

FINAL

**JAITE PAPER MILL
DEMOLITION PLAN
CUYAHOGA VALLEY NATIONAL PARK
BRECKSVILLE, OHIO**

Prepared for:
National Park Service
Cuyahoga Valley National Park
Brecksville, OH 44141

and

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LIST OF ACRONYMS

ACM	asbestos-containing material
C&D	construction and demolition
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFC	chlorofluorocarbon
COR	Contracting Officer's Representative
CUVA	Cuyahoga Valley National Park
DOT	U.S. Department of Transportation
EC	Emergency Coordinator
EPA	U.S. Environmental Protection Agency
ESQ	Environmental, Safety, and Quality
EQD	Environmental Quality Division
ESA	Environmental Site Assessment
FSAP	Field Sampling and Analysis Plan
FTL	Field Team Leader
GSA	U.S. General Services Administration
HSM	Health and Safety Manager
HSO	Health and Safety Officer
LBP	lead-based paint
McCabe	McCabe Engineering and Contracting
MSDS	material safety data sheets
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NIOSH	National Institute for Occupational Safety and Health
NOI	Notice of Intent
NPS	National Park Service
NRHP	National Register of Historic Places
OUPS	Ohio Utility Protection Service
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PCM	phase contrast microscopy

PEL	permissible exposure limit
PESM	Program Environmental and Safety Manager
POL	petroleum, oil, and lubricants
PPE	personal protective equipment
QC	quality control
RACM	regulated asbestos-containing material
RCRA	Resource Conservation and Recovery Act
SI	Screening Investigation
SOW	Statement of Work
SPCC	Spill Prevention Control and Countermeasure (Plan)
SS	Site Superintendent
SSHSP	Site-Specific Health and Safety Plan
SSI	Supplemental Site Investigation
STEL	short-term exposure limit
SWPPP	Storm Water Pollution Prevention Plan
TSCA	Toxic Substances Control Act
TtEC	Tetra Tech EC, Inc.
UST	underground storage tank

1. INTRODUCTION

The National Park Service (NPS) Environmental Quality Division (EQD) contracted Tetra Tech EC, Inc. (TtEC) to perform an Emergency Demolition and Removal of Buildings and Contents at the former Jaite Paper Mill at Cuyahoga Valley National Park (CUVA), Brecksville, Ohio. The scope of this project involves four main tasks: (1) prepare a Demolition Plan, (2) demolish and remove buildings and related materials as per the Demolition Plan, (3) conduct additional site restoration and environmental release mitigation tasks, and (4) prepare a Project Completion Report.

This Demolition Plan is intended to meet the requirements stipulated within the U.S. General Services Administration (GSA) Contract No. GS10F-0208J, NPS Delivery Order D2310055086, and the Statement of Work (SOW). This Demolition Plan contains all information that is pertinent to the building demolition and removal work (this phase of the project) as well as for the entire building complex (including floors, foundations, basement rooms, etc.) in subsequent phases.

As required in the SOW and SOW modifications (Appendix B), this Demolition Plan describes the work that will be done under this contract, how that work will be accomplished, and the sequence of the different tasks, including a project schedule. This Demolition Plan also addresses the work that is expected to remain after the removal of the above grade structures, waste streams that will be generated and how each will be managed, removed and disposed, roles and responsibilities of personnel, location and layout of various work areas including location and duration of temporary on-site repositories for waste materials generated during demolition. The Demolition Plan addresses visitor protection, site access and egress, and any other plans or procedures needed or required by law during the project work. It lists required permits and clearances as well as statutes, regulations, and policies that pertain to this work and contains a Health and Safety Plan (Appendix A), which lists personal protective equipment and procedures for contractor and subcontractor employees and authorized Site visitors, and states areas where Site access will be restricted during certain activities. By reference, this Demolition Plan also incorporates previous reports and plans generated for the Jaite Paper Mill site.

In accordance with National Environmental Policy Act (NEPA) and NPS Director's Order #12, the Demolition Plan and its implementation are classified as an "emergency action" and as such, are categorically excluded from further NEPA compliance and documentation for this phase of work.

1.1 Purpose and Objectives

The purpose of this demolition plan is to address the procedures and controls that TtEC will use during this phase of work.

The plan addresses environmental protection measures that will be put into place and monitored during the project, including storm water protection and controls, spill and release prevention and response, control of dust or hazardous material emissions, and the proper management of project wastes and recyclable materials.

This plan includes a Site-Specific Health and Safety Plan (SSHSP) (Appendix A) to address the hazards present during the project and the controls that will be put into place to mitigate those hazards. The plan is tailored to ensure the project meets the objectives of the NPS pertaining to the demolition of the Jaite Paper Mill, as well as ensuring the project is performed in accordance with applicable Federal, state, and local regulations and requirements. Because the services that the Cuyahoga National Park provides to its visitors are very important, this project will be implemented to minimize disturbance to the public.

This plan also describes activities that will be performed concurrent with or after demolition actions. These activities will be conducted as addressed in the modified Statement of Work, Appendix B. Appendix C includes the Subgrade Demolition Plan. The Asbestos Abatement Plan is included in Appendix D. Applicable permits for conducting the demolition activities are included in Appendix E. The Letter Work Plan for Pre-Mobilization Activities is included in Appendix F, the National Park Service Protocol for Changes and Modifications is included in Appendix G, the rationale for additional sampling on site is included in Appendix I, the Jaite Paper Mill Demolition NEPA Project Tracking Form is included in Appendix J, a Storm Water Pollution Prevention Plan is included in Appendix K, and a letter to the Ohio EPA from the NPS addressing miscellaneous ACM material left on site during and after demolition activities is included in Appendix L.

2. ORGANIZATION AND RESPONSIBILITIES

For successful implementation of the demolition plan, a clear project organization has been established. The key parties are the NPS, TtEC, and McCabe Engineering and Contracting (McCabe). Subcontractors such as waste management transporters and disposal facilities or other service providers will be included into the matrix under the direct supervision of TtEC and McCabe.

The following provides a brief summary of the project organization and responsibilities:

- The NPS will provide oversight of the project. The NPS Project Manager and Contracting Officer Representative (COR), Mr. Mark Van Mouwerik, will interface with the TtEC Project Manager regularly to ensure that the objectives of the NPS are met within applicable Federal, state, and local laws, regulations, and guidelines.
- TtEC will provide overall project management and coordination of the site activities. TtEC will evaluate all proposed subcontractors, including transporters, disposal facilities, and service providers. McCabe will be the primary transporter and subcontractor on-site. Only TtEC-approved contractors that have been evaluated under TtEC procedures will be allowed to perform work on-site or transport and dispose project wastes. All contractors will report to the TtEC Site Superintendent (SS).
- McCabe will perform the demolition activities on-site, including the asbestos abatement. McCabe will stockpile demolition debris in designated areas within the fenced site boundaries or other controlled areas and conduct demolition practices in accordance with the applicable regulatory requirements, which include, but are not limited to Occupational Safety and Health Administration (OSHA), Ohio Environmental Protection Agency (EPA), and the Federal asbestos National Emissions Standards for Air Pollutants (NESHAP). McCabe representatives will report directly to the TtEC Project Manager.
- TtEC will act as environmental consultant and will provide subcontractor oversight and management. TtEC's subcontractor, McCabe, will conduct an OSHA structural engineering survey of the buildings and structures at the Jaite Paper Mill site prior to demolition activities. TtEC will oversee project compliance with regulatory requirements and contract scope. TtEC representatives will report directly to the NPS.
- Recycling and waste management subcontractors will provide waste disposal and recycling services for various waste streams generated during demolition activities once final characterization of the waste is determined. Recycling and waste management subcontractors will report directly to the TtEC Site Superintendent.

Figure 2-1 and Table 2-1 display the organizational chart and responsibilities of the project team.

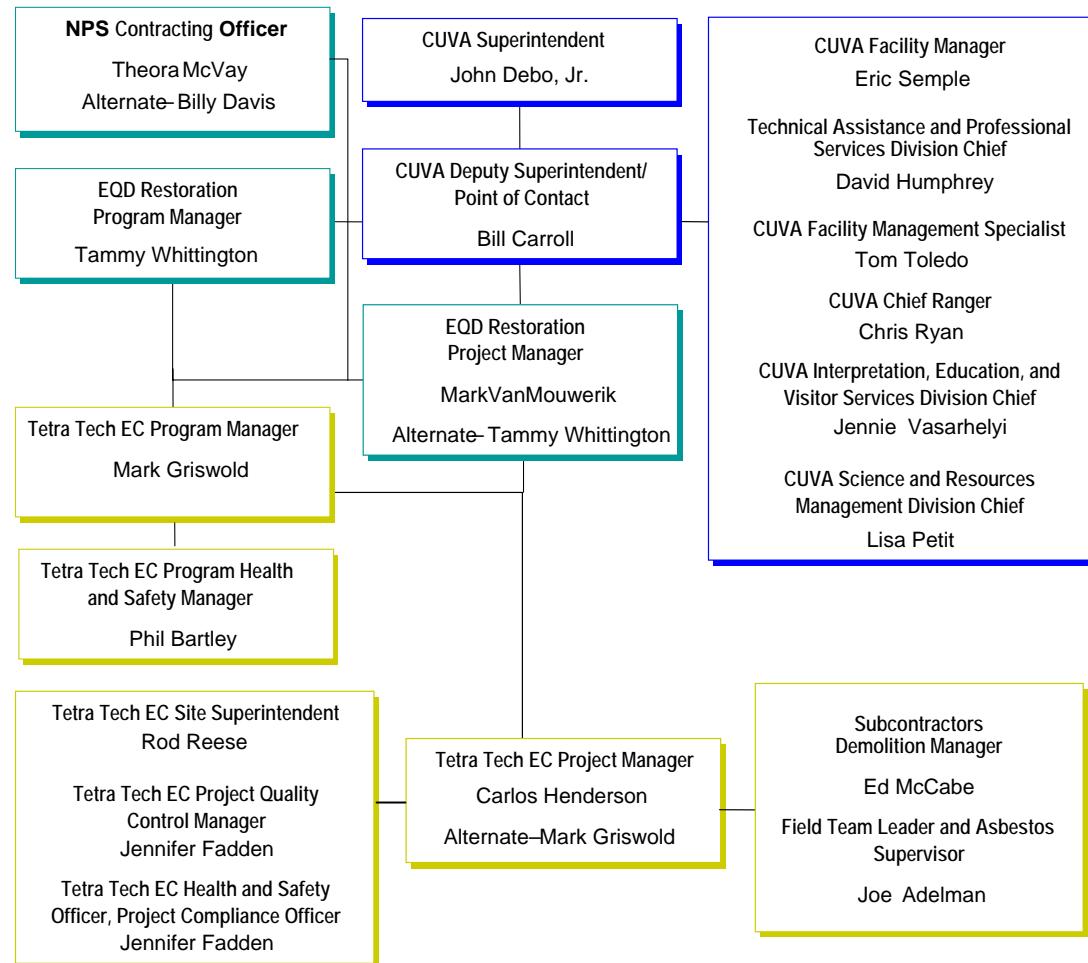


Figure 2-1. Communication Chart

Table 2-1. Project Organizational Chart

Position	Responsibility*	Authority	Reports To
TtEC Corporate Sponsor and GSA Contract Compliance, Program Manager Mr. Mark Griswold, PG	<ol style="list-style-type: none"> Provide corporate management attention to ensure a responsive, successful project and a satisfied client Oversee compliance with GSA contract requirements and reporting 	<ul style="list-style-type: none"> Commit corporate resources as needed Signature authority for contractual agreements Review and act upon results of field health and safety inspections and quality control audits 	Vice President, Operations
TtEC Project Manager Mr. Carlos Henderson, PE	<ol style="list-style-type: none"> Single point of contact for the NPS Manage overall contract and subcontractors Provide leadership and direction for the project Approve project reports to client Ensure compliance with scope, schedule, and budget Implement management plan and project administration procedures Review design documents Review subcontractor invoices Plan long-term resources Identify/resolve program problems/potential problems 	<ul style="list-style-type: none"> Full authority to implement all aspects of the contract Commit team personnel as needed Approve project policies and procedures Approve expenditures Select Technical Managers Negotiate and execute contract with NPS Approve all contract submittals 	NPS Manager,, Contracting Officer, and Contracting Officer's Representative, TtEC Corporate Sponsor
Demolition Manager Mr. Ed McCabe, PE	<ol style="list-style-type: none"> Direct McCabe teams Make project-specific work assignments Develop and implement engineering assessments Oversee and verify completion of tasks Prepare project reports for review by Project Manager Maintain budget and schedule compliance OSHA Structural Survey and Demolition Competent Person 	<ul style="list-style-type: none"> Full authority to implement assigned aspects of the contract Make assignments to McCabe staff Approve engineering reports with Project Manager Has combination to locks on access road and fence gates 	TtEC Project Manager
TtEC Site Superintendent/Emergency Coordinator (EC) Mr. Rod Reese	<ol style="list-style-type: none"> Compile and maintain the project file Production reporting Coordinate subcontractor work Functions as Emergency Coordinator in the event of an emergency (refer to SSHSP for full list of responsibilities) 	<ul style="list-style-type: none"> Stop work authority Has combination to locks on access road and fence gates 	TtEC Project Manager
TtEC Health and Safety Officer, Project QC Manager, Regulatory Compliance Officer, Alternate Emergency Coordinator Ms. Jennifer Fadden	<ol style="list-style-type: none"> Conduct site specific health and safety training Ensure daily health and safety briefings are conducted Manage, inspect, and calibrate health and safety equipment to include air monitoring (excluding asbestos that will be performed by FTL) Implement changes to the Health and Safety Plan, Quality Control Plan addenda to reflect changes in site procedures Maintain health and safety records and quality control documentation Investigate accidents and incidents Maintain copies of the TtEC corporate health and safety manual and copies of the Health and Safety Plan Ensure project is conforming to Demolition Plan and Field 	<ul style="list-style-type: none"> Stop work authority Field change requests Has combination to locks on access road and fence gates 	TtEC Health and Safety Manager (HSM)/ Director ESQ Program

Table 2-1. Project Organizational Chart

Position	Responsibility*	Authority	Reports To
	Engineering Quality Control Plan 9. Submit and document Field Change Requests 10. Ensure compliance with applicable regulations 11. Alternate Emergency Coordinator		
McCabe Field Team Leader (FTL), Asbestos Supervisor Mr. Joe Adelman	1. Subcontractor Field Team Leader 2. Asbestos Competent Person 3. Conduct Asbestos Exposure Monitoring and Sampling 4. Implement the Project Plans at the levels required 5. Coordinate with HSO and assists in modifying AHAs for changing work conditions 6. Ensure field team is using proper PPE and respiratory protection 7. Also see Section 6.1 in Appendix D	<ul style="list-style-type: none"> ● Stop work authority ● Has combination to locks on access road and fence gates 	McCabe Demolition Manager
TtEC Health and Safety Manager (HSM) Mr. Phil Bartley, CIH, CSP	1. Approve changes to SSHSP and AHAs as necessary 2. Provide guidance to onsite Health and Safety Supervisor 3. Review incident reports and investigations 4. Role of certified industrial hygienist	<ul style="list-style-type: none"> ● Stop work authority ● Corporate ESQ program implementation 	Vice President Operations, TtEC
Subcontracts Administrator/Small Business Liaison Mr. Roger Ryken	1. Coordinate with contract representatives for all Team members 2. Monitor status of subcontractor costs and schedules 3. Review subcontractor cost estimates with PM and Task Order Managers 4. Review subcontractor invoices and approved payment 5. Purchasing 6. Oversight of GCS procurement application function	<ul style="list-style-type: none"> ● Negotiate subcontractor task orders and modifications ● Negotiate subcontractor supplemental agreements ● Verify subcontractor contractual compliance ● Approve all purchase orders ● Verify GCS compliance 	Project Manager
Project Controls Mr. Harold Hill	1. Maintain and monitor task order budgets 2. Provide timely invoking on specific task orders 3. Prepares task order cost and schedule projections	<ul style="list-style-type: none"> ● Analyze financial data, review budgets and schedule, and report to the Project Manager/Corporate Sponsor 	Project Manager

* For full listing of health and safety related responsibilities, see Section 2 of the SSHSP in Appendix A.

