comply with the worker protection measures outlined in this section. It shall be the abatement contractor's responsibility to comply. Any deficiency that is not corrected immediately will be reported to the Owner and the CT Department of Public Health.
- 4.2 Respiratory protection shall be worn by all individuals who enter the abatement zones and those who are required to encounter any asbestos/PCB-containing materials.
- 4.3 All respiratory protection shall be provided by the abatement contractor and used by the workers and authorized visitors as directed by the Project monitor. Use of respiratory protection shall comply with 29 CFR 1926.1101. All respirators shall be NIOSH-approved in accordance with the provisions of 42 CFR Part 84.
- 4.4 The abatement contractor shall be responsible for the collection and analysis of personal air samples in accordance with OSHA requirements.
- 4.5 All workers, supervisors and authorized visitors who enter the boundaries of the Abatement Work Zones shall be equipped with OSHA approved protective clothing, including disposable coveralls, work boots, hard hats, eye protection, and gloves.
- 4.6 All workers, supervisors and authorized visitors who enter the Abatement Work Zone and are subject to asbestos/PCB exposure shall exit the work area through the worker decontamination facility (see Section 5.1) and decontaminate themselves by HEPA vacuuming asbestos residue from the outer surface of disposable coveralls and showering as necessary, before changing into street clothes.
- 4.7 Additional requirements for worker protection may be mandated by the Project monitor if other hazards are discovered at the site.

5. Decontamination Facilities

- 5.1 The abatement contractor shall establish and maintain a fully functional worker decontamination facility on site for the duration of the abatement activities. The area shall have, at a minimum, heat, an area to shower with water, liquid soap, and towels for workers to utilize when exiting regulated areas. The facility shall be equipped with a system for collecting and filtering wastewater (before discharge to a sanitary sewer). The worker decontamination facility shall be located contiguous to an access point leading into the abatement zone.

- 5.2 A system for managing drainage and controlling erosion will be installed at the site. The abatement contractor shall be responsible for maintaining the system to ensure that contaminated wastewater is not released from the site. Water use will be continually monitored to ensure no pooling of water or water runoff is observed. If pooling or runoff is observed, work will be stopped immediately, and the water will be collected. Water use practices will then be revised to avoid future issues.

6. Work Practices – For Excavator Removal

- 6.1 The excavator shall be the first item handled at the site after the decontamination unit is constructed. The abatement contractor shall work in a manner that will ensure that no visible emissions are generated at the site, even if the emissions are caused by smoke, soil, uncontaminated construction debris or other non-asbestos materials. The Project monitor is authorized to stop the work immediately if any visible emissions are produced or if, in his opinion, any other potentially hazardous condition exists.

Priority will be given to the elimination of safety hazards in the work area (falling rubble, etc.). After safety hazards have been addressed, the contractor will proceed to remove all materials present on the floor of the area from the overhead door entrance into building #10 and all area to the right of that door (see attached site sketch).

Debris and rubble shall then be removed from all surfaces in the initial cleaning area following the steps described in section 7 “Work Practices – For Floor and Elevated Surface Cleaning” below. Once cleaning is completed and the area has passed a visual inspection by the independent project monitor, the excavator shall be decontaminated and removed from the work area as follows:

6.1.1 Cleaning Platform

The contractor shall prepare a cleaning platform for the final cleaning and decontamination of the excavator. The cleaning platform will consist of a 10-mil plastic sheeting layer, covered by two additional layers of 6-mil, re-enforced plastic sheeting. The plastic layers will be placed on the ground, inside the entrance to the overhead door of Building #10. The plastic sheeting will be large enough for the excavator to be placed on it and will allow for the entire perimeter of the sheeting to be raised a minimum of eighteen inches (18”) to create a berm.

6.1.2 Gross Removal of Debris from the Excavator

The contractor will remove all gross debris from the excavator in the location that the excavator currently sits. Special attention shall be paid to the tracks, treads, body, interior, exterior and all hidden locations to ensure that all bulk debris has been removed. Removal shall be performed by hand and mechanical means. Power washing and/or aggressive water use to remove debris will not be permitted. The independent project monitor will visually inspect the excavator to ensure gross removal is complete, prior to moving the excavator onto the cleaning platform.

6.1.3 Final Cleaning the Excavator

Once the excavator passes the initial visual inspection in section 6.1.2, the excavator shall be moved onto the cleaning platform for final cleaning. Plywood and/or similar protection shall be placed on top of the cleaning platform plastic to prevent tearing while driving the excavator on and off it. The edges of the plastic shall be raised as described in section 6.1.1 to prevent any water runoff while performing final cleaning. Wet Wiping with a degreasing solution and HEPA vacuuming shall be performed on all surfaces of the excavator, both interior and exterior, to remove all visible dust, debris, and residue. Special attention shall be paid to the tracks, treads, body, undercarriage, interior engine compartments, interior, and all hidden locations. The cloth chair on the interior shall be wet cleaned and HEPA vacuumed and then sealed in plastic and labeled with an asbestos and PCB warning sign (porous items can not be confirmed cleaned). Power washing and/or aggressive water use to remove debris will not be permitted. All waste generated during the cleaning shall be disposed of as asbestos/PCB (>1ppm<50ppm) waste. All plastic sheeting and boards used for the platform shall be disposed of as asbestos/PCB (>1ppm<50ppm) waste.

6.1.4 Final Visual Inspection & Clearance Testing

After the completion of the final cleaning, the independent project monitor will perform a visual inspection of the excavator and plastic sheeting below. Once the unit is found to be free of all visible dust, debris and residue, the project monitor will perform final clearance testing as follows:

- 6.1.4.1 Two (2) aggressive TEM air samples will be collected from inside the excavator cab. Samples will be delivered to a CT licensed asbestos laboratory for analysis by Transmission Electron Microscopy (TEM). Sample results of No Structures Detected (NSD) will be considered satisfactory.
- 6.1.4.2 Twenty (20) wipe samples will be collected from randomly selected, one square foot areas on the interior and exterior of the excavator and delivered to a CT licensed asbestos laboratory for analysis by Transmission Electron Microscopy (TEM). Sample results of No Structures Detected (NSD) will be considered satisfactory.
- 6.1.4.3 Twenty (20) wipe samples will be collected from randomly selected, 100 square centimeter areas on the interior and exterior of the excavator and delivered to a CT licensed PCB laboratory for analysis by PCB Soxhlet method. Sample results of <10 µg/cm² will be considered satisfactory.
- 6.1.4.4 Failure of any samples will require a recleaning and resampling of the excavator. Once the clearance samples pass, the excavator shall be removed from the building and turned over to the Owner for removal from the site.

7. Work Practices – For Floor and Elevated Surface Cleaning

- 7.1 After the removal of the excavator, the remaining surfaces of the buildings will be decontaminated. The abatement contractor shall work in a manner that will ensure that no visible emissions are generated at the site, even if the emissions are caused by smoke, soil, uncontaminated construction debris or other non-asbestos materials. The Project monitor is authorized to stop the work immediately if any visible emissions are produced or if, in his opinion, any other potentially hazardous condition exists.

Priority will be given to the elimination of safety hazards in the work area (falling rubble, etc.). After safety hazards have been addressed, the contractor will proceed to remove all materials present on the floor of the space. Debris in unstable rooms or from elevated locations will not be handled during the initial cleaning of the space.

Debris and rubble will be misted with hoses equipped with spray nozzles to ensure the waste is adequately wetted. The project monitor on the site will pay special attention for any signs of visible emissions by visible sight and review of full shift air monitoring results. If any signs of visible emissions are detected or if air monitoring results indicate elevated levels of fibers and/or dust more than 0.01 f/cc via PCM, work will cease, and work practices will be altered to eliminate the problem.

In addition, the project monitor will continuously monitor dust using a Mini Ram, or equivalent, to ensure that fugitive dust emissions are in compliance with regulatory requirements. Dust action levels will be triggered at levels of 120 $\mu\text{g}/\text{m}^3$ (80% of the regulatory limit of 150 $\mu\text{g}/\text{m}^3$), at which time additional dust suppression techniques will be implemented by the Contractor.

All debris and rubble that is disposed of as asbestos waste must be adequately wet prior to placement into waste containers no matter what the temperature is. Any wastewater that is generated by this process shall be collected and used to wet the materials in the asbestos/PCB (>1ppm<50ppm) waste containers.

The following work practices will be employed whenever building materials are being handled or potentially disturbed:

7.1.1 Handling Remaining Materials and Debris

The abatement contractor will handle all material by hand and mechanical means. All material that is not properly segregated will be adequately wet, placed in properly lined containers and disposed of as asbestos/PCB (>1ppm<50ppm) waste. Metal items and containers with liquids will be set aside for disposal or recycling by others.

7.1.2 Asbestos/PCB (>1ppm<50ppm) Waste Loading and Disposal

A frontend loader, excavator or other mechanical equipment may be employed to load the contaminated building materials into an open top roll-off container. All

waste containers shall be lined in accordance with and shall meet the requirements of the state in which the landfill is located. Liners shall be placed into the containers with enough extra material so that the liners can be folded over the top of the waste and secured leak tight prior to the container leaving the site. The project monitor will inspect the vehicle before loading to ensure that the trailer does not have any visible holes or openings in the body where water may leak out.

Loading will take place in a clean area of the work zone. All waste will be soaked with water prior to handling and misted continuously with a hose fitted with spray nozzles during loading. The abatement contractor will avoid using excessive water, and steps will be taken to ensure that water does not wash any residue out of the trailer, into drains or onto unprotected locations.

At the conclusion of the loading operation, any loose pieces of debris will be picked up by hand, double-bagged in labeled waste bags, and placed in the trailer.

Before leaving the site, the waste conveyance vehicle will be inspected by the project monitor and cleaned of any surface contamination. Special attention will be focused on the tires of the vehicle. The top of the load will then be covered with the "extra" liner that was placed into the container in an overlapping fashion. The seams will be secured with spray-glue and duct tape and then an additional one layer of 6-mil plastic sheeting shall be secured to the top of the load with spray-glue and duct tape. Appropriate waste generator labels and warning signs will be affixed to the plastic sheeting. The load will then be secured with the fabric tarp that is provided by the hauler. The vehicle will not be permitted to leave the site unless the project monitor is satisfied that the load is secure, the exterior of the vehicle is free of visible contamination, and there is no water leaking from the trailer. The waste trailer will be labeled with appropriate OSHA warning signs (on top of plastic covering) and DOT placards.

The contractor shall be responsible for providing a copy of the Waste Shipment Record (manifest) for every load of waste that is removed from the site. An executed copy of the Waste Shipment Record will also be provided to the owner after the waste reaches the approved disposal site. Additional characterization sampling, if required by the waste disposal facility, shall be reviewed with the Owner's representative. Any required additional sampling will be collected by the Owner's representative.

8. Contingencies

- 8.1 Full-shift air monitoring will be performed daily by HYGENIX, Inc., an independent, third party licensed project monitor. Air sampling will include collection of Phase Contrast Microscopy (PCM) samples which will be collected and analyzed in accordance with National Institute of Occupational Safety & Health (NIOSH) 7400 method. PCM samples will be collected from the perimeter of the regulated abatement work area, as well as one sample inside the regulated area. Results of PCM monitoring will be available at the site within 48 hours of collection. Should air sample results indicate elevated fiber levels more

than 0.01 fibers per cubic centimeter, work will cease, and work practices will be altered to eliminate high fiber counts.

In addition, the project monitor will continuously monitor dust using a Mini Ram, or equivalent, to ensure that fugitive dust emissions do not exceed regulatory requirements. Dust action levels will be triggered at levels of 120 $\mu\text{g}/\text{m}^3$ (80% of the regulatory limit of 150 $\mu\text{g}/\text{m}^3$), at which time additional dust suppression techniques will be implemented by the Contractor.

SITE SKETCH OF INITIAL CLEANING BOUNDARIES FOR EXCAVATOR REMOVAL

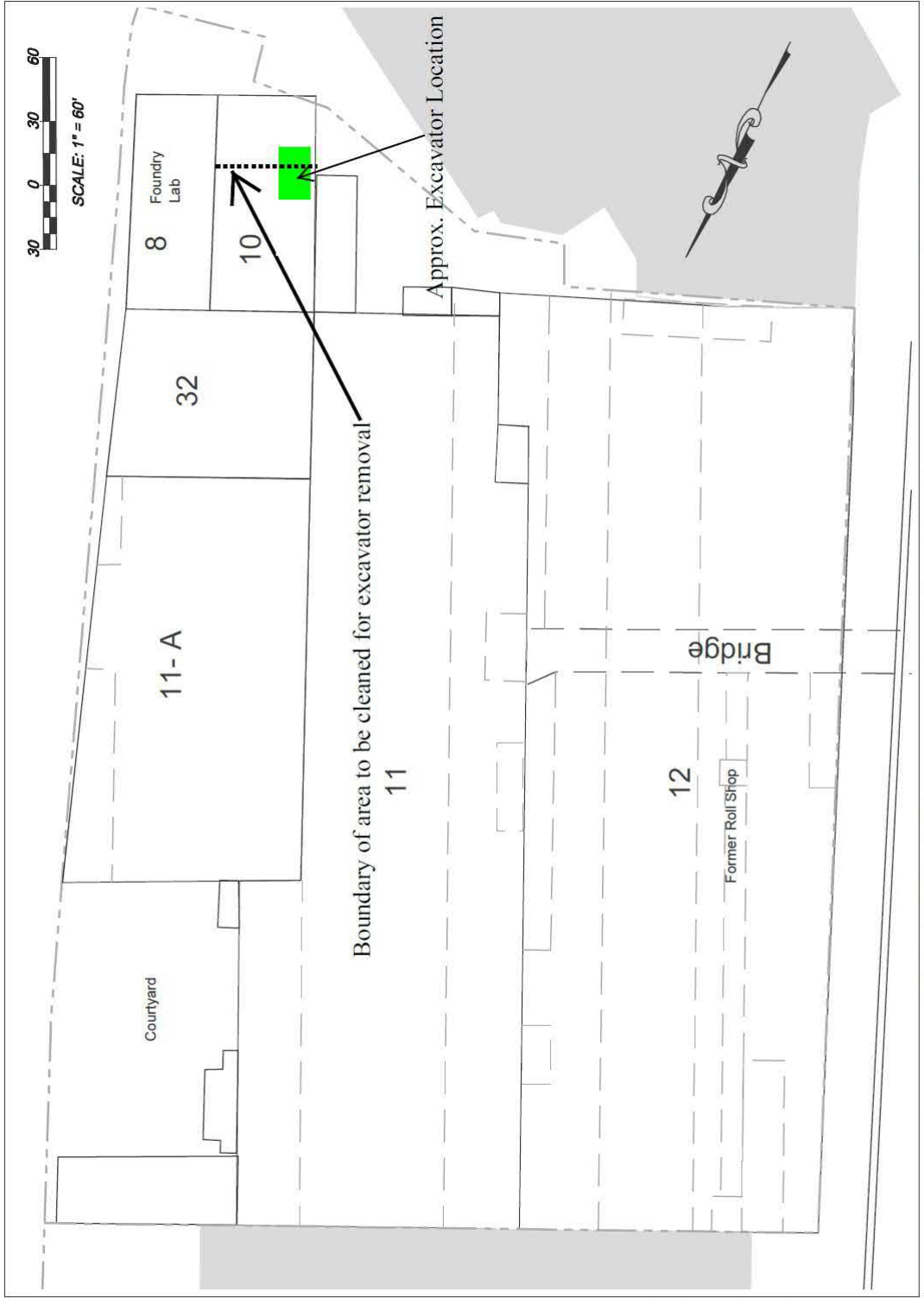


FIGURE 2. SITE PLAN
 FORMER PANDEL PROPERTY (FARREL CORP.)
 35 MAIN STREET, ANSONIA, CT

PROPERTY LINE (APPROX. LOCATION)
 INTERIOR WALLS, COLUMN LINES,
 MEZZANINES (APPROX. LOCATIONS)
 ACTIVE RAILROAD TRACKS (METRO NORTH)

ADJACENT BUILDING FOOTPRINT



DATE: April 2013
 PATH/FILENAME: C:\USERS\BOGUCKIA\DOCUMENTS\WORK\ANSONIA\PANDEL\ANSONIA\PANDEL\SITEPLAN.DWG

Overhead door opening into Building #10



Boundary of initial cleaning for excavator removal

SITE SKETCH OF CLEANING BOUNDARIES & EXCAVATOR LOCATION

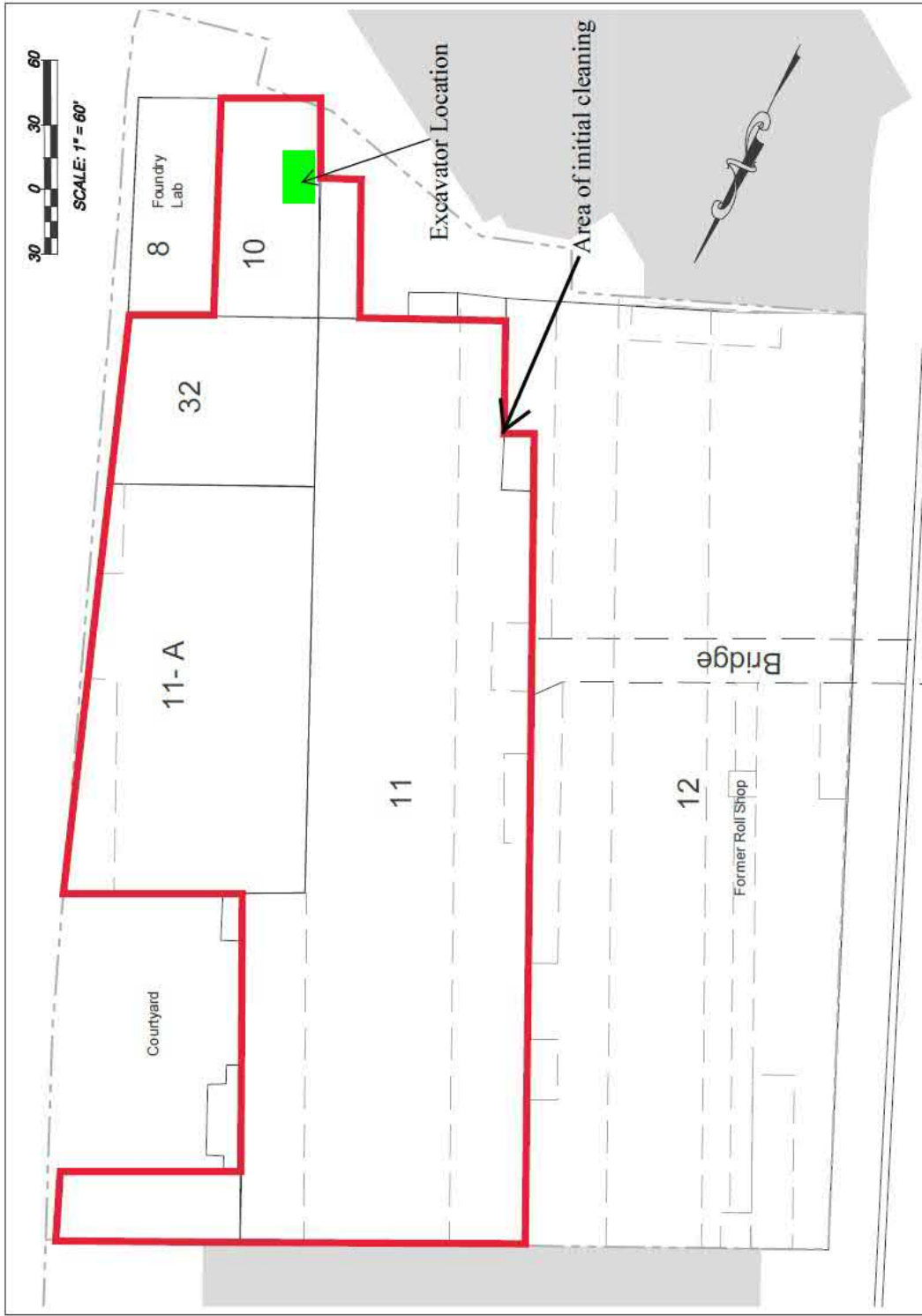


FIGURE 2. SITE PLAN
 FORMER PANDEL PROPERTY (FARREL CORP.)
 35 MAIN STREET, ANSONIA, CT

PROPERTY LINE (APPROX. LOCATION)
 INTERIOR WALLS, COLUMN LINES,
 MEZZANINES (APPROX. LOCATIONS)
 ACTIVE RAILROAD TRACKS (METRO NORTH)
 ADJACENT BUILDING FOOTPRINT



DATE: April 2013
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INITIAL EXCAVATOR INSPECTION REPORT

Environmental Consultants
And Laboratory Services

(203) 324-2222
Fax (203) 324-9857



49 Woodside Street Stamford, CT 06902

November 25, 2019

Ann Bogucki
AECOM
250 Apollo Drive
Chelmsford, MA 01824
Ann.Bogucki2@aecom.com

RE: 35 Main Street (Excavator Inspection)
Ansonia, CT

Dear Ms. Bogucki:

On November 18, 2019 I visited the above referenced location to perform an investigation of the excavator in Building #11/#10. The purpose of the inspection was to determine if the excavator is contaminated with asbestos debris and to determine a way to remove the excavator from the building.

The excavator was recently used to move asbestos contaminated debris to enter building #10 and #11 and to demolish building materials in building #11. The work was stopped by the Connecticut Department of Public Health (CT DPH) and the Connecticut Department of Energy and Environmental Protection (CT DEEP) because of the disturbance of asbestos containing materials.

Once on site I performed a visual inspection of the path used to enter the building, the extent of demolition that took place and the debris present on the excavator (see photos). After the visual inspection was completed, I collected asbestos bulk samples and asbestos wipe samples from the interior and exterior of the excavator. The samples were delivered to AmeriSci New York where they were analyzed by Polarized Light Microscopy (PLM). Of the samples collected, both the bulk samples and wipe samples had asbestos present in them.

Based on the visual inspection and sample results the excavator is contaminated with asbestos and must be properly cleaned to remove it from the building. In addition, the path that the excavator must use to exit the building has asbestos contamination. An alternate work plan (AWP) must be applied for to the CT DPH to properly clean the unit and remove it from the building. The plan must be reviewed and approved by the CT DPH before any work can take place.

This inspection was limited to the excavator and how to remove it from the building. It did not cover the contamination of the building created by the work performed or any other areas of the property. It is recommended that the building be secured to prevent unauthorized access and asbestos warning signs be posted at all entrances to the building.

If you have any questions, comments, or require additional information please call me at the office 203-324-2222. Thank you.

Regards,

A handwritten signature in black ink, appearing to read "James Twitchell", is written over a horizontal line.

James Twitchell
HYGENIX Inc.

ATTACHMENT A
SITE PHOTOS



Top of Excavator Body



Interior Chair of Excavator



Interior Excavator Floor



Debris on Exterior Body



Debris on
Excavator Body



Debris on
Tracks





Debris in Tracks



Extent of Demolition



Path to Enter Area



Door to Enter Space

ATTACHMENT B
ASBESTOS SAMPLE RESULTS



AmeriSci New York
 117 EAST 30TH ST.
 NEW YORK, NY 10016
 TEL: (212) 679-8600 • FAX: (212) 679-3114

PLM Bulk Asbestos Report

Hygenix, Inc.
 Attn: Robert Brown
 49 Woodside Street

 Stamford, CT 06902

Date Received 11/19/19 **AmeriSci Job #** 219112784
Date Examined 11/19/19 **P.O. #**
Page 1 of 2
RE: AECOM; 35 North Main Street, Ansonia, CT

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
1118-01 Location: Building #11 - On Excavator Body - Debris	219112784-01	Yes	5 % ^{1,2} (by CVES) by Jared C. Clarke on 11/19/19
Analyst Description: Grey/Brown, Heterogeneous, Fibrous, Cementitious, Bulk Material Asbestos Types: Chrysotile 5.0 %, Amosite <1. % Other Material: Fibrous glass 20 %, Non-fibrous 75 %			
1118-02 Location: Building #11 - On Excavator Bucket - Debris	219112784-02	Yes	7 % ² (by CVES) by Jared C. Clarke on 11/19/19
Analyst Description: Black/Brown, Heterogeneous, Fibrous, Bulk Material Asbestos Types: Chrysotile 7.0 % Other Material: Cellulose 15 %, Non-fibrous 78 %			
1118-03 Location: Building #11 - In Tracks - Debris	219112784-03	Yes	20 % ² (by CVES) by Jared C. Clarke on 11/19/19
Analyst Description: Grey, Heterogeneous, Fibrous, Bulk Material Asbestos Types: Chrysotile 20.0 % Other Material: Cellulose 5 %, Non-fibrous 75 %			
1118-04 Location: Building #11 - Inside Cab On Floor - Debris	219112784-04	No	NAD ² (by CVES) by Jared C. Clarke on 11/19/19
Analyst Description: Black/Brown, Heterogeneous, Fibrous, Bulk Material Asbestos Types: Other Material: Cellulose 10 %, Non-fibrous 90 %			
1118-05 Location: Building #11 - Inside Cab In Gears - Debris	219112784-05	No	NAD ² (by CVES) by Jared C. Clarke on 11/19/19
Analyst Description: Black, Heterogeneous, Fibrous, Bulk Material Asbestos Types: Other Material: Cellulose 12 %, Non-fibrous 88 %			

See Reporting notes on last page

PLM Bulk Asbestos Report

AECOM; 35 North Main Street, Ansonia, CT

Reporting Notes:

- (1) This job was - Analyzed using Motic BA310 Pol Scope S/N 1190000326
- (2) Analysis Results For Soil, Dust, Or Debris May Be Highly Variable Because Of The Heterogeneous Nature Of These Samples

Analyzed by: Jared C. Clarke

*NAD/NSD =no asbestos detected; NA =not analyzed; NA/PS=not analyzed/positive stop. (SOF-V) = Sprayed On Fireproofing containing Vermiculite; (SM-V) = Surfacing Material containing Vermiculite; PLM Bulk Asbestos Analysis by Appd E to Subpt E, 40 CFR 763 (NVLAP 200546-0), ELAP PLM Method 198.1 for NY friable samples, which includes the identification and quantitation of vermiculite or 198.6 for NOB samples or EPA 400 pt ct by Appd E to Subpt E, 40 CFR 763 (NY ELAP Lab 11480); Note:PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non asbestos-containing in NY State (also see EPA Advisory for floor tile, FR 59,146,38970,8/1/94) National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the lab.This PLM report relates ONLY to the items tested. AIHA-LAP, LLC Lab ID 102843, RI Cert AAL-094, CT Cert PH-0186, Mass Cert AA000054.

Reviewed By: _____ END OF REPORT _____

Table 1
Summary of Bulk Asbestos Analysis Results
 AECOM: 35 North Main Street, Ansonia, CT (Report Amended 11/20/2019)

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	Asbestos by PLM/DS	Asbestos by TEM
01	1118-06			---	---	---	Chrysotile Present	NA
		Location: Building #11 Top Of Excavator Rear - Wipe Sample						
02	1118-07			---	---	---	Chrysotile Present	NA
		Location: Building #11 Back Of Operator Cab - Wipe Sample						
03	1118-08			---	---	---	Chrysotile Present	NA
		Location: Building #11 Inside Cab On Seat - Wipe Sample						

Analyzed by: Valeriu Voicu *Valeriu Voicu* Date Analyzed 11/19/2019
 Quantitative Analysis (Semi/Full): Bulk Asbestos Analysis - PLM by Appd E to Suopt E, 40 CFR 763(NV/LAP Lab#200546-0), TEM (Semi/Full) by EPA 600/R-93/116, or ELAP 196.4 for New York samples (NYSDOH ELAP Lab 11480); NAD = no asbestos detected during a quantitative analysis; NA = not analyzed; Trace = <1%; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only; Qualitative Analysis: Asbestos analysis results of "Present" or "N/A" = No Visible Asbestos" represents results for Qualitative PLM or TEM Analysis only (no accreditation coverage available from any regulatory agency for qualitative analyses); AIHA-LAP, LLC (PLM) Lab ID 102843, NV/LAP (PLM) 200546-0.

Warning Note: PLM limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris for which PLM evaluation is recommended (i.e. soils and other heterogeneous materials).

Reviewed By: *[Signature]*

ASBESTOS PLM PUA SAMPLE LOG

Client: AECOM
 Site: 35 North Main Street
 Ansonia, CT



Type: PLM
 Tech: JT
 Date: 11/18/19

HYGENIX, Inc.
 Environmental Consulting & Laboratory Services
 49 Woodside Street
 Stamford, CT 06902
 (203) 324-2222 (phone) (203) 324-3876 (fax)



LAB ID#	SAMPLE #	SAMPLING LOCATION	DESCRIPTION	QTY.	RESULT
	1118-01	Building #11 - On Excavator Body	Debris		
	1118-02	Building #11 - On Excavator Bucket	Debris		
	1118-03	Building #11 - In Tracks	Debris		
	1118-04	Building #11 - Inside Cab on Floor	Debris		
	1118-05	Building #11 - Inside Cab in Gears	Debris		
	1118-06*	Building #11 - Top of Excavator Rear	Wipe Sample		
	1118-07*	Building #11 - Back of Operator Cab	Wipe Sample		
	1118-08*	Building # 11 - Inside Cab on Seat	Wipe Sample		

CHAIN OF CUSTODY

Relinquished By:  Date/Time: _____ Received By:  Date/Time: 11/19/19

Notes: 5 Day TAT. *For samples #06-#08 please analyze by qualitative analysis.
 jtitchell@hygenix.com
 1200

219112784

35 North Main Street

219112784

Subject: 35 North Main Street
From: James Twitchell <jtwitchell@hygenix.com>
Date: 11/19/2019 12:38 PM
To: "amerisciny@amerisci.com" <amerisciny@amerisci.com>

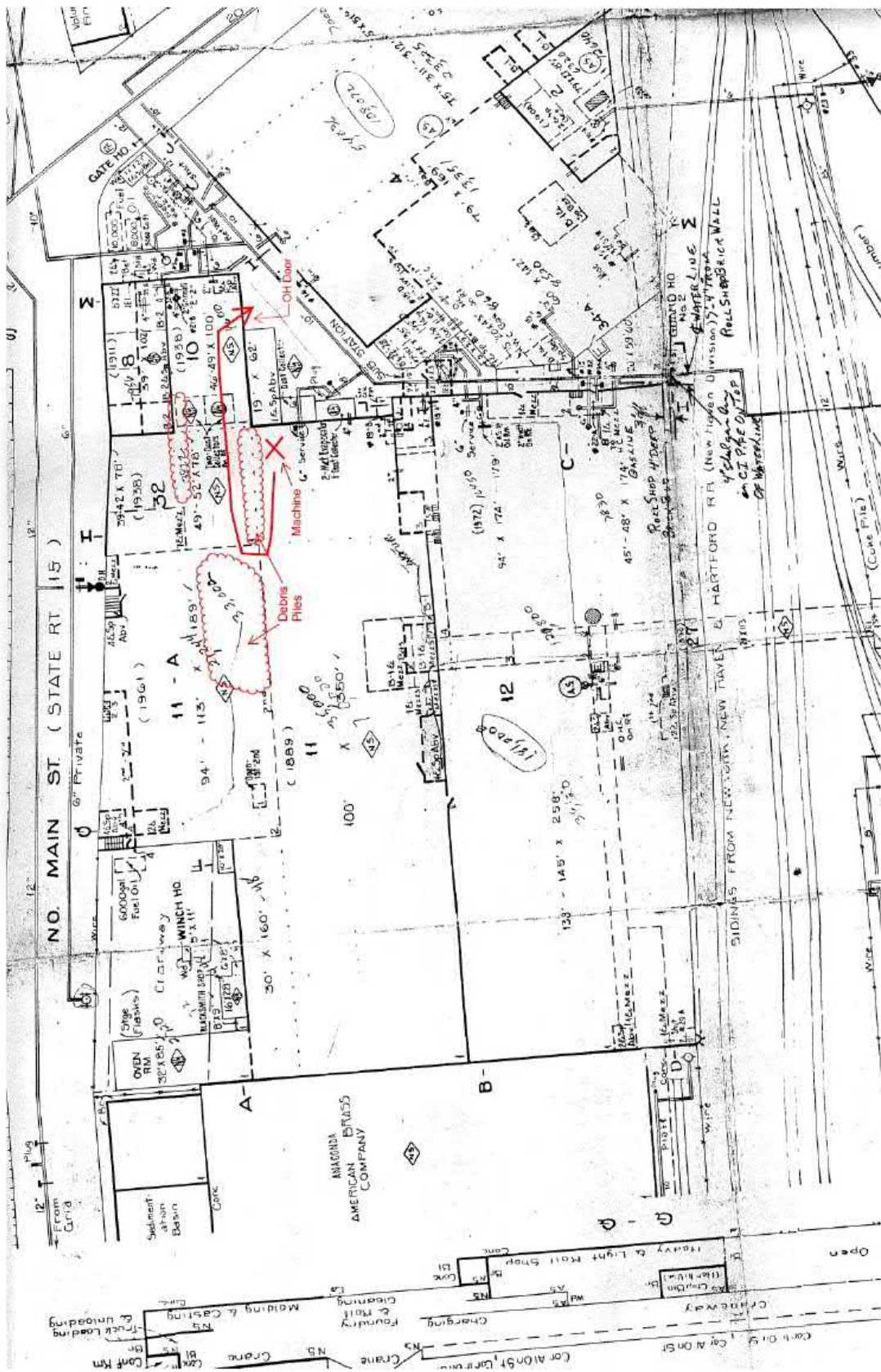
Please change the TAT to rush turnaround.

James Twitchell
HYGENIX, Inc.
49 Woodside Street
Stamford, CT 06902
203-324-2222

1.41

11/19/2019 17:43 PM

ATTACHMENT C
ASSUMED EXCAVATOR PATH INTO THE BUILDING



**FORMER SHW CASTING COMPANY
35 NORTH MAIN STREET
ANSONIA, CT**

ASBESTOS ALTERNATE WORK PLAN – PHASE 2

1. Scope of Work

- 1.1 The commercial structure at 35 North Main Street in Ansonia has sat vacant for an extended period and is in poor condition. An asbestos NESHAP inspection of the building was performed in June Of 2019 which identified multiple asbestos containing materials, as well as PCB containing materials.
- 1.2 The work described in this document includes a second cleaning of the floor and other horizontal surfaces and the removal of all pipe insulation in Building #12. An initial cleaning in the building occurred in October 2020 to remove the large piles of debris and clean gross contamination of the floor to allow for further remediation and ultimately demolition of the building.

2. Site Security

- 2.1 Signage and fencing has been placed at most of the entrances to the entire site. Access to the work area must be restricted by a minimum of construction fencing and warning signs.

3. Personnel

- 3.1 A Connecticut licensed asbestos project monitor shall always be present at the site when building materials are being loaded, moved, uncovered, or otherwise disturbed.
- 3.2 All persons who will handle or otherwise encounter the building materials shall be trained and licensed in accordance with the Section 20-440-1 through 20-440-9 of the Regulations of Connecticut State Agencies (RCSA) for Asbestos Workers or Asbestos Worker Supervisors and have HAZWOPER training with specific PCB training. The contractor shall document the training by providing dates of training and the name and address of the training entity. Every Worker and Worker Supervisor shall provide copies of current state licenses and evidence of respirator training, medical clearance, and respirator fit testing as required by 29 CFR 1926.1101. An abatement supervisor will always be required to be on site during abatement activities.
- 3.3 All equipment operators shall be trained in the use of that equipment in accordance with OSHA requirements. In addition to OSHA requirements, all equipment operators who will be operating machines inside the abatement zone, shall be trained, and licensed in accordance with the Section 20-440-1 through 20-440-9 of the Regulations of Connecticut State Agencies (RCSA) for Asbestos

Workers or Asbestos Worker Supervisors and have HAZWOPER training with specific PCB training. The abatement contractor shall document the training by providing dates of training and the name and address of the training entity. Every asbestos Worker and Asbestos Worker Supervisor shall provide copies of current state licenses and evidence of respirator training, medical clearance, and respirator fit testing as required by 29 CFR 1926.1101.

4. Worker Protection

- 4.1 The Project monitor will direct the asbestos contractor to comply with the worker protection measures outlined in this section. It shall be the abatement contractor's responsibility to comply. Any deficiency that is not corrected immediately will be reported to the Owner and the CT Department of Public Health.
- 4.2 Respiratory protection shall be worn by all individuals who enter the abatement zones and those who are required to encounter any PCB and/or asbestos-containing materials.
- 4.3 All respiratory protection shall be provided by the abatement contractor and used by the workers and authorized visitors as directed by the Project monitor. Use of respiratory protection shall comply with 29 CFR 1926.1101. All respirators shall be NIOSH-approved in accordance with the provisions of 42 CFR Part 84.
- 4.4 The abatement contractor shall be responsible for the collection and analysis of personal air samples in accordance with OSHA requirements.
- 4.5 All workers, supervisors and authorized visitors who enter the boundaries of the Work Zones shall be equipped with OSHA approved protective clothing, including disposable coveralls, work boots, hard hats, eye protection, and gloves.
- 4.6 All workers, supervisors and authorized visitors who enter the Work Zone and are subject to asbestos and/or PCB exposure shall exit the work area through the worker decontamination facility (see Section 5.1) and decontaminate themselves by HEPA vacuuming residue from the outer surface of disposable coveralls and showering as necessary, before changing into street clothes.
- 4.7 The abatement contractor shall take special measures to protect all workers and all site visitors from overhead hazards.
- 4.8 Additional requirements for worker protection may be mandated by the Project monitor if other hazards are discovered at the site.

5. Decontamination Facilities

- 5.1 The abatement contractor shall establish and maintain a fully functional worker decontamination facility on site for the duration of the abatement activities. The area shall have, at a minimum, heat, an area to shower with water, liquid soap, and towels for workers to utilize when exiting regulated areas. The facility shall be equipped with a system for collecting and filtering wastewater (before

discharge to a sanitary sewer). The worker decontamination facility shall be located contiguous to an access point leading into the abatement zone.

- 5.2 A system for managing drainage and controlling erosion will be installed at the site. The contractor shall be responsible for maintaining the system to ensure that contaminated wastewater is not released from the site. Water use will be continually monitored to ensure no pooling of water or water runoff is observed. If pooling or runoff is observed, work will be stopped immediately, and the water will be collected. Water use practices will then be revised to avoid future issues.

6. Work Practices

- 6.1 The abatement contractor shall work in a manner that will ensure that no visible emissions are generated at the site, even if the emissions are caused by smoke, soil, uncontaminated construction debris or other non-asbestos materials. The Project monitor is authorized to stop the work immediately if any visible emissions are produced or if, in his opinion, any other potentially hazardous condition exists.

Priority will be given to the elimination of safety hazards in the work area (falling rubble, etc.) and worker protection for overhead hazards shall be implemented. After safety hazards have been addressed, the contractor will proceed to remove all friable insulation from the building (including but not limited to pipe insulation, stack insulation, block insulation and mudded insulation) in the following manner:

- 6.1.1 All loose and fallen insulation shall be HEPA vacuumed and wet cleaned.
- 6.1.2 Pipe insulation shall be wrapped in a single layer of 6-mil plastic sheeting and sealed with duct tape.
- 6.1.3 Pipes shall then be marked where cuts will be made to bring the pipes down to floor level with wrapped insulation on it.
- 6.1.4 Glovebags shall then be installed on all marked locations so the insulation can be removed to allow for cutting of the pipes. Prior to cutting, the project monitor must confirm the set up has been properly completed.
- 6.1.5 The insulation can then be removed in the glovebag, and the ends of the unremoved pipe insulation secured with plastic, duct tape, diplag or equivalent.
- 6.1.6 The project monitor will confirm the removal is complete and the ends are sealed. Once confirmed the pipe can be cut and lowered to the ground. The pipes can not be dropped to the ground or into containers, it must be lowered to the ground in a controlled manner.
- 6.1.7 The wrapped pipes can then have an additional layer of 6-mil plastic sheeting added and proper labels and be disposed of.
- 6.1.8 For larger pipes, ducts, breeching, etc. that can not be wrapped and lowered whole. Single layer tents will be required for removal of the insulation from them.

Instead of disposing the metal items whole, the insulation can be removed from them as follows:

- 6.1.9 Once the wrapped item is lowered to the ground it can be placed into a tent containment on the floor of the building. This tent shall have

- separate, two-chamber worker and waste decontamination system. The walls of the tent shall be constructed of two layers of 6-mil plastic sheeting and the tent shall have its own HEPA air filtering machine.
- 6.1.10 Workers shall don an additional suit when entering the tent.
 - 6.1.11 Items will be placed in the tent and the insulation removed, under wet conditions, for separate disposal.
 - 6.1.12 The remaining metal shall then be wet cleaned and HEPA vacuumed. The metal items can then be removed and recycled, after they pass a visual inspection by the project monitor.
 - 6.1.13 Workers shall remove the additional suit and HEPA vacuum the under layer prior to leaving the tent containment.
 - 6.1.14 At the end of each shift where the tent is used, the tent shall be cleaned and shall pass a PCM aggressive clearance.

After the completion of the removal of the friable building materials any miscellaneous debris and rubble that has fallen to the ground of the building since the cleaning in October shall be removed (abatement contractor understands that additional debris will fall between the time the walkthrough occurs and when the project is awarded and is allowed to start). Debris and rubble will be misted with hoses equipped with spray nozzles to ensure the waste is adequately wetted, but without pooling or free-standing liquid, no matter what the temperature is.

The following work practices will be employed whenever building materials are being handled or potentially disturbed:

- 6.1.15 The abatement contractor will handle all material by hand and mechanical means. All material that is not properly segregated will be adequately wet, placed in properly lined containers and disposed of as asbestos & PCB (>1 ppm <50 ppm) containing waste. Containers with liquids will be set aside for disposal or recycling by others. Metal items can be cleaned for visual inspection by the project monitor and recycled or disposed of as contaminated waste.

Equipment used in the remediation shall be properly decontaminated prior to leaving the site.

7. Waste Loading and Disposal

- 7.1 For contaminated building materials, a frontend loader, excavator, or other mechanical equipment may be employed to load the materials into an open top roll-off container for disposal as asbestos and PCB >1 ppm <50 ppm waste. All waste containers shall be lined in accordance with and shall meet the requirements of the state in which the landfill is located. Liners shall be placed into the containers with enough extra material so that the liners can be folded over the top of the waste and secured leak tight prior to the container leaving the site. The project monitor will inspect the vehicle before loading to ensure that the trailer does not have any visible holes or openings in the body where water may leak out.

Loading will take place in a clean area of the work zone. All waste will be adequately wetted with water prior to handling and misted continuously with a hose fitted with spray nozzles during loading. The abatement contractor will avoid using excessive water, and steps will be taken to ensure that water does not wash any residue out of the trailer, into drains or onto unprotected locations.

At the conclusion of the loading operation, any loose pieces of debris will be picked up by hand, double-bagged in labeled asbestos waste bags, and placed in the trailer.

Before leaving the site, the waste conveyance vehicle will be inspected by the project monitor and cleaned of any surface contamination. Special attention will be focused on the tires of the vehicle. The top of the load will then be covered with the "extra" liner that was placed into the container in an overlapping fashion. The seams will be secured with spray-glue and duct tape and then an additional one layer of 6-mil plastic sheeting shall be secured to the top of the load with spray-glue and duct tape. Appropriate waste generator labels and warning signs will be affixed to the plastic sheeting. The load will then be secured with the fabric tarp that is provided by the hauler. The vehicle will not be permitted to leave the site unless the project monitor is satisfied that the load is secure, the exterior of the vehicle is free of visible contamination, and there is no water leaking from the trailer. The waste trailer will be labeled with appropriate OSHA warning signs (on top of plastic covering) and DOT placards.

- 7.2 For friable asbestos containing materials removed under section 6.1.1 through 6.1.14, collect asbestos waste, asbestos contaminated water, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing which may produce airborne concentrations of asbestos fibers and place in sealed fiber-proof, waterproof, non-returnable containers (e.g. double 6-mil plastic bags, cartons, drums or cans). Wastes within the containers must be adequately wet in accordance with 40 CFR 61-Subpart M. Affix a warning and Department of Transportation label to each container and/or bag. The name of the abatement contractor and license number, the name of the waste generator and the location at which the waste was generated shall be clearly indicated on the outside of each container. Prevent contamination of the transport vehicle. These precautions include lining the vehicle cargo area with plastic sheeting and thorough cleaning of the cargo area after transport and unloading of asbestos debris is complete. Dispose of waste asbestos materials at an EPA and State-approved asbestos landfill.
- 7.3 Rags and other disposable cleaning materials shall be properly disposed of as PCB remediation waste <50 PPM. Plastic sheeting and containment barrier materials shall be properly disposed of as PCB remediation waste <50 PPM.
- 7.4 The contractor shall be responsible for providing a copy of the Waste Shipment Record (manifest) for every load of asbestos waste that is removed from the site. An executed copy of the Waste Shipment Record will also be provided to the owner after the waste reaches the approved disposal site. Additional characterization sampling, if required by the waste disposal facility, shall be reviewed with the Owner, or Owner's representative, prior to any additional sampling.

8. Contingencies

- 8.1 Full-shift monitoring will be performed daily by HYGENIX, Inc., an independent, third party licensed project monitor. The project monitor on the site will pay special attention for any signs of emissions by visible sight and review of full shift air monitoring results. Air sampling will include collection of Phase Contrast Microscopy (PCM) samples which will be collected and analyzed in accordance with National Institute of Occupational Safety & Health (NIOSH) 7400 method. PCM samples will be collected from the perimeter of the regulated abatement work area, as well as one sample inside the regulated area. Results of PCM monitoring will be available at the site within 48 hours of collection. Should air sample results indicate elevated fiber levels more than 0.01 fibers per cubic centimeter, work will cease, and work practices will be altered to eliminate high fiber counts.

In addition, the project monitor will continuously monitor dust using a Mini Ram, or equivalent, to ensure that fugitive dust emissions follow regulatory requirements. Dust action levels will be triggered at levels of 120 $\mu\text{g}/\text{m}^3$ (80% of the regulatory limit of 150 $\mu\text{g}/\text{m}^3$), at which time additional dust suppression techniques will be implemented by the Contractor.

SITE SKETCH OF PHASE 2 ABATEMENT & CLEANING LOCATION

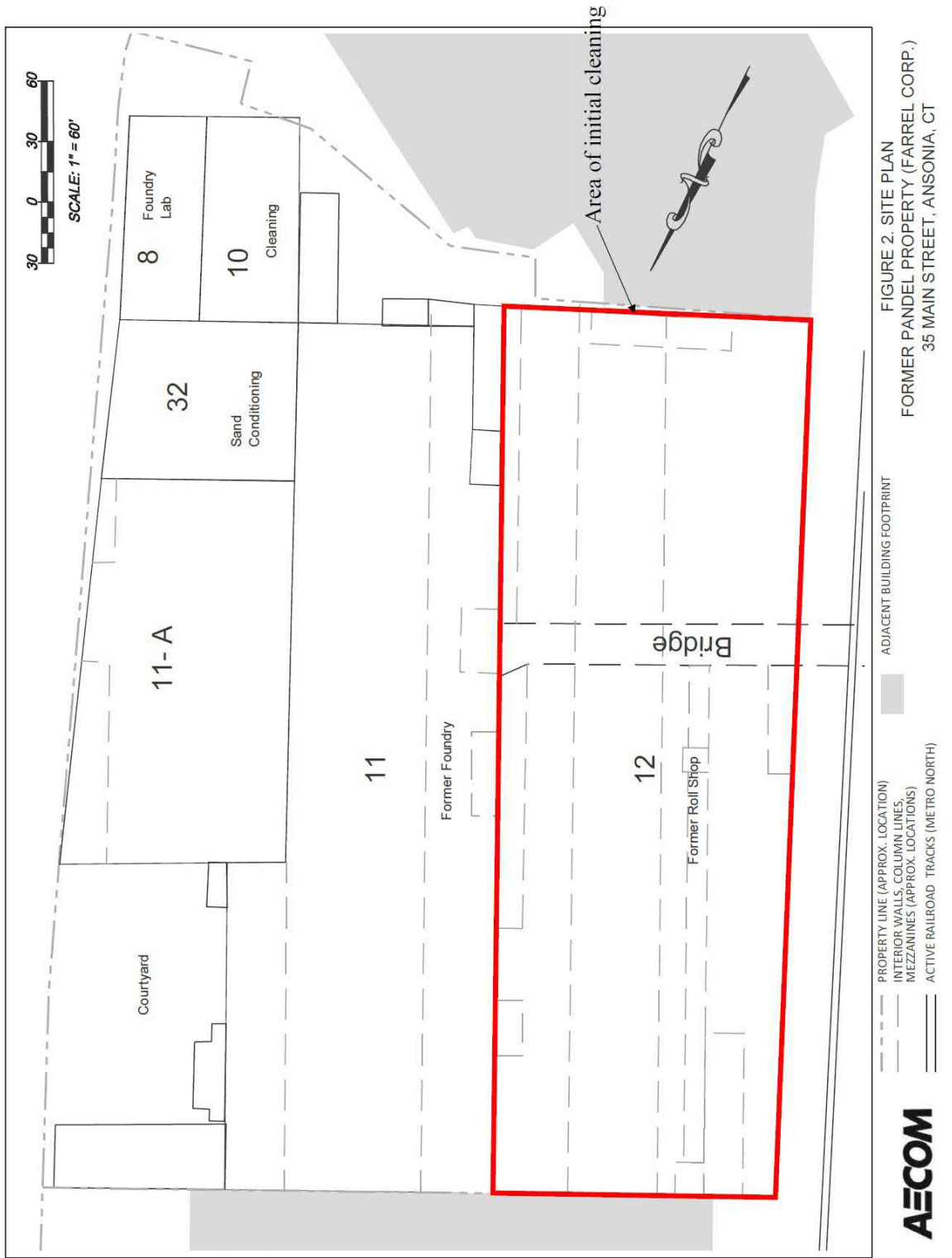


FIGURE 2. SITE PLAN
 FORMER PANDEL PROPERTY (FARREL CORP.)
 35 MAIN STREET, ANSONIA, CT

DATE: April 2013
 P:\FH\FILENAME: C:\USERS\BOGUCRA\DOCUMENTS\WORK\ANSONIA\WORK\ANSONIA\PANDEL\PANDEL_SITEPLAN.DWG



Appendix E

PCBs Report and Asbestos Pre-Renovation Inspection Report

Environmental Consultants
And Laboratory Services

(203) 324-2222
Fax(203) 324-9857



49 Woodside Street Stamford, CT 06902

July 11, 2019

Ann Bogucki
AECOM
250 Apollo Drive
Chelmsford, MA 01824
Ann.Bogucki2@aecom.com

RE: 35 Main Street (PCB Sampling)
Ansonia, CT

Dear Ms. Bogucki:

On June 5th and 7th, 2019, Ted Tio and I visited the above referenced locations to perform an investigation of the different suspect paint, caulk and glazing and adhesive materials that will be disturbed in upcoming renovations for polychlorinated biphenyls (PCBs). PCB investigations have recently been added to pre-renovation and demolition inspections due to changes in the Federal and State regulations which require building Owners to determine if polychlorinated biphenyls (PCBs) are present in suspect materials prior to disposal/disturbance.

Once on site a visual inspection of the building interior and exterior components was performed to identify the different types of suspect materials that are present. From each material identified, a single sample was collected following the EPA's "Standard Operating Procedure For Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBS)" dated 05/05/11. Samples were submitted to Phoenix Environmental Laboratory for analysis by the Environmental Protection Agency (EPA) required Soxhlet method. Results for the samples collected are provided in the attached table labeled "PCB Source Material Location and Results." Additional sampling of materials is recommended to confirm low-level and negative PCB sample results. Single samples were initially collected based on the proposal and budget constraints.

Any material with total PCB concentrations >50 mg/kg are regulated by the United States Environmental Protection Agency (US EPA) and all materials >1 mg/kg and <50 mg/kg are regulated by the State of Connecticut DEEP.

If you have any questions, comments, or require additional information please call me at the office 203-324-2222. Thank you.

Regards,



James Twitchell
HYGENIX Inc.

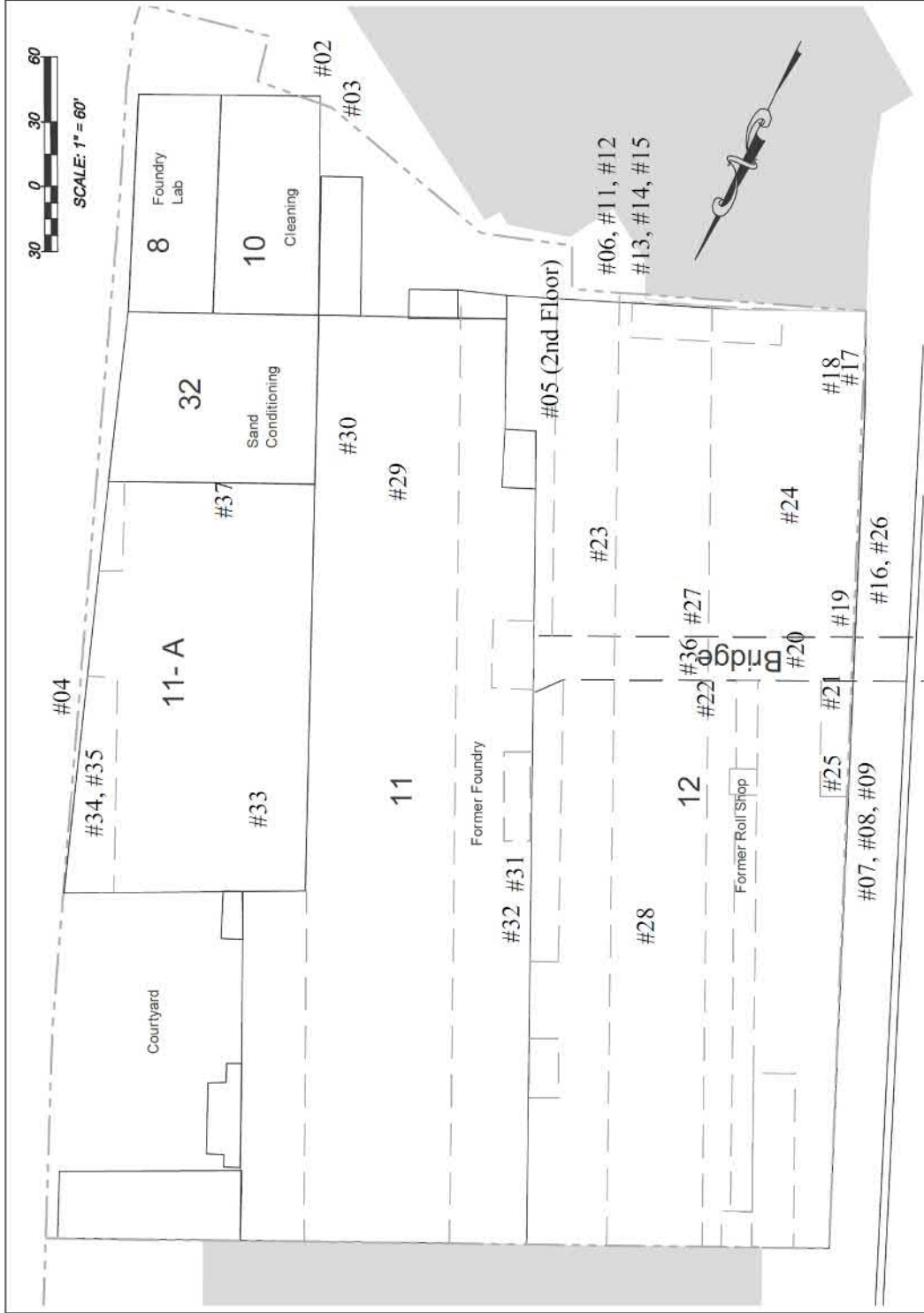
ATTACHMENT A

PCB SOURCE MATERIAL LOCATION & RESULTS TABLE

PCB samples highlighted in yellow are in areas which may be adjacent to ACM being abated.