3. SITE INFORMATION

3.1 Site Description

The approximately 24-acre Jaite Paper Mill Site is located on the natural floodplain between the Cuyahoga River at its confluence with Brandywine Creek at Brecksville, Ohio. The Mill Site is approximately one-half mile south of Vaughn/Highland Road on a dirt road, immediately adjacent to the very popular Ohio and Erie Canal Towpath Trail. Figure 3-1 shows the location of the site. The mill was originally constructed in 1905 and operated continuously until 1984, by which time the size of the plant had grown to 180,000 square feet. Figure 3-2 is a site plan that shows the layout of the ground floor plan with 28 room names. Figure 3-3 shows the basement floor plan and rooms destroyed in the fire of October 1992. Figure 3-4 shows a basement section view of the Mill Site. In 1985, the mill became part of the Cuyahoga Valley National Park. After inclusion into the park, the mill was determined eligible for, and was listed in, the National Register of Historic Places (NRHP), and a detailed National Historic American Building Survey of the plant was performed. A fire in October 1992 severely damaged a large part of the plant, which was then deemed ineligible for the NRHP (FWENC 2003).

A Demolition Area Site Plan indicating the locations of the proposed job trailer, haul routes, access gates, protected features, tentatively safe and unsafe structures, emergency muster locations in case of emergency, etc., is included in Figure 3-5.

3.2 Previous Site Activities

The following list outlines the previous environmental investigations performed on the subject property:

- June 1992, “Asbestos Assessment Report” – EMG
- January 1993, “Phase I Environmental Site Assessment” – EMG
- July 1993, “Screening Investigation” – EMG
- November 1994, “Underground Storage Tank Removal Project” – SUNPRO
- November 18, 1997, “BUSTR Site Assessment Report” – URS Greiner
- October 28, 2002, “Phase II Environmental Site Assessment” – MVTI
- June 27, 2003, “Risk Assessment for the Former Jaite Paper Mill” – MVTI
- June 2003, “Site Inventory Report” – Foster Wheeler
- February 2005, “Site Characterization Report” – Tetra Tech FW, Inc.

This Demolition Plan has been written as an extension of the Project Management Plan (TtFW, 2004), which is the base document of the site that addresses Quality Control, Health and Safety, and project management activities conducted site wide.

3.3 Regulatory Requirements

A table illustrating the regulations applicable to this demolition project is included in Table 3-1 below.

Table 3-1. Summary of Regulations

Requirement	Citation	Description
<i>Location-Related Regulatory Requirements*</i>		
Public Lands—National Park	National Park Service Director's Order #12—Conservation Planning, Environmental Impact Analysis and Decision-making	Sets forth the policy and procedures by which the National Park Service carries out its responsibilities under the National Environmental Policy Act (NEPA).
	National Park Service Director's Order #14—Resource Damage Assessment and Restoration	Sets forth policy and delegations under which the NPS will carry out its responsibilities to collect damages for injury to park system resources caused by actions of third parties and to restore injured resources and resource services.
	National Park Service Organic Act (16 USC 1, 2, 3, and 4)	An Act establishing the National Park Service. Contains general requirements for the operation of National Park Service programs.
CUVA Enabling Legislation	PL 93-555	Provided for the establishment of Cuyahoga Valley National Recreation Area on December 27, 1974. Includes mandates for the “preservation of historic, scenic, natural, and recreational values of the Cuyahoga Valley.”
Preservation of Historic/Cultural Resources	National Historic Preservation Act, 16 USC 470	Establishes requirements for identification and preservation of historic and cultural resources. Applicable to site disturbance activities that could impact historic (such as mill building) and potential archeological resources (prehistoric and/or historic) that may be contained within project areas of potential effect.
Protection of Historic and Cultural Properties	36 CFR 800	Implementing Regulations for Section 106 of the National Historic Preservation Act. Issued by the Advisory Council on Historic Preservation.
Protection of Archeological Resources	Archeological Resources Protection Act of 1979, 16 USC 470 aa-mm	Provides for the protection of archeological resources located in public lands.
Protection of Park System Resources	National Park System Resource Protection Act, 16 USC 19jj	Requires the Secretary of the Interior to assess and monitor injuries to NPS resources. The act specifically allows the Secretary of the Interior to recover response costs and damages from the responsible party (ies) causing the destruction, loss of, or injury to NPS resources.
National Environmental Policy Act (NEPA)	National Environmental Policy Act of 1969, 42 USC 4321, et seq., 40 CFR Parts 1500–1508	NEPA requires assessments of any federal action that may affect the quality of the human environment, including restoration actions undertaken by federal trustees.

Table 3-1. Summary of Regulations

Requirement	Citation	Description
<i>Location-Related Regulatory Requirements* (continued)</i>		
Wetlands Protection	Clean Water Act Section 404 and implementing regulations 40 CFR, Part 230, Subparts A through H Executive Order No. 11990, Protection of Wetlands, 40 CFR, Part 6.302(a) Director's Order #77-1	Contains requirements for the discharge of dredge and fill into wetlands and navigable waters. Potentially applicable to activities that would impact wetlands. Site activities must minimize destruction, loss, or degradation of wetlands and preserve/enhance wetland values.
Protection of Endangered Species	50 CFR Part 17, adopted pursuant to Interagency Cooperation-Endangered Species Act of 1973, 16 USC, 1531, as amended	Requires federal agencies to insure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of critical habitat.
Protection of Indiana bat habitat in CUVA	NPS policy for bat habitat	Whenever possible, trees exhibiting roost characteristics (exfoliating bark, cavities) will not be cut during the Indiana bat roost period of April 15 through September 15. If this schedule cannot be followed, bat surveys will be conducted to assess the presence of Indiana bats before trees are removed.
Protection of Floodplains	Executive Order 11988 40 CFR 257.3-1(a) 40 CFR 264.18(b) 40 CFR Part 6, Appendix A 40 CFR 6.302(b) Section 3(a), 3(b), and 3(b)(4) Director's Order 77-2	Potentially applicable to activities occurring within the 100-year floodplain. Activities taking place within floodplains must be conducted to avoid adverse impacts and preserve beneficial values in floodplains.
<i>Chemical-Related Regulatory Requirements</i>		
Comprehensive, Environmental Response, Compensation, Liability Act of 1980 (CERCLA)	42 USC 9601 to 9675, including but not limited to Sections 104, 107, 111(i), and 122	Provides for the liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous waste disposal sites, including lands owned and managed by the federal government.
	43 CFR 11.82 (d)	Natural Resource Damage Assessment (NRDA) regulations for CERCLA.
National Oil and Hazardous Substances Pollution Contingency Plan (NCP)	40 CFR Part 300	Provides the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants, and contaminants.
National Ambient Air Quality Standards	40 CFR 50 OAC 3745, Chapter 15—General Provisions on Air Pollution Control	Sources cannot cause or contribute to an exceedence of a national ambient air quality standard.
National Emissions Standards for Hazardous Air Pollutants (NESHAPs)	40 CFR Part 61 40 CFR Part 63	Source-specific regulations that establish emissions standards for hazardous air pollutants (HAPs). NESHAPs may be applicable if emissions from remediation activities exceed thresholds for compliance.
<i>Action-Related Regulatory Requirements</i>		
<i>Asbestos Surveying/Abatement</i>		
National Emission Standards—Asbestos	40 CFR 61, Subpart M OAC 3745, Chapter 20—Asbestos Emissions Control Local Public Health requirements	Asbestos surveying and abatement activities may require licenses or certifications. Abatement work will need to comply with specified work practices.

Table 3-1. Summary of Regulations

Requirement	Citation	Description
<i>Action-Related Regulatory Requirements (continued)</i>		
<i>Air Emissions</i>		
National Ambient Air Quality Standards	40 CFR 50 OAC 3745, Chapter 15—General Provisions for Air Pollution Control OAC 3745, Chapter 17—Particulates	Sources cannot cause or contribute to an exceedence of a national ambient air quality standard. Establishes maximum concentrations for particulates and fugitive dust emissions.
National Emission Standards for Hazardous Air Pollutants (NESHAPs)	40 CFR Part 61 40 CFR Part 63 OAC 3745, Chapter 20—Asbestos Emissions Control	Source-specific regulations that establish emissions standards for hazardous air pollutants (HAPs). NESHAPs may be applicable if emissions from remediation activities exceed thresholds for compliance.
<i>Waste Characterization</i>		
Determination of Hazardous Waste	40 CFR 262.11 40 CFR Part 261 OAC 3745, Chapter 51	Any wastes generated during corrective action activities must be characterized and evaluated according to the following method to determine whether the waste is hazardous: <ul style="list-style-type: none"> • Determine whether the waste is excluded from regulation under 40 CFR 261.4 • Determine whether the waste is listed under 40 CFR Part 261 • Determine whether the waste is identified in 40 CFR Part 261 by testing the waste according to specified test methods or by applying knowledge of the hazardous characteristics of the waste in light of the materials or the process used.
<i>Waste Management</i>		
Hazardous Waste Generator Standards	40 CFR Part 262 OAC 3745, Chapter 52	Hazardous wastes generated during corrective action activities must be managed and disposed per Resource Conservation and Recovery Act (RCRA) requirements, including storage (i.e., container requirements) and disposal at approved, offsite permitted hazardous treatment, storage, and disposal facilities.
Treatment, Storage, or Disposal of RCRA Hazardous Waste	40 CFR 264.310(a)(4), (5), (b)(1) and (5)	Closure and cover requirements for landfills.
	40 CFR 264.117 through 264.120	Post-closure requirements.
	40 CFR Part 264.92	Groundwater protection standard.
	40 CFR, Part 268 OAC 3745, Chapter 270	Land disposal restrictions for hazardous waste.
	40 CFR Part 264.16 (a)(1)	Personnel training.
Transportation of Hazardous Waste	40 CFR 263	Specifies requirements for hazardous waste transporters to obtain an EPA identification number to comply with manifest procedures and spill response.
Treatment and Disposal of Hazardous Debris	40 CFR 268.45 OAC 3745, Chapter 58	Hazardous debris generated during corrective action activities must be treated using specific technologies to extract, destroy, or immobilize hazardous constituents on or in the debris if placement occurs. In certain cases, the debris may no longer be subject to RCRA Subtitle C regulation after treatment.
Staging of Hazardous Remediation Waste	40 CFR, Part 264.554(d)(1) and (d)(2), (e), (f), (h), (I), (j), and (k)	Allows hazardous remediation waste to be stockpiled under certain conditions without meeting Land Disposal Restrictions or minimum technology requirements.

Table 3-1. Summary of Regulations

Requirement	Citation	Description
Action-Related Regulatory Requirements (continued)		
Classification, storage, handling, and disposal of PCB waste	40 CFR Part 761	Federal requirements for proper handling and disposal of PCBs (including PCB remediation and PCB bulk product wastes).
Storage, handling, and disposal of Universal Wastes	40 CFR Part 273 OAC 3745, Chapter 273	Requirements for the proper storage, handling, and disposal of Universal Wastes (batteries, thermostats, mercury bulbs, ballasts, etc.).
Transport of hazardous materials on public roadways	49 CFR Parts 171-178	Federal requirements for the shipment and transportation of hazardous materials (including hazardous waste (US Department of Transportation)).
Solid Waste		
Solid Waste Disposal Sites in Units of the National Park System	36 CFR Part 6, Subparts 1-12—Regulations that interpret and implement PL 98-506, 98 Stat. 2338 (16 USC 460l-22(c))	Prohibits operation of any solid waste disposal site, except as specifically provided for, and governs the continued use of any existing solid waste disposal site within the boundaries of any unit of the NPS to ensure that all activities within any unit of the NPS resulting from the operation of a solid waste disposal site are conducted in a manner to prevent the deterioration of air and water quality, prevent degradation of natural and cultural resources, and reduce adverse effects to visitor enjoyment. This regulation could impose management requirements on any removal of Jaite Paper Mill demolition waste materials and influence decisions over the appropriateness of re-using recycled materials, such as crushed concrete from the site as fill, subgrade, or other construction material within the site or the NPS.
Construction and Demolition Debris—Off-Site Disposal Methods; Licensed Facilities	OAC 3745, Chapter 400	Establishes requirements for off-site disposal of construction and demolition debris. Establishes offsite use of “clean hard fill” (i.e., construction and demolition debris consisting only of reinforced or non-reinforced concrete, asphalt concrete, brick, block, tile and/or stone that can be reutilized as construction material).
Health and Safety Requirements		
Health and Safety Requirements	29 CFR 1910.120	Hazardous waste site supervisors, workers, and visitors are required to comply with training and medical surveillance requirements detailed in this citation.
Health and Safety Requirements	29 CFR 1926	OSHA Construction Standards.
Storm Water Management		
Discharge of Storm Water to On-Site Surface Water	40 CFR Parts 122–125 OAC 3745, Chapter 38—Ohio NPDES General Permits	Storm water, snow melt, and surface water runoff and drainage associated with industrial activity (as defined in 40 CFR Part 122), or such activities that disturb 1 acre or more and that discharge to surface waters must be conducted in compliance with the storm water management regulations (Note: Ohio is a delegated state with regard to National Pollutant Discharge and Elimination [NPDES] permits).