SAMPLE #	SAMPLE DESCRIPTION	SAMPLE RESULT
0607-01	Pre-Sample Rinse	None Detected
0607-02	Exterior South Side of Building on Brick – Purple Paint	None Detected
0607-03	Exterior South Side of Building on Wood Window – Caulk	None Detected
0607-04	Bldg. 11A Exterior 1 st Floor East Metal Window – Putty	0.89 PPM (PCB 1254)
0607-05	Bldg. 11 2 nd Floor Interior Wood Window – Putty	4.3 PPM (PCB 1248)
0607-06	Exterior South Side of Building on Steel – Gray Paint	6.1 PPM (PCB 1254)
0607-07	Bldg. 12 Exterior West Side on Wood Window – Caulk	0.77 PPM (PCB 1254)
0607-08	Bldg. 12 Exterior West Side on Wood Window – Putty	None Detected
0607-09	Bldg. 12 Exterior West Side on Wood Window – Green Paint	2.3 PPM (PCB 1254)
0607-10	Bldg. 12 North End Roof – Field	None Detected
0607-11	Exterior South Side of Building on Steel – White Paint	1.7 PPM (PCB 1254)
0607-12	Exterior South Side of Building on Masonry – Black Paint	1.6 PPM (PCB 1254)
0607-13	Exterior South Side of Building on Masonry – Green Paint	3.9 PPM (PCB 1254)
0607-14	Exterior South Side of Building on Masonry – White Paint	2.5 PPM (PCB 1254)
0607-15	Exterior South Side of Building on Masonry – Yellow Paint	2.0 PPM (PCB 1254)
0607-16	Bldg. 12 Exterior West Side on Metal Window – Putty	1.7 PPM (PCB 1254)
0607-17	Bldg. 12 Interior on Brick – Brown Paint	17.0 PPM (PCB 1254)
0607-18	Bldg. 12 Interior on Steel – Paint	20.0 PPM (PCB 1254)
0607-19	Bldg. 12 Interior on Brick – White Paint	16.0 PPM (PCB 1248)
0607-20	Bridge Level Ceramic Tile Glue	1.2 PPM (PCB 1248)
0607-21	Bldg. 12 Under 9x9 Floor Tiles – Mastic	19.0 PPM (PCB 1248)
0607-22	Bldg. 12 Interior on Wood Stairs – Yellow Paint	15.0 PPM (PCB 1248)
0607-23	Bldg. 12 Interior on Concrete Floor – Expansion Joint	46.0 PPM (PCB 1248)
0607-24	Bldg. 12 Interior Wood Ceiling - Paint	None Detected
0607-25	Bldg. 12 Interior Wood Wall Panels – Glue	None Detected
0607-26	Bldg. 12 Exterior West Side Metal Windows – Black Paint	1.2 PPM (PCB 1254)
0607-27	Bldg. 12 on Steel – Yellow Paint	2.3 PPM (PCB 1248)
0607-28	Bldg. 12 on Steel – Gray Paint	5.5 PPM (PCB 1254)
0607-29	Bldg. 11 Roof – Field	43.0 PPM (PCB 1254)
0607-30	Bldg. 11 on Metal Columns - Paint	20.0 PPM (PCB 1254)
0607-31	Bldg. 11 on Metal Stairs – Yellow Paint	5.8 PPM (PCB 1248)
0607-32	Bldg. 11 on Brick – White Paint	None Detected
0607-33	Bldg. 11A on Steel – Green Paint	0.9 PPM (PCB 1254)
0607-34	Bldg. 11A 2 nd Floor Under 9x9 Floor Tiles – Mastic	0.89 PPM (PCB 1254)
0607-35	Bldg. 11A 2 nd Floor on Ceiling Tiles - Glue	1.0 PPM (PCB 1248)
0607-36	Bldg. 11 Bridge Level Behind Transite – Building Paper	4.1 PPM (PCB 1254)
0607-37	Bldg. 32 on Steel – Orange Paint	1.9 PPM (PCB 1254)
0607-38	Bldg. 32 Exterior on Metal Hoppers – Gray Paint	7.8 PPM (PCB 1254)
0607-39	Bldg. 32/8 Roof – Field	63.0 PPM (PCB 1268)
0607-40	Bldg. 32 Roof Level – Red Galbestos Paneling	3,100 PPM (PCB 1268)
0607-41	Bldg. 32 Roof Level – Gray Galbestos Paneling	3.6 PPM (PCB 1254)
0607-42	Duplicate Sample of 0607-03	0.92 PPM (PCB 1254)
0607-43	Duplicate Sample of 0607-05	4.0 PPM (PCB 1254)
0607-44	Duplicate Sample of 0607-10	None Detected
0607-45	Duplicate Sample of 0607-06	4.0 PPM (PCB 1254)
0607-46	Duplicate Sample of 0607-23	160.0 PPM (PCB 1248)
0607-47	Duplicate Sample of 0607-35	None Detected
0607-48	Duplicate Sample of 0607-40	19000 PPM (PCB-1268)
0607-49	Duplicate Sample of 0607-36	2.1 PPM (PCB 1254)
0607-50	Post Sample Rinse	None Detected

ATTACHMENT B
PCB SAMPLE LOCATIONS



PCB Sample Locations 06/07/19
 FORMER PANDEL PROPERTY (FARREL CORP.)
 35 MAIN STREET, ANSONIA, CT

PROPERTY LINE (APPROX. LOCATION)
 INTERIOR WALLS, COLUMN LINES,
 MEZZANINES (APPROX. LOCATION)
 ADJACENT BUILDING FOOTPRINT
 ACTIVE RAILROAD TRACIS (METRO NORTH)



LAST UPDATE: Wednesday, April 03, 2019 5:49:38 PM

PATH/FILENAME: C:\USERS\BOGUCKIA\DOCUMENTS\WORK\ANSONIA\PANDEL\PANDEL_SITEPLAN.DWG



AECOM Environment
500 ENTERPRISE DRIVE, SUITE 1A
ROCKY HILL, CONNECTICUT 06067
T 860.263.5800 F 860.263.5777
www.aecom.com

PCB Sample Locations 06/07/19
FORMER INDUSTRIAL BUILDINGS
35 MAIN STREET, ANSONIA, CT

SCALE: 1" = 60'

DATE: APRIL 2019



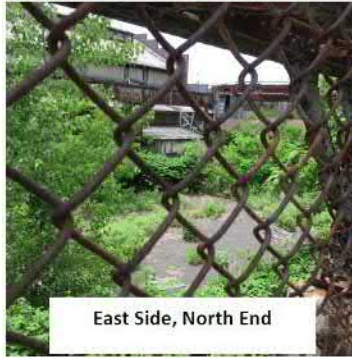
Exterior East Side



Bldg11A—Exterior Windows



Bldg11A—NE Corner



East Side, North End



PCB Sample #02



PCB Sample #03



PCB Sample #06



PCB Sample #15



PCB Sample #14



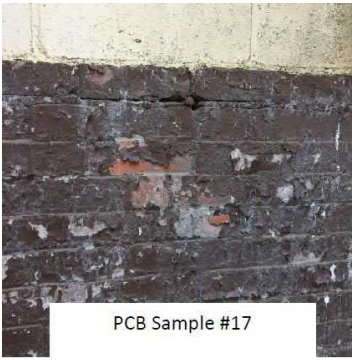
PCB Sample #12



PCB Sample #13



PCB Sample #11



PCB Sample #17



PCB Sample #18



PCB Sample #19



PCB Sample #21



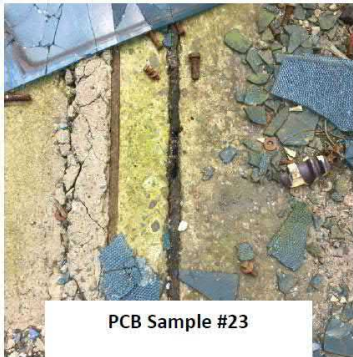
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PCB Sample #22



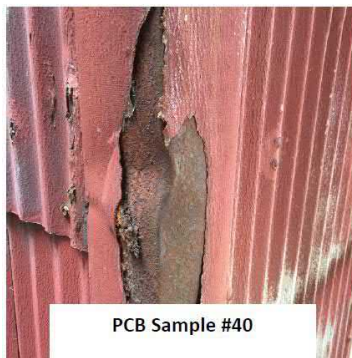
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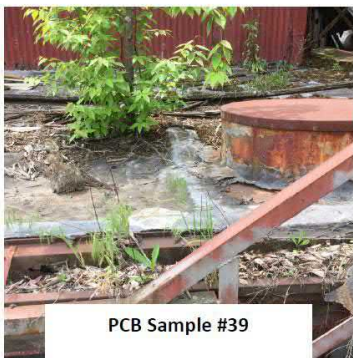
PCB Sample #23



PCB Sample #28



PCB Sample #40



PCB Sample #39



PCB Sample #41



PCB Sample #07,08,09



PCB Sample #35



PCB Sample #34



PCB Sample #33



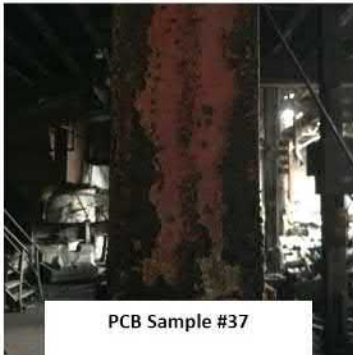
PCB Sample #32



PCB Sample #31



PCB Sample #30



PCB Sample #37



PCB Sample #36



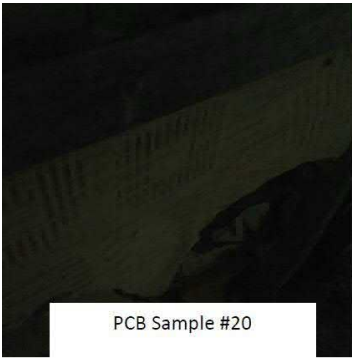
PCB Sample #05



PCB Sample #04



PCB Sample #16 & 26



PCB Sample #20



PCB Sample #10



PCB Sample #29

ATTACHMENT C
SAMPLE RESULTS FOR PCBS

ASBESTOS PRE-RENOVATION INSPECTION REPORT

INSPECTION SITE: 35 Main Street
Ansonia, CT

CLIENT: Ann Bogucki
AECOM
250 Apollo Drive
Chelmsford, MA 01824
Ann.Bogucki2@aecom.com

INSPECTORS: James Twitchell (CT Insp./Mgmt. Planner #000241)
Ted Tio (CT Inspector #000579)

INSPECTION DATES: 06/05/19 & 06/07/19

BUILDING TYPES: Commercial

PLM ASBESTOS SAMPLES: 286 collected / 238 analyzed

BACKGROUND

The buildings at the above referenced location are slated for demolition. AECOM hired HYGENIX, Inc. to document the presence of asbestos-containing building materials (ACBM'S), and to comment on the impact these materials will have on the proposed renovation/demolition project. The results of the asbestos survey are presented in this report.

LIMITATIONS

There were no limitations placed on the inspection of the buildings. Structural integrity of some locations made access difficult. Some hidden locations may be present that were not accessible when on site.

ASBESTOS SAMPLING PROTOCOL

During the inspection of accessible spaces, the inspectors identified "functional spaces or building systems" (e.g. dwelling spaces, storage rooms, boiler rooms, roof systems, heating systems, etc.), and categorized the construction materials within functional spaces and/or system as "homogeneous", based on uniformity in color, age, texture and use. The inspector then compiled a list of building materials suspected to contain asbestos, and recorded the condition, location and approximate quantity of homogeneous, suspect materials.

From each homogeneous area or building system, the inspectors collected representative "bulk" samples of construction materials suspected to contain asbestos.

Samples of suspect materials were analyzed at AmeriSci New York by polarized light microscopy (PLM) in accordance with EPA procedures. The National Voluntary Laboratory Approval Program (NVLAP)

accredits AmeriSci New York to perform bulk asbestos analysis.

INTERPRETATION OF TEST RESULTS

The regulations of CT Department of Public Health and the US EPA define *asbestos containing materials* (ACM's) as materials containing greater than 1-% asbestos. If one or more bulk samples of a homogeneous material are found to contain greater than 1-% asbestos, then all of the homogeneous material is classified as ACM.

The US OSHA Asbestos Construction Industry Standard requires designation as *presumed asbestos containing materials* (PACM's), all surfacing materials and thermal system insulation which have not been tested, or for which the number of samples collected and analyzed was less than the previously listed minimums. This requirement does not apply if the building in which the material is found was constructed after 1980.

The results of the PLM laboratory testing are summarized in Appendix C.

GENERAL DISCUSSION - ASBESTOS ABATEMENT REGULATIONS

Asbestos management and abatement activities in the State of Connecticut are governed by the following State and federal regulations:

1. US EPA National Emission Standards for Hazardous Air Pollutants (NESHAPs)

The NESHAPs regulations for asbestos prohibit the emission of airborne asbestos dust to the environment. These regulations require notification of the regional office of US EPA at least 10 days in advance of an asbestos abatement project involving more than 260 linear feet, 160 square feet, or 35 cubic feet of material containing more than 1% asbestos. The NESHAPs regulations require the asbestos-containing materials to be kept in a wet condition during handling and removal, and specify requirements for labeling, transport and disposal of asbestos waste.

2. US OSHA Asbestos Construction Industry Standard

The OSHA Asbestos Construction Industry Standard protects workers who may be exposed to asbestos in construction. The OSHA standard specifies permissible exposure limits, and procedures for handling various forms and quantities of asbestos containing building materials. The standard describes regulated areas, exposure monitoring, respiratory protection and protective clothing, hygiene facilities, hazard communication, housekeeping, medical surveillance, record keeping, and worker training requirements.

3. CT DOPH CT Standards for Asbestos Abatement

The CT regulations describe the allowable procedures for asbestos abatement, licensing of personnel involved in asbestos abatement, and re-occupancy testing requirements. A 10-day advance notification of the agency is required for asbestos removal projects involving more than 25 square feet or 10 linear feet of interior friable and/or non-friable asbestos-containing material.

INVENTORY OF ASBESTOS CONTAINING BUILDING MATERIALS:

All asbestos containing materials must be removed from the building prior to renovation/demolition activities that will disturb them. A Connecticut licensed asbestos abatement contractor must remove the material and a clearance must be performed by a Connecticut licensed project monitor.

Building 12

ACBM Description	Location (s) in Building	Estimated Quantity	Comments
Electrical Panel Clips & Backer Boards	Scattered locations on columns, units, walls, etc.	170 units	
9x9 Floor Tile & Mastic	Bay #1 Bay #2 Bridge	100 square feet 50 square feet 20 square feet	
Transit Unit Panels	Scattered throughout	Unknown	The panels are in units on pallets and in boxes scattered throughout the building.
Exhaust Aircell/Fan Jacket	Bay #1	10 linear feet	
Stack Aircell	Bay #1	100 linear feet	
Exterior Window Caulk & Putty	All Windows	160 windows (perimeter) 250 windows (roof level)	
Block White Insulation	Bridge Above Doors	20 square feet	
Pipe Insulation	Ceiling level of all three bays	2,900 linear feet	The insulation is in poor condition with a lot of the insulation falling on surfaces below.
Mudded Insulation	NE Side, 2 nd Level	60 square feet	
Roof Field & Flashing	All Roofs	65,000 square feet	Flashing is present around all penetrations & skylights
Transite Panels	Exterior of Bridge	3,000 square feet	
Debris	Throughout all bays	65,000 square feet	Pipe, transite and roof debris is present throughout all three sections of building #2 on most horizontal surfaces.
Exterior Pipe Insulation & Debris	South Side of Building	30 linear feet	A lot of the insulation has fallen to the ground below.
Exterior Roofing Debris	Perimeter edge of building	Unknown	Roofing debris has fallen off of the building over time and is scattered around the building on the ground.

Building 11

ACBM Description	Location (s) in Building	Estimated Quantity	Comments
Electrical Panel Clips & Backer Boards	Scattered locations on columns, units, walls, etc.	150 units	
9x9 Floor Tile & Mastic	3 rd Floor	80 square feet	This area is unsafe with most of the floors caved in
Wall Panel Adhesive	3 rd Floor	200 square feet	This area is unsafe with most of the floors caved in
Transit Unit Panels & Pipe Pieces	Scattered throughout	Unknown	The panels are in units on pallets and in boxes scattered throughout the building.
Interior Window Putty	Scattered – Wood Windows	95 windows	
Brick & Pack Insulation	Oven Pits	4 Oven Pits	All insulation, debris and brick should be considered asbestos containing.
Wire, Pipe & Hose Insulation	Behind Ovens	Behind all 4 units	
Duct Breaching	Scattered Locations	20 square feet	
Water Tank Insulation	South West Boiler Room	100 square feet	The tank is elevated off the ground
Asbestos Blankets & Rolls	SW Storage Closet	20 units	
Oven Insulation	SW Section	400 square feet	The insulation is under a metal skin
Pipe Insulation	Ceiling level of all bays	650 liner feet	The insulation is in poor condition with a lot of the insulation falling on surfaces below.
Roof Field & Flashing	All Roofs	40,000 square feet	Flashing is present around all penetrations & skylights
Debris	Throughout all bays	40,000 square feet	Pipe, transite and roof debris is present throughout all three sections of building #2 on most horizontal surfaces.
Corrugated Transite	Exterior Walls & Roof	Not Available	
Exterior Roofing Debris	Perimeter edge of building	Unknown	Roofing debris has fallen off of the building over time and is scattered around the building on the ground.
Windows Covered in Transite	North End of Building	11 windows	

Building 11A

ACBM Description	Location (s) in Building	Estimated Quantity	Comments
Electrical Panel Clips & Backer Boards	Scattered locations on columns, units, walls, etc.	75 units	
9x9 Floor Tile & Mastic	11A – 2 nd & 3 rd Floor East Side	500 square feet	Flooring is other flooring and/or carpeting
Sink Insulation	11A – Offices East Side	1 unit	
Stack Insulation	11A – 1 st thru 4 th floor, East Side, Multiple Locations	300 linear feet	The insulation is on stacks leading to the roof under a metal skin. There are a total of 6 separate stacks.
Transit Unit Panels	Scattered throughout	Not Available	The panels are in units on pallets and in boxes scattered throughout the building.
Window Putty	11A – Exterior Windows	150 units	
Boiler Rope & Gasketing	11A – 3 rd & 4 th Floor Mezzanines, Multiple Locations	3 boilers	Boilers must be completely dismantled to remove all asbestos
HVAC Gasketing	11A – 4 th Floor	10 units	
Roof Field & Flashing	All Roofs		Flashing is present around all penetrations & skylights
Debris	Scattered Locations	Not Available	Pipe insulation debris is not an issue in this building. Mezzanine floors have more random debris than the 1 st floor. 4 th Floor has a lot of roofing debris
Corrugated & Smooth Transite	All Exterior Walls & Majority of Roof	Not Available	
Exterior Roofing Debris	Perimeter edge of building	Unknown	Roofing debris has fallen off of the building over time and is scattered around the building on the ground.

Building 11B

ACBM Description	Location (s) in Building	Estimated Quantity	Comments
Electrical Panel Clips & Backer Boards	Scattered locations on columns, units, walls, etc.	10 units	
Oven Duct Insulation	Behind Metal Oven	300 square feet	
Gasket Insulation	Oven Door	50 linear feet	

Building 11C

ACBM Description	Location (s) in Building	Estimated Quantity	Comments
Electrical Panel Clips & Backer Boards	Scattered locations on columns, units, walls, etc.	11 units	
Roof Field & Flashing	All Roofs	520 square feet	Flashing is present around all penetrations & skylights
Corrugated & Smooth Transite	Exterior Walls & Roof	Not Available	

Building 11D

ACBM Description	Location (s) in Building	Estimated Quantity	Comments
Electrical Panel Clips & Backer Boards	Scattered locations on columns, units, walls, etc.	15 units	
Transit Unit Panels	Scattered throughout	Not Available	The panels are in units on pallets and in boxes scattered throughout the building.
Window Putty	Exterior Windows	2 units	
Roof Field & Flashing	All Roofs	1,178 square feet	Flashing is present around all penetrations & skylights
Corrugated & Smooth Transite	All Exterior Walls & Majority of Roof	Not Available	

Building 10

ACBM Description	Location (s) in Building	Estimated Quantity	Comments
Electrical Panel Clips & Backer Boards	Scattered locations on columns, units, walls, etc.	30 units	
Roof Field & Flashing	All Roofs	4,900 square feet	Flashing is present around all penetrations & skylights
Pipe Insulation	Running Along Ceiling	230 linear feet	
Debris	Throughout all bays	4,900 square feet	Pipe, transite and roof debris is present throughout all three sections of building #2 on most horizontal surfaces.

Building 32

ACBM Description	Location (s) in Building	Estimated Quantity	Comments
Electrical Panel Clips & Backer Boards	Scattered locations on columns, units, walls, etc.	80 units	
Pipe Insulation	1 st Floor & Hidden Locations	156 linear feet	
Red Galbestos	Roof Level	5,000 square feet	These are corrugated panels and make up a building at the roof level
Roof Field & Flashing	All Roofs	4,100 square feet	Flashing is present around all penetrations & skylights
Debris	Throughout all bays	4,100 square feet	Pipe, transite and roof debris is present throughout all three sections of building #2 on most horizontal surfaces.
Corrugated & Smooth Transite	Some Exterior Walls	Not Available	
Exterior Roofing Debris	Perimeter edge of building	Unknown	Roofing debris has fallen off of the building over time and is scattered around the building on the ground.

Building 8

ACBM Description	Location (s) in Building	Estimated Quantity	Comments
Electrical Panel Clips & Backer Boards	Scattered locations on columns, units, walls, etc.	45 units	
Pipe Insulation	1 st Floor & Hidden Locations	114 linear feet	The majority of the insulation has fallen.
Roof Field & Flashing	All Roofs	3,978 square feet	Flashing is present around all penetrations & skylights
Debris	Throughout all bays	7,956 square feet	Pipe, transite and roof debris is present throughout all three sections of building #2 on most horizontal surfaces.
Miscellaneous	2 nd Level/Floor	Not Available	This area was locked and not available for inspection
Corrugated & Smooth Transite	Some Exterior Walls	Not Available	
Exterior Roofing Debris	Perimeter edge of building	Unknown	Roofing debris has fallen off of the building over time and is scattered around the building on the ground.

INVENTORY OF NON-ASBESTOS CONTAINING BUILDING MATERIALS:

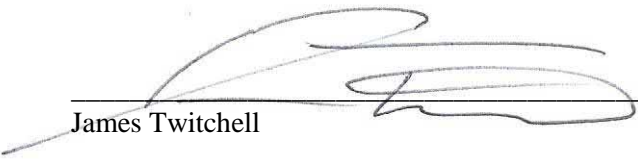
Building #12 Wall Panel Glue	Building #12 Cove Base Adhesive	Building #12 Front Office Black Flooring	Building #12 – Bay #3 Concrete Floor Expansion Joint Material	Building #12 – Black Pipe
Building #12, Bay #1, 12x12 Floor Tile & Mastic	Building #12 – Ceramic Wall Adhesive	Building #12 – Ceramic Wall Mortar	Building #12 – Random Fissure Ceiling Tile	Bridge, Behind Transite – Building Paper
Building #12 – Fiberglass Pipe Insulation Paper Jacket	Building #12 – Sheet Rock	Building #12 – Wall Panel Adhesive	Bridge – Ceramic Tile Adhesive	Bridge – Ceiling Tile
Building #12, Bay #3 – Wall Glue	Building #12, Bay #3 – Ceramic Tile Glue	Building #12, Bay #3 – Sheet Rock	Building #12, Bay #3 – Joint Compound	Building #11, 3 rd Floor – Box of Debris
Building #11A, 2 nd Floor – Ceiling Paper	Building #11A – Sheet Rock	Building #11A – Plaster	Building #11A – Floor Mortar	Building #11A – Cove Base Adhesive
Building #11A – Ceiling Tile Glue	Building #11A – Joint Compound	Building #11A – Black Mastic in Wall Unit	Building #11A – Wall Panel Glue	Building #11A – 2x4 Random Fissure Ceiling Tile
Building #10 – Sheet Rock	Building #10 – 12x12 Floor Tile & Mastic	Building #10 – 2x4 Random Fissure Ceiling Tile	Building #11 – Random Fissure Ceiling Tile	Building #11 – Sheet Rock
Building #11 Joint Compound	Building #11C – Window Putty	Building #11B – Oven Floor Debris	Building #11A – Vibration Cloth	Building #11A – Ceramic Tile Thin Set
Building #32 – Wire Insulation	Building #32 – Exterior Gray Corrugated Metal	Building #8 – Boiler Insulation	Fire Doors Are Metal on Wood	

DISCLAIMER

HYGENIX, Inc. has performed its services, within the limits prescribed by our clients, with the usual thoroughness and competence of the industrial hygiene profession.

The findings in this report are based upon observations and information available to the inspector during the time of the rendering of the services as described in this report and are based on procedures currently required by applicable laws, regulations and ordinances. HYGENIX cannot be responsible for conditions or materials the inspector did not observe due to lack of access or was not otherwise reasonably observable. The conclusions in this report are professional opinions based solely upon these findings. The findings and conclusions are intended exclusively for the purpose outlined herein within the scope of work and at the site location and project indicated.

This report is for the sole use of the client. The scope of work performed in execution of this inspection may not be appropriate to satisfy the needs of other users and any reuse of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of said user.


James Twitchell

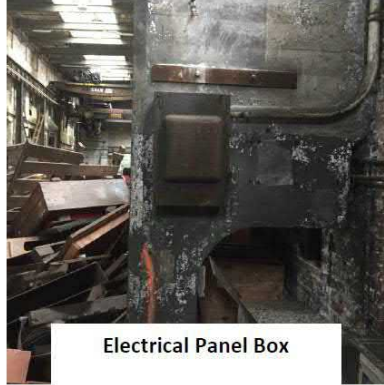
07/11/19
Date

APPENDIX A

SITE PHOTOGRAPHS



Transite in Unit



Electrical Panel Box



Bldg12—1st Section



Bldg12—Stack Insulation



Bldg12—Section 1—Debris



Bldg12—Section 1, 2nd Fl



Bldg12—Stack Insulation



Bldg12—Floor Debris



Bldg12—Falling Insulation



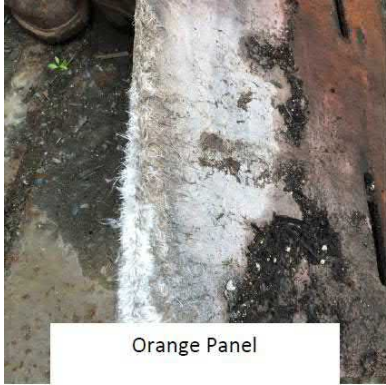
Bldg12—Section 2



Pile w/ Transite & Pipe



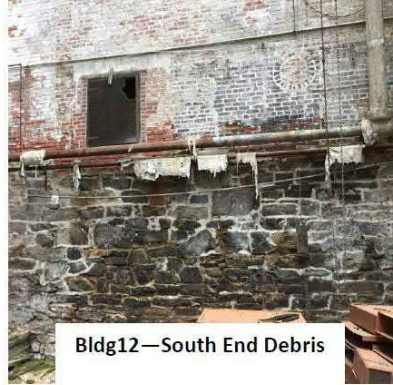
Transite over Windows



Orange Panel



Bldg12—Section 3



Bldg12—South End Debris



Bldg12—Section 3



Bldg11B



Bldg11B—Oven Floor



Bldg11B—Oven Duct



Bldg11—Debris



Bldg11—North



Bldg11—South



Transite Pipe Pieces



Bldg11—Pit #1



Bldg11—Duct Breeching



Bldg11—Pit #2



Bldg11—Pit #3



Bldg11—Pit #4



Bldg11 - Asbestos Blanket



Bldg11—Asbestos Roll



Bldg11—Water Tank



Bldg11—Roof Cave-in



Bldg10—Debris Pile



Bldg10



Bldg11D



Bldg32



Bldg32



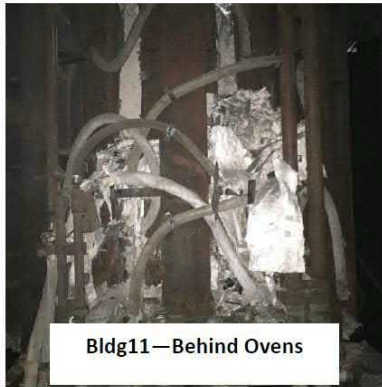
Bldg11A



Bldg11A—Bin of Transite



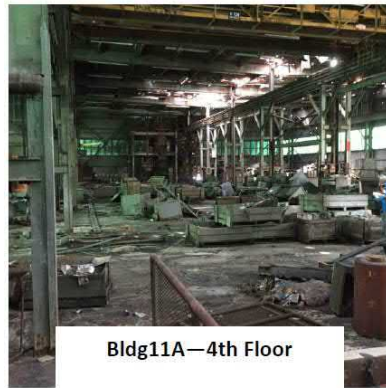
Bldg32—Wire



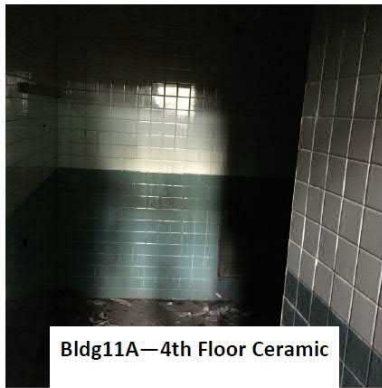
Bldg11—Behind Ovens



Bldg11—Behind Ovens



Bldg11A—4th Floor



Bldg11A—4th Floor Ceramic



Bldg11A - Stack Insulation



Bldg11A—HVAC Unit Ins.



Bldg11A—White Debris



Bldg11A—Exterior Window



Bldg11A—Tube Boilers



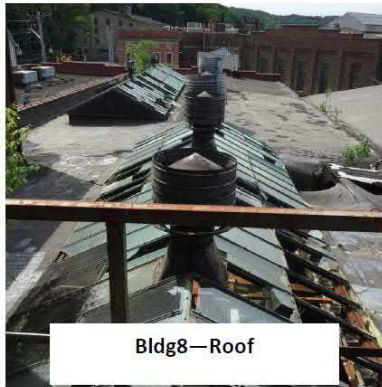
Bldg32—Roof Level



Bldg32—Gray Corrugated



Bldg32—Gray Corrugated



Bldg8—Roof



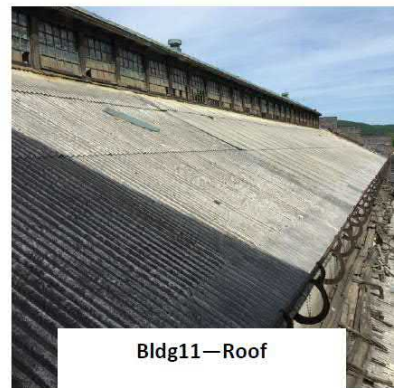
Bldg11—Roof Cave-in



Roof Level—Red Galbestos



Bldg11A—Roof



Bldg11—Roof



Bldg11A—3rd Floor



Bldg11A—Unit Black Mastic



Bldg11A—2nd Floor



Bldg11A—Plaster Ceiling



Bldg8



Bldg8—Floor Debris



Bldg8—Pipe Insulation



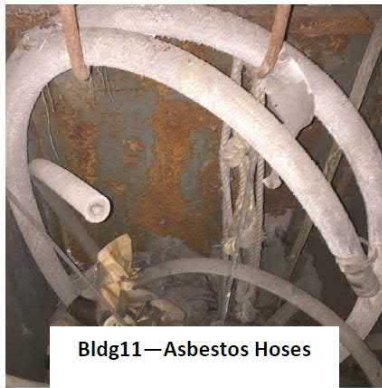
Bldg8—Boiler



Bldg11—2nd Floor



Bldg11—Duct Wrap



Bldg11—Asbestos Hoses



Bldg11—Wood Windows



Bldg11, 3rd Fl—Ins. Board



Bldg11—3rd Floor South



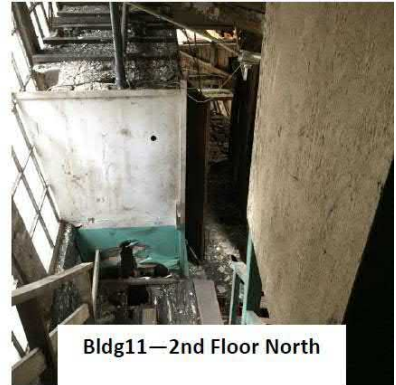
Bldg11—3rd Floor



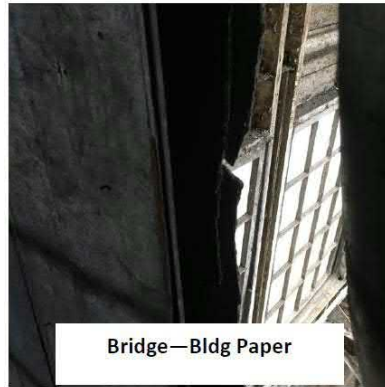
Bldg11—Insulation Board



Bldg11—FT & Wall Panel



Bldg11—2nd Floor North



Bridge—Bldg Paper



Bridge—Insulation Panels



Bldg12—Roof



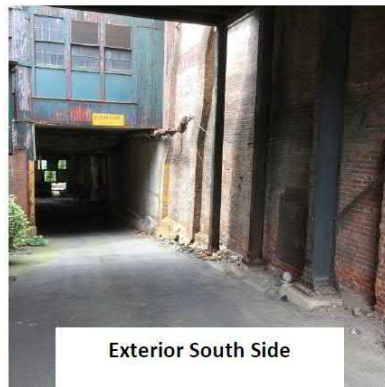
Bldg12—West Side



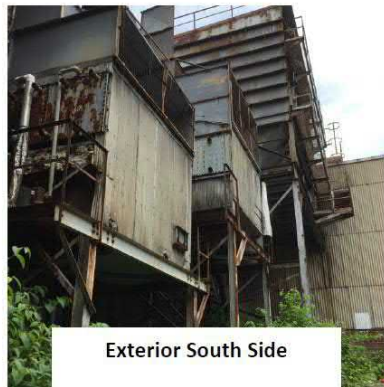
Bldg12—West Side Window



Bldg12—NW Corner



Exterior South Side



Exterior South Side



Exterior East Side



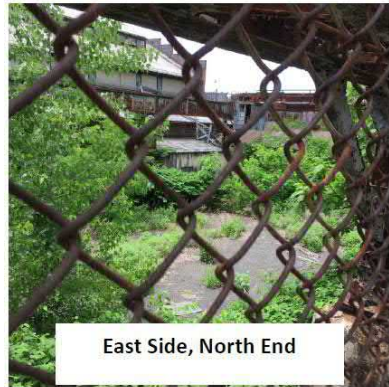
Exterior East Side



Bldg11A—Exterior Windows



Bldg11A—NE Corner



East Side, North End



PCB Sample #02



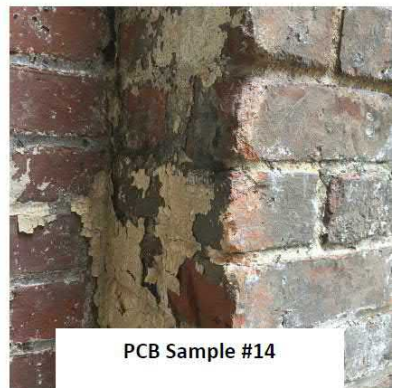
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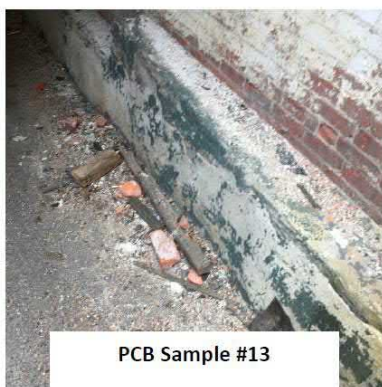
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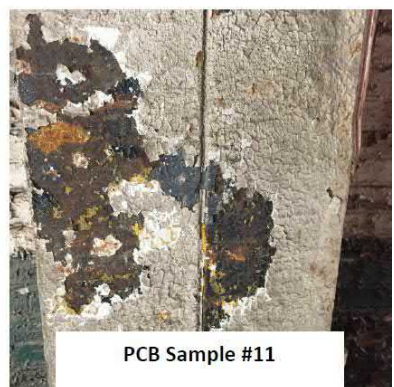
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PCB Sample #12



PCB Sample #13



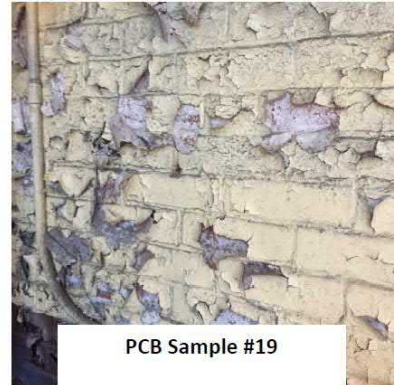
PCB Sample #11



PCB Sample #17



PCB Sample #18



PCB Sample #19



PCB Sample #21



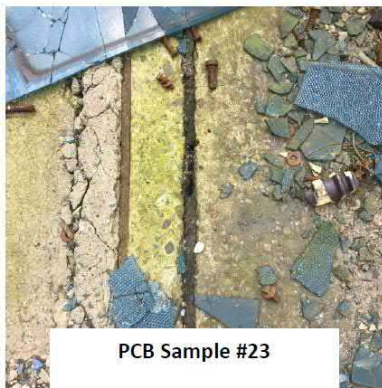
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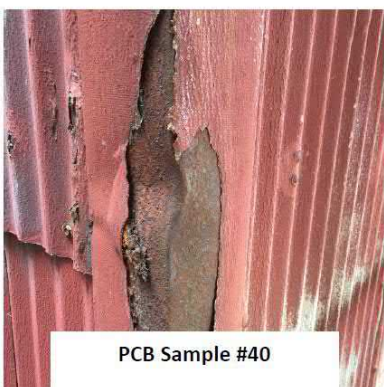
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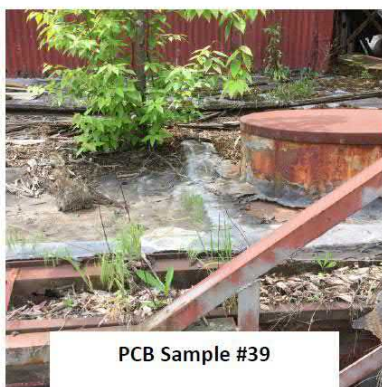
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PCB Sample #28



PCB Sample #40



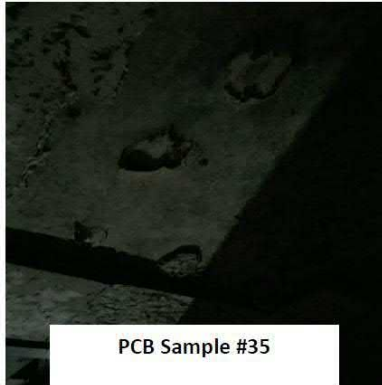
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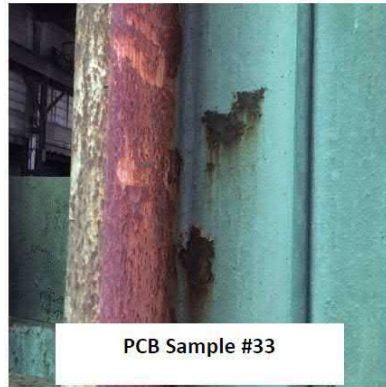
PCB Sample #07,08,09



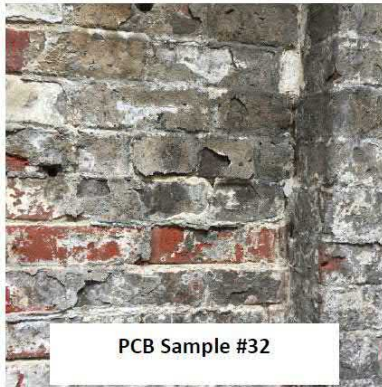
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PCB Sample #34



PCB Sample #33



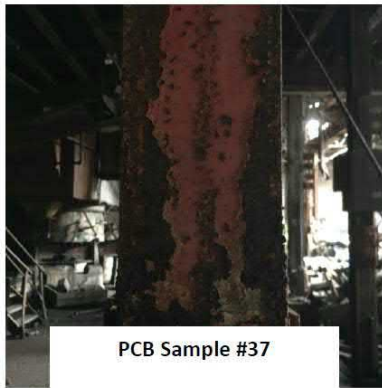
PCB Sample #32



PCB Sample #31



PCB Sample #30



PCB Sample #37



PCB Sample #36



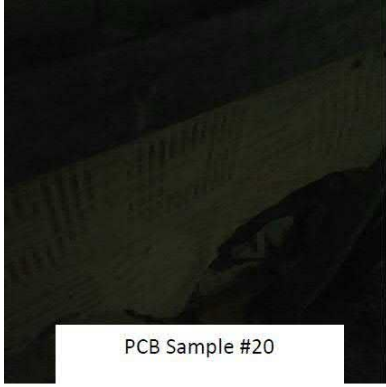
PCB Sample #05



PCB Sample #04



PCB Sample #16 & 26



PCB Sample #20



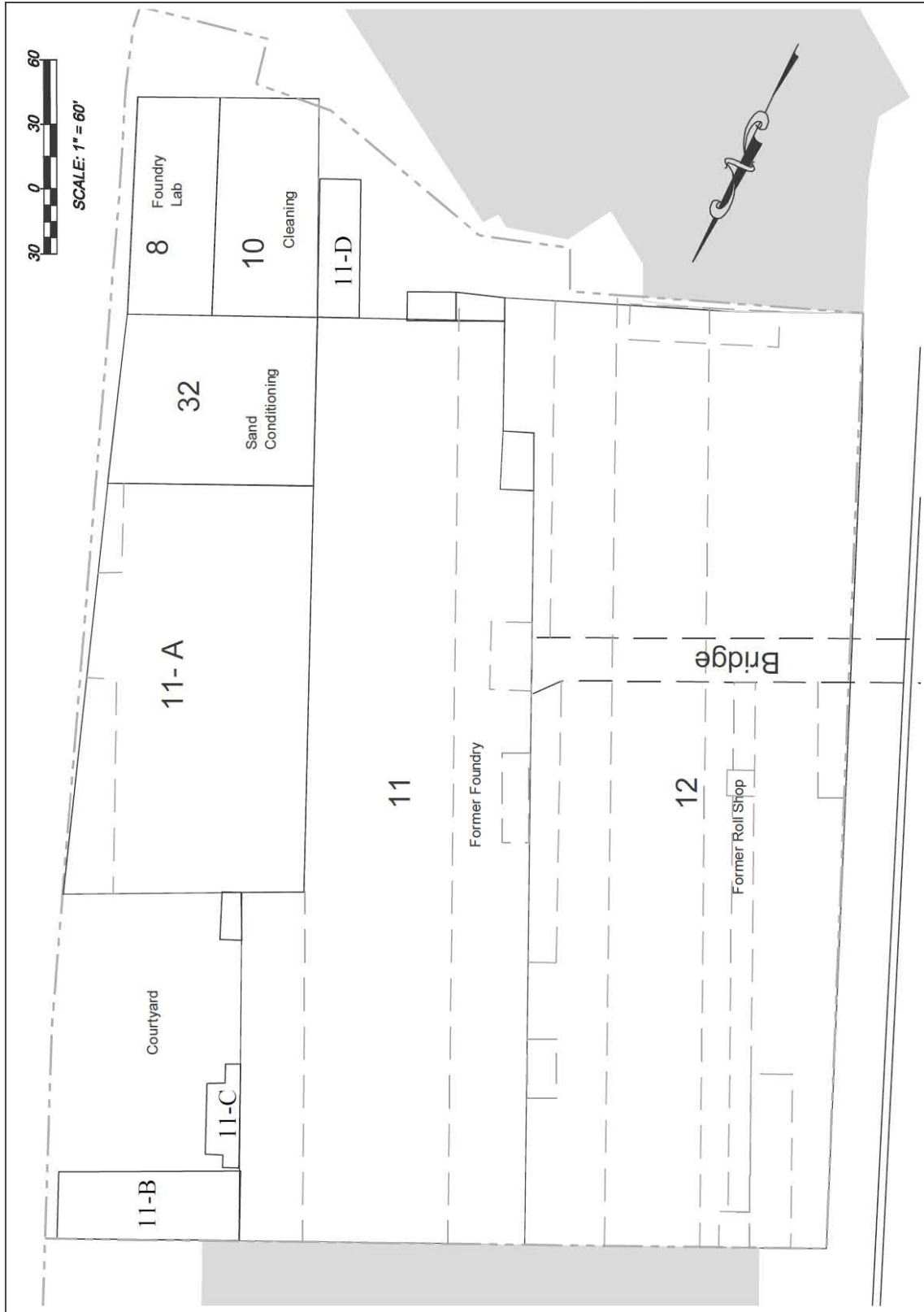
PCB Sample #10



PCB Sample #29

APPENDIX B

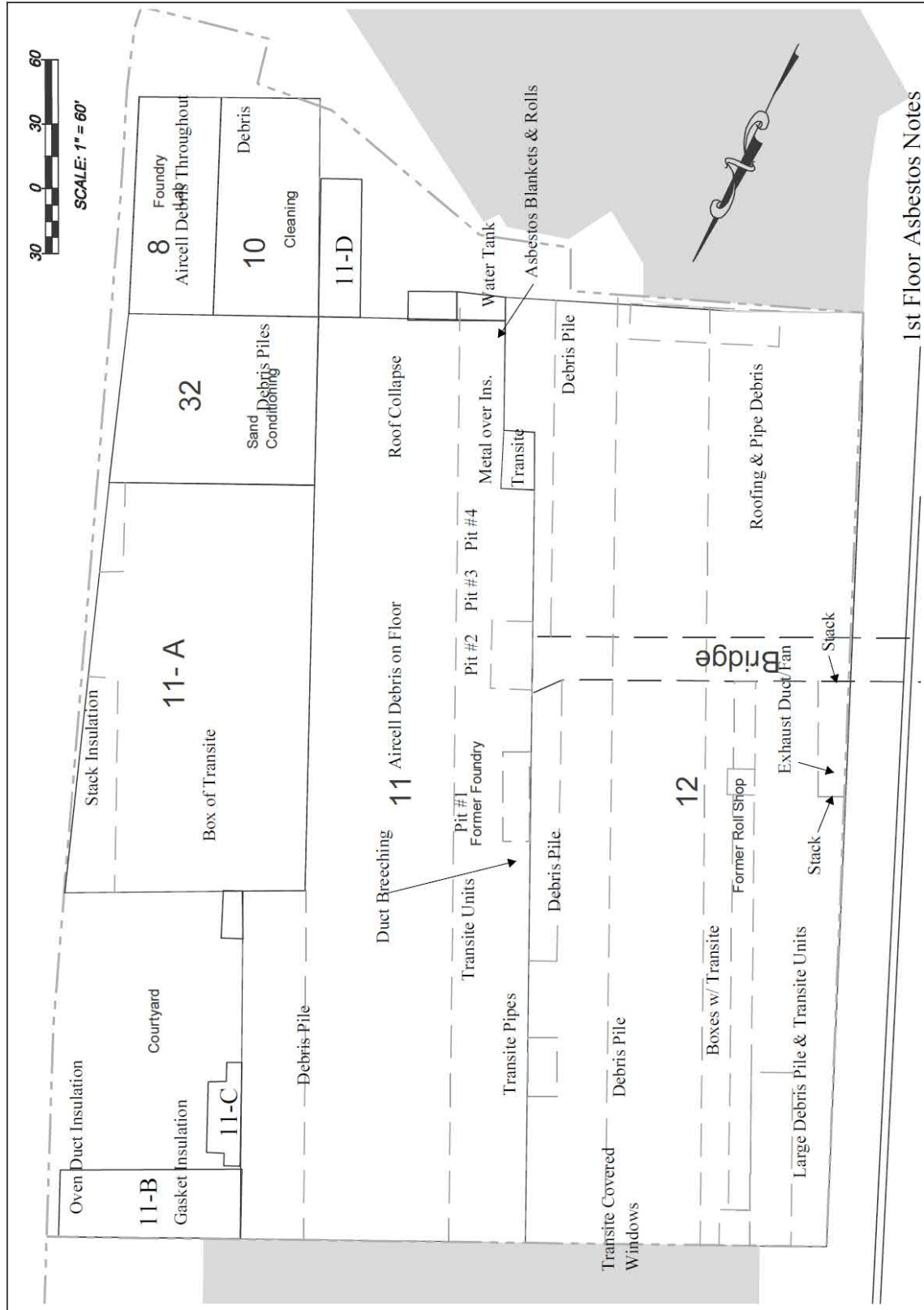
SITE SKETCHES



DATE: April 2013
 PATH/FILENAME: C:\USERS\BOGUCKIA\DOCUMENTS\WORK\ANSONIA\PANDEL\ANSONIA\PANDEL\ANSONIA\PANDEL\STEFPLAN.DWG

FIGURE 2. SITE PLAN
 FORMER PANDEL PROPERTY (FARREL CORP.)
 35 MAIN STREET, ANSONIA, CT

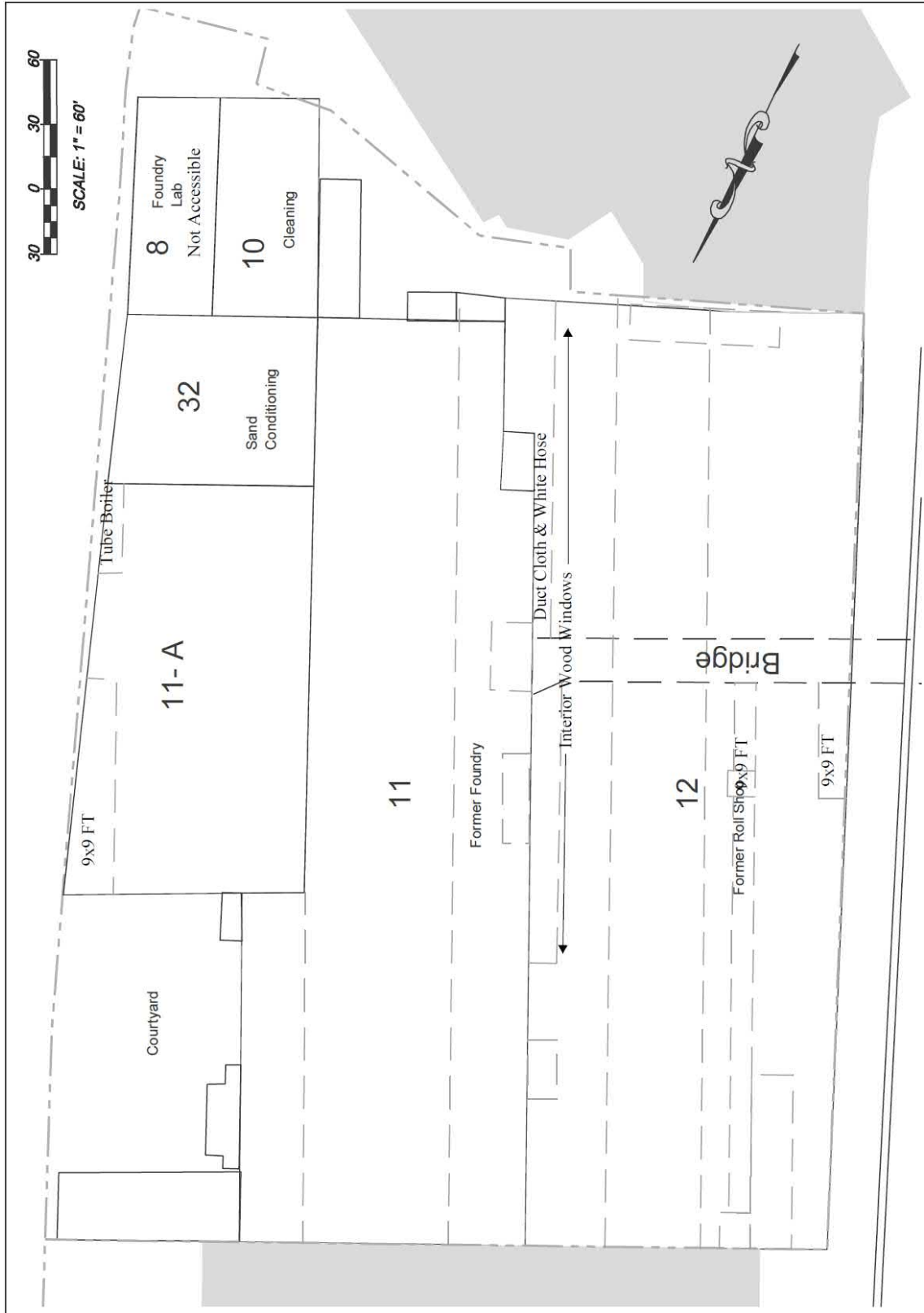




AECOM

FORMER PANDEL PROPERTY (FARREL CORP.)
35 MAIN STREET, ANSONIA, CT

DATE: April 2013
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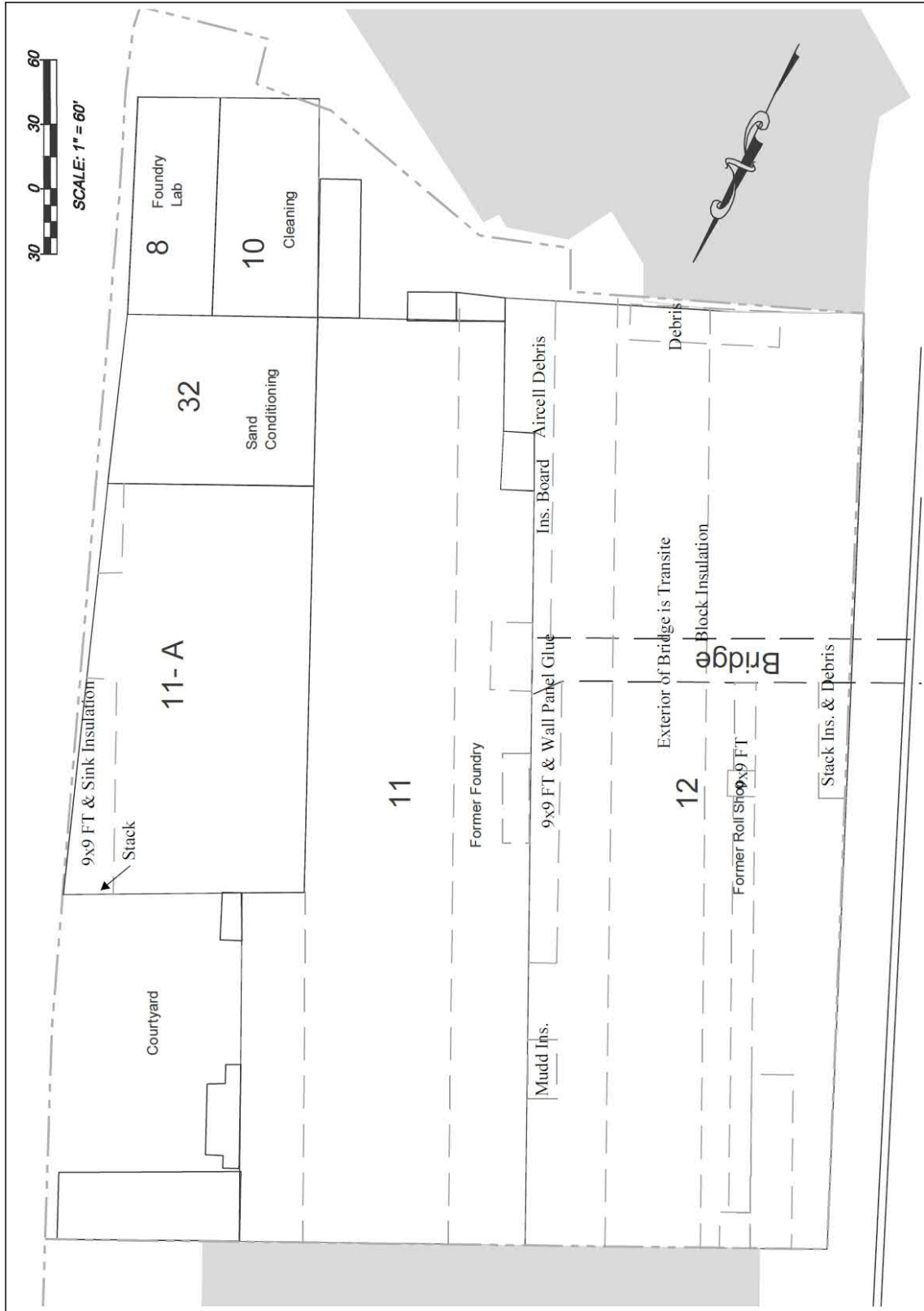
--- PROPERTY LINE (APPROX. LOCATION)
 - - - INTERIOR WALLS, COLUMN LINES, MEZZANINES (APPROX. LOCATIONS)
 = = = ACTIVE RAILROAD TRACKS (METRO NORTH)