* There are numerous statutes, regulations, Executive Orders, NPS Director's Orders, and other legislation that are relevant to this project and must be complied with. The requirements are organized by types and grouped into categories similar to those commonly used for CERCLA Applicable, or Relevant and Appropriate Requirements or other requirements to be considered. The categories used here are Location-Related, Chemical-Related, and Action-Related Regulatory Requirements.

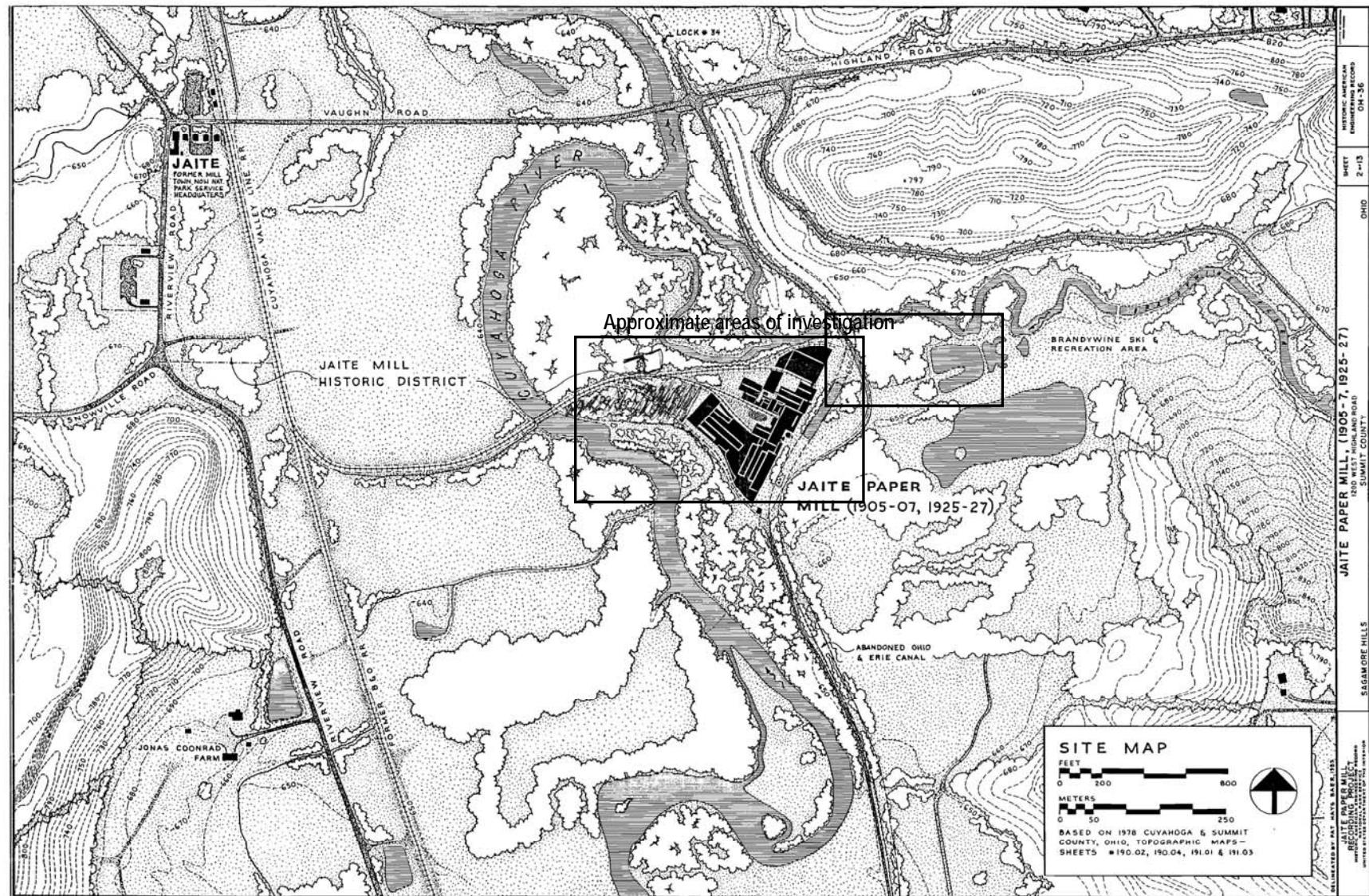


Figure 3-1. Site Location Map

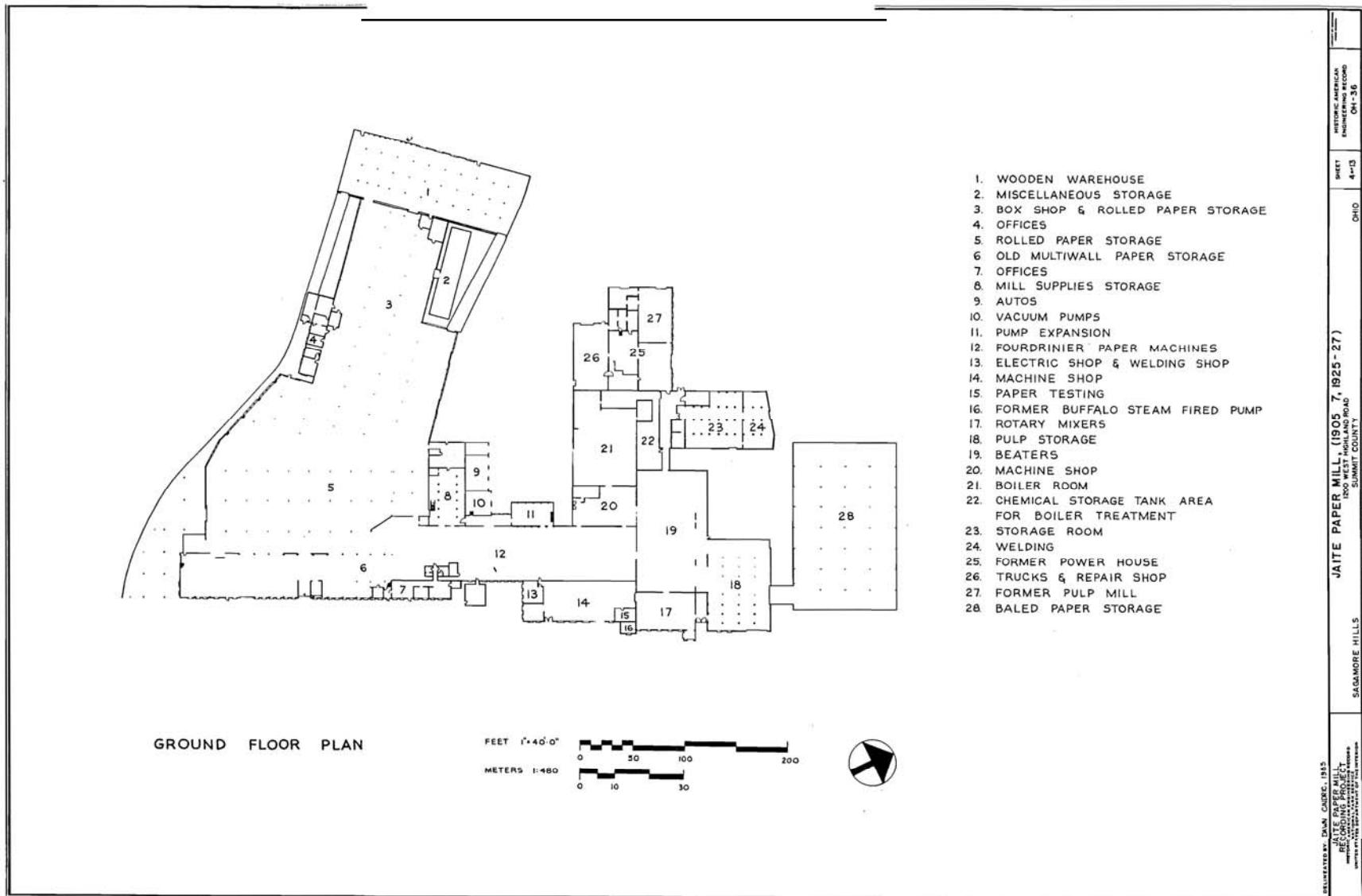


Figure 3-2. Jaite Paper Mill Site Plan

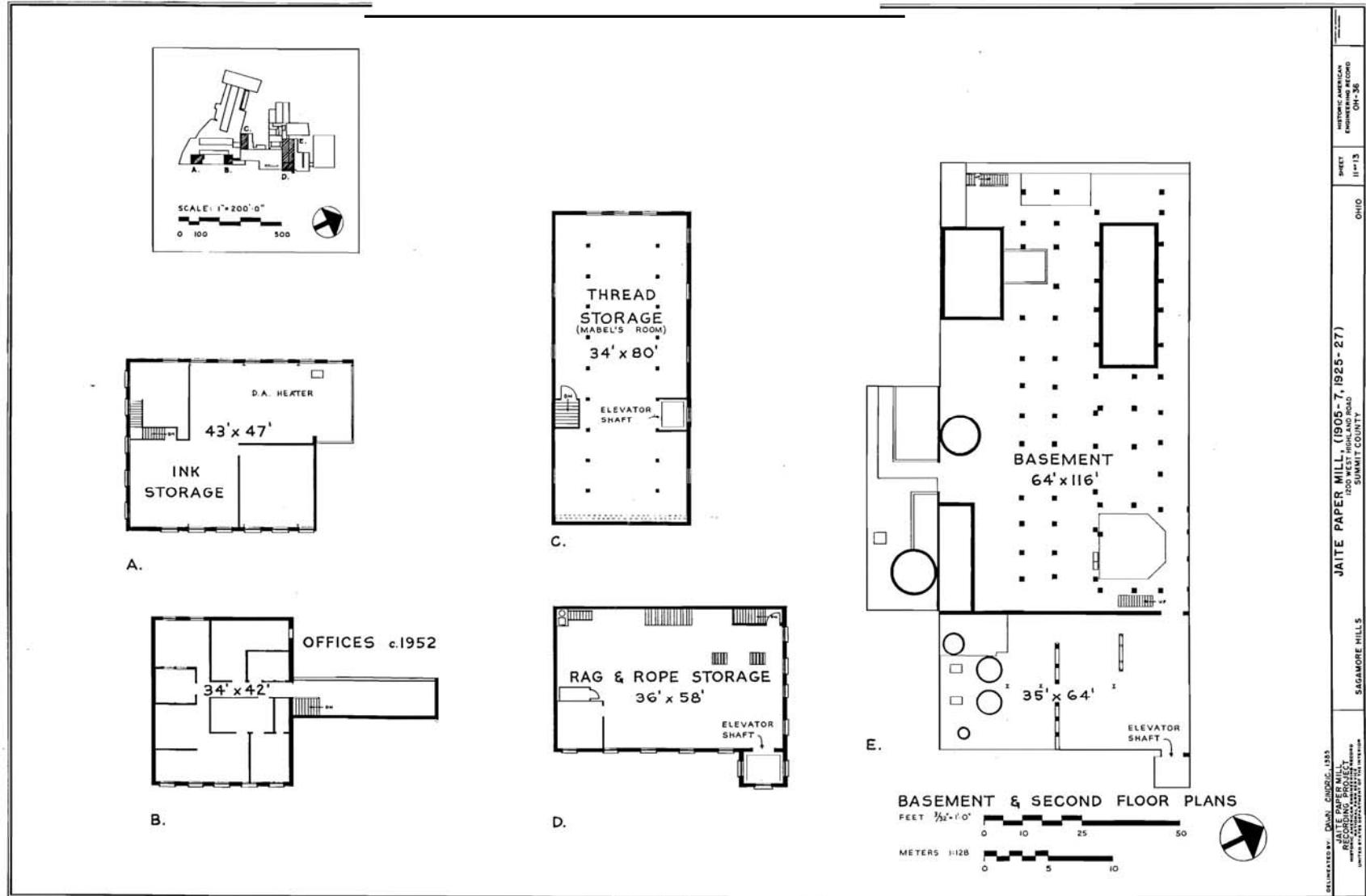


Figure 3-3. Basement and Second Floor Plans

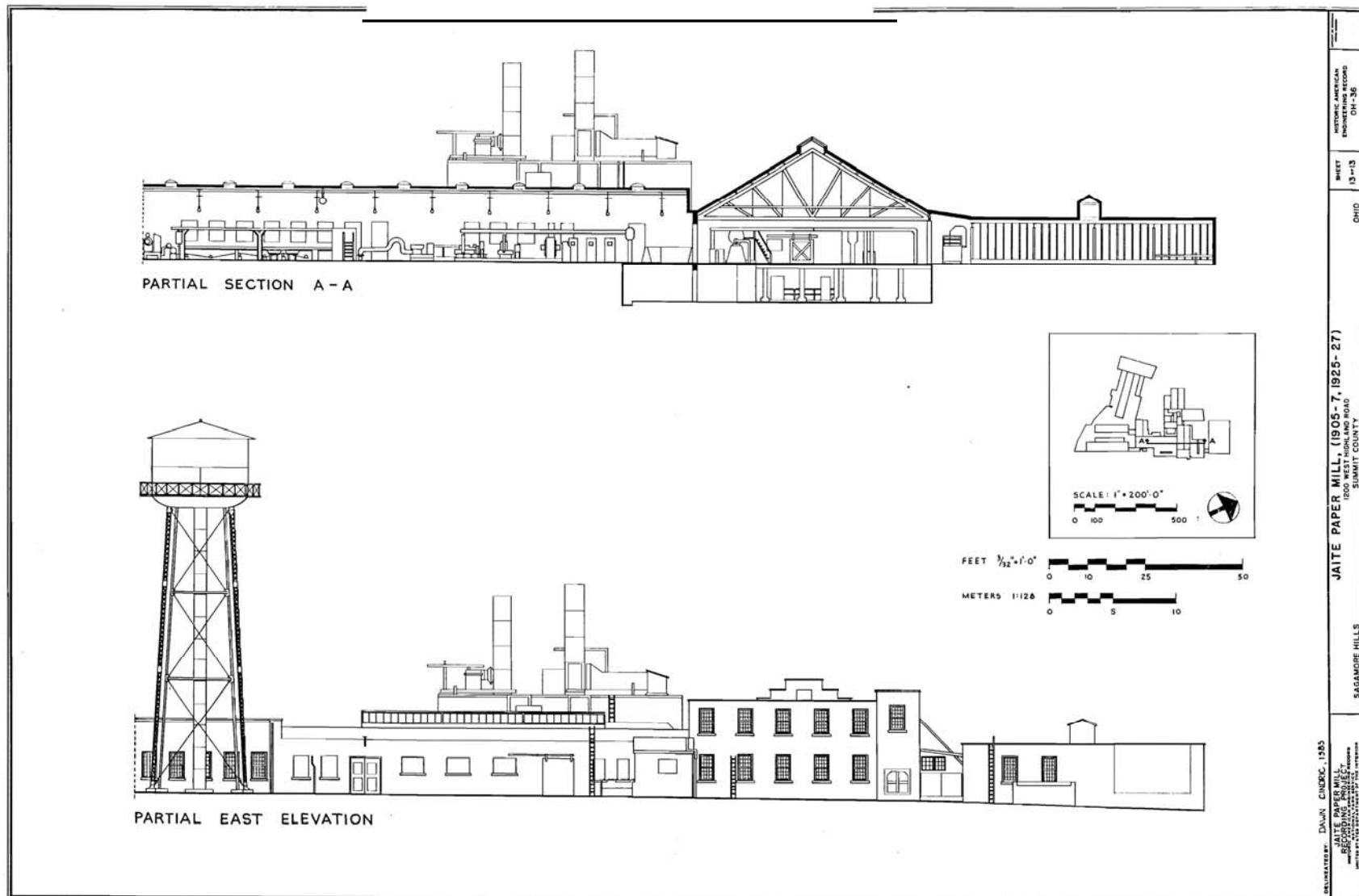
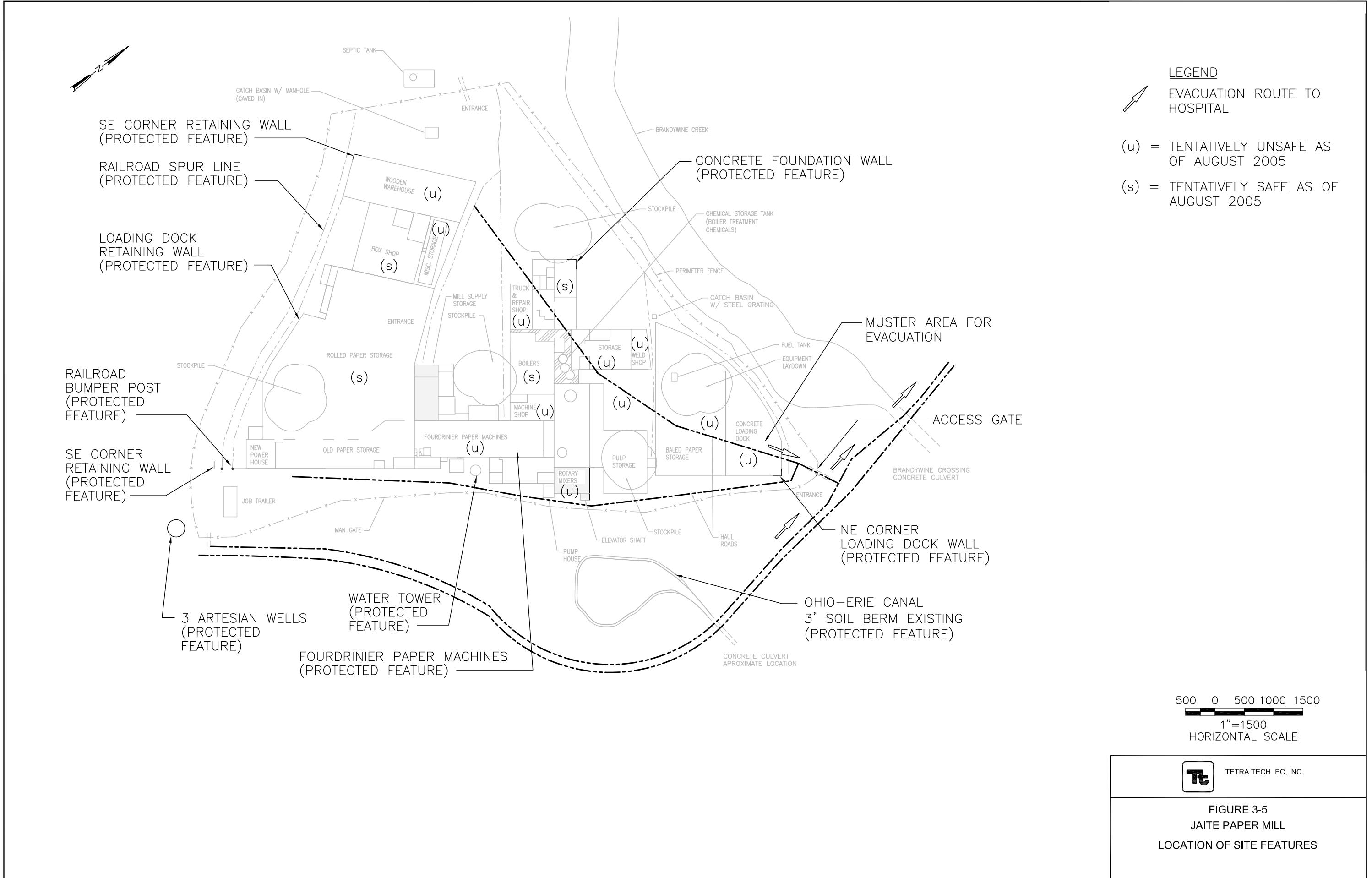


Figure 3-4. Basement Section View

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4. PROJECT IMPLEMENTATION PLAN

4.1 Building Demolition Activities and Schedule

This project includes demolition, asbestos abatement, sizing, transportation and disposal of above-grade structures at the Jaite Paper Mill site, located in Cuyahoga Valley National Park in Sagamore Hills, Ohio. As of August 2005, approximately 50 percent of the structures have been determined unsafe. Due to the unusually rapid rate of deterioration, however, especially in the last few years, the entire building complex is recommended for demolition and removal. Before beginning demolition, the structures will be re-evaluated to determine if more significant structural damage has occurred since the last inspection as conditions may have changed. An emergency order has been obtained from Sagamore Hills Township for the demolition of portions of the facility that are deemed structurally unsound and in danger of imminent collapse in accordance with U.S. Environmental Protection Agency (EPA) NESHAP regulations and is included in Appendix E. McCabe will prepare an OSHA Structural Engineering Survey in accordance with OSHA 29 CFR 1926 Subpart T, Demolition. The engineering survey will be prepared by a competent person knowledgeable in demolition techniques and experienced in demolition. The engineering survey will evaluate the following where appropriate:

- Overall structural integrity of the superstructure;
- Structural integrity of walkways and passageways;
- Load capacity of walkways, ramps, and ladders;
- Locations of floor or walking surface openings;
- Locations of confined spaces and trenches within and adjacent to structure; and
- Locations of entrances/exits to the structure.

All buildings at the site are scheduled for demolition with the following condition: an engineering evaluation and cost report will be completed to assess the condition of the water tower. If the detailed engineering evaluation demonstrates that the tower can be retained, a Retainable Condition Water Tower Report of the findings and estimated restoration cost will be submitted for NPS review. If the tower cannot be retained, an Unretainable Condition Water Tower Report of the findings and reasons for removal will be submitted for NPS review along with a cost estimate for removal.

Only the debris within the footprint of the demolished building or debris that falls elsewhere due to demolition activities needs to be removed from the site.

The site features specified in the SOW that are specified for protection and retention during work activities will not be altered or damaged during site operations. These features will be protected during demolition activities by demarcation with orange construction fencing and signage. Personnel will be reminded at the daily safety meeting when work is scheduled near these structures. These features include:

- The water tower (until such point where NPS gives written authorization for demolition, if unretainable);
- Fourdrinier machinery, which is defined as “all the machinery from (and including) the rope reel to (and including) the end of the head box,” a length of approximately 210 feet;
- Three artesian wells;
- The railroad spur line, which is defined as the berm itself and any rails that are present along the south edge of the site;
- The railroad bumper post at the southeast end of the building complex;
- The Ohio and Erie Canal remnant to the east of building complex;
- The loading dock retaining wall (approximately 3 feet high) along the length of the southern railroad spur from the southeast corner to the beginning of Wooden Warehouse building foundation to identify the southern boundary of the mill site;
- The concrete retaining walls at the end of the southern railroad spur at the southeast corner of the site;
- The concrete foundation wall at the southwest corner of building #1 (wooden warehouse) to mark the southwest extent of the site (approximately 3 feet high above grade and 10 feet in each direction);
- The loading dock wall at the northeast corner of the northern dock to mark the northeast extent of the site (approximately 4 feet high and 10 feet in each direction); and
- The concrete block foundation wall at the northwest corner of Building #27 (former pulp mill) to mark the northwest extent of the site (4 courses above grade and approximately 6 feet in each direction).

Asbestos containing materials (ACM) and lead based paint (LBP) that is setting on or connected to the Fourdrinier machinery will be abated (removed) until safe levels are achieved. The pit or catch basin underneath the Fourdrinier machinery will be cleaned until safe levels of these or other contaminants are achieved. The pit and voids underneath will be filled to grade with size 57 gravel.