ADJACENT BUILDING FOOTPRINT

AECOM

2nd Floor w/ Asbestos Notes
 FORMER PANDEL PROPERTY (FARREL CORP.)
 35 MAIN STREET, ANSONIA, CT

PATH/FILENAME: C:\USERS\BOGUCKA\DOCUMENTS\WORK\ANSONIA\PANDEL\PANDEL_STEPLAN.DWG DATE: April 2013



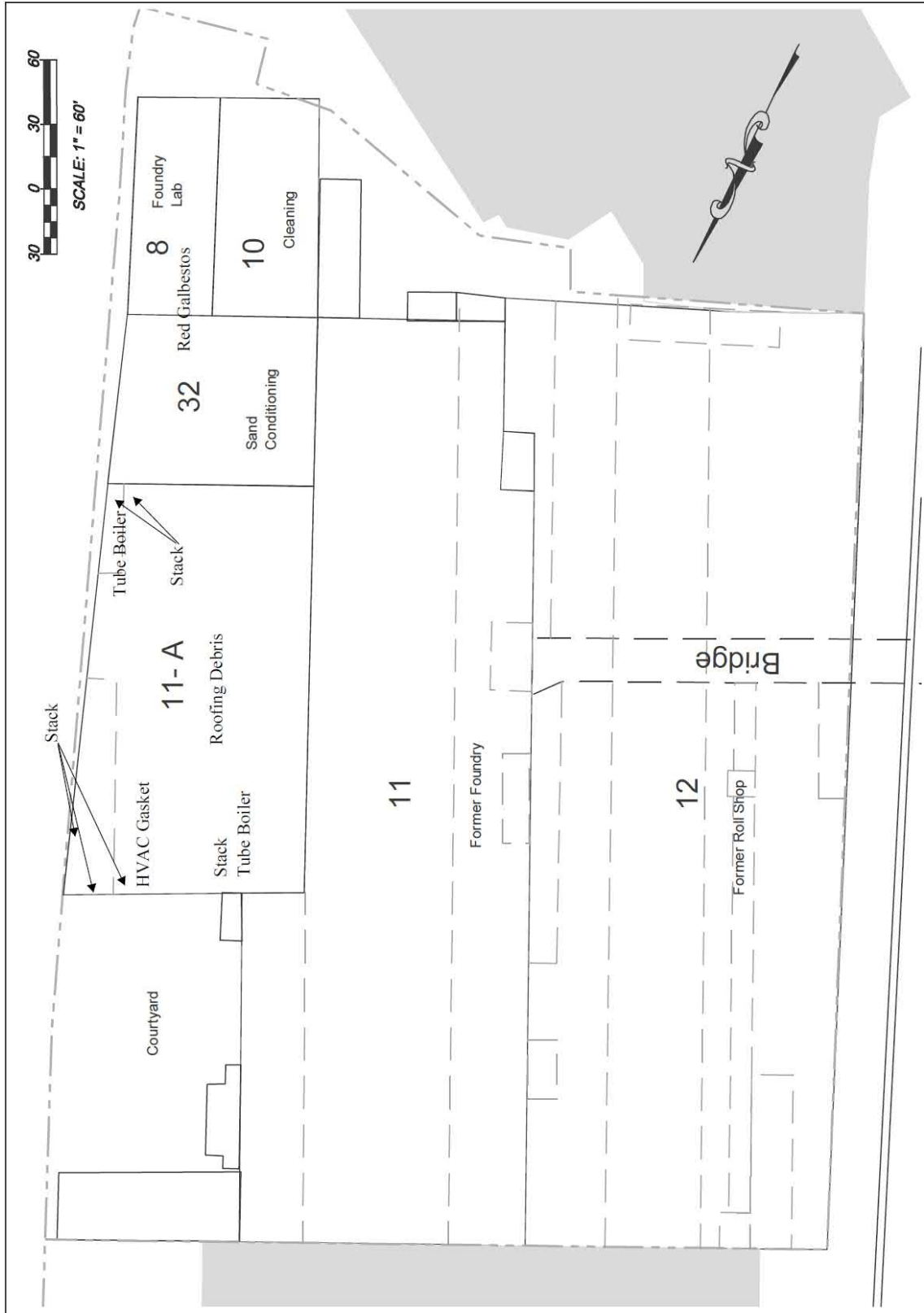
--- PROPERTY LINE (APPROX. LOCATION)
 - - - INTERIOR WALLS, COLUMN LINES,
 MEZZANINES (APPROX. LOCATIONS)
 = = = ACTIVE RAILROAD TRACKS (METRO NORTH)

■ ADJACENT BUILDING FOOTPRINT

AECOM

3rd Floor w/ Asbestos Notes
 FORMER PANDEL PROPERTY (FARREL CORP.)
 35 MAIN STREET, ANSONIA, CT

PATH/FILENAME: C:\USERS\BOGUCKIA\DOCUMENTS\WORK\ANSONIA\PANDEL\ANSONIA\PANDEL_STEPLAN.DWG DATE: April 2013



PATH/FILENAME: C:\USERS\BOGUCKIA\DOCUMENTS\WORK\ANSONIA\PANDEL\PANDEL_STEPLAN.DWG DATE: April 2013

4th Floor w/ Asbestos Notes
 FORMER PANDEL PROPERTY (FARREL CORP.)
 35 MAIN STREET, ANSONIA, CT

ADJACENT BUILDING FOOTPRINT



- PROPERTY LINE (APPROX. LOCATION)
- - - INTERIOR WALLS, COLUMN LINES, MEZZANINES (APPROX. LOCATIONS)
- ==== ACTIVE RAILROAD TRACKS (METRO NORTH)



APPENDIX C

PLM BULK ASBESTOS ANALYSIS REPORTS



Division 1 Specifications

General Requirements

SECTION 01 14 00
WORK RESTRICTIONS

PART 1 – GENERAL

1.01. SECTION INCLUDES:

- A. Contractor's Use of Premises
- B. Access Roads
- C. Parking
- D. Work Hours
- E. Restrictions on Noise, Dust, and Odor Emissions
- F. Restrictions on Air Emissions of Toxic Chemicals
- G. Protection of Existing Utilities

1.02. CONTRACTOR'S USE OF PREMISES:

- A. Contractor shall confine all operations, including the storage of materials, to the designated areas of the Project Site, or as otherwise approved in writing by the Engineer. Contractor shall be responsible for arranging for, and paying the costs of, any necessary off-site storage. No Impacted Materials shall be stored or stockpiled outside of the Project Site.
- B. Contractor's use of the premises shall be limited to the Work being performed under the Alternate Work Plans (AWP) and Specifications.
- C. Contractor shall be responsible for the security and safety of Contractor's equipment and facilities. Owner and the Engineer shall not be liable for loss or damage of Contractor's tools, vehicles, equipment, or materials, whatever the cause. Such loss or damage shall not be sufficient reason for changes in the Project Schedule.
- D. Contractor shall be responsible for any damage to roadways, facilities, trees (unless otherwise marked for removal), or structures on, or adjacent to, the site due to negligence, carelessness, actions, errors, or omissions on the part of the Contractor.

1.03. ACCESS ROADS:

- A. Contractor vehicles shall enter and exit the site only at the locations designated on the Drawings or as otherwise proposed in a traffic management plan provided by the Contractor for review by the Engineer.
- B. Contractor shall be responsible for obtaining any permits and paying any fees necessary for Contractor's use of public streets or roads.
- C. Contractor shall abide by local, state, and federal regulations, including, but not limited to, any flaggers and signage for impeded traffic flow on public streets.
- D. Contractor shall, at all times, provide for unimpeded access for emergency vehicles to the Project Site and nearby properties.

1.04. PARKING:

- A. Contractor shall park construction vehicles and construction equipment only in areas designated for such purpose.

SECTION 01 14 00
WORK RESTRICTIONS

- B. Contractor employees shall park personal vehicles only in an employee parking area as designated by the Engineer.
- C. Vehicles shall not be parked in any locations where they impede traffic or access to areas where Work is being conducted.

1.05. WORK HOURS:

- A. Normal Work Hours shall be from no earlier than 7:00 AM to no later than 5:00 PM, Monday through Friday, and 8:00 AM to 4:00 PM Saturday, or as otherwise approved in advance by the Engineer, and subject to availability of adequate daylight to safely perform the Work. Work hours established by any ordinance, Law, or Regulation shall supersede the requirements of this Specification.
- B. Contractor shall conduct all Work between sunrise and sunset when there is adequate light so that the Work can be conducted safely and the Engineer can effectively observe the Work, or Contractor shall furnish adequate lighting for activities conducted by prior written approval of the Engineer between sunset and sunrise. Contractor shall provide adequate lighting at all times, as deemed necessary by the Engineer for safety reasons. However, the Engineer shall not require additional lighting if Contractor can demonstrate that light levels in the Work area meet or exceed OSHA Regulations.
- C. Contractor may conduct regular equipment maintenance during hours outside of the Normal Work Hours defined in this Section. The Contractor shall notify the Engineer of such activities.
- D. Contractor personnel shall not Work on site alone.
- E. Any variation from Normal Work Hours or Work on Sundays or Holidays shall be subject to approval by the Engineer; such approval shall not be unreasonably withheld. Contractor shall submit notice to the Engineer no less than 48 hours prior to requesting any necessary variation from Normal Work Hours, to allow for adequate review and coordination of staff. Contractor's notice to the Engineer shall include Work activities to be conducted outside of Normal Work Hours, the hours and days that those activities shall be conducted, and the requested duration of the change in Normal Work Hours.
- G. Emergency repairs of equipment outside of Normal Work Hours may be performed without 48-hour notice, but Contractor shall verbally notify the Engineer prior to such emergency maintenance.

1.06. RESTRICTIONS ON NOISE, DUST, AND ODOR EMISSIONS:

- A. Contractor is responsible for conducting all Work in accordance with Laws and Regulations concerning noise or sound levels, dust, and odor emissions including the provision of the City of Ansonia. Included is a link to the City of Ansonia Zoning regulations: <http://cityofansoniam.com/content/8132/8142/8188/default.aspx>
- B. Contractor shall control the Work at all times such that noise, dust, and odor measurements do not exceed the Action Levels in the Health and Safety Plan.
- C. The Engineer shall have authority to direct Contractor to stop Work or modify Work methods or activities as necessary to enforce compliance with Health and Safety Plan, or

SECTION 01 14 00
WORK RESTRICTIONS

if the Engineer deems odor emissions, noise or sound levels, or dust emissions are exceeded.

1.07. RESTRICTIONS ON AIR EMISSIONS OF TOXIC AND HAZARDOUS CHEMICALS:

- A.** Contractor is responsible for conducting all Work in accordance with Laws and Regulations concerning airborne emissions of toxic chemicals including the Zoning Regulations of the City of Ansonia.
- B.** Contractor shall control the Work at all times such that concentrations of airborne constituents measured at the Project Site fenceline are below the Action Levels set forth in the Health and Safety Plans.
- C.** The Engineer shall have authority to direct the Contractor to stop Work or modify Work methods or activities as necessary to enforce compliance with the Action Levels for airborne emissions of toxic chemicals.

1.07. PROTECTION OF EXISTING UTILITIES:

- A.** Contractor shall contact and cooperate with utility companies to locate all utilities (including pipelines, cables, power poles, and other structures) on the site prior to beginning the Work.
- B.** Contractor shall comply with the requirements of specific utility protection Laws or Regulations.
- C.** All utilities shall be protected from damage during construction, unless otherwise indicated to be removed or abandoned. If damaged, the utilities shall be repaired as required by the utility's Owner at the Contractor's expense.
- D.** If a utility is encountered that is not shown on the Drawings or otherwise made known to the Contractor prior to beginning the Work, the Contractor shall promptly take necessary steps to assure that the utility is not damaged, and give written notice to the Engineer. The Engineer shall then review the conditions and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence of the utility.

1.08. TRAFFIC

- A.** Any traffic impacts including temporary road closure must be approved in concept by the Engineer and shall comply with the City Code Chapter 14.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

SECTION 01 41 50
HEALTH AND SAFETY REQUIREMENTS

PART 1 – GENERAL

1.01. SECTION INCLUDES:

- A. Summary
- B. References
- C. Contractor's Responsibility for Health and Safety
- D. Submittals
- E. Notifications
- F. Equipment and Facilities
- G. Personal Protective Equipment
- H. Other Health and Safety Equipment
- I. Training
- J. Work Planning and Meetings
- K. Engineering Controls
- L. Monitoring
- M. Evaluation of Performance
- N. EHS Incident Report Form
- O. Hot Work Permit Form
- P. Job Safety and Hazard Analysis Form
- Q. AECOM Safety Task Analysis Review (STAR) Form
- R. AECOM Guidelines for BEST Observation and Feedback Process

1.02. SUMMARY:

- A. This Section includes requirements for Health and Safety during performance of Work, including identification of applicable Laws and Regulations, Submittals, notification requirements, and Health and Safety execution Specifications.

1.03. REFERENCES:

- A. Applicable regulations and publications include, but are not limited to, the following:
 - 1. ANSI, Emergency Eyewash and Shower Equipment, Z358.1, 1981.
 - 2. ANSI, Practice for Occupational and Educational Eye and Face Protection, Z87.1, 1979.
 - 3. ANSI, Protective Footwear, Z41.1, 1983.
 - 4. DOT Standards and Regulations, 49 CFR 171, 49 CFR 172 and 49 CFR 214.
 - 5. NFPA, Flammable and Combustible Liquids Code, NFPA 30, most recent revision.
 - 6. OSHA, Title 29 CFR Part 1910, Occupational Safety and Health Standards, and Title 29 CFR Part 1926, Safety and Health Regulations for Construction Sites.
 - 7. USEPA, Health and Safety Requirements for Personnel Engaged in Field Activities, USEPA Order No. 14402.
 - 8. USEPA, Standard Operating Safety Guidelines, November 1984.

SECTION 01 41 50
HEALTH AND SAFETY REQUIREMENTS

- B. Where two or more regulations/documents conflict, the one(s) offering the greatest degree of protection shall apply.

1.04. CONTRACTOR'S RESPONSIBILITY FOR HEALTH AND SAFETY:

- A. Contractor shall comply with any and all state, federal, and local ordinances, Laws and Regulations.
- B. Contractor shall be responsible for the Health and Safety of Contractor's employees, its Subcontractors, Suppliers, agents, inspectors, visitors, the general public, and any others associated with or interacting with Contractor who provides labor, goods, or other services on the Project site.
- C. Contractor shall be responsible for emergency response planning and notification, and for actual response to any and all emergencies that may occur during the course of the Work, including emergencies that may occur when Contractor is not present at the Project site.
- D. Contractor is responsible for communicating daily with the Engineer regarding Health and Safety issues for the Engineer's safe conduct of the Engineer's duties, but such communication shall not imply any duty or responsibility on the part of the Engineer with regard to Health and Safety of Contractor's employees, its Subcontractors, Suppliers, the general public, or others. The Engineer's responsibility and duty with regard to Health and Safety shall be limited to the Engineer's employees. Contractor shall have responsibility and duty to the Engineer to communicate Health and Safety issues accurately and in a timely manner to allow the Engineer to take appropriate actions to protect the Engineer's employees and the Owner's employees.
- E. Contractor shall designate a dedicated SSHO on the Project site during the Work. The SSHO duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs associated with the Contractor's activities at the Project site. The designated SSHO shall be certified in applicable OSHA Construction Safety training. At a minimum, the designated SSHO shall have at least 1 year of experience as a SSHO on demolition and construction sites. Contractor's SSHO shall be solely dedicated to Health and Safety issues from the start of the site activities through completion.
- F. The SSHO shall enforce the requirements of safety for all Contractor personnel onsite at all times. The SSHO shall ensure that all Contractor personnel, Subcontractor personnel, and Contractor visitors follow the Contractor's site HASP, including wearing the designated level of PPE. If the SSHO elects to require a higher level of protection than that specified in the Engineers HASP, the extra costs associated with such higher level shall be borne by Contractor, unless such extra costs are approved in advance in writing by the Engineer.
- G. Prior to mobilization and continually through the duration of the Work, the SSHO shall inspect the Project site and document area-specific and worker-specific protection requirements.
- H. After mobilization, the SSHO shall monitor activities and shall document the need for additional worker protection as required, based on activities performed and Action Levels specified in the HASP.

SECTION 01 41 50

HEALTH AND SAFETY REQUIREMENTS

- I. The SSHO shall verify that all activities are performed in accordance with the HASP and all federal, state, local, and Health and Safety standards, Laws and Regulations, and guidelines.
- J. In the event of a health or safety risk, as determined by the SSHO or by other Contractor personnel or by the Engineer, Contractor shall not proceed with the Work until a method for handling the risk has been determined in consultation with the Engineer and implemented. Any health or safety risk resulting in a stoppage of Work shall be reported immediately to the Engineer.
- K. Contractor shall be responsible for implementing a behavior-based safety process and providing site training, observation, and feedback for Contractor personnel employed at the Site.
- L. Contractor shall be responsible for stability of excavations and embankments caused by the Contractor's Work. Contractor shall designate one competent person as defined in 29 CFR Part 1926, Subpart P, Excavations, to inspect and document excavation safety conditions daily, and to ensure excavation safety prior to any personnel entering an excavation.
- M. Engineer shall provide the Contractor with a copy of the Engineer's HASP as a reference. Contractor shall be responsible for preparing their own HASP under which their employees shall work.

1.05. SUBMITTALS:

- A. Contractor shall prepare and submit a HASP to the Engineer for review prior to initiating work. The Contractor shall follow all applicable local, state, and federal Health and Safety standards, Laws and Regulations, and guidelines implemented through, but not limited to, the OSHA and USEPA. Where these are in conflict, the most stringent requirement shall be followed. The following points shall be addressed in the Contractor's HASP:
 - 1. Names of key personnel and alternates responsible for Health and Safety, including a Contractor Health and Safety Representative and SSHO. The Engineer must approve the SSHO.
 - 2. A Health and Safety risk or Task Hazard Analysis (THA) associated with each portion of the Work (i.e., list potential hazards), including THAs for abatement, demolition, loading and transportation of demolition debris and materials, decontamination, truck traffic, and restoration.
 - 3. A requirement that Contractor locate Underground Facilities by using "Safe Dig" procedures prior to the start of the Work.
 - 4. PPE to be used for each of the site tasks and operations being conducted, as required by the PPE program in 29 CFR Subpart I, and 29 CFR 1926.
 - 5. Frequency and types of dust monitoring and instrumentation to be used by the Contractor, including methods of maintenance and calibration of monitoring and sampling equipment.

SECTION 01 41 50
HEALTH AND SAFETY REQUIREMENTS

6. Corrective actions and upgrading of PPE based on monitoring of dust, with specific Action Levels identified.
 7. Site control measures in accordance with the control program required in 29 CFR 1926.
 8. Decontamination procedures in accordance with Specifications Section 02 06 00 – Decontamination.
 9. An emergency response plan meeting federal, state, and local requirements for safe and effective responses to emergencies, including the necessary PPE and other equipment. Explanation of potential emergencies and contingency plan of action, including description of the route to the nearest appropriate hospital, hospital route map, and posting of emergency telephone numbers at the Project site.
 10. If confined space entry is required, include confined space entry procedures in accordance with 29 CFR 1910.146, and a list of all anticipated confined space entries required by Contractor in the course of the Work.
 11. A spill containment program meeting the requirements of all applicable local, state, and federal Health and Safety standards.
 12. A list of Health and Safety and emergency equipment available on the Site.
 13. A description of engineering controls used to reduce the hazards of equipment operation.
 14. Training for emergency response procedures.
 15. Heat stress program.
 16. Cold stress program.
 17. Lockout/Tagout where the operation of machinery and/or equipment in which the unexpected energization on start up or the release of stored energy could cause injury to personnel.
- B.** Contractor's Daily Construction Report shall include a summary of daily safety issues and a summary of Contractor's Daily Safety Meeting.
- C.** Contractor shall submit weekly safety reports that include:
1. The names of all Contractor and Subcontractor personnel employed at the Site at any time during the week, and the names and duties of key personnel including Contractor's Project Manager, Project Superintendent, SSHO, and all competent personnel.
 2. A summary of all Health and Safety incidents describing any medical treatment that was provided during the week, the current Work status of any individuals affected the names of individuals who may have observed the incident, and actions taken by Contractor to address the unsafe act or unsafe condition.

SECTION 01 41 50

HEALTH AND SAFETY REQUIREMENTS

3. A summary of all Health and Safety near-misses or observations providing an opportunity for shared learning and future hazard avoidance. For any Health or Safety incident or near-miss, list the date, the nature of the incident or near-miss, and the names of individuals involved.
 4. The total number of labor hours worked at the Site during that week.
 5. Internal Health and Safety audits performed by the Contractor as part of the Contractor's HASP.
 6. Results of Contractor behavioral observation and feedback evaluations as described in the Engineer's HASP.
- D. Contractor shall submit documentation of training and experience for the designated competent persons.
 - E. Contractor shall maintain all required and applicable training records on-site including, but not limited to those specified in Part 3.01 (A) of this Section.
 - F. Contractor shall submit a Hot Work Permit for any welding, torch cutting, or activities that generate sparks. If the Contractor does not have a permit readily available, they may request a permit from the Engineer. In some instances the Engineer's client may require the use of their specific permit and permitting process.
 - G. Contractor shall conduct a THA for significant activities and submit the documentation to the Engineer for review prior to the start of the activities. Contractor's THA shall be submitted on the THA forms attached to this Section, or other form acceptable to the Engineer.
 - H. Contractor shall submit copies of all periodic equipment inspections completed.

1.06. NOTIFICATIONS:

- A. Contractor shall immediately (within 30 minutes) verbally report to the Engineer the occurrence of any and all Health and Safety incidents. A Supervisor's Accident/ Incident Report (SAIR), which may be requested from the Engineer, shall be submitted within 24 hours of occurrence of the incident or issue.
- B. Contractor shall immediately and fully investigate any such incident or near-miss and conduct a root cause analysis, and shall submit to the Engineer, the Contractor's written corrective action plan for such incident within one day after the incident.
- C. Contractor shall notify the Engineer in writing at least 3 days prior to bringing any hazardous material, equipment, or process to the site, or using the same on the Site. Contractor shall provide the Engineer with a MSDS for all chemicals brought on to the Site.
- D. Contractor shall immediately notify the Engineer in writing of any hazard that Contractor discovers or observes on the site and corrective measures planned or taken to eliminate or minimize such hazard. Hazard reporting will be completed as a Near Miss Report as described in 1.05(C)(3) of this Section.

SECTION 01 41 50
HEALTH AND SAFETY REQUIREMENTS

PART 2 – PRODUCTS

2.01 EQUIPMENT AND FACILITIES:

- A. Contractor shall provide all equipment, temporary facilities, and personnel required to perform activities onsite safely in accordance with all Laws and Regulations and standards, and with the Contractor's HASP.

2.02 PERSONAL PROTECTIVE EQUIPMENT:

- A. The appropriate level of PPE shall be determined by the Contractor for specific tasks as described in the Contractor's HASP. If hazards are identified that require a level of protection greater than Level D (defined in paragraph C below), Work shall be suspended and the Engineer notified. The Contractor's SSHO, in consultation with the Engineer, shall determine what actions are required prior to restarting Work. Contractor shall determine and document the appropriateness of suggested minimum PPE requirements for Contractor's employees and others at the Project site.
- B. Contractor shall furnish and maintain materials and equipment for the Health and Safety of Contractor employees, its Subcontractors, Suppliers, and visitor personnel. Contractor shall provide all required Health and Safety equipment, first aid equipment, tools, monitoring equipment, PPE, and ancillary equipment and methods required to ensure workers' Health and Safety and to comply with the Contractor's HASP. Engineer will furnish PPE and monitoring for Engineer's employees and Owner's employees.
- C. Level D protection will be required at all times while onsite by all personnel and visitors. Level D PPE consists of:
 - 1. Hard hat
 - 2. Steel-toed boots
 - 3. Safety glasses with permanent side shields
 - 4. Work clothes (long pants, shirts with sleeves)
 - 5. Work gloves
 - 6. High visibility reflective safety vests
 - 7. Hearing protection (as needed to prevent exposure exceeding 85 dB level)
- D. In most cases, Level D will be the maximum allowed level of PPE. Level C may be allowed provided that personnel are properly trained and certified. Contractor shall notify Engineer immediately when upgrades to Level C are employed by the Contractor.
- E. In cases where the Owner requires additional PPE, the Engineer will notify the Contractor of these additional requirements in advance of mobilization so that Contractor may obtain the necessary equipment.

2.03 OTHER HEALTH AND SAFETY EQUIPMENT:

SECTION 01 41 50
HEALTH AND SAFETY REQUIREMENTS

- A.** Contractor is required to have the following equipment available on the Site for the Health and Safety of Contractor, Subcontractors, Suppliers, and visitors:
1. First aid kits
 2. Fire suppression equipment (appropriate to location and type of flammable materials present). Equipment will be certified ready for use within the previous twelve months and will also have been inspected each month; documentation supporting certification and inspections will be available for review.
 3. Emergency eyewash facilities meeting OSHA specifications
 4. Other equipment or supplies as determined to be necessary or prudent by Contractor or the Engineer
 5. Flammable liquids storage cabinet(s), if necessary
 6. Fall protection equipment appropriate for the hazards on the project
 7. Heavy Blankets

PART 3 – EXECUTION

3.01 WORKER QUALIFICATION:

- A.** Contractor shall provide the following training to each worker, unless otherwise specified:
1. 40 hour OSHA HAZWOPER training.
 2. Current cardiopulmonary resuscitation (CPR) and first aid certification for at least two workers assigned to Work on the site.
 3. Confined Space Entry Training for workers entering confined spaces.
 4. For one who is assigned the role of a “competent person,” documentation of sufficient and relevant training and experience to perform the assigned duties and responsibilities of that role. As defined in 29 CFR 1926.31, the competent person shall be “one who is capable of identifying existing and predictable hazards, and who has authority to take prompt corrective measures to eliminate them.” Relevant training and experience shall be in the same type of Project activities included in the Work under this Contract.
- B.** Contractor shall designate one “competent person” as defined by 29 CFR Part 1926.

3.02 WORK PLANNING AND MEETINGS

- A.** Contractor shall conduct a daily Health and Safety meeting, prior to beginning Work for that day, to address Health and Safety issues, changing site conditions, activities and personnel. All Contractor and Subcontractor employees working on the Site on that day shall attend the meeting. All meetings shall be documented and attendees shall sign acknowledgement of their presence at the meeting. Daily meetings shall include an

SECTION 01 41 50
HEALTH AND SAFETY REQUIREMENTS

evaluation of the Work to be conducted, the hazards associated with the work, and control measures being used to reduce exposure.

- B.** Contractor personnel who are not in attendance for the daily Health and Safety meeting shall be briefed on the meeting notes upon arrival at the Site and prior to commencing their Work activities. Employees shall sign acknowledgement of briefings prior to commencing Work.
- C.** Contractor shall hold and document additional safety meetings at the start of each major task and whenever site conditions affecting personnel safety change. Any major task undertaken shall require the completion, or modification, of a THA as described in this Section.

3.03 ENGINEERING CONTROLS

- A.** Contractor shall, at a minimum, provide the following engineering controls to reduce the hazards of equipment operation and exposure during demolition and asbestos abatement activities:
 - 1. Roll-over cages for bulldozers, back hoes, loaders, and tractors
 - 2. Back-up alarms for all trucks and moving equipment
 - 3. Wetting of soil and other media or other means to control dust during the Work
 - 4. Decontamination of equipment in accordance with Specifications Section 02 06 00 – Decontamination.
 - 5. Barricades for open trenches and excavations.
 - 6. Sloping, benching, shoring, drainage systems, or other controls as necessary to ensure stability of excavations and embankments.
 - 7. Others as determined to be necessary or prudent by Contractor or as directed by the Engineer.
 - 8. Protection from overhead power utility lines.
- B.** Contractor shall post ground-level warning signs every 50-feet below all overhead utilities onsite.

3.04 MONITORING:

- A.** Contractor shall perform heat exposure and cold exposure monitoring activities as required by weather conditions.
- B.** Contractor shall perform all dust monitoring activities described in the Contractor's HASP required to provide Health and Safety protection to the Contractor's and Subcontractor's personnel and monitor for emissions of nuisance dust to areas of the Owner's facility outside the Work limits. Results to be submitted to the Engineer within 48 hours.

3.05 EVALUATION OF PERFORMANCE:

SECTION 01 41 50

HEALTH AND SAFETY REQUIREMENTS

- A.** Contractor shall routinely conduct internal safety audits on Subcontract and Sub-subcontract Work sites in accordance with the Contractor's HASP. The focus of these routine audits will be in compliance with OSHA and local occupational safety regulations. Submit weekly summary of auditing to Engineer.
- B.** Contractor shall conduct routine behavioral observations and provide immediate feedback during Work activities to promote safe behavior of Contractor employees and Subcontractor employees.

END OF SECTION

HEALTH AND SAFETY FORMS FOLLOW

SECTION 01 41 50
HEALTH AND SAFETY REQUIREMENTS

EHS Opportunity or Near Miss Report

Reported by: _____ Incident Date/Time: _____

Date Reported: _____ Site Location: _____

Report Type (please check one):

- EHS Opportunity (suggestion for improvement, good EHS idea to share, or EHS observation)
- EHS Near-Miss (event that could have resulted in an incident under different circumstances)

Description:

Describe key aspects such as the operation in progress, worker experience, potential outcome of event, and any contributing conditions. Use additional sheets as necessary.

Possible Outcome (check all that apply):

- Injury/illness
- Property damage
- Environmental release
- Regulatory Violation

Hazard Category (check all that apply):

- | | | |
|--|---|--|
| <input type="checkbox"/> Body mechanics/ergonomics | <input type="checkbox"/> Hand safety | <input type="checkbox"/> Road/vehicle |
| <input type="checkbox"/> Chemical exposure/release | <input type="checkbox"/> Mechanical | <input type="checkbox"/> Security lapse |
| <input type="checkbox"/> Drowning/engulfment | <input type="checkbox"/> Noise | <input type="checkbox"/> Sharp/broken object |
| <input type="checkbox"/> Electrical | <input type="checkbox"/> Pinch point | <input type="checkbox"/> Slip/trip/fall |
| <input type="checkbox"/> Equipment/tools | <input type="checkbox"/> Plants/animals | <input type="checkbox"/> Weather |
| <input type="checkbox"/> Fire/explosion | <input type="checkbox"/> Pressure/heat | <input type="checkbox"/> Other: |

Possible Causal Factors (as identified by employee):

1. Immediate Cause

- Engineering design – inadequate
 - Inattentiveness/awareness – inadequate
 - Protective systems/equip. – inadequate
 - Pre-planning – inadequate
 - Procedure – not followed
 - Tool/Equipment– wrong for the job
 - Tool/Equipment – inadequate insp./maint.
 - Worksite layout or control – inadequate
 - Other:

DUE TO:
→

2. Root Cause

- Behavior – rushing or frustration
 - Behavior – fatigue or complacency
 - Change in condition/scope of work
 - Procedure – inadequate or not present
 - Staffing – insufficient number of staff
 - Staffing – inadequate physical state
 - Staffing – inadequate supervision
 - Training – inadequate
 - Other:

Corrective Action Taken and Lesson Learned:

- Submit to:**
- Your supervisor or PM (review for quality then send to:)
 - EHS Coordinator (review, enter in monthly report, then send to:)
 - Corporate EHS

SECTION 01 41 50
HEALTH AND SAFETY REQUIREMENTS

First Report of Occupational Injury, Illness, or Exposure

Reported by: _____	Incident Date/Time: _____
Date/Time Reported _____	Client Name/Site: _____
Supervisor: _____	AECOM Office: _____
Description: _____	

Describe the operation in progress, body part affected, witness names, client notifications made, potential non-work related causes, and any contributing conditions. Use additional sheets as necessary.

Response and Care Provided:

- Taken to medical facility (provide facility name and phone):
- First aid provided(describe):

Incident Resulted from (check all that apply):

- | | | |
|--|---|--|
| <input type="checkbox"/> Body mechanics/ergonomics | <input type="checkbox"/> Hand safety | <input type="checkbox"/> Road/vehicle |
| <input type="checkbox"/> Chemical exposure/release | <input type="checkbox"/> Mechanical | <input type="checkbox"/> Security Lapse |
| <input type="checkbox"/> Drowning/engulfment | <input type="checkbox"/> Noise | <input type="checkbox"/> Sharp/broken object |
| <input type="checkbox"/> Electrical | <input type="checkbox"/> Pinch point | <input type="checkbox"/> Slip/trip/fall |
| <input type="checkbox"/> Equipment/tools | <input type="checkbox"/> Plants/animals | <input type="checkbox"/> Weather |
| <input type="checkbox"/> Fire/explosion | <input type="checkbox"/> Pressure/heat | <input type="checkbox"/> Other: |

Possible Causal Factors (as identified by employee):

1. Immediate Cause

- Engineering design – inadequate
 - Inattentiveness/awareness – inadequate
 - Protective Systems/Equip. – inadequate
 - Pre-planning – inadequate
 - Procedure – not followed
 - Tool/Equipment– wrong for the job
 - Tool/Equipment – inadequate insp./maint.
 - Worksite layout or control – inadequate
 - Other:

DUE TO:
→

2. Root Cause

- Behavior – rushing or frustration
 - Behavior – fatigue or complacency
 - Change in condition/scope of work
 - Procedure – inadequate or not present
 - Staffing – insufficient number of staff
 - Staffing – inadequate physical state
 - Staffing – inadequate supervision
 - Training – inadequate
 - Other:

Corrective Action Taken and Lesson Learned:

Submit immediately to all of the following:

- Your supervisor Project Manager (if applicable) EHS Coordinator Corporate EHS

**SECTION 01 41 50
HEALTH AND SAFETY REQUIREMENTS**

Hot Work Permit

**Permit Valid
For 1 Work Day**

Site Name: _____ **Project Number:** _____
EHS Officer: _____ **Client:** _____
Hot Work Description: _____

Workers/Welders Conducting Hot Work: _____

Permits MUST be completed in its Entirety Before Hot Work Begins

	Yes	No
Has Project supervisor been notified of intended Hot Work?		
Does client representative need to be notified of the intended Hot Work?		
Will Hot Work impact the general public, clients, or operation employees?		
Will the intended Hot Work need to be coordinated with other contractors who may be working on the site to make them aware of any hazards and the scope of work to be performed?		
Have hazardous energy sources been identified, isolated, and locked out/tagged out before the start of the Project?		
Will Hot Work be conducted within a confined space?		
All testing equipment (i.e., CGI, oxygen meter, etc.) and firefighting equipment (i.e., extinguisher, etc.) have been checked to ensure proper operation and calibration before the start of this Project?		
Has a fire watch been designated and on station?		
Have coatings on metal surfaces been tested for ignitability and flame spread?		
Has the area been cleared of all flammable materials?		
Have all fuel sources been identified and protected?		
Has the area been restricted with proper barriers and signs?		
Has the area been tested to be certain that atmosphere is 0% LEL before starting Hot Work?		
Have flame sensitive areas and equipment (including cylinders and gas delivery lines) exposed to slag and sparks been protected by flame resistant blankets or removed from the area?		
Have all equipment and hoses been protected from falling metal structures and debris?		
Have escape routes been identified before starting work?		
Is ventilation equipment needed? Type needed:		

**SECTION 01 41 50
HEALTH AND SAFETY REQUIREMENTS**

The Following Protective Equipment Will be Required:

	Yes	No		Yes	No
Welding Goggles/Shield Tint			Supplied Air Respirator		
Safety Boots			Head Protection		
Leather gloves			Safety Harness		
Hearing Protection			Welding Leathers – Top		
APR Cartridge			Welding Leathers - Bottom		

Permit Valid for 1 Work Day

The following procedures will be applicable prior to Hot Work on tanks or other types of enclosed structures. (Check all that apply and fill in appropriate information.)

- Ventilate to 0% LEL
- Confined Space Entry Permit
- Mechanical Ventilation Required
- Cold Cut Only Method Allowed: _____
- Hot Cutting Permitted Method Allowed: _____

Inert to < ___% Oxygen

Approvals:

Date

Client Representative

AECOM Site Safety Officer

Fire Watch

Performed Hot Work Employee

File Permit in Project Work File and Health and Safety Department

**SECTION 01 41 50
HEALTH AND SAFETY REQUIREMENTS**

Task Hazard Analysis

THA Type: <input type="checkbox"/> Investigation <input type="checkbox"/> O&M <input type="checkbox"/> Office <input type="checkbox"/> Construction			<input type="checkbox"/> New <input type="checkbox"/> Revised		Date:
Work Activity:					
Personal Protective Equipment (PPE):					
Development Team	Position/Title	Reviewed By	Position/Title	Date	
① Job Steps ¹	② Potential Hazards ²	③ Critical Actions ³			

Notes

1 – Target number of job steps: six to ten
 2 – Codes for Potential Hazards:

Caught Between (CBT)	Contacted By (CB)	Caught On (CO)	Fall To Below (FB)	Overexertion (O)	Struck Against (SA)
Caught In (CI)	Contact With (CW)	Exposure (E)	Fall - Same Level (FS)	Release To (R)	Struck By (SB)

3 – Types of Critical Actions: Administrative Controls, Engineering Controls, PPE, and/or Safe Work Practice / SOP
 Form Version 4/3/06

**SECTION 01 41 50
HEALTH AND SAFETY REQUIREMENTS**

Safety Task Analysis Review (STAR)

Task Description:

List Tasks:

Company: _____

Completed By: _____

Date: _____

Job Location: _____

List Additional Hazards (Hazards Not Shown with Check Box)

List Additional Controls (Controls Not Shown with Check Box)

Tailgate Meeting Topic

Signatures of Personnel on Task Analysis Review/Tailgate Meeting:

Mentor Assigned to Work

Lessons Learned (Based on changes in conditions, EHS Near- Incidents/ Observations, Potential Emergencies)

Is there a better/safer way to perform the work/task?

Supervisor Review (date/Time): _____

EHS Review (date/time): _____

Comments: _____

SECTION 01 41 50
HEALTH AND SAFETY REQUIREMENTS

Identify Potential Hazards

- Abrasions
- Biological Hazards (Plants, Animals, Insects)
- Cave-in (Trench/Excavation Work)
- Chemical/Thermal Burn
- Cuts
- Dermatitis
- Dropping Materials/Tools to Lower Level
- Drowning/Flowing Water
- Dust
- Electrical Shock
- Elevated/Overhead Work
- Energized Equipment
- Fire
- Flammability
- Foreign Body in Eye
- Hazardous Materials (Exposure or Release)
- Heat or Cold Stress
- Heavy Equipment Operation
- Heavy Lifting
- High Noise Levels
- Impact Noise
- Inability to Maintain Communication
- Inclement Weather
- Overhead Work
- Overhead Utilities
- Underground Utilities
- Pinch Points
- Pressurized Lines
- Slips, Trips, Falls
- Sprains/Strains
- Traffic
- Underground Utilities
- Confined Space
- New or Rental Equipment
- Surface Water Run-On/Run-Off
- Odor/VOC Emissions
- Compressed Gas Cylinders
- Generated Wastes (Solids/Liquids)
- Known/Unknown Visitors
- Visibility
- New Personnel
- Hoists/Rigging/Slings/Wire Rope
- Special Operations/Instructions (Attach)
- Ergonomics

Identify Controls

- Air Monitoring
- Barricades/Fencing/Silt Fencing
- Buddy System
- Appropriate Clothing/Monitoring of Weather
- Confined Space Procedures
- Decontamination
- Drinking Water/Fluids
- Dust abatement Measures
- Equipment Inspection
- Exclusion Zones
- Exhaust Ventilation
- Fall Protection
- Fire Extinguisher/Fire Watch
- Flotation Devices/Lifelines
- Grounds on Equipment/Tanks
- Ground Fault Interrupter
- Ground Hydraulic Attachments
- Hand Signal Communication
- Hazardous/Flammable Material Storage
- Hazardous Plant/Animal Training
- Hearing Protection (Specify)
- Hoses, Access to Water
- Hot Work Procedures
- Insect Repellent or Precautions
- Isolation of Equipment or Process (LO/TO)
- Stormwater Control Procedures/Methods
- Machine/Equipment Guarding
- Manual Lifting Equipment (Chain Falls)
- Protective Equipment (Specify)
- Proper Lifting Techniques
- Proper Tool for Job
- Radio Communication
- Respirator, (Specify Type)
- Safety Harness/Lanyard/Scaffold
- Sloping, Shoring, Trench Box
- Vehicle Inspection
- Spill Prevention Measures/Spill Kits
- Equipment Manuals/Training
- Emergency Procedures/Incident Management Plan
- Appropriate Labels/Signage
- Derived Waste Management Plan
- Visitor Escort/Orientation/Security
- Window Cleaning/Defrost
- Proper Work Position/Tools

Pre-Task Review (Yes/No/NA)

1. Has Job Hazard Analysis been completed and reviewed? _____
2. Is Job Scope understood by all Personnel? _____
3. Proper Safety Equipment on job site? _____
4. Permit Issued?
What type?
 Hot Work Confined Space
 Excavation Other: _____
5. Proper Tools for Job on site? _____
6. Oxygen/Flammability checked? _____
7. Reviewed MSDSs for any hazardous substance that might be present? _____
8. Proper training for all personnel? _____
9. Are there any planned deviations from set procedures for equipment modifications? ___ If so, contact supervisor to check applicability of MOC procedures.
10. Is there any work planned that could cause activation of emergency procedures? _____
If so, have these procedures been discussed and communicated?

Post-Task Review

1. Work area cleaned up? _____
2. All locks and tags removed and signed off by individuals? _____
3. Have Permits been turned in? _____
4. STAR submitted to EHS Department? _____
5. Were there any unplanned deviations from set procedures or equipment modifications? _____
If so, contact supervisor to check applicability of MOC procedures.

SECTION 01 58 00
ENVIRONMENTAL MONITORING AND CONTROLS

PART 1 – GENERAL

1.01. SECTION INCLUDES:

- A. Dust Control
- B. Noise Control

1.02. DUST CONTROL:

- A. Dust Control: Dust particles, aerosols and gaseous by-products from construction and abatement activities shall be controlled at all times including weekends, holidays, and hours when the Work is not in progress. Contractor shall maintain construction and abatement areas, excavations, staging and storage areas, and other work areas within or outside the Work area free from particulates that would cause relevant air pollution standards to be exceeded or that would cause a hazard or nuisance. Contractor must have sufficient equipment and personnel available to accomplish these tasks.
- B. Contractor shall provide all labor, materials, and equipment, including water trucks and dust suppressant, needed to limit visible dust generation during on-site demolition and construction activities, on-site transportation, and other work activities.
- C. Contractor shall provide dust control measures required by all applicable regulatory requirements that include the following:
 - 1. Wetting agents shall be used as needed.
 - 2. Trucks carrying materials for placement or disposal, including demolition debris, shall be covered.
 - 3. Regular and continual cleaning of sidewalk and adjacent facility parking areas and roadways shall be provided.
 - 4. A vehicle and equipment decontamination facility that includes wheel wash station shall be provided in accordance with Section 02 06 00 – Decontamination.

The roads used by the Contractor's vehicles must be maintained in clean conditions at the end of each day by either prevention of tracking soils and dirt and/or by power sweeping.

1.03. NOISE CONTROL:

- A. Contractor shall conduct the Work in accordance with the applicable noise ordinance concerning noise levels and hours of construction activity as specified in Specifications Section 01 14 00 – Work Restrictions.
- B. Contractor shall control the Work at all times, such that sound levels measured at the Project site boundary comply with local ordinances and Owner requirements for the facility.
- C. The Engineer will have authority to direct Contractor to stop Work or modify Work methods or activities as necessary.

SECTION 01 58 00

ENVIRONMENTAL MONITORING AND CONTROLS

- D. Contractor equipment shall be outfitted with mufflers and other sound attenuating equipment so that sound levels do not exceed the above limits when measured at a property line or a distance of 50 feet from any vehicle or equipment. Equipment engines shall not be started prior to 7:00 AM, Monday through Friday, or 8:00 AM Saturday if weekend work is approved by the Engineer.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION



Division 2 Specifications

Site Work

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

PART 1 - GENERAL

1.01. DESCRIPTION:

- A.** Provide hazardous material abatement of existing conditions as indicated, in compliance with Federal, State and local regulatory agency requirements, and in compliance with Contract Documents. Hazardous building materials will be abated prior to and during demolition of buildings. The work includes the handling, removal and disposal of building materials that contain asbestos (ACM), polychlorinated biphenyls (PCBs), and universal wastes.
- B.** The Work of this contract involves activities that will disturb commingled ACM and PCB waste debris. The Engineer has attempted to identify all of the stated hazardous materials and their locations. The location and type of ACM and PCB known to be present at the worksite are described in PCBs and Asbestos inspection reports provided in **Appendix E**. Approximate locations of drums/containers are provided on **Figure 2** for informational purposes only. If any other ACM, Presumed Asbestos Containing Material (PACM), PCB, Universal Waste or Drums/Containers is found, the Contractor shall notify the Owner and the Engineer, and provide information on the location and quantities of material(s) within 24 hours of discovery.
- C.** All wastes designated for this scope of work will be disposed as commingled asbestos and PCB <50ppm, >1ppm.
- D.** Asbestos-Containing Materials (ACMs):

 - 1.** The ACMs identified within the building are described in the Asbestos Pre-Renovation Inspection Report prepared by Hygenix, Inc, and included in **Appendix E**.
 - 2.** The Contractor shall be responsible for complying with applicable OSHA regulations, 29 CFR 1926.1101 while the waste is at the work site. These requirements include, but are not limited to, storage of the waste in leak tight containers and proper labeling of the waste. OSHA combines activities involving sprayed-on or troweled – on surfacing materials and thermal system insulation (TSI) into “Class I” activities.

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

E. Polychlorinated Biphenyl Waste (PCB)

1. PCB-containing paints and sealants have been identified within the work areas. A copy of the PCB sampling report for the entire property is included in **Appendix E.**

F. Universal Waste Materials (UW):

The Contractor shall be responsible for the proper handling and disposal of universal wastes during the abatement process. Waste summaries shall be provided to the Engineer. The Contractor shall be responsible for complying with applicable state and federal regulations for the segregation, management, sampling, and removal of these materials from the site.

1.02. COMPLIANCE AND INTENT:

- A.** All abatement work is to be scheduled and coordinated with the Owner, Engineer and the Contractor.
- B.** The intent is for the Contractor to protect his workers, subcontractors, authorized visitors and building occupants from exposure to hazardous materials during renovation activities that disturb ACM, PCB, Universal Waste and Drums/Containers.
- C.** The Contractor is responsible for repair, to the satisfaction of the Owner, of surfaces and property not scheduled for renovation that become damaged as a result of the work or resulting from leakage or spillage of water or from any other intentional or negligent acts or omissions. Damage repairs and replacement of materials are to be approved by the Owner prior to project completion and shall be at no increase to the contract price.
- D.** The abatement workers and supervisors shall have received the appropriate EPA-accredited training and be licensed by the State of Connecticut to perform asbestos and lead abatement work.
- E.** During all work, the Contractor is to provide worker protective equipment in accordance with OSHA and as required by these specifications. Where there is conflict, the most stringent requirement shall apply
- F.** Furnish all labor, materials, facilities, supplies, equipment, services, employee training, medical monitoring, permits and agreements necessary to remove and dispose of all ACM in accordance with this specification.
- G.** Comply with all federal, state, and local regulations pertaining to asbestos, lead, storage, transportation and disposal; employee health and safety; Contractor certifications; asbestos and lead certifications; and all licenses, permits, and training.
- H.** Work on the premises shall be confined to areas designated in the Contract Documents. Materials and equipment shall be stored within areas designated by the Owner. Should additional space be required, the Contractor shall request permission for additional space and shall adequately safeguard occupants from associated health and safety hazards.

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

- I. Perform all work specified herein with competent persons trained, knowledgeable and qualified in state-of-the-art techniques relating to asbestos and lead abatement, handling, and the subsequent cleaning of contaminated areas.
- J. During removal activities, the Contractor shall protect against contamination of soil, water, plant life, and adjacent building areas, and shall ensure that there is no airborne release of asbestos, lead and dusts. Evidence of settled dust or airborne levels of contaminants above background will require the implementation of additional controls at no increase to contract price.
- K. The work of this section shall be performed by an entity that holds current valid asbestos and lead removal licenses in accordance with the requirement of the State of Connecticut. Display copies of licenses and Registration in a visible location at the job-site.
- L. Asbestos and PCB waste removed during the abatement activities shall be disposed of in an approved manner complying with all applicable federal, state, and local regulations. Appropriate waste manifests shall be furnished to the Engineer and the Owner.
- M. Asbestos-containing materials shall be removed using wet methods and with no visible emissions. Evidence of the release of asbestos above the background level will necessitate additional controls.
- N. All work shall be performed in full compliance with current federal and state regulations including U.S. Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), U.S. Department of Transportation (DOT) regulations, National Institute for Occupational Safety and Health (NIOSH) recommendations, Connecticut Department of Public Health (CT DPH), all other Federal, State and Local government regulations, any other accepted state-of-the-art industry standards., and, and the specifications contained herein.
- O. Any conflicts or overlap of these requirements shall be governed by the more stringent regulation or standard.
- P. Neither the Owner nor their representative shall be responsible for acts or omissions of the contractor, its subcontractors, or any of its agents or employees performing any of the ACM or PCB abatement related tasks.

1.03. REFERENCES:

- A. Project specific documents of subject facility inspections and screening (provided in Appendix E):
 - 1. Asbestos Pre-Renovation Inspection Report, 35 Main Street, Ansonia, Connecticut. HYGENIX, Inc., July 2019.
 - 2. 35 Main Street PCB Sampling Report, 35 Main Street, Ansonia, CT. HYGENIX, Inc., July 2019.
 - 3. Asbestos Alternative Work Plan, Former SHW Casting Company Building #10, #11, #11A & #32, 35 North Main Street, Ansonia, CT. HYGENIX, Inc.

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

4. Asbestos Alternative Work Plan – Phase 2, Former SHW Casting Company, 35 North Main Street, Ansonia, CT. HYGENIX, Inc..
- B. Connecticut Department of Public Health (CT DPH)**
1. 19a-332a: Standards for Asbestos Abatement, Connecticut Department of Public Health
 2. 20-440: Licensure and Training Requirements for Persons Engaged in Asbestos Abatement and Consulting Services, Connecticut Department of Public Health
 3. Connecticut General Statutes (CGS), Chapter 400c, Lead Abatement Consultants, Contractors and Workers Regulations.
 4. CGS 22a-463 through 469,inclusive, Connecticut General Statutes
 5. CGS 22a-449(c), Hazardous Waste Management Regulations
 6. RSCA Sec. 22a-209, Connecticut Solid Waste Management Regulations
- C. Steel Structures Painting Council (SSPC)**
1. Guide for Containing Debris Generated During Paint Removal Operations, Guide 61 (CON), Steel Structures Painting Council (SSPC).
 2. Guide for the Disposal of Lead Contaminated Surface Preparation Debris, Guide 71 (DIS), SSPC.
- D. United States Environmental Protection Agency (USEPA):**
1. 40 CFR 61 Subparts A and M, EPA National Emission Standards for Hazardous Air Pollutants (NESHAP),
 2. 40 CFR 261, Identification and Listing of Hazardous Waste
 3. 40 CFR 262, Standards Applicable to Generators of Hazardous Waste
 4. 40 CFR 263, Standards Applicable to Transporters of Hazardous Waste
 5. 40 CFR 736.92(a)(2), EPA Asbestos Model Accreditation Plan (Training of Asbestos Workers),
 6. 40 CFR 763 Subpart G, EPA Worker Protection Rule
 7. 40 CFR 763, ACM in Schools
 8. 49 CFR 171 and 172, Transportation
- E. United States Occupational Health and Safety Administration (US OSHA)**
1. 29 CFR 1910.20, OSHA Access to Employee Exposure and Medical Records

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

2. 29 CFR 1910.28, Safety Requirements for Scaffolding
3. 29 CFR 1910.94 and 1926.57, Ventilation Ambient Air Quality
4. 29 CFR 1910.134, OSHA Respiratory Protection
5. 29 CFR 1910.245, Specifications for Accident Prevention (Sign and Tags)
6. 29 CFR 1910.1000, Air Contaminants Standard for General Industry
7. 29 CFR 1910.1200, Hazard Communication
8. 29 CFR 1920.20, General Safety and Health Provisions
9. 29 CFR 1926.59, OSHA Hazard Communication for the Construction Industry
10. 29 CFR 1926.62, Lead Exposure in Construction
11. 29 CFR 1926.1101, OSHA Asbestos
12. 15 USC 2641-2656, The Asbestos School Hazard Abatement and Reauthorization Act (ASHARA)

1.04. DEFINITIONS:

- A. Abatement of Asbestos: Process of controlling fiber release from asbestos-containing materials, including encapsulation, enclosure, controlled renovation procedures, removal, clean up and disposal.
- B. AHERA: Asbestos Hazard Emergency Response Act (40 CFR Part 763).
- C. Airlock: A system for permitting ingress and egress with minimum air movement between a contaminated area and uncontaminated areas. Typically consists of two curtained or gasket doorways separated by a distance of at least six feet such that one passes through one doorway into the airlock, allowing the doorway to close off the opening. This airlock must be maintained in uncontaminated condition at all times.
- D. Ambient Air Quality: The quality of air (in terms of airborne fiber content) that is present in a given space.
- E. Area Monitoring: Sampling of airborne asbestos fiber concentrations within the work area and outside the work area. Sampling shall represent airborne concentrations that may reach the breathing zone.
- F. Asbestos Fibers: Refers to asbestos fibers having an aspect ratio of 3:1, and those fibers longer than five (5) micrometers.
- G. Asbestos Permissible Exposure Limit (PEL): A level of airborne fibers specified by OSHA as an occupational exposure standard for asbestos. This level represents the 8-hour time-weighted average of 0.1 fibers per cubic centimeter as measured by Phase Contrast Microscopy (PCM).