After demolition and cleaning of Fourdrinier equipment is complete, a temporary protective roof structure will be built around the equipment to the agreed specifications, including a shed roof with low end oriented toward the west, overhanging the equipment by 4 feet on each of the four sides with enough clearance between the top edge of the equipment (12-foot maximum height) and the low edge of the roof to allow for future inspections.

Only clean, ACM-free masonry and concrete materials (i.e., containing no metal, etc.) will be left on site when used to fill basement rooms, subterranean tanks, and catch basins; otherwise, all of these materials will be removed from the site.

Removal of floors, foundations and footings, loading docks, slabs, basements, underground appurtenances (e.g., pipes, tanks), roadways and walkways; remediation of surrounding soil, existing miscellaneous debris outside the footprint of the buildings not resulting from demolition activities, wastepiles, ponds, and restoration; or

demolition of the water tower are not included in the SOW, but are addressed in the demolition plan to the extent necessary to prevent damage to the structures and to address workplace safety during demolition of the above-grade structures. Appendix C addresses below-grade demolition activities currently within scope.

TtEC will adhere to the following guidelines when executing demolition activities. These activities will be performed according to the project schedule (Figure 4-1).

De-energization. Prior to performing any work in or around structures, TtEC will verify and document facility de-energization. This will be done either by visually examining the electrical feeds into the structure to ensure they are severed, or with instrumentation at the building panel boxes. The Ohio Utility Protection Service (OUPS) will be contacted 2 to 10 days prior to mobilization to mark existing underground public utilities.

Mobilization. Mobilization activities will consist of the following components:

- (a) Limited pre-mobilization activities were performed in January 2006 in advance of full mobilization. This was done to prepare areas of the site for full mobilization before the ground became frozen. It was also done to conduct preliminary OSHA engineering surveys of structures to determine if unsafe to enter. This pre-mobilization activity was covered in a Letter Work Plan, which is included in Appendix F.
- (b) Inspection and repair of the site perimeter fence, as necessary, to prevent trespassers during off-hours. Gate installation or modification to accommodate project activities may also be required.
- (c) Posting of construction signs on Vaughn Road and along the Towpath.
- (d) Installation of temporary construction fencing to separate the Towpath pedestrian traffic from the construction site.
- (e) Installation of fencing and/or barricades around open structure basements and pits in areas where workers or equipment may be exposed to these hazards and will be maintained until demobilization or until the areas are filled in and no longer present a fall hazard.
- (f) Installation of fencing and/or barriers to protect historical site features outlined in the SOW.
- (g) Removal of trees and/or vegetation (within the Jaite facility fence only) to provide access for demolition and transportation activities. Whenever possible, trees exhibiting roost characteristics (exfoliating bark, cavities) will not be cut during the Indiana bat roost period of April 15 through September 15. If this schedule cannot be followed, bat surveys will be conducted to assess the presence of Indiana bats before trees are removed.
- (h) Installation of temporary haul roads within and/or immediately adjacent to the Jaite Paper Mill site.
- (i) Placement of a temporary job trailer and facilities.
- (j) Establishment of temporary power and water (for wetting debris).

Waste Characterization Sampling. Approximately 31 waste characterization samples of building materials and contents will be sampled and analyzed as per the December 9, 2005, Rationale for Additional Samples

document prepared by TtEC (Appendix I). All category A, B, and C samples from that document (as appropriate based on current site conditions) will be collected. The building materials and contents to be sampled include, but are not limited to, window glazing, concrete floor stains, trench/pit/sump/drum/tank/catch basin contents, roofing material, meters, and petroleum, oil, and lubricants (POLs) in motors or pipes, etc. Additional samples of similar material discovered further into the project will also be collected, if needed, including basement drains if they exist, and any follow up discrete sampling that may be needed based on the composite sample results. Some sampling will be done before demolition begins (areas that are accessible and are in buildings that are safe to enter), and some sampling will be done throughout the demolition as areas open up or wastes are safely accessible.

A short Additional Sampling Report will be submitted to the COR. This report will include a description of the work completed, the sample results, and a brief discussion or interpretation of the results (i.e., waste characterization). A digital photo log will be maintained and submitted with the report of all media and materials sampled.

Recordkeeping and project management costs (e.g., sampling, laboratory analysis, handling, disposal, etc.) associated with hazardous substances and petroleum (as those terms are defined in CERCLA) releases will be tracked so they can be separated out from costs of handling non-hazardous materials.