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

- H.** Asbestos Containing Material (ACM): Those manufactured products and construction materials including structural and mechanical building materials, as well as packings and gaskets that contain greater than one percent (1.0 %) asbestos.
- I.** Asbestos: Asbestos includes asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite) cummingtonite gunerite (amosite), anthophyllite, tremolite, and actinolite. For the purposes of determining worker respiratory protection, both the asbestiform and non-asbestiform of the above minerals, and any chemically treated or altered materials shall be considered as asbestos.
- J.** Baseline: Refers to the background levels of asbestos before abatement.
- K.** Change Rooms: Refers to the two chambers in the decontamination area used to change into and out of protective clothing.
- L.** Certified Industrial Hygienist (CIH): An Industrial Hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.
- M.** Clean Room: An uncontaminated area or room that is part of the worker decontamination enclosure system, with provisions for storage of workers' street clothes and protective equipment.
- N.** Clearance Level: Clearance level for samples analyzed by Phase Contrast Microscopy (PCM) will be less than 0.01 fibers per cubic centimeter of air and for Transmission Electron Microscopy (TEM) will be less than 70 structures per square millimeter (< 70 s/mm²). Samples may be collected using aggressive sampling methods and the minimum air volume shall be 1,200 liters.
- O.** Competent Person: One who is capable of identifying existing and predictable asbestos and lead hazards in the surroundings or working conditions and has the authority to take prompt corrective measures to eliminate them, as defined by 29 CFR 1926.1101
- P.** Containment: A process for protecting other workers, residents and the environment by isolating areas from exposure to dust and debris created during abatement of ACM or LBP in a work area.
- Q.** Critical Barrier: A unit of temporary construction that provides the only separation between asbestos work area and an adjacent potential occupied space. This includes the decontamination unit, perimeter walls, ceilings, penetrations and any temporary critical barriers between the work area and the uncontaminated environment.
- R.** CT EPLU: Environmental Practitioner Licensing Unit,
<http://www.ct.gov/dph/cwp/view.asp?a=3140&q=400000>
- S.** CT DPH: Connecticut Department of Public Health,
http://www.ct.gov/dph/cwp/view.asp?a=3140&q=417056&dphNav=|&dphNav_GID=1889
- T.** Decontamination Area: Area which is constructed to provide the means for workers to store clothing, equipment and other articles, and to properly remove asbestos contamination upon concluding work activities that result in exposure to these hazardous materials.
- U.** DOT: Federal Department of Transportation

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

- V.** Decontamination Unit: Refers to system of airlocks used to decontaminate personnel, waste bags, equipment, etc. when exiting the work area. A decontamination unit shall be set up for each containment area.
- W.** Disposal Bag: Minimum six (6) millimeter thick leak-tight polyethylene bags used for transporting asbestos waste from a work area to disposal or shipping container. Each disposal bag must have required labels according to 29 CFR 1926.1101, 30 CFR Part 47 (HAZCOM). RACM waste must be additionally labeled according to 49 CFR 171-179 (USDOT), and 40 CFR 61 Subpart M (NESHAP).
- X.** Employee exposure: That exposure to airborne asbestos or lead that would occur if the employee were not using respiratory protective equipment.
- Y.** Encapsulant: A liquid material that can be applied to asbestos-containing material that controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging) or by penetrating into the material and binding its components together (penetrating encapsulant).
- Z.** Equipment Room: A contaminated area or room that is part of the worker decontamination enclosure system, with provisions for storage of contaminated clothing and equipment. The equipment room shall be kept clean from hazardous building material debris at all times.
- AA.** Friable Asbestos Containing Material: Material that contains greater than 1.0% asbestos by weight, and that can be readily crumbled, pulverized or reduced to powder by hand pressure when dry.
- BB.** Glove bag Technique: A method for removing ACM from heating, ventilating, and air conditioning (HVAC) ducts, piping runs, valves, joints, elbows, and other non-planar surfaces. The glove bag is constructed and installed in such a manner that it surrounds the object or material to be removed and contains all asbestos fibers released during the process. Secondary containment shall be provided for all glove-bag work unless noted otherwise.
- CC.** Hazardous Waste Level of Lead: The RCRA Toxicity Characteristic Leachate Procedure (TCLP) standard is 5.0 mg/L (ppm) as defined in §261.24, Table 1 – Maximum Concentration of Contaminants for the Toxicity Characteristic.
- DD.** HEPA Filter: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in diameter.
- EE.** Industrial Hygienist: A professional qualified by education, training, and experience to anticipate, recognize, evaluate and develop controls for occupational health hazards.
- FF.** Lead: Defined by OSHA 29 CFR Part 1926.62 to mean metallic lead, all inorganic lead compounds, and organic lead soaps. All other organic lead compounds are excluded from this definition.
- GG.** Lead Based Paint (LBP): Defined by the U.S. Environmental Protection Agency (USEPA) and Housing and Urban Development (HUD) to mean paint containing 0.50% or more lead by weight.

SECTION 02 00 00

HAZARDOUS MATERIAL ABATEMENT

- HH.** Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere, and negative during inhalation in relation to the air pressure of the outside atmosphere.
- II.** Negative Pressure: Air pressure lower than surrounding areas, generally caused by exhausting air from a sealed space (work area).
- JJ.** NESHAP: National Emission Standard for Hazardous Air Pollutants - EPA Regulation 40 CFR Subpart M, Part 61.
- KK.** NIOSH: National Institute for Occupational Safety and Health: Sets test standards, analytical methods, and certifies performance of various respirator designs.
- LL.** NIST: National Institute of Standards and Technology: Administers the NVLAP Program.
- MM.** NVLAP: National Voluntary Laboratory Accreditation Program: Evaluates and certifies laboratories doing PLM and TEM analysis.
- NN.** OSHA: Occupational Safety & Health Administration.
- OO.** Penetrating Encapsulant: An encapsulant absorbed by the in situ asbestos matrix without leaving a discrete surface layer.
- PP.** Permissible Exposure Limits (PELs): Asbestos: A level of airborne fibers specified by OSHA as an occupational exposure standard for asbestos. Represents the 8-hour time weighted average of 0.1 total fibers per cubic centimeter and 30 minute excursion limit of 1.0 fiber per cubic centimeter (1.0 f/cc) as measured by phase contrast microscopy (PCM).
- QQ.** Permissible Exposure Limits (PELs): Lead: The PEL for lead in general industry and the construction industry, without regard to the use of respirators, to an airborne concentration of lead of 50 µg/m³ calculated as an 8-hour TWA.
- RR.** Personal Monitoring: Sampling for asbestos and lead concentrations within the breathing zone of an employee.
- SS.** Phase Contrast Microscopy (PCM): Phase contrast microscopy (PCM) is a technique using a light microscope equipped to provide enhanced contrast between the fibers and the background. Filters are cleared with a chemical solution and viewed through the microscope at a magnification of approximately 400X. This method does not distinguish between fiber types and only counts those fibers longer than 5 micrometers and wider than approximately 0.25 micrometers. Because of these limitations, fiber counts by PCM typically provide only an index of the total concentration of airborne asbestos in the environment monitored.
- TT.** Polarized Light Microscopy (PLM): An optical microscopic technique used to identify asbestos content and distinguish between different types of asbestos fibers by their shape and unique optical properties.
- UU.** Powered Air Purifying Respirator (PAPR): A full face-piece respirator that has the breathing air powered to the wearer after it has been purified through a filter.

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

- VV.** Protection Factor: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.
- WW.** Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.
- XX.** Shower Room: A room between the clean room and the equipment room in the worker decontamination enclosure system. This room contains hot and cold or warm running water and soap suitably arranged for complete showering during decontamination. The shower room comprises an air lock between contaminated and clean areas.
- YY.** Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.
- ZZ.** TEM: Transmission Electron Microscopy: Asbestos structure analysis for a specified volume of air. TEM is a technique that focuses an electron beam onto a thin sample. As the beam transmits through certain areas of the sample, an image resulting from varying densities of the sample is projected onto a fluorescent screen. Transmission electron microscopy is the state-of-the-art analytical method for identifying asbestos fibers collected in air samples in non-industrial settings. Transmission electron microscopes equipped with selected area electron diffraction (SAED) capabilities also can provide information on the crystal structure of an individual particle.
- AAA.** Time Weighted Average (TWA): The average concentration of a contaminant in air during a specific time period.
- BBB.** Universal Waste: A category of waste materials designated as "hazardous waste", but containing materials that are common, including batteries, fluorescent (and other) lights, pesticides, thermostats and used electronic equipment.
- CCC.** Visible Emissions: Any emission containing particulate material that is visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.
- DDD.** Visual Inspection: A visual inspection by Engineer, of the work area under adequate lighting to ensure that the work area is free of visible hazardous material, debris, and dust.
- EEE.** Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, HEPA vacuuming, or other cleaning utensils dampened with amended water or diluted removal encapsulant and afterward thoroughly decontaminated or disposed of as asbestos contaminated waste.
- FFF.** Work Area: The area where hazardous material work or removal is performed and that is defined or isolated to prevent the spread of impacted dust, fibers or debris, and entry by unauthorized personnel. Work Area is a Regulated Area as defined by 29 CFR 1926.
- GGG.** X-Ray Fluorescence (XRF): The emission of characteristic "secondary" (or fluorescent) X-rays from material that has been excited by bombarding with high-energy X-rays or gamma rays. A portable XRF can be used for onsite lead screening.

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

1.05. ASBESTOS CONTRACTOR/SUPERVISOR:

- A.** All asbestos abatement work shall be conducted using good work practices that prevent the release of fibers or dust outside the work area. If poor work practices are observed, the Engineer shall direct the Contractor to make the necessary corrections. Generally, airborne asbestos fiber concentrations measured by PCM inside the containment area exceeding 0.10 fibers/cc will be viewed as an indication of poor work practices, unless the fiber concentration is a direct result of design or external circumstances anticipated in the project specification. Visible dust emissions will be viewed as an indication of poor work practices
- B.** The Owner or their representative may issue a stop work order at any time if concerns arise regarding employee or occupant safety, the integrity of the work area, security or other related concerns. If the Owner or their representative issues a verbal or written "stop work order" due to personnel, environmental or property safety risks or due to violations of rules or regulations, the contractor shall immediately stop all work and shall have no right to project delay claims. The contractor shall not recommence work until authorized to do so in writing by the Owner or their representative. The Engineer may perform baseline air sampling in selected work areas of the buildings before the start of abatement work to establish the background total asbestos fiber concentrations.
- C.** The background total fiber concentration (or a total fiber concentration greater than 0.01 f/cc) shall not be exceeded outside the work area during abatement work. If the total fiber concentration exceeds either background or 0.01 f/cc, the Engineer is authorized to act in accordance with the above provisions to stop work. The Contractor shall perform any and all necessary corrective actions to reduce the fiber concentrations .
- D.** The Engineer may perform air sampling inside and outside the work area during all phases of the work. The Contractor shall cooperate fully with the Engineer and ensure the cooperation of his workers during collection of air samples and work area inspections.
- E.** The Engineer's role in advising the Owner regarding environmental health matters does not relieve the Contractor's obligation to comply with all applicable health and safety regulations promulgated by the federal, state, or local governments.
- F.** The contractor shall send written notification as required to federal, state and local agencies on date contract is awarded.

1.06. QUALITY ASSURANCE:

- G.** Work shall be performed by a firm having not less than seven (7) years successful experience in comparable projects which require OSHA compliance and employ personnel who have received the appropriate asbestos training from either an accredited asbestos center or recognized environmental training center provided by the CT DPH.
- H.** Asbestos contractors shall show job experience for the past seven years.

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

PART 2 - PRODUCTS

2.01 SIGNS AND LABELS:

- A. Provide labeling in accordance with U.S. EPA requirements. Provide the required signs, labels, warnings, or posted instructions for containers used to transport hazardous materials and universal wastes to the landfill.
- B. Location of Caution Signs and Labels: Provide bilingual caution signs at all approaches to work areas in languages used by the Contractor's employees. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Provide labels and affix to all ACM-, LBP- and UW - containing materials, scrap, waste, debris, and other products.
- C. Warning Label Format: Provide warning labels and signage that comply with 29 CFR Part 1926.1101 and 29 CFR, Part 1926.62.

2.02 ENCAPSULANTS:

- A. Encapsulants shall be U.L. Listed, in full scale E 119 fire test.

2.03 PLASTIC SHEETING:

- A. Use polyethylene sheeting with a thickness of 6-mil minimum (two layers of 4-mil acceptable for walls) that conforms to NFPA #701 and be tested in accordance with ASTM E-84. Provide flame resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6.0 mm (0.15 mm) thick, frosted, or black as indicated.
- B. Spray adhesive for sealing polyethylene to polyethylene shall contain no methylene chloride or methyl chloroform (1,1,1-trichloroethane) compounds. Provide spray adhesive in aerosol cans that are specifically formulated to stick tenaciously to sheet polyethylene.

2.04 LOCAL EXHAUST SYSTEM:

- A. Full negative pressure containment is required and sufficient High Efficiency Particulate Air (HEPA) ventilation units shall be used to initially achieve a negative pressure in each contained work area at 0.030 inches of water column and to maintain the negative pressure in each contained work area at 0.02 inches of water column while working. From a practical standpoint, this pressure difference should not exceed -0.06 inches of water. Any amount higher than this may damage the critical barriers. Once the required amount of pressure has been reached, the containment has been effectively contained and the only air release outside is through the HEPA equipped pressure differential units. These exhaust systems shall be in accordance with ANSI and the HEPA unit shall bear a UL 586 label.
- B. The ventilation system shall remain in operation 24 hours a day, until clearance of the containment is achieved. HEPA-filtered air necessary to maintain pressure differential shall be vented to non-contaminated areas outside the buildings. All HEPA units shall be operated in accordance with the manufacturer's instructions and fitted as follows:

SECTION 02 00 00

HAZARDOUS MATERIAL ABATEMENT

1. A two stage pre-filter as follows: 100 micron low efficiency filter and a second stage medium pre-filter for particle sizes down to 5 microns.
 2. Lapse time meter showing accumulated hours of operation.
 3. Electrical interlock preventing the operation of the unit without a HEPA filter.
 4. Audible alarm and automatic shutdown system in the event of filter rupture or blockage of the discharge.
 5. Warning lights, which indicate the status of the HEPA unit.
 6. HEPA filters used in negative air machines shall be replaced after 600 hours of continuous use (at a minimum).
- C.** Positioning the HEPA Units: HEPA Units should be located away from the most likely air entry routes to establish the longest possible air flow path. When there is air movement, the fibers tend to dilute in the fresh air and be pulled into the pressure differential units to be filtered before exhausting into the outside air. It is desirable that exhausted air has the least potential for contamination to reduce the risk of fiber release in case of accident, seal failure or filter failure.
- D.** Additional HEPA units may be located free standing inside the containment to circulate air within the area to filter and trap contamination out of the air. Depending on work methods, other engineering controls, the form or type of asbestos, material characteristics, and previous treatments, the number of units may be varied as little or as much as needed to lower the airborne fiber levels in the containment.

2.05 HOURS OF OPERATION FOR HEPA FILTRATION UNITS:

- A.** The ventilation system shall remain in operation 24 hours a day until the work area has passed the specified clearance criteria. HEPA filtered air necessary to maintain pressure differential shall be vented to non-contaminated areas outside the buildings. Other HEPA units shall operate within the enclosure to circulate air and control fiber counts to achieve a minimum of four (4) air exchanges per hour.
- B.** Isolate work area, and continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope. This pressure differential when measured across any physical or critical barrier must equal or exceed a static pressure of 0.020 inches of water column.

2.06 RESERVE EQUIPMENT:

- A.** Contractor shall erect all barricades and signs required by Federal and State Law.
- B.** Contractor shall supply all equipment needed for worker protection (respirators, safety equipment, etc.).
- C.** Provide authorized visitors, Owner, Engineer or other contractors requiring access to the work area with suitable protective clothing, headgear, eye protection, as described in this specification, whenever the visitor must enter the work area. The Contractor shall have available and maintain at all times a minimum of three (3) suits and other suitable

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

protective equipment for this purpose. All protective equipment shall be new and for the exclusive use of visitors.

- D. Contractor shall maintain on site at all times a minimum of one extra negative air machine for use in case of failure.

2.07 TRANSPORTATION EQUIPMENT:

- A. Transportation equipment, as required, shall be lockable and suitable for loading, temporary storage, transit and unloading of contaminated waste without exposure to persons or property. Any vehicle used to transport hazardous waste shall be properly registered with all applicable controlling agencies.

2.08 CONNECTIONS TO WATER SUPPLY:

- A. Contractor shall assure that all connections to its water source shall include backflow protection. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After use, connections and fittings shall be removed without damage or alteration to existing water piping and equipment. Leaking or dripping valves shall be contained.
- B. Contractor will provide water from an alternative source.

2.09 SCAFFOLDING:

- A. Provide all scaffolding, ladders and/or staging, etc. as necessary to accomplish the Work of this Contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding shall comply with all applicable OSHA provisions. A competent person shall inspect the scaffolding prior to use.
- B. Equip rungs of all ladders, etc. with an abrasive non-slip surface.
- C. Provide a nonskid surface on all scaffold surfaces subject to foot traffic.

2.10 OTHER TOOLS AND EQUIPMENT:

- A. The Contractor shall provide other suitable tools for the stripping, removal and disposal activities. Tools shall include: hand-held scrapers, plastic brushes, sponges, rounded edge shovels, brooms, polyethylene, carts, etc. All tools shall be inspected for contamination by the Engineer prior to use. All other materials not specifically described, but required shall be provided by the Contractor subject to the approval of the Engineer.
- B. Prohibited Equipment: The following equipment is prohibited from use on this project unless accepted in writing by the Engineer:
 - 1. High or low pressure water blasting equipment for hosing of work areas.
 - 2. Bead blasting or other uncontained abrasive blasting methods.
 - 3. Vacuum-powered removal or collection equipment located outside the asbestos work area, such as a "Vacu-Loader".

SECTION 02 00 00

HAZARDOUS MATERIAL ABATEMENT

4. Gasoline, propane, diesel or other fuel powered equipment inside the building, unless previously approved in writing by the Owner and the Engineer.
5. Flammable solvents with a flash point below 140 degrees F or materials containing ethylene glycol ether, methylene chloride, ethyl chloroform (1,1,1-trichloroethane), or other hazardous substances.
6. Polyurethane spray foam for application in fire-rated assemblies, including but not limited to penetrations into stairwells, mechanical rooms, electrical closets, rated floor-to-floor assemblies, etc.

PART 3 - EXECUTION

3.01 INITIAL AREA ISOLATION:

- A. Shut down and disconnect and lock out all electrical power, gas, sewage, water, phone lines, fire life safety lines and sprinkler systems to the work area so that there is no possibility of reactivation and electrical shock.
- B. Provide all connections for temporary utilities in the work area needed throughout abatement. Temporary electrical power shall be according to OSHA and the National Electrical Code for Wet Environments.
- C. Generally water and electricity will be made available by the Owner for construction use. Any temporary electrical connections shall be the responsibility of the contractor and performed by a licensed electrician. All temporary electrical connections shall be pre-approved by the Owner.
- D. As required, establish designated limits for the hazardous materials work area with continuous barriers. Use barrier tape (3-inch) with a pre-printed asbestos or lead paint warning throughout exterior abatement activities. Provide signs around the perimeter of all work areas according to EPA and OSHA, including a warning against smoking or eating in the work area.
- E. Contractor shall conform to the Owner's lockout requirements, and secure the work area at all times. Area entrances and exits shall be secured by the Contractor throughout the abatement phase. Unauthorized visitors are strictly prohibited. Only the Contractor, Engineer, and Owner's representatives are permitted at the job site. Contractor shall ensure that all doors, gates, windows, and potential entrances to the work areas and the designated waste location areas are secured and locked at the end of each workday.
- F. The Engineer will inspect and approve all containment setups before any abatement is undertaken. If a containment area is breached (failure of polyethylene seals, visible dust emission, fiber counts above background level, etc.), the Contractor shall take immediate action to control the breach and clean the area to the satisfaction of the Engineer. Clearance for any contaminated areas will be determined by the Engineer and may include air sampling. The Contractor shall be responsible for all costs associated with the clean-up and testing (including costs associated with the Engineer) resulting from containment breaches.

SECTION 02 00 00

HAZARDOUS MATERIAL ABATEMENT

- G. The Contractor shall be responsible for identifying all HVAC components (if applicable) that lead into or out of the work areas. All components shall be disconnected (coordinate with the Owner) and sealed airtight for the duration of the abatement work. All openings shall be sealed with two (2) layers of 6 mil polyethylene secured with duct tape, as applicable.

3.02 CONTAINMENT SET-UP PROCEDURES:

- A. Prior to set-up, Contractor shall HEPA vacuum all floors and horizontal surfaces of the building interior to reduce the amount of dust otherwise generated during demolition activities.
- B. All work shall be conducted within an asbestos or lead regulated area as required by OSHA. Contractor shall seal operable windows and air intakes within the work area with two layers of 6-mil polyethylene sealed with tape. Contractor shall construct a full negative pressure containment for the removal of friable asbestos-containing materials or non-friable materials that may be rendered friable during abatement. Cover walls and floors, as appropriate, with 4-mil and/or 6-mil poly. The floors and walls shall be covered with a minimum of two layers of poly.
- C. Items not being removed from the work area (i.e., large machinery, water fountains, etc.) shall be wet-wiped and/or HEPA vacuumed, and then sealed with two layers of 6 mil polyethylene and duct tape. Negative pressure glove bag systems may be used to remove ACM or PACM from caulking and expansion joint seams. Glove bags shall be used in accordance with work practices set forth in 29 CFR 1926.1101(g)(5)(iii)(B)(1).
- D. To permit the inspector to view the majority of the work area, the Contractor shall provide easily accessible windows from the clean space into each abatement area for observation of work underway in containment without requiring work area entry. Windows must be a minimum of 12" x 12", clear-see-through plastic with no scratches, tape or glue marks.
- E. The work area(s) shall be placed under negative pressure as outlined in this specification throughout the abatement work period. The system shall be required to produce a negative pressure of 0.02 inches of water column within the enclosure. Negative air exhaust will not be vented into the building(s). The negative pressure system shall be operated in accordance with Appendix J., pages J-1 through J-8, of the EPA Guidance Manual No EPA 560/85-024, entitled "Recommended Specifications and Operating Procedures for the Use of Negative Pressure Systems for Asbestos Abatement".
- F. Approved fire extinguishers (Class ABC, multi-purpose, dry chemical type, rated: 4A; 60BC) in compliance with NFPA Standard 10 "Standard for Portable Fire Extinguishers" shall be readily available to workers (maximum travel distance of 50 feet) inside and adjacent to work area(s). Personnel and emergency exits shall be clearly indicated on the inside of the containment area. The emergency exit plan shall be approved by the Engineer prior to the set-up of any work areas.
- G. Temporary Lighting: Provide lighting in the work area as required supplying a 50-foot candle minimum light level. Provide a minimum of one, 200-watt incandescent lamp per 1,000 SF of floor area to provide uniform lighting throughout the work area.
- H. A three-chambered decontamination unit shall be required during the abatement work conducted in full containment. The unit shall be located immediately outside the

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

contained area. A pre-fabricated unit is acceptable. Chambers shall be arranged as follows:

- I. Clean/change room shall be the first chamber entered from outside the work area.
- J. A shower shall be located between the clean/change room and the dirty/change room. The shower shall have hot and cold water.
- K. A dirty/change room shall be the last chamber before entering the work area.
- L. Worker decontamination unit walls shall be a minimum of two layers of 6-mil poly and floors shall be constructed with a minimum of three layers of fire retardant poly. All entry and exit doorways shall consist of at least two sheets of overlapping, fire resistant poly. At no time shall the flapped doors be taped open in order to expedite material or personnel load-out.
- M. Hot Water Heater: In the absence of hot water, Contractor shall provide a UL rated electric hot water heater for the decontamination unit shower. Wiring of the hot water heater will be in compliance with all applicable codes of the National Fire Protection Association National Electric Code (NEC).
- N. All water from the shower and bag wash area shall be filtered to the technically feasible limit but not more than five (5) microns before disposal. In addition, the Contractor shall comply with all current local, state and federal codes relating to waste water release.

3.03 SECURITY AND USE OF THE SITE:

- A. The Contractor shall provide 24-hour, 7 day security for the work area and equipment and to ensure that no unauthorized persons enter the work area at any time after work has begun and prior to achieving certified clearance of airborne fiber concentrations.
- B. Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated. Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. The Contractor shall keep the premises and building free of accumulations of waste materials or rubbish caused by the contractor's employees or employees of the subcontractor. At the completion of the work, the contractor shall remove all rubbish, tools, scaffolding, and surplus materials from the work site. The Contractor shall thoroughly clean all walls, floors, roofs, staging, storage areas, etc. affected by its work.

3.04 WORK AREA ENTRY/EXIT:

- A. The Contractor shall provide an entry/exit log which shall be posted at the entrance to each regulated work area. All persons who enter a regulated work area shall sign the entry/exit log upon every entry and exit. All persons, before entering a regulated work area, shall read and be familiar with all posted regulations and personal protection requirements.

SECTION 02 00 00

HAZARDOUS MATERIAL ABATEMENT

- B. The Contractor shall restrict unauthorized persons from entering regulated work areas and avoid ACM or LBP dust and contaminated debris from passing beyond the regulated work areas. Should areas beyond a regulated work area become contaminated with ACM or LBP dust or contaminated debris as a result of the work, the Contractor shall clean those areas in accordance with the applicable regulations. Such cleaning or decontamination event conducted by the Contractor shall be performed at no additional cost to the Owner.
- C. Abatement workers and authorized persons shall enter and exit regulated work areas through a curtained doorway. Each time a regulated work area is entered, two disposable suits/coveralls and clean respirators shall be worn. Respirators shall be inspected prior to each use and fit-tested for proper seal and operation.
- D. All persons shall read and be familiar with all posted regulations and personal protection requirements, including work area entry/exit procedures and emergency procedures, before entering a regulated work area. The entry/exit log headings shall indicate, and the signatures shall be used to acknowledge, that the posted regulations have been reviewed and understood by all persons prior to entry.
- E. The Contractor shall provide personal protective equipment and respiratory protection to authorized persons entering regulated work areas until the work has been completed.

3.05 PERSONNEL PROTECTION:

- A. **Informed Workers:** All workers shall be informed of the hazards of asbestos, lead paint and other hazardous materials exposure. Workers shall also be instructed in the use and fitting of respirators, protective clothing, decontamination procedures, and all other aspects associated with abatement work in accordance with OSHA standards.
- B. Provide and require the use of protective clothing, such as coveralls or similar whole-body clothing, head coverings, gloves, and foot coverings for any employee exposed to airborne concentrations of asbestos that exceed the TWA and/or excursion limit prescribed by 29 CFR 1926.1101 or for which a required negative exposure assessment is not produced, and for any employee performing Class I operations which involve the removal of over 25 linear or 10 square feet of TSI or surfacing ACM or PACM.
- C. Provide and require the use of respiratory and personnel protective equipment to all employees who may be exposed to airborne dust in excess of 30 ug/m³.
- D. **Personal Hygiene Practices:** The Contractor shall enforce and follow good personal hygiene practices during the abatement of hazardous materials. These practices will include but not be limited to the following: No eating, drinking, smoking or applying cosmetics in the work area. The Contractor shall provide a clean space, separated from the work area, for these activities.
- E. If air monitoring data gathered by the Contractor or Engineer in areas adjacent to the work areas shows exposure to airborne asbestos, lead or other hazardous materials exceeding OSHA criteria, that area will become regulated and workers must wear protective clothing and approved respirators and must have a shower facility provided to them.
- F. **Respirators:** Establish a respirator program as required by OSHA. Respirator selection shall meet the requirements of 29 CFR 1926.1101 (h). Respirators selected must be

SECTION 02 00 00

HAZARDOUS MATERIAL ABATEMENT

approved by the Competent Person. Submit program for review a minimum of five (5) working days prior to the commencement of abatement activities.

- G.** Respirators and Protective Equipment for Handling Asbestos: 29 CFR 1926.1101(h)(3)(iv), requires employers to provide employees with the following respiratory protection for each Class of asbestos work:
- 1.** Class I Asbestos Work
 - a.** A tight-fitting powered air-purifying respirator or a full face-piece, supplied-air respirator operated in the pressure-demand mode and equipped with either HEPA egress cartridges or an auxiliary positive-pressure, self-contained breathing apparatus (SCBA) whenever the employees are in a regulated area performing Class I asbestos work for which a negative exposure assessment is not available and the exposure assessment indicates that the exposure level will be at or below 1 f/cc as an 8-hour time-weighted average (TWA).
 - b.** A full face-piece supplied-air respirator operated in the pressure-demand mode and equipped with an auxiliary positive-pressure SCBA whenever the employees are in a regulated area performing Class I asbestos work for which a negative exposure assessment is not available and the exposure assessment indicates that the exposure level will be above 1.0 f/cc as an 8-hour TWA.
 - 2.** Class II Asbestos Work
 - a.** Employers must provide employees with an air-purifying half mask respirator, other than a filtering face-piece respirator, whenever the employees perform Class II asbestos work for which no negative exposure assessment is available.
- H.** Respirators filters for asbestos and lead: HEPA filter cartridges certified by NIOSH for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color-coded in accordance with ANSI Z228.2.
- I.** Protective Clothing: Provide potentially exposed personnel with fire retardant disposable protective whole body clothing, head coverings, gloves, and foot coverings. Provide appropriate gloves to protect workers hands from exposure to hazardous materials. Make sleeves secure at the wrists and make foot coverings secure at the ankles with tape. Ensure that all personnel entering and leaving the work area follow this procedure. Suits shall be of adequate size to accommodate the largest employee. Foot covers may be part of the coveralls. Non-disposable footwear shall be left in the work area until it is decontaminated or disposed of at the completion of the job. Protective clothing will be worn inside the work area after the area passes pre abatement inspection and shall remain in use until the area passes final clearance inspection.
- J.** Disposable coveralls, head covers, and foot wear covers shall be provided by the Contractor for the Owner, Engineer, Project Administrator, and other authorized representatives who may inspect the job site.
- K.** Gloves: Provide gloves to personnel removing or handling asbestos. Contaminated gloves shall be disposed with like waste streams.