Sediment, Erosion, and Wastewater Control. Sediment and erosion control measures will be established around the perimeter of the facility on an as-needed basis. This will be accomplished using straw bales, temporary berms or swales, and/or silt fencing, as appropriate. Additionally, storm water runoff from the demolition will be controlled to prevent water containing asbestos from traveling outside the building footprint to the extent possible. A Storm Water Pollution Prevention Plan (SWPPP) will be required if the project is anticipated to disturb greater than 1 acre of land. Section 6.0 addresses storm water pollution prevention, and because greater than 1 acre of land disturbance is anticipated, a SWPPP is included in Appendix K.

To prevent cross contamination of the adjacent surroundings, floor drains and other potential conduits to the environment will be sealed using a no-shrink grout or waterproof no-shrink spray foam.

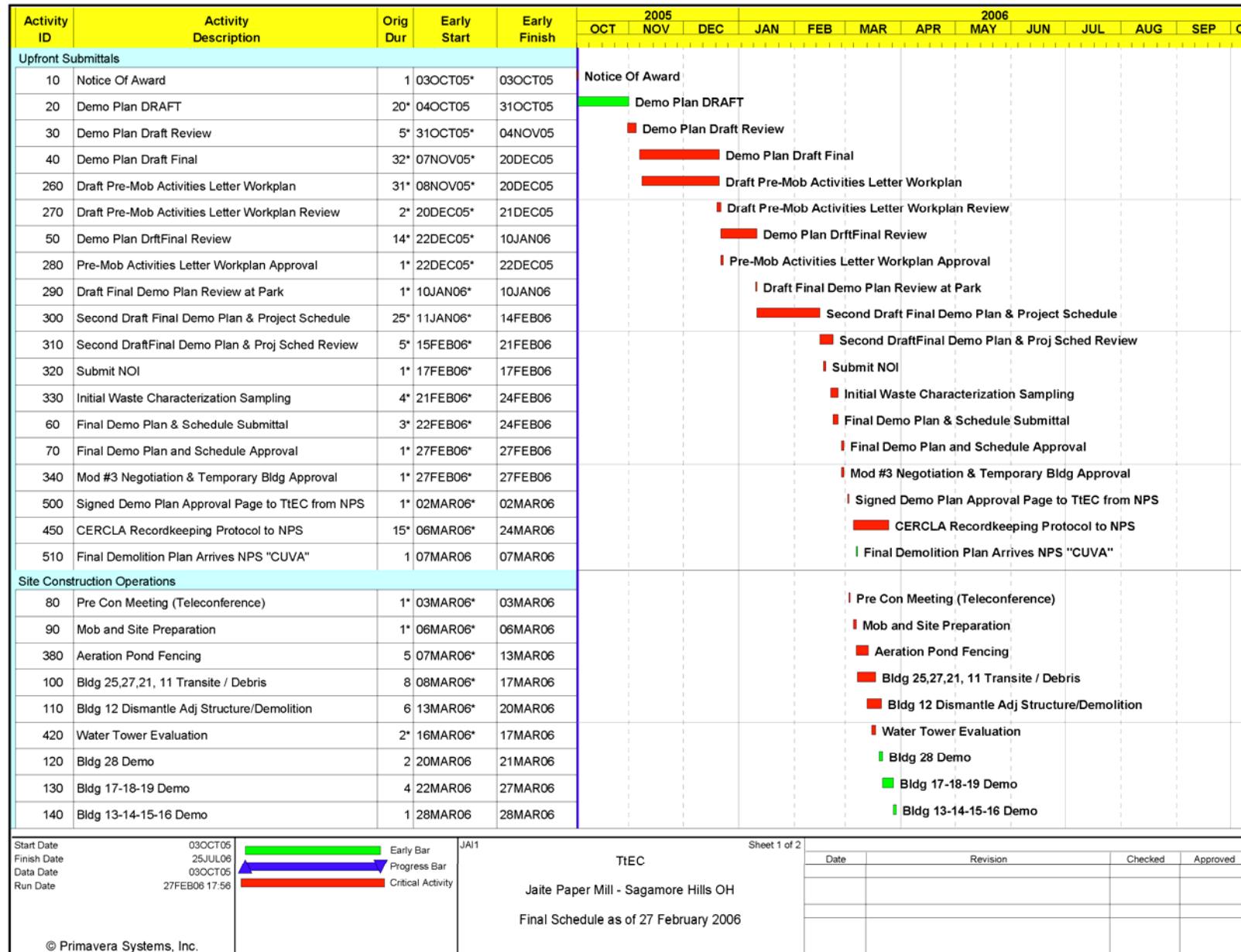


Figure 4-1. Project Schedule

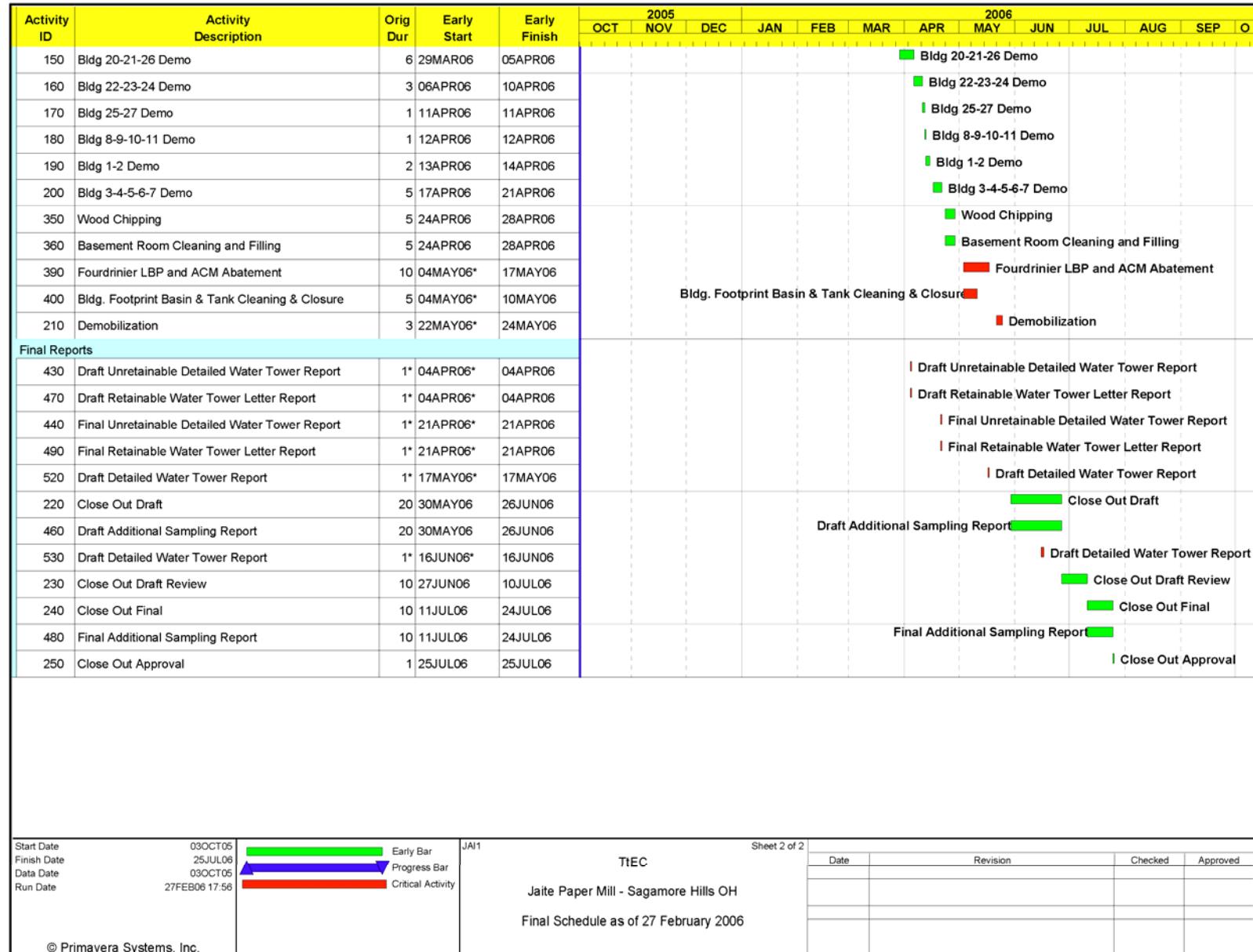


Figure 4-1. Project Schedule (continued)

Hazardous Material Abatement. Hazardous and/or toxic materials will be removed from buildings that are determined to be safe to enter before demolition is performed. Panels (e.g., electrical, control, instrument, etc.) will be opened and inspected for hazardous/toxic materials such as asbestos, polychlorinated biphenyl (PCB) containing articles, or mercury-containing devices. Buildings that are deemed unsafe by Engineering Survey will not be entered and therefore hazardous/toxic material abatement will not take place prior to demolition. These structures will be demolished with the materials in place. Extreme care will be exercised to segregate salvageable material and other hazardous materials from the demolition waste stream to minimize the amount of regulated wastes, prevent spills or discharges, and to maximize the value received from the recycled materials.

Asbestos Containing Materials (ACM). Asbestos containing materials will be removed before demolition from within buildings that are safe to enter to the extent required by federal and state regulations. Buildings that are unsafe to enter will undergo abatement during demolition or after demolition as appropriate. Asbestos materials that are present within structures that are safe to enter will be adequately wetted prior to handling and removal unless temperatures are below freezing and will be packaged in leak-tight wrapping and proper labeling for transportation and disposal. There shall be no visible emissions during the demolition, and exposure monitoring will be performed during abatement to document exposure for workers within the regulated area and in areas adjacent to the regulated area. A qualified Asbestos Supervisor, trained and experienced in asbestos work will perform the air monitoring, and will supervise the abatement crew as the Competent Person. More information on the asbestos abatement procedures is included in the Asbestos Abatement Plan in Appendix D, the Health and Safety Plan (Appendix A), and in other sections of this plan.

Lead Based Paint (LBP). Whole-Building Demolition Debris. The EPA has stated that solid architectural components coated with LBP are less likely to be hazardous because of the small ratio of lead paint to total waste mass (EPA, 1993). The US Army conducted an extensive study that concluded whole-building demolition debris is not likely to exceed the toxicity characteristic standard for lead if it is handled as a single, whole waste stream and disposed of all together (U.S. Department of the Army, 1993).

Whole-building demolition debris, in accordance with standard industry practice can be classified as a non-hazardous waste with regard to lead in most states and can be disposed of at a solid waste or municipal solid waste landfill. No sampling/analysis of painted components for lead is required for disposal as non-hazardous waste.

Paint that has delaminated and fallen from the substrate will be collected and disposed of as part of the demolition debris waste stream with the materials the paint came from if that material will be disposed of at a landfill as debris. If the delaminated and fallen paint chips originated from a material that will be segregated from the whole-building demolition debris waste stream (i.e., for recycle), the paint chips will be sampled and analyzed to determine if regulated as hazardous waste for leachable lead separately from the debris. LBP debris that is commingled with asbestos-containing debris will be disposed with the RACM. Intact LBP will not be removed or abated; this material will be disposed with demolition debris

or, in cases where LBP is on steel slated for recycle, a notice will be sent to the recycler that LBP is present. Hot work methods for lead-painted structures are not anticipated for this SOW; however, if hot work is performed on painted surfaces, personnel will wear appropriate respiratory protection and undergo air monitoring in accordance with the SSHSP.

Animal Excrement. Animal feces (including bird droppings) will be sprayed with water or a 10 percent bleach solution when personnel will be performing work in the area. Dry removal will not be permitted. If manual work will not be performed in the area, the droppings may be left in place during structure demolition, provided that sufficient wetting is applied during the demolition process.

Other Hazardous/Toxic Items. Other identified hazardous/toxic materials will be removed to the extent possible prior to demolition. These include, but may not be limited to, PCB containing light ballasts, mercury switches and instruments, or lighting (i.e., fluorescent, mercury vapor, and sodium vapor). Refrigerants containing chlorofluorocarbons (CFCs) will be removed and disposed of or recycled in accordance with Federal, state, and local regulations. In buildings that are structurally unsound and unsafe to enter, the operators performing demolition will exercise care in identifying and sorting suspect hazardous materials out of the demolition debris waste stream for further evaluation and handling for disposal. Care will also be exercised to prevent spillage of these materials during removal. Previously unidentified containers and/or drums containing hazardous materials or unknown contents will be sampled for characterization, removed, and properly disposed (see Appendix I). TtEC will notify the NPS if chemical, hazardous, or toxic materials not previously identified are suspected or encountered. Spill Prevention and response is addressed in section 7.0.

Fencing around Aeration Pond 1. A 6-foot-high chain link fence with black vinyl coating (approximately 700 lineal feet in length) will be installed around settling (aeration) pond 1 that is located just east of the towpath. The rectangular-shaped fence line will be on top of the berm-like features that surround the two ponds. Any old fencing will be removed and disposed of off site. A pedestrian gate will be installed in the northwest corner of the fence. Any trees cut to accommodate the fence installation will be removed before April 15 to avoid interfering with Indiana Bat habitat.

Demolition. The Cuyahoga Valley National Park provides vital services, and TtEC will take precautions to minimize disturbance of those services to the public. Demolition will occur during the winter and spring months when there are fewer visitors to the park. The area surrounding the demolition will be isolated for public protection, and a worker will guide heavy equipment through public areas on foot (refer to section 11 – Traffic Control Plan).

No structures at the Jaité Paper Mill site are standalone; therefore, workers will not be allowed within any attached structure while active structural demolition is taking place, regardless of whether the attached structure is deemed safe for entry. It is possible that the demolition of one structural area of the building could lead to structural weakening or premature collapse in other areas due to nearby demolition activities.

Buildings have been divided into the following three categories: (1) Safe, (2) Unsafe, and (3) Safe but Adjacent to an Unsafe Structure (this category could become unsafe because of adjacent demolition). Each category is discussed below. Table 4-1, Building Summary, summarizes the structures tentative safety classification and tentative demolition priority. Please note that these are preliminary classifications that may change based on the results of the OSHA Engineering Survey. The results of the OSHA Engineering Survey will be inserted in Appendix H after approval of this demolition plan.

Table 4-1. Building Summary

Building No.	Building Description	Tentative Safety Classification
12	Fourdrinier Paper Machine	Safe Structure
28	Baled Paper Storage	Unsafe Structure
17	Rotary Mixers	Unsafe Structure
18	Pulp Storage	Unsafe Structure
19	Beaters	Unsafe Structure
1	Wooden Warehouse	Unsafe Structure
2	Miscellaneous Storage	Unsafe Structure
3	Box Shop and Rolled Paper Storage	Safe Structure
4	Offices	Safe Structure
5	Rolled Paper Storage	Safe Structure
6	Old Multi-wall Paper Storage	Safe Structure
7	Offices	Safe Structure
8	Mill Supplies Storage	Unsafe Structure
9	Autos	Unsafe Structure
10	Vacuum Pumps	Unsafe Structure
11	Pump Extension	Unsafe Structure
20	Machine Shop	Unsafe Structure
21	Boiler Room	Unsafe Structure
26	Trucks and Repair Shop	Unsafe Structure
13	Electric Shop and Welding Shop	Adjacent to Unsafe Structure
14	Machine Shop	Adjacent to Unsafe Structure
15	Paper Testing	Adjacent to Unsafe Structure
16	Former Buffalo Steam Fired Pump	Adjacent to Unsafe Structure
25	Former Powerhouse	Safe Structure
27	Former Pulp Mill	Safe Structure
22	Chemical Storage Tank Area	Safe Structure
23	Storage Room	Safe Structure
24	Welding	Safe Structure

All buildings will be demolished (unless the water tower is in retainable condition). Due to the abatement work at Building 12, the Fourdrinier machine will be draped with poly to prevent further ACM contamination from demolition activities. The equipment will, however, be cleaned of ACM and LBP after demolition. Outdoors, a slanted plywood “roof” will be placed over the Fourdrinier area to protect the machine when bricks are demolished overhead. A shear will remove columns and beams around the Fourdrinier machine.

Subgrade demolition is addressed in Appendix C.

Unsafe Structures. Demolition will commence with the unsafe structures first to the extent possible. Demolition will be accomplished using mechanical demolition techniques as directed by a staff member trained and qualified to conduct demolition. The structures will be wetted prior to and during demolition to help mitigate the release of fugitive dusts and the release of asbestos fibers to the environment.

Personnel are not permitted to enter basements until a hazard evaluation is completed. Some liquid will remain in basements, vaults, pits and other areas on the site; however, wastewater will be handled in an additional work scope to manage below-grade drainage, structure demolition, and remediation in future work. The section below entitled “Water Hazards” identifies protection measures that will be put into place to control the basement and water hazards for workers. TtEC will attempt to segregate the roofing material from the demolition debris for disposal as ACM to the extent practicable to minimize the amount of regulated landfill debris and allow for recycling of suitable materials. If the structure contains ACM that cannot be abated prior to demolition, the entire debris pile will be disposed of as RACM waste and will be kept adequately wet. In cases where a limited amount of RACM is present in the structure, an attempt will be made to segregate debris after demolition to minimize the ACM waste. Remaining debris that does not contain ACM can then be disposed as demolition debris or can be recycled.

Structures Adjacent To Unsafe Structures. Structures adjacent to unsafe structures are subject to premature collapse and may not be safe to enter due to their proximity or shared structural components. These structures will be demolished after the demolition of unsafe structures has occurred, to the extent practical. These structures may only be entered again after demolition has ceased, and an engineering survey verifies they remain structurally sound. All asbestos abatement and removal of identified hazardous substances will be performed prior to the commencement of demolition activities, unless these structures are reclassified as unsafe structures based on the follow up survey.

Safe Structures. Structures determined to be safe for entry will be the last to be demolished to the extent practicable unless it is determined for other reasons (such as need for access/egress routes or material staging areas), that demolition will be done in another sequence. Structures that are deemed safe for entry will undergo asbestos abatement and other hazardous materials will be removed to the extent required prior to demolition. Nonfriable roofing or other nonfriable ACM that is allowed to remain within the structure during demolition can be disposed with the demolition debris waste at a landfill that is permitted to take asbestos materials.

Demolition will be conducted using a variety of construction equipment using mechanical demolition methods specific to the size and type of structure being demolished. Debris will be sized with excavator-mounted attachments (e.g., shears, concrete crusher/pulverizer, universal processor). The debris will be sized to meet the acceptance criteria of the disposal and/or recycling facility.

TtEC is ISO 14000 certified and holds recycling of materials as a high priority in every project. Materials that can be economically segregated from the debris and that are not contaminated with hazardous materials (i.e., asbestos or tar) will be staged separately on site and recycled.

Water Hazards. Basements and pits or tanks in several locations around the site are known to or may contain water. Water presents a hazard to workers working in or adjacent to these areas. Drowning hazards may exist where workers could fall into the pits or basements filled with water. Other hazards may exist if a tank were breached in the proximity of workers. Some water has not been characterized to determine if it has other chemical contamination. Until sampled, contact with the water could be a hazard to workers. Where these hazards exist, specifically building 11 (expansion room), barricades will be placed around potential entrances where workers could walk into these areas. In areas that are smaller than building 11, these areas will be covered with floor plates or covers, or the water will be removed and the areas will be filled (after characterization). Warning signs or postings will be placed around the area so workers recognize the hazards of these areas. If workers conduct activities that could put them into a situation where they could fall into these areas before water is removed (i.e., abatement or sampling), workers will have means of approved fall protection or fall restraint systems that will not allow them to contact the water. A buddy system will also be utilized.

Other work. The septic tank to the west and the two storm water basins to the north will be sampled for waste characterization purposes (if not done already). Any liquid in these subterranean structures will be pumped out and disposed of properly. All pipes entering or exiting them will be plugged and the voids will be filled with clean, broken concrete, or masonry materials.

Post Demolition Cleanup. After demolition and removal work is complete, health and safety hazards in the area will be removed. Safety hazards include holes and sharp objects (cutting or impalement hazards), such as pipes sticking 6 inches or more up and out of the floor anywhere on the building complex footprint, including areas where there are no longer building structures overhead.

Any drains found within the footprint of the building complex will be located with GPS, sampled and analyzed for waste characterization (if they contain materials), and plugged. The results will be included in the Project Completion Report.

4.2 NPS Coordination

TtEC will submit this plan to the NPS for review and approval prior to the occurrence of any demolition activities. The review is expected to take no more than 30 days. Notices of Intent for demolition and asbestos abatement will be submitted to Federal, state, or local agencies within the required timeframe by McCabe (asbestos abatement contractor). Mr. Carlos Henderson, PE (Project Manager) and Mr. Ed McCabe, PE (Demolition Manager) are the Jaite Paper Mill points of contact for the demolition activities. McCabe reports to TtEC and TtEC reports to the NPS. TtEC will provide environmental consulting and subcontractor management oversight to ensure that the demolition activities comply with the stipulations set forth in the SOW, in this Demolition Plan, and as per applicable regulatory requirements. TtEC representatives Mr. Rod Reese and Ms. Jennifer Fadden will provide on-site environmental consulting management and oversight to McCabe. They will inform the TtEC Project Manager of any deviations from the approved Demolition Plan that they consider necessary, and will not implement any such actions until they have requested and received approval through the proper channels. See NPS Protocol for

Changes and Modifications in Appendix G for a description of these channels. Permitting will be coordinated by the Demolition Subcontractor, McCabe Engineering, with oversight by TtEC. Appendix E lists applicable permits for demolition. Also included is the Emergency Order by Sagamore Hills Township directing TtEC and McCabe Engineering to conduct the Emergency Demolition activities.

4.3 Recordkeeping and Reporting

Demolition activities will be documented in a daily log, which will include work activities, visitors to the site, and will record demolition debris types and quantities generated or disposed/recycled off site, and any deviations from the demolition plan (deviations that are not out of scope). It will also note inspections that occurred and any deficiencies found as well as corrective actions taken to address deficiencies. The Project QC Manager/Health and Safety Manager will perform formal project inspections at least weekly and will be available on a daily basis to observe the work activities and monitor compliance with the SSHSP, environmental protection measures, and the contract. Field audits by the Program Environmental and Safety Manager (PESM) or designated Environmental, Safety, and Quality (ESQ) representative will be conducted during demolition activities. Field documentation forms that are available from the final PMP (TtEC 2004), Appendix D – Field Engineering Quality Control Plan (or substantively equivalent forms), will be used to record actions and activities during the field implementation.

5. AIR EMISSION CONTROL AND MONITORING

5.1 Air Emission Sources

During demolition and daily site activities, exposure to fugitive dusts and other air contaminant emissions (namely asbestos) to the environment is of concern. Dusts may be generated from truck traffic on dry roadways, during building demolition or concrete breaking, during the loading of waste and debris into trucks or bins, or during asbestos abatement activities. Windy conditions may increase the potential for dusts to be generated. Worker safety related to air emissions is addressed in the SSHSP, Appendix A, and the Asbestos Abatement Plan, Appendix D.

5.2 Air Emission Control Methods

Several air emission control methods will be employed to minimize air emissions and fugitive dusts, and to ensure that environmental releases do not occur and worker or public safety is safeguarded.

Dust suppression water spray will be used (as weather conditions dictate) during demolition activities and on demolition debris or other work area surfaces as the primary means to eliminate visible dust emissions. Demolition debris stockpiles will be kept adequately wet to control visible air emissions. Dust suppression water spray will also be used and to minimize dust generated on the access roads traveled by construction vehicles.

Asbestos abatement techniques and methods will be performed in accordance with 40 CFR 61 Subpart M and in accordance with the standards referenced in 29 CFR 1926.1101. Abatement prior to demolition in structures that are deemed safe for entry will be accomplished using abatement methods specified for Class I and Class II materials and RACM will be removed from the structure to the extent required by the governing regulations prior to demolition. Asbestos requirements and controls are further addressed in the Asbestos Abatement Plan, Appendix D.

Controlled demolition procedures will be used, to the extent possible, to help minimize the amount of dust emitted from structure demolition in addition to keeping the structure adequately wet before and during demolition and debris segregation. Structures will not be allowed to free-fall. Heavy equipment with shears will grip demolished structures and place the debris in pre-arranged waste stockpiles for mechanical sizing and segregation. If windy conditions exist, such that emission controls cannot be maintained, work will be stopped until such time it can be maintained.

Air monitoring and sampling for worker and public protection is described in the SSHSP. Asbestos air monitoring and sampling are addressed in the Asbestos Abatement Plan. The FTL and TtEC SS will ensure that operations are being performed in compliance with visible emission requirements.

The Akron Air Quality Authority point of contact for air emissions during work hours is Chris Williams at (330) 375-2480. Mr. Williams is the local inspector with jurisdiction and oversight of the project asbestos abatement activities.

6. WASTEWATER CONTROL AND MONITORING

6.1 Wastewater Sources

During preliminary site visits and inspections, TtEC observed water that had collected in building sumps, vaults, tanks, basements, and other areas either due to rainwater, groundwater, or surface runoff. This wastewater will be sampled and analyzed for waste characterization. It will also be removed, as appropriate, to prevent unwanted spills during demolition. The collection of additional samples has been addressed, and the sampling rationale is included in Appendix I.

Shower water from asbestos abatement and decontamination may contain asbestos; therefore, it either requires treatment or must be shipped off site for disposal.

During site operations, water will be drawn from artesian wells at the south end of the site for use in dust suppression for the demolition process and for controlling fugitive dusts on construction access roads.

Runoff from disturbed areas during rain events is another source of water requiring control and management on this project. It is anticipated that this project will cause ground disturbance that exceeds 1 acre. It is also anticipated that it will trigger coverage under the Construction Storm Water Permit requirements through EPA. Storm Water BMPs will be incorporated during this project to minimize sediment or contamination runoff from the construction areas. BMPs are addressed in the following section and are summarized in Table 6-1. A Storm Water Pollution Prevention Plan (SWPPP) has been prepared and is attached as Appendix K. A Notice of Intent has been submitted to Ohio EPA seeking coverage under the Construction General Permit, and is included as an attachment in Appendix K.

6.2 Wastewater Control Methods

Demolition debris and construction access roads will be adequately wetted using an appropriate and effective amount of water to prevent visible emissions as discussed in Section 5.0. Care will be exercised during dust suppression activities not to use too much water, which could allow runoff that causes erosion, flooding, or potential contaminant migration from the subject site, with particular sensitivity to adjacent surface water bodies (e.g., Brandywine Creek). Water used for dust suppression on roadways is not expected to generate excess wastewater that will need to be managed.

Significant rain events or sudden snowmelt have the potential for causing storm water runoff that could, if not controlled, migrate from the project site. It could also transport sediments or contamination to adjacent areas. In areas where this potential exists, appropriate controls will be put into place to minimize storm water runoff impact due to site activities. Examples of controls may include use of silt fences, straw bales, or similar devices where indicated.

Water generated during wetting of the building during demolition, asbestos abatement, or decontamination procedures will be containerized in leak-tight containers and disposed as RACM.

Alternatively, shower waters or other ACM containing water can be run through a 5-micron filter and be disposed of off site as non-ACM water.

Liquid that has accumulated in basements, vaults, tanks, pits, and other areas on the site will be sampled and analyzed for proper waste characterization. It will then be removed from those areas. Wastewater will be handled before or during the demolition in a manner that minimizes the potential for a spill or release. Appendix I contains the sampling rationale. Information from this sampling will be included in a Sampling Report, which will contain results and characterization of the liquids.

Table 6-1. BMPs for Wastewater Control and Monitoring

Best Management Practices	Description of Activities
Good Housekeeping	Off tracking of soils, mud, or contaminated materials such as asbestos debris from the work areas (in equipment tracks, tires, or buckets) will be minimized by decontamination (wipe or scraped of gross materials and debris) before leaving the site or exiting a controlled area to the appropriate extent.
Good Housekeeping	Equipment working in a contaminated area will clear travel paths as they progress to minimize contact with hazardous materials such as asbestos in debris.
Material Storage	Hazardous materials and contaminated debris will be stored in a manner that does not contribute contaminants to storm water (i.e., from rain or wind dispersal). Covers, liners, and lids will be kept over materials to the extent needed or required.
Structural Controls	Areas (both low lying land or surface water bodies) adjacent to land disturbance activities will be protected from run-on from contaminants or sediment loading through the use of properly designed and maintained storm water control devices (i.e., silt fence, berms, straw bales, or diversionary structures).
Water and Waste Characterization	Accumulated waters (and other liquids) from building basements or tanks will not be released to the environment unless they have been tested or otherwise determined as uncontaminated.
Inspections and Maintenance	Storm water control structures will be inspected after each major storm event and, at a minimum, once a week and within 24 hours after significant rainfall event. Repairs or modifications will be made if deficiencies are noted.
Good Housekeeping	Fugitive dusts will be controlled by using water spray to wet down stockpiles being worked, soils being excavated, or roadways used on the site.