SECTION 02 00 00

HAZARDOUS MATERIAL ABATEMENT

- L. Shower Requirements: Contractor shall assure that all certified employees and visitors use protective equipment and the shower or wash down facility following each entry into the containment area after the start of the hazardous materials abatement.

3.06 PERMISSIBLE EXPOSURE LIMITS:

- A. Permissible Exposure Limits (PEL): Ensure that no worker is exposed to an airborne concentration of asbestos or lead in excess of the Time-Weighted Average (TWA) limit, and Excursion Limit (EL) set forth below.
 - 1. Time Weighted Average (TWA) limit – Asbestos - Concentration of airborne asbestos fibers to which any worker may be exposed as an eight (8) hour time-weighted average shall not exceed 0.1 fibers per cubic centimeter.
 - 2. Excursion Limit (EL) – Asbestos - Concentration of airborne asbestos fibers to which any worker may be exposed as averaged over a sampling period of thirty (30) minutes shall not exceed 1.0 fibers per cubic centimeter.
 - 3. Time Weighted Average (TWA) limit – Lead - Concentration of airborne lead to which any worker may be exposed as an eight (8) hour time-weighted average shall not exceed 50 micrograms per cubic meter (ug/m³).
- B. Air monitoring required by OSHA is the Contractor's responsibility and is not covered in this section

3.07 ACM CONTAINMENT AND DECONTAMINATION AREAS/SYSTEMS:

- A. Prior to each work shift and continuously throughout the project, each containment and decontamination enclosure shall be inspected and repaired as needed.
- B. Ambient asbestos fiber levels outside each work area shall not exceed 0.01 f/cc (PCM) or 70 s/mm² (TEM). If the asbestos fiber concentrations outside each work area should exceed those levels shown above, then abatement must stop and operations be reviewed and modified until the fiber count can be reduced to within the acceptable limits.
- C. Ambient airborne lead levels outside each work area shall not exceed 30 ug/m³ (Action Level for lead, per 29 CFR 1926.62). If the airborne lead concentrations outside each work area should exceed the Action Level, then abatement must stop and operations be reviewed and modified until the lead level can be reduced to within the acceptable limits.
- D. Each full containment area shall provide the decontamination facilities described below.
 - 1. An Equipment Room with storage for contaminated clothing and equipment shall be required. Workers and visitors shall discard disposable protective clothing, except the respirator, as they prepare to enter the shower room.
 - 2. An Airlock system permitting ingress and egress without permitting air movement shall be required. It shall consist of two (2)-curtained doorways at least eight (8) feet apart. Each curtained doorway shall be constructed by placing three (3)-overlapping sheets of plastic over a framed doorway, securing each along the top of the doorway. The first and third sheet shall be secured on one side of the doorway and the middle sheet shall be secured on the other side of the doorway.

SECTION 02 00 00

HAZARDOUS MATERIAL ABATEMENT

3. Showering facilities with hot and cold water shall be required in a shower room, arranged to service workers and visitors as they exit the contaminated area. The shower shall have an overhead hot and cold mixing showerhead and measure a minimum of 4' x 6' x 7' high. Provisions to prevent any contaminated run off from the shower room shall be installed. The shower floor shall be elevated approximately 4" above the shower pan, with grooves for proper drainage into the pan. Water shall be filtered through 1) a 20 micron filter and 2) a 5 micron filter for proper filtration of contaminated water. Provisions to prevent any contaminated run off from the shower room shall be installed, including sheet rubber splashguards on both clean room and equipment room sides of the shower to minimize water splashing into adjacent decontamination areas. Soap and shampoo shall be provided. Shower room facilities and size shall be adequate to allow decontamination and thorough washing of all workers and visitors within the 15 minute escape time allowed under air compressor failure. Refer to Appendix II for illustration of shower design.
- E. Clear 6-mil bags of ACM contaminated material shall be washed in the personnel decontamination facility after they have been pre-washed in the work area. Provisions shall be made to prevent any contaminated run off from the decontamination area .
 - F. Clear 6-mil bags of bagged ACM material shall be packed and sealed in plastic lined drums or clear doubled poly bags. Contaminated material shall be placed in drums if the hazardous material storage area is contiguous to the containment area decontamination exit; double bagging shall occur if the hazardous material storage area is contiguous to the decontamination exit. Bagged ACM material shall be rinsed off inside the containment area, removing gross contamination, before being carried into the decontamination unit where it shall be bagged a second time. All work shall discontinue in the containment area if visible debris is detected in the double-bagging decontamination area. Work shall not resume until the visible debris is removed from the entire bag decontamination area and air samples indicate that fiber concentrations of less than 0.010 f/cc have been re-established.
 - G. Transfer of ACM bagged material through the decontamination area shall be performed by a minimum of three (3) workers in the following manner:
 - H. Bagged ACM material shall be pre rinsed in the containment area and carried into the decontamination area where a second rinse shall be performed.
 - I. The worker rinsing bagged ACM material in the decontamination area shall take great care to ensure that all rinse water is contained for filtration.
 - J. Twice-rinsed ACM bags shall be carried into the clean airlock, placed in a second bag, owner labels will be included, HEPA vacuumed externally and sealed with duct tape with the gooseneck technique and in such a way as to seal the top edges of the bag.
 - K. Double-bagged ACM waste shall be stored in the hazardous storage facility outside the clean room airlock. If drums are utilized, they shall be sealed when full and stored in the hazardous storage facility. The hazardous storage facility shall remain locked at all times except when bags are being transported to or from the hazardous storage facility.
 - L. HEPA ventilation shall be required in the entire decontamination system so that air shall flow from the outside towards the workspace.

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

3.08 ASBESTOS REMOVAL:

- A. The Contractor shall abate all asbestos containing materials identified and listed in this specification.
- B. The Contractor shall continuously apply wetting agent throughout the removal process. The wetting agent shall be applied with a low-pressure fine spray to minimize fiber releases. The materials shall be thoroughly saturated so that there is no detectable fiber release. All ACM shall be immediately packaged in leak-tight containers following removal.
- C. Minimize removal activities of ACMs that generate airborne particulate. To the extent feasible, score or cut-out ACMs in sections, wetting along the scoring line continually, and misting the air with an airless sprayer to knock down suspended particulate.
- D. Perimeter air sample results shall not exceed 0.01 f/cc (PCM). If airborne fiber concentrations should exceed the level shown above, then abatement must stop and operations be reviewed and modified until the fiber levels can be reduced to within acceptable limits.
- E. The Contractor shall transport clear asbestos-containing waste bags to the waste debris box at designated hours approved by the Owner. RACM shall be packaged in a minimum of two (2) 6-mil clear polyethylene bags. Bags shall be properly labeled for RACM disposal including site-specific generator labels. Non-friable waste shall be packaged in a leak-tight container while stored on-site.
- F. Asbestos-containing debris and contaminated water shall be cleaned from the work area at the end of each work shift. The Contractor shall clean the work area using wet methods and HEPA vacuum equipment.

3.09 AIR MONITORING – ASBESTOS:

- A. The Contractor will provide area monitoring as described in this specification. If sample results indicate that conditions have exceeded the baseline, as determined by the Engineer, all work shall cease. Work shall not recommence until the condition(s) causing the increase have been corrected. Monitoring shall continue both inside the work area and its contiguous environment to ensure full compliance with specifications and all applicable regulations. Air samples shall be collected inside the containment, outside the containment but inside the building, the HEPA unit exhaust, immediately outside the entrance to the decontamination unit, and outside the bag-out facility. Monitoring readings shall be submitted to the Engineer on a daily basis while monitoring is active.
- B. Air contamination levels shall be maintained outside the containment areas at or below 0.010 f/cc. Detection of fiber counts above 0.010 f/cc outside a containment area shall result in immediate cessation of abatement activities and decontamination of areas where elevated fiber counts have occurred. Work inside the containment area shall not resume until the contamination source has been detected and corrected and ambient air levels have been reestablished outside the containment area at 0.010 f/cc or less
- C. All PCM air sample analysis will be performed using NIOSH Method 7400. All TEM analysis shall be consistent with modified-AHERA protocols.

SECTION 02 00 00

HAZARDOUS MATERIAL ABATEMENT

- D. The Contractor shall retain a third-party subcontractor to perform clearance sampling following abatement in each abatement area. The Engineer shall review all final clearance inspection and sampling reports.
- E. The method of analysis for pre-abatement, perimeter and clearance air samples shall be via Phase Contrast Microscopy (PCM) or Transmission Electron Microscopy (TEM) at the discretion of the Owner.
- F. The Contractor shall be responsible for all personal air sampling. Personal breathing zone air sampling shall be in accordance with OSHA asbestos standards. Personal sampling shall be conducted on 25% of the workers for each work task with a minimum of two samples per work shift. One thirty minute excursion sample shall be collected for each work shift. The excursion sample shall be collected at the height of the abatement activities for that shift.

3.10 WORK AREA DECONTAMINATION:

- A. No accumulation of debris or standing water will be permitted following the initial decontamination of ACM.
- B. The Contractor shall remove all asbestos and lead-containing waste material/debris, demolition debris, and all tools and equipment from the regulated work area.
- C. HEPA vacuum and clean each layer of plastic on the floors, walls, and ceilings using trisodium phosphate (TSP) detergent solution, and remove each layer of plastic after cleaning is completed.
- D. HEPA vacuum and clean remaining floor, wall, and ceiling surfaces using TSP detergent wash solution and continue cleaning until there is no visible dust or debris inside the regulated work area.

3.11 CLEARANCE INSPECTIONS:

- A. When visual inspections or air monitoring are specified, the Contractor shall notify the Engineer in writing 24 hours in advance of the day and time when the Contractor will be conducting such inspections or monitoring. Such requests shall be initiated by the Contractor's Competent Person or Foreman indicating that the zone has been previously inspected and is ready for inspection/testing.
- B. The Engineer may visually inspect work areas prior to final clearance testing. If the Engineer determines that the work area is sufficiently clean, the Contractor may proceed with final clearance testing. Evidence of remaining asbestos or dust will require additional clean up by the Contractor. Contractor shall be responsible for re-cleaning all areas found to be deficient. If the Engineer determines that certain areas require additional cleaning, the Contractor shall re-clean the work area and request a second inspection of the re-cleaned area. All costs incurred by the Engineer for inspections required after the second inspection will be charged to the Contractor.
- C. Asbestos Clearance Testing: If ACM encapsulation was conducted, the Contractor shall conduct air clearance sampling following encapsulation and drying time. Clearance air sampling shall not take place until all encapsulant is dry. It is recommended that air clearance samples be collected and analyzed by the PCM method.

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

3.12 CLEARANCE CRITERIA – ASBESTOS:

- A. The Contractor's Air Monitoring Technician shall collect background air samples documenting ambient conditions in the abatement areas before any work begins. A minimum of three (3) background air samples, with a minimum sample volume of 1,250 liters, shall be collected on each floor in the facility.
- B. After removal of the poly, excluding critical barriers, the Engineer shall be notified that the area is ready for inspection and final testing. The Contractor and Clearance Testing Subcontractor shall visually inspect the workspace for any visible asbestos dust or contamination and to determine that no debris has accumulated behind the poly containment barriers. If evidence of accumulated debris or failed poly has occurred, the area shall be cleaned. If the visual inspection does not reveal any dust or other signs of contamination, final clearance samples shall be collected. Under the aggressive conditions, final clearance samples shall be collected after the second layer of poly has been removed. All critical barriers shall remain intact until the area has passed final clearance samples. Results of clearance testing shall be immediately submitted to the Engineer for review.
- C. After removal of remaining barriers, the Engineer may conduct a final inspection of each work area. Any dust or debris found shall be cleaned by the Contractor and any repairs to existing conditions shall be made at no additional cost to the Owner. Upon review of clearance testing results and any on-site inspections indicating that clean-up criteria are met, the Engineer shall provide the Contractor with a written notice of acceptance.
- D. All equipment, instruments and procedures used for final clearance testing shall be state of the art or better. The work area shall be considered clean when there is no visible residue present on work area surfaces, and a) For areas to be reoccupied, the clearance level for each containment and shall be less than 0.01 fibers per cubic centimeter by phase contrast microscopy (PCM). Aggressive sampling shall be used for clearance purposes to ensure that the space may be certified as asbestos safe under occupied conditions.
- E. If air samples do not pass the required clearance criteria, the area shall be re-cleaned and new samples shall be collected. The Contractor shall be responsible for all costs associated with re-sampling and re-analyses.
- F. Clearance sampling will be required within glove bag removal areas.

3.13 ASBESTOS DISPOSAL:

- A. Load-Out Procedures:
 - 1. Ensure that polyethylene bags are sealed air-tight. All bags shall be wet cleaned prior to removing them from the equipment decontamination unit.
 - 2. Ensure all disposal containers are properly labeled according to 49 CFR 171-179 (USDOT), 40 CFR 61 Subpart M (NESHAP), and any local and state regulations as required by this specification.
- B. Asbestos Disposal Procedures: It is the responsibility of the Contractor to determine current waste handling, labeling, and transportation and disposal regulations for the work

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

site and for each waste disposal landfill. The Contractor must comply fully with these regulations, local, state, and federal regulations and provide documentation of the same.

- C.** Filter all wastewater to the technically feasible limit, but not more than five (5) microns before disposal. Comply with all current local, state and federal codes relating to waste water release.
- D.** Asbestos-containing waste that is properly labeled and double-bagged may be temporarily stored in areas approved by the Owner. Areas must be made secure before storing the waste. Waste is not to remain in temporary storage area for longer than four (4) days before final load-out of materials.
- E.** All asbestos waste shall be double-wrapped prior to transport from the site.
- F.** All vehicles used to transport hazardous waste must be DOT registered with regulatory agencies and display the proper registration and expiration stickers.
- G.** Trucks must have an enclosed cargo area with a storage compartment that is fully lined with a minimum of one (1) layer of 6-mil polyethylene on the walls and two (2) layers on the floor.
- H.** If a debris box is used, the Contractor shall make all necessary arrangement with the Owner including obtaining all appropriate permits.
- I.** Contractor is responsible for all coordination with the waste disposal site and with the waste hauling company.
- J.** Debris box for hazardous waste shall be fully lined with a double layer of polyethylene sheeting and must be locked at all times when unattended.
- K.** Debris box shall be constructed with minimum 20-gauge steel with no windows or openings other than the door. The door of the container shall have a secure cover on the locking device with access to the lock only at the key-hole. Once the debris box is filled and the manifest is signed, Contractor must transport the debris box off the job site.
- L.** Disposal shall be in a landfill that meets EPA requirements. Do not throw bags into landfills in a way that may cause the bags to burst open. If bags cannot be taken out of the drums undamaged, then include the disposal of the drums with the bags. Ensure that bags remain intact during this process.

3.14 FINAL JOB LOG:

- A.** A final job log shall be prepared by the Abatement Contractor and presented to the Engineer in a binder before submitting final payment application. The binder shall contain a signed copy of a Final Job Log Checklist . The binder shall also contain a Table of Contents for the final submittals and tabs for each section of the final submittals. All submittals must be first-run copies of the original documents. The job log shall include, but not be limited to, the following:
 - 1.** Copies of all applicable permits, notifications, and changes. The original or a legible photocopy of each certified mail return receipt shall be attached to the applicable documents.

SECTION 02 00 00
HAZARDOUS MATERIAL ABATEMENT

2. The Waste Shipment Record and any RCRA documents required for the project.
3. All employee medical records.
4. All employee training certificates and license or registration certificates.
5. Visitors sign-in log. Containment sign-in log.
6. Daily reports, signed by the on-site Supervisor.
7. Final inspection list.
8. Copies of OSHA compliance air monitoring records conducted during the work.

END OF SECTION

SECTION 02 06 00
DECONTAMINATION

PART 1 – GENERAL

1.01. SECTION INCLUDES:

- A. Summary
- B. Submittals
- C. Decontamination Facilities
- D. Vehicle/Equipment Decontamination
- E. Personnel Decontamination
- F. Decontamination Methods
- G. Management of Decontamination Residuals

1.02. SUMMARY:

- A. This section covers the decontamination of personnel and equipment as they move from the Exclusion or Work Zones to Support Zones and off site.

1.03. SUBMITTALS:

- A. Prior to mobilization, Contractor shall submit personnel decontamination procedures as part of the Contractor's HASP specified in Specifications Section 01 41 50. Contractor shall provide the following information:
 - 1. Method to prevent cross contamination from personnel and vehicles.
 - 2. Procedures to prevent cross-contamination of clean areas during remedial activities.
 - 3. Methods and procedures to minimize worker contact with contaminants during removal of personal protective equipment (PPE).
 - 4. Procedures for inspection and decontamination of vehicles leaving the Site.
 - 5. Procedures for disposal of personal PPE.
 - 6. Procedures for the collection of all decontamination water and residuals.
 - 7. Procedures for minimizing generation of waste water.
- B. Contractor shall prepare and submit Daily Trucking Logs to the Engineer on a daily basis.

1.04. DECONTAMINATION FACILITIES:

- A. Contractor shall construct and maintain decontamination facilities for equipment and trucks as described in the Contract Documents and Drawings.
- B. Contractor shall construct and maintain decontamination facilities for personnel.

PART 2 – PRODUCTS

Not used.

SECTION 02 06 00
DECONTAMINATION

PART 3 – EXECUTION

3.01 VEHICLE/ EQUIPMENT DECONTAMINATION:

- A. Work zones shall be established as specified in the Contractor's HASP.
- B. Contractor shall inspect and decontaminate all vehicles and equipment that have entered the Exclusion Zone. All decontamination shall take place in Decontamination Zones.
- C. Decontamination of vehicles and equipment shall include removal of soil and residues from the chassis (which includes undercarriage, suspension, wheel wells, tires, and wheels) and other parts of the vehicle known to have been contaminated or visually appearing to be contaminated.
- D. Contractor shall take care while decontaminating vehicles to avoid contaminating personnel, other parts of the vehicle or equipment, or the surroundings. Personnel involved in vehicle and equipment decontamination shall be dressed in the appropriate level of PPE as determined by the HASP. All personnel shall follow all applicable safety procedures described in Specifications Section 01 41 50.
- E. Contractor shall decontaminate haul trucks after loading and before the haul trucks exit onto public streets if inspection indicates the presence of contaminants. Contractor shall ensure that haul trucks exit through the Decontamination Zone and receive proper decontamination and inspection.

3.02 PERSONNEL DECONTAMINATION:

- A. Contractor shall ensure that personnel who have entered the Exclusion Zone perform decontamination as required in the HASP as specified in Specifications Section 01 41 50 prior to exiting the Decontamination Zone.

3.03 DECONTAMINATION METHODS:

- A. Physical decontamination techniques used during truck and equipment decontamination, but are not limited to brushing and spraying with a heated water pressure washer until all visible contamination and debris is removed.
- B. Brushing shall consist of removal of loose materials with the use of a broom and/or brushes.
- C. A heated water pressure washer shall be used to provide application of water of sufficient temperature, pressure, residence time, and agitation to remove soil and contaminated residuals from surfaces.
- D. Surfactants and detergents must be approved by the Engineer prior to use in decontamination operations. Materials which may be detrimental to water treatment, handling, or disposal shall not be allowed.
- E. All equipment decontamination procedures shall be performed in a decontamination facility or area.

SECTION 02 06 00
DECONTAMINATION

- F.** Overspray barriers shall be provided, if necessary or as directed by the Engineer on each side of the decontamination area to prevent contamination of adjacent areas.
- G.** Contractor shall manage decontamination residuals, including water, soil, residues, used PPE, and other materials removed during decontamination as specified in paragraph 3.04.

3.04 MANAGEMENT OF DECONTAMINATION RESIDUALS

- A.** Contractor shall collect decontamination liquids collected during personnel decontamination, truck and equipment decontamination for disposal to onsite storage tanks to be managed by Owner.
- B.** Contractor shall dewater and collect decontamination solids. Dewatered decontamination solids shall be allowed to air dry in a stockpile pad for future disposal to Owner approved disposal facility. The Contractor will be responsible for loading this material into trucks.
- C.** Contractor shall manage contaminated PPE as Impacted Material to be sent to an Owner approved disposal facility.

END OF SECTION

SECTION 02 81 00
TRANSPORTATION AND DISPOSAL

PART 1 – GENERAL

1.01. SECTION INCLUDES:

- A. Summary
- B. Submittals
- C. Coordination with Designated Waste Management Facilities
- D. Designated Haul Routes
- E. Preparation for Transport
- F. Hauling of Impacted Materials and Debris
- G. Manifests
- H. Transportation
- I. Permits

1.02. SUMMARY:

- A. Section includes transportation of demolition materials, ACM- and PCB-impacted materials, hazardous wastes and impacted and general construction debris to specified waste management facilities.
- B. Contractor shall comply with applicable requirements of this Section even if the Transportation and Disposal are provided by others.
- C. Contractor shall be solely responsible for proper loading of, and abiding by the load limits and weight limits for all vehicles leaving the Project site, and for any fines, taxes, penalties or judgments resulting from overweight or improperly loaded vehicles.

1.03. SUBMITTALS:

- A. Contractor shall provide a list of proposed waste haulers for approval by Engineer. Contractor shall submit copies of all necessary permits and certifications of listed waste haulers to Engineer before commencing the Work.
- B. The Contractor shall submit written certification of proper transport of impacted materials and debris to Engineer within one working day after receipt of the documentation. A daily and weekly summary of disposal quantities and types shall be provided to the Engineer. Contractor shall submit copies of all waste manifests, Weigh Tickets, and bills of lading.

1.04. COORDINATION WITH DESIGNATED WASTE MANAGEMENT FACILITIES:

- A. The Contractor shall be responsible for coordinating waste shipments with the designated waste management facility.
- B. The Contractor shall only ship waste to an Owner-approved waste management facility. Owner-approved waste management facilities are included at the end of this section.
- C. The Contractor may propose alternate disposal facilities.
- D. The Contractor shall obtain written approval from the Engineer before sending any waste to an off-site disposal facility.

1.05. SHIPPING DOCUMENTATION:

SECTION 02 81 00
TRANSPORTATION AND DISPOSAL

- A. Shipping documentation shall be performed consistent with federal, state, and local waste management and transportation requirements and the requirements of off-site disposal facilities.
- B. The Contractor shall prepare necessary paperwork for transportation and disposal of all materials to the appropriate waste management facilities.
- C. A non-hazardous/hazardous waste manifest or other tracking document shall be provided by the Contractor for each individual load depending on material classification. Each manifest shall be signed by designated authorized agent of the Owner, the truck driver as a transporter, and by the disposal facility operator.
- D. The Contractor shall not be paid for shipments with unsigned shipping documentation.
- E. Daily Trucking Log:
 - 1. The Contractor shall provide a Daily Trucking Log to the Engineer for approval providing information on each off-site shipment from the site, including trucking company, truck and trailer registration number, date, pre-characterization source ID, destination facility, estimated quantity, verification of decontamination and Contractor personnel's initials.
 - 2. The Contractor shall fill in the Daily Trucking Log for each shipment at the time it leaves the Site.
 - 3. The Contractor shall not be paid for any shipment if there are discrepancies between Daily Trucking Logs and facility weigh tickets until the discrepancy is resolved, as determined by the Engineer.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

3.01 PREPARATION FOR TRANSPORT:

- A. Contractor shall coordinate Transportation Work other work activities to maintain production rates for completion of the Work in accordance with the Construction Milestones. Slowing or stopping of work by Contractor for reason of lack of transportation or availability of shipping containers will not be acceptable.
- B. Loading operations and hours shall be coordinated with the operating hours of landfills or other designated off-site facilities. Loading shall be limited to the hours of operations as specified. Any vehicle loaded after disposal hours shall remain parked at the Project Site in a designated area of the Secured Zone until such time as that truck may reasonably proceed to the designated waste management facility. Cover any impacted material in truck beds to control odors. Contractor shall coordinate excavation, demolition, stockpiling, loading, and transportation, subject to the Engineer's approval, to efficiently utilize combined resources.

SECTION 02 81 00
TRANSPORTATION AND DISPOSAL

- C. Contractor's operations shall be coordinated to minimize standby time and minimize truck-waiting time, and to maximize excavation production and hauling production. No more than one vehicle waiting with one being loaded will be allowed on Canal Street.

3.02 HAULING OF IMPACTED MATERIALS AND DEBRIS:

- A. Contractor shall furnish and operate all vehicles and containers for transportation of impacted materials from the Project Site.
- B. The Contractor shall load and transport all categories of impacted materials and debris.
- C. Drivers shall drive directly to disposal facility and shall not stop except in the event of an emergency.
- D. Transportation of impacted materials and debris shall be in compliance with all pertinent regulations.
- E. Each truck bound for the off-site disposal facility shall be covered with a heavy duty tarpaulin secured to the top or sides of the container.
- F. Trucks shall be loaded only with materials characterized and approved for off-site disposal or recycling.
- G. Loading of trucks shall occur only within the site boundaries..
- H. Contractor shall visually inspect each truck before it leaves the Site to ensure that the tailgate and tarp are secure.
- I. Haul trucks shall be decontaminated on site prior to re-use for hauling anything other than material from the Site.
- J. In the event that a loaded truck is involved in an incident that results in a release of the transported materials, the cleanup shall follow local and State Department of Transportation spill response procedures.
- K. Contractor shall promptly clean up any spills on haul routes, if they occur, with suitable equipment at no cost to the Project.
- L. Contractor shall keep all haul routes and public rights of way free of any site materials due to the Contractor's operations. To this end, all Contractor trucks shall be covered, and all vehicles shall be carefully loaded to prevent site materials from coming in contact with the exterior truck surfaces.
- M. The load weight shall be documented by the disposal facility scale Weigh Ticket. Contractor shall submit copies of all disposal facility scale Weigh Tickets to the Engineer. Unsigned scale Weigh Tickets will be rejected and the Contractor will not be paid based on these weights.
- N. Contractor shall prevent the tracking of site materials onto public rights-of-way.
- O. Loaded trucks shall not leave the Site unless they shall arrive at the designated waste management facility before it closes. Loaded trucks shall discharge their loads at the designated waste management facility the same day they are loaded.

SECTION 02 81 00
TRANSPORTATION AND DISPOSAL

- P.** Truck drivers shall be required to remain inside the truck cab with the windows and doors closed during loading and at all times when inside the Exclusion Zone. Drivers shall be instructed to proceed after loading through a decontamination area to a designated area outside the Exclusion Zone where they will be permitted to exit the truck cab to secure the tarpaulin over the load.
- Q.** The Contractor shall address vehicular accidents and the possible release of transported materials in the HASP.

3.03 MANIFESTS:

- A.** The Contractor will prepare and sign manifests, and prepare necessary paperwork for transportation and disposal of impacted materials and debris.
- B.** A non-hazardous waste manifest or other tracking document will be provided by the Contractor for each individual load. Each manifest shall be signed by designated authorized agent of the Owner, the truck driver as a transporter, and by the waste management facility operator.
- C.** The Contractor will not be paid for shipments with unsigned manifests.

3.04 TRANSPORTATION:

- A.** Contractor shall obtain all required transportation permits for shipment of impacted materials and debris.
- B.** Transportation of impacted materials and debris shall be in accordance with applicable state, RCRA, USDOT, and other applicable regulations including: 40 CFR 261, 262, 263 and 49 CFR 171 through 179.
- C.** Truck drivers using routes other than the routes listed in the TEP or found upon investigation to be at fault of causing an accident associated with this project will be barred from working on the Site.

3.05 PERMITS:

- A.** Contractor shall obtain all required transportation permits for shipment of impacted materials and debris.

END OF SECTION