7. SPILL PREVENTION

Spills or releases of fuel, oil, or other hazardous materials could occur on this project. This section addresses potential spills that could occur on the project, best management practices (BMPs) that will be done on site to help minimize the potential for spills or the impact of spills on the environment, and the procedures that will be followed in the event of a spill, including notification procedures.

Spill kits will be located at the on-site fuel tank that is mentioned in section 7.1 below (sorbent pads, booms, shovel, bags, kitty litter, etc.), and a small spill kit will be present on heavy equipment (sorbent pads). Additionally, a spill kit similar to the one at the tank will be present and accessible in areas of active demolition, and where PCB or RCRA wastes are stored.

7.1 Potential Spill Sources

A 500-gallon diesel fuel tank will be staged on site that will be used to refuel project equipment on site. This tank will not trigger the threshold capacity requiring a Spill Prevention, Control and Countermeasures (SPCC) plan to be implemented, as its' capacity will be less than 1,320 gallons.

Heavy equipment (e.g., excavators, loaders) and haul truck tanks and reservoirs contain fuel and oils that could spill if damaged or in the event of hydraulic systems failure.

TtEC has identified several tanks that contain water or other liquids in buildings that have or have not been sampled or characterized. TtEC will evaluate these tanks or containers and sample the contents if required for characterization or spill prevention. Tank or container contents will be handled in a manner that minimizes potential for release, and contents will be removed and containerized for disposal if required. The additional sampling rationale has been addressed and is included in Appendix I. A sampling report containing the results and characterization of sampled materials will be generated.

Spills or releases are possible in waste storage areas. Hazardous or PCB wastes will be stored in accordance with regulatory requirements and routinely inspected.

7.2 Spill Control Measures

The following sections address the control measures or BMPs that will be followed on site for spill prevention. BMPs for spill prevention are summarized in Table 7-1.

7.2.1 Fuel Tank Controls

The fuel tank will either be of double-walled construction (intrinsic secondary containment), or will be placed within a bermed and lined secondary containment structure with a minimum of 110 percent storage capacity (550 gallons). The tank will have a means to prevent over-filling. The tank will be included in weekly inspections to look for signs of deterioration or leakage. If berm and liner is used for

secondary containment, the secondary containment structure will be inspected routinely for accumulations of snow, ice, and/or rainwater. If precipitation accumulates, accumulations will be removed so that the secondary containment volume is maintained. Before removal, the water or snow will be inspected for the presence of sheen, discoloration, or fuel accumulations. If these visual indicators are present, the precipitation will be placed into a drum for off-site disposal. If no contamination is present, the accumulations will be removed and placed onto the ground. The tank will be protected by bollards or concrete pavers to prevent contact with equipment or vehicles. The nozzle for re-fueling will be designed for automatic shutoff when the receiving tank is full. The equipment operator will not leave the fueling station until the operator has visually verified that the fueling is completed and that the hose and grounding equipment (if used) is fully disconnected from the vehicle. Because trespassing into the Jaite Mill site is highly possible, the fuel tank will be capable of being locked to prevent access to the fuel inside. It will also be located where NPS personnel can readily inspect it during additional patrols of the site during non-working hours.

Table 7-1. BMPs for Spill Prevention

Best Management Practices	Description of Activities
Good Housekeeping	Drip pans, pads or equivalent will be used under vehicles or other fuel driven equipment (i.e., generators) to collect potential leaking fluids during fueling or fuel transferring activities.
Good Housekeeping	Garbage and waste materials or debris will be regularly picked up and disposed of properly.
Good Housekeeping	Spill kits containing the proper type and quantity of sorbent materials, booms, and tools will be staged in each work area where there is a potential for a spill or release.
Inspections and Maintenance	Equipment will be operated and maintained in accordance with manufacturer's recommendations.
Inspections and Maintenance	Hazardous material (including fuel) storage areas will be inspected at least weekly.
Inspections and Maintenance	Vehicles or other equipment found to be leaking will be repaired immediately, or removed from the site.
Inspections and Maintenance	Monthly inspections of spill-response and fire-prevention equipment will be performed.
Inspections and Maintenance	Regular housekeeping inspections will be conducted and the site will be maintained in an orderly fashion.
Container Management	Hazardous materials (including fuels) will be placed in suitable containers and storage areas that are in good condition. Fuels will be stored within secondary containment structures. Hazardous wastes (if generated) will be stored in accordance with regulatory requirements. A flammable storage locker will be used for small containers of flammable materials.
Container Management	Maintain valves in closed position before beginning pumping fuels. Follow systems of proper startup and shutdown of system.
Container Management	Containers will be kept closed except when being filled/used
Training	Personnel will be trained in hazard communication (Hazcom), spill prevention, response, and reporting requirements outlined in this plan, storm water pollution prevention requirements, and hazardous material storage and handling requirements.

Fuel vendors delivering fuel to the project site tank will do so when a TtEC or McCabe representative is on site. The TtEC or McCabe representative will escort the vendor until refueling is completed.

7.2.2 Preventive Maintenance

Heavy equipment, site vehicles, and generators must be maintained in good working condition. Daily equipment checks will be performed prior to equipment use. Any deficiencies will be noted and promptly corrected. Preventive maintenance involves routine inspections and testing of equipment. Equipment will be maintained and inspected on a regular basis and according to the manufacturers' recommended practices. The Superintendent will maintain records of inspections and maintenance.

7.2.3 Visual Inspections

The Superintendent or authorized designee (Health and Safety Officer) will conduct and document visual inspections of work areas for housekeeping, material storage areas, and storm water controls on a daily basis and following significant precipitation events or wind events (stockpile liners, secondary containment structures, and storage areas). The Superintendent will verify daily equipment inspections.

7.2.4 Record Keeping and Reporting

Record keeping represents a good operating practice because it can increase the efficiency of site operations and help measure the effectiveness of BMPs. A record-keeping system will help site personnel minimize incident recurrence, correctly respond to cleanup needs, and comply with regulatory requirements.

If a spill or release occurs, spill reporting procedures will be followed and cleanup responses and notifications will be documented. The Emergency Coordinator/SS or the HSO (alternate) will be responsible for notification and documentation. Spill reporting and response is further discussed in Section 7.3. The Emergency Response Plan (ERP) in the SSHSP will also be followed. The SSHSP ERP contains the telephone numbers for agency notification of reportable spills.

Inspections will be recorded in the field logbook or authorized form by the person performing the inspection (SS and/or HSO). The following information will be recorded:

- Date and time the inspection was performed,
- Inspector's name and signature,
- Items inspected,
- Problems noted,
- Corrective action required, and
- Notifications made or required.

Inspection records will be maintained in the field office and become part of the project files.

7.2.5 Hazardous Material Management

Project vehicles will refuel at local gas stations. Heavy equipment will be fueled on site at the fuel storage tank.

Small amounts of hazardous materials stored on the work site for operations (small gas cans, oils, lubricants, etc.) will be stored in a flammable materials locker. Hazardous material inventory control will be maintained for all hazardous materials brought to and stored at the site. MSDSs for each hazardous material will be maintained at the project site.

Hazardous materials or waste liquids that could spill will be accumulated in appropriate containers (i.e., drums) that are in good condition. The containers will then be stored in a properly designed and protected storage area. If stored outdoors, they will be stored on pallets in a protected location within secondary containment and covered to prevent rainwater accumulation.

7.3 Spills and Releases

A spill is any unauthorized release, including leaking, pumping, emitting, emptying, discharging, injecting, escaping, leaching, disposing, or dumping of oil or a hazardous substance.

7.3.1 Spill Response and Emergency Equipment

The project site will maintain the following spill response/emergency equipment on site:

- A working telephone (cell phones or hard lines) (may also have site radio communications);
- Portable Class ABC fire extinguishers of the amount and size required by the local fire code staged conspicuously in each site vehicle and at each project site or storage area where flammable materials are stored or used;
- Project-specific Spill Reporting Requirements and telephone numbers posted by the telephone;
- Spill kits, including absorbent pads, absorbent booms, kitty litter, and PPE of sufficient quantity and type for the operation at hand;
- Small portable drip pans for small seal leaks and drips that may be encountered;
- Emergency eye wash stations;
- Shovels and brooms; and
- Trained site personnel familiar with this plan and basic emergency spill response procedures.

Spills are divided into two categories: non-emergency and emergency. These are defined below with the procedures to be implemented. All project personnel will be familiarized with these response and reporting requirements.

7.3.2 Non-Emergency Spills

Non-emergency spills are defined as a discharge of a known material or hazardous substance that can be cleaned up by TtEC without posing an immediate threat to human health or the environment.

For a non-emergency spill:

- Stop the source of the spill if safe to do so;
- Contain the spill by keeping it away from drains or waterways and blocking off drains located near the spill if there is a chance the spill will reach them;
- Clean up the spilled material wearing the proper PPE;
- Handle the spill debris/material resulting from cleanup in appropriate manner;
- Immediately notify necessary project personnel, such as the HSO and SS; and
- Immediately notify the TtEC Project Manager and the COR (done by SS).

7.3.3 Emergency Spills

An emergency spill is defined as any release, which poses an immediate or imminent threat to human health or the environment, **any** release into any waterway (i.e., Brandywine Creek, or a storm drain, sewer inlet that could lead to a waterway), and any release not classified as a non-emergency spill event.

For an emergency spill:

- For an immediate or imminent threat to human health or the environment, immediately evacuate to a predetermined safe location and call 911 and the NPS Communications Center;
- If others are in the area, warn them and direct them to the predetermined safe location;
- Immediately notify the HSO and SS;
- Immediately notify the COR and TtEC Project Manager (done by the SS); and
- Notify regulatory agencies (Ohio EPA) and, if required, the National Response Center (NRC) or CHEMTREC to report the spill (**notification numbers and points of contact are found in the SSHSP**).

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8. ENVIRONMENTAL TRAINING

The SS will ensure that project personnel have received appropriate environmental training. They will also ensure the training is documented. The necessary training is discussed below. Additional training requirements can be found in the SSHSP.

- **TtEC Waste Management (General and Site Specific)**—Project personnel involved in waste management, handling, storage, and disposal, including subcontractors, will be trained under pertinent elements of the TtEC Waste Management Employee Training Program appropriate to wastes being managed on site. This training may also include RCRA generator training requirements for hazardous waste management should RCRA regulated hazardous waste be generated on this project. This training can be done during site orientation and daily briefings on site. RCRA training is more formal and is a regulatory requirement, so if RCRA training becomes necessary, a more formal sit down training session will be conducted for those individuals who will manage and handle RCRA wastes.
- **Site Specific Environmental Awareness**—all employees will be familiar with the environmental requirements of this plan. They will also be briefed during site orientation and in daily briefings on site, as appropriate.
- **DOT**—Project personnel performing a DOT function must be properly trained in DOT Hazardous Materials Management. DOT training requirements apply to any personnel who selects packaging; prepares hazardous materials or wastes for transportation; is responsible for safety of the transportation of hazardous materials or wastes; loads, unloads, or handles hazardous materials or wastes; marks or otherwise represents containers as qualified for use in transporting hazardous materials or wastes; or operates a vehicle used to transport hazardous materials or wastes. This training will apply on site and appropriate personnel will receive this training prior to performing a DOT function.
- **Recordkeeping**—The records of employee training will be readily available at the project site.

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9. RECYCLE MATERIAL/WASTE MANAGEMENT

9.1 Waste Stream Classification

The demolition of the Jaite Paper Mill will generate a variety of waste streams. In order to properly profile, handle, package, and dispose of each waste stream, the waste will be classified at the point of waste generation in accordance with Resource Conservation and Recovery Act (RCRA) or other governing regulations such as the Toxic Substances Control Act (TSCA), including state guidelines, which may be more stringent. The waste characterization process will be performed using a combination of generator or process knowledge or by review of the analytical results from sampling activities or material safety data sheets (MSDS). The anticipated project waste streams are detailed below; however, further characterization will be required in the field.

Wastes generated as a result of demolition activities at the Jaite Paper Mill facility will be classified within the following categories: non-hazardous waste and debris, asbestos waste (friable or non-friable), recyclable debris, PCB or RCRA hazardous waste or Universal Waste, trees and organic materials, and decontamination water. Additional materials removed from the buildings such as ballasts, fluorescent lamps and other mercury containing devices, or other hazardous materials found on site will require proper characterization prior to disposal.

9.1.1 ***Non-Hazardous Waste and Debris***

Wastes generated during site activities that are not characterized as RCRA wastes, do not contain PCBs or regulated asbestos, and that are not able to be reused or recycled, will be disposed of as non-hazardous wastes. This will include varying amounts of wood, concrete, scrap metal, and other miscellaneous debris as characterized in the field.

Woody vegetation (e.g., trees and shrubs) that have been removed (e.g., uprooted or cut) during demolition will either be chipped and left on site or hauled off and disposed of off site, whichever is least expensive. If the wood is chipped, chips can be left in place anywhere throughout the site, as long as it is within the fence line.

9.1.2 ***Asbestos***

Materials containing asbestos will be removed, packaged, and disposed of per applicable OSHA and NESHAP (EPA) regulations at Ohio EPA permitted landfills. Asbestos personal protective equipment (PPE) will also be managed as asbestos waste.

The asbestos abatement plan in Appendix D describes the work practices and more information on how asbestos waste will be handled before, during, and after demolition.

Definition—the definition of friable asbestos is asbestos (> 1 percent asbestos) that can easily be crumbled or pulverized to powder by hand pressure.

With friable asbestos, fibers are more easily released when handled or disturbed. The definition of friable asbestos is an EPA term from the EPA asbestos NESHAP. Damaged asbestos is more likely to release fibers than non-damaged ACM. Typically, thermal system insulation (TSI), such as pipe insulation, boiler insulation, sprayed or troweled-on fireproofing, etc., fits into the friable asbestos category. At Jaite, it is mostly damaged or in poor condition.

Regulations are more stringent in how friable materials are managed, transported, and disposed of although the requirements differ based on the context of the various regulations. For instance, OSHA classifies asbestos work as either Class I, II, III, IV, or Miscellaneous (when the materials in a building are less than 1 percent asbestos containing). The OSHA regulations for asbestos include elements of the EPA regulations and friable vs. non-friable materials. For the Jaite project activities, the classes of work will be Class I and II asbestos work.

Definition—Class I asbestos work is defined as activities involving the removal of TSI or surfacing ACM. Class I materials are more likely to be considered friable than Class II materials and the removal methods and work practices are more stringent. Examples of class I asbestos work practices include use of negative pressure enclosures (critical barriers or glove bags) to remove the asbestos.

Definition—Class II asbestos work is defined as activities involving the removal of ACM, which is not TSI or surfacing material. This includes, but is not limited to, the removal of ACM wallboard (Transite), Galbestos, floor tile and sheeting, roofing and siding shingles, and construction mastics. In many cases, Class II materials are non-friable, but if handled improperly (broken or crushed) or subjected to sanding, grinding, or abrading, can become friable.

Any of the materials in Class I or Class II asbestos work may be considered “friable” asbestos according to the definition if they can be crumbled or pulverized to dust by hand pressure.

All ACM must be handled, transported, and disposed of in a manner that prevents any visible emission of dust. This is achieved by carefully controlling the work so that “no visible emissions” are present. The asbestos materials must be kept “adequately wet.”

Ohio regulations require that landfill facilities permitted to manage asbestos follow specific regulations for handling and disposal, including 12 inches of daily cover over asbestos waste, no visible emissions to the outside air, and managing the asbestos-containing waste to avoid disturbing or dispersing the materials before they are buried, among other conditions. Only facilities that have been issued a permit to handle regulated asbestos are allowed to receive asbestos containing waste, including any asbestos that is commingled with the demolition debris waste stream.

The following is an excerpt from the EPA NESHAP Questions and Answers Page:

DEMOLITION PRACTICES AND NONFRIABLE MATERIALS

INTRODUCTION

EPA revised the asbestos NESHAP regulations on November 20, 1990 (see 40 CFR Part 61 Subpart M). Although the NESHAP has not been revised to alter its applicability to friable and nonfriable asbestos-containing materials (ACM), nonfriable asbestos materials are now classified as either Category I or Category II material. Category I material is defined as asbestos-containing resilient floor covering, asphalt roofing products, packings and gaskets. Asbestos-containing mastic is also considered a Category I material (EPA determination - April 9, 1991). Category II material is defined as all remaining types of non-friable ACM not included in Category I that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Nonfriable asbestos-cement products such as transite are an example of Category II material.

The asbestos NESHAP specifies that Category I materials which are not in poor condition and not friable prior to demolition do not have to be removed, except where demolition will be by intentional burning. However, regulated asbestos-containing materials (RACM) and Category II materials that have a high probability of being crumbled, pulverized, or reduced to powder as part of demolition must be removed before demolition begins (except in the case of emergency order).

Definition—*Regulated asbestos-containing material (RACM)* means (a) Friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition operations.

According to an Ohio Department of Health memorandum dated January 13, 2000 regarding the removal and abatement of non-friable asbestos containing materials, the following is included for reference:

The Ohio Department of Health considers the following materials as remaining non-friable if the work practices and methods of compliance set forth in OSHA standard 29 CFR 1926.1101 (g) are followed and exposure monitoring or a negative exposure assessment show that the PEL is not being exceeded:

- Vinyl and asphalt flooring;
- Roofing;
- Cementious siding and shingles or Transite panels;
- Gaskets.

If these materials remain non-friable, the Ohio Department of Health rules for removal, license, and certification do not apply, and no prior notification is required.

9.1.3 Recyclable Debris

Under Federal waste minimization requirements, material reuse/recycling was sought as the first option for disposal of building debris. These materials will be recycled at facilities approved by NPS and under the TtEC subcontractor qualification procedure. Materials that will be recycled include scrap metal, such as steel, aluminum, and copper. These materials may be painted or unpainted; however, the potential presence of lead-based paint will be identified to the recycler. The recycler must be approved by TtEC under subcontractor review process for lead-based paint acceptance. All salvage items not specified for retention by NPS will become assigned to and property of TtEC/McCabe for proper recycling and/or reuse. Large wooden beams, concrete, structural stone, brick, and asphalt are also potentially recyclable materials. The recyclers will be allowed to inspect the materials intended for recycling to verify that they meet the facility requirements. Scrap that cannot be decontaminated or segregated from materials that contain a hazardous substance or material will not be recycled. Some of the larger wood beams that can be segregated from RACM are anticipated to be recycled. Some clean hard fill, including clean hard acm-free masonry and concrete materials, will be used on site for basement and underground tank filling; otherwise, all this material will be removed from the site.

9.1.4 Decontamination Water

Water may be generated during asbestos abatement and/or decontamination of demolition equipment. Decontamination waters will be disposed of based on the contamination known or presumed to be present and will be properly characterized for disposal off site by vendors who are approved through TtEC vendor/subcontractor qualification procedures.

9.1.5 Ballasts, Bulbs, Thermostats, or other Hazardous Materials or Wastes

Intact mercury-containing devices such as thermostats, thermometers, and fluorescent/HID/sodium vapor lamps will be managed as Universal Wastes. Management of these wastes under the Universal Waste rules allows less stringent storage, handling, and disposal requirements than RCRA or TSCA. If these items are discovered on-site, they will be managed in accordance with applicable regulatory requirements and polices/procedures and will be stored and accumulated in a manner that prevents breakage. These materials will be segregated and stored in a marked location with proper marking and labeling as determined by the site HSO and proper transport and disposal requirements will be identified.

Ballasts from light fixtures or other potentially PCB-containing materials may be present within the buildings. PCB ballasts or other materials will be evaluated on a case-by-case basis to determine whether they contain PCBs. In the absence of clear markings on the item that state the item is PCB free, it will be assumed to be PCB containing. The site Health and Safety Manager will perform this evaluation as well as determine proper marking and labeling and identify a storage area. These materials require packaging in UN-specification, U.S. Department of Transportation (DOT)-approved containers and storage/disposal in accordance with TSCA regulatory requirements, but they may be shipped by generators to an approved

and permitted universal waste handling facility for component recycling under the universal waste rules in lieu of landfill or incinerator.

If PCB or mercury containing articles or other hazardous materials or wastes are encountered, the NPS and TtEC Project Manager will be notified. The SSHSP contains additional information on handling these waste streams.

If potential hazardous wastes (unidentified wastes) are discovered and are included in this scope of the work, waste characterization samples will be submitted and analyzed for proper handling and disposal procedures if required for proper waste characterization.

9.2 Material and Waste Disposal Documentation

Waste information and generation will be controlled and documented in a manner that allows the tracking of each container and its contents, classification, and generation and disposal dates. Containers will be labeled to include container number, date, location, related sample numbers, company name, contact name and phone number, contents, and hazard classification if known. Waste manifests and certificates of recycling or disposal, profiles, waste characterization documentation, such as sample results, MSDS or generator knowledge, will be retained and copies included in the Project Completion Report.

A separate review and inspection of documentation will be scheduled and conducted twice during the course of the demolition project as independent verification of compliance. The designated inspectors and documentation reviewers will be identified by the Project Environmental and Safety Manager (PESM) and will have appropriate backgrounds and training to conduct the verification. All hazardous waste manifests and other shipping documentation (such as waste profile sheets, land disposal restriction notices, etc.) will be prepared for signature by a NPS representative.

A waste profile sheet is prepared (by TtEC) and signed (by NPS staff – the Generator). It is then submitted to the intended disposal facility (when required). The disposal facility issues a permit for acceptance of that waste stream at their facility and issues a permit number. Each waste stream has a profile sheet and permit, which can usually be modified as needed in the event of a change or addition. The profile sheets are typically good for 1 year. The waste that is manifested to the disposal facility must meet the profile conditions and description. Land disposal restriction certifications are only required for hazardous waste regulated under RCRA.

The in-park NPS COR (VanMouwerik or Strickland) will act as the NPS representative, with CUVA Deputy Superintendent (Carroll) being an alternate. NPS will be designated as the operator/owner (Generator) for any waste shipping and disposal, and will sign the certification documents as noted above. TtEC and McCabe personnel will not sign waste shipping manifests, but will assist the NPS in preparation and maintenance of the documents. A schedule for the signature of manifests will be coordinated with the NPS COR.

The following is a listing of disposal facilities associated with the handling of wastes generated during the demolition activities. Where “TBD” is indicated, this has not been determined. Before disposal, this

information will be passed along to TtEC and the NPS. McCabe will allow adequate advance notice (at least 1 week) to allow TtEC to perform a compliance review (TtEC EHS 1-4 procedure) of each facility before use, and will only utilize facilities that TtEC approves for shipment of waste and recyclable materials:

- Asbestos waste and debris – Minerva Landfill - 9000 Minerva Road, Waynesburg, OH 44688, (330) 866-3435
- Solid Waste Disposal (Demo debris with no regulated asbestos) – Boyas Landfill 11311 Rockside Road Valley View, OH 44125 Phone: 216-524-3620
- Decon waters – TBD
- PCB ballasts/Mercury lamps and thermostats – Fluorescent Recycling, Inc., 1624 St. Clair Avenue, Cleveland, OH 44114.
- Scrap metal and recycle – TBD

9.3 On-site Material Handling, Transportation, and Storage

Segregated material stockpiles will be located so as not to impede site traffic or cause additional hazards or environmental contamination. RACM will be kept adequately wet until containerized for transportation. Proper signage will be applied, if necessary, to accommodate worker recognition of hazards.

9.4 Sampling and Analysis

If sampling is required for waste characterization, samples will be collected in accordance with standard sample collection procedures and will be analyzed in accordance with EPA SW-846 or equivalent methods by an accredited laboratory according to the procedures in the approved QAPP (Appendix B of Final PMP [TtFW 2004]) and Field Sampling and Analysis Plan (Appendix C of Final PMP [TtFW 2004]). Sample results will be reviewed to determine waste disposal characterizations. Additional sampling for waste characterization, environmental release mitigation, and future work will be conducted prior to and during demolition activities, and is addressed in Appendix I.

9.5 Data Assessment and Reporting

Sampling data will be verified by a qualified TtEC employee to ensure that data quality objectives are met and results are correctly reported.

10. HEALTH AND SAFETY PLAN

A site-specific SSHSP including associated activity hazard analyses (AHAs) for work tasks has been prepared to ensure project objectives are met in a safe and efficient manner (see Appendix A). The SSHSP will be reviewed by the project team before the start of project activities and workers will be required to sign off that they have read and understand the plan, and that each has been instructed as to the work hazards and controls required on the project. This SSHSP will be revised where changes occur to the project scope, or other conditions arise in the field. The SSHSP is based on and is an addendum to the approved SSHSP (Appendix A of the Final PMP [TtFW 2004]).

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11. TRAFFIC CONTROL PLAN

Construction signs will be placed in the areas where construction vehicles will merge with public traffic. At the Jaite Mill road entrance (gate near Vaughn Road), a sign approximately 4 feet by 5 feet has been posted that identifies the Jaite site for emergency personnel. The sign will read:

Jaite Mill Site
1200 W. Highland Road
Entrance (*with arrow*)
Authorized Personnel Only

Public vehicular traffic will not be authorized on the access road to the Jaite site. A temporary fence will be installed to separate the towpath from the Jaite Mill access road. This fence will be extended from the northeast gate area down around the two artesian wells and connecting to the chain link fence that is currently around the site. Heavy equipment will be guided through public areas by a worker on foot. In the case that the demolition disturbs the adjacent walking/biking trail, a detour will be provided for public use.

Access and egress routes and routes of travel for personnel and equipment will be determined on-site in a manner that minimizes the potential hazards to personnel and equipment. The site is such that in some areas, traffic movement will be restricted because of activities, buildings and structures that cannot be relocated, and sensitive areas that cannot be accessed (the creek, the Erie canal remnants that are historically sensitive). It is anticipated that during demolition, traffic patterns may be altered routinely to accommodate the active work being performed. Control of traffic is identified as a significant hazard for this project and will be strictly controlled. Signage, physical barricades, or other methods will be used to provide safe traffic paths within this project site, which includes the existing fenced in area and the separation of the towpath and haul road area. The TtEC Field Superintendent will work with the demolition subcontractor and the Health and Safety Manager to ensure this job aspect remains controlled and adequately evaluated throughout the project.

Evacuation routes (primary and alternates) out of the facility and muster locations in the event of a site emergency are included in the SSHSP and on the Site Plan, Figure 3-5.

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12. REFERENCES

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Note: The names Tetra Tech FW, Inc., and Foster Wheeler Environmental Corporation are previous names for Tetra Tech EC, Inc., a wholly owned independent operating unit of Tetra Tech, Inc., since March 2003, when the assets and relevant projects of Foster Wheeler Environmental Corporation (FWENC) were acquired from Foster Wheeler and renamed to Tetra Tech FW. In January 2005, Tetra Tech FW changed its name to Tetra Tech EC to emphasize its separation from Foster Wheeler.

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Appendix A

Site-Specific Health and Safety Plan

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LIST OF ACRONYMS

ACGIH	American Conference of Governmental Industrial Hygienists
ACM	asbestos containing material
AHA	activity hazard analysis
AHERA	Asbestos Hazard Emergency Response Act
CFR	Code of Federal Regulations
CGI	combustible gas indicator
CPR	cardiopulmonary resuscitation
CUVA	Cuyahoga Valley National Park
dBA	Decibels A-weighted
EC	Emergency Coordinator
ERP	Emergency Response Plan
ESS	Environmental Safety Supervisor
°F	degrees Fahrenheit
f/cm ³	fibers per cubic centimeter
FID	flame ionization detector
FTL	Field Team Leader
GFCI	ground-fault circuit interrupter
GI	Gastrointestinal [tract]
HSM	Health and Safety Manager
HSO	Health and Safety Officer
HEPA	High efficiency particulate air
kV	kilovolt
lbs	pounds
LBP	lead-based paint
LEL	lower explosive limit
LO/TO	lock-out/tag-out
mg/m ³	milligrams per cubic meter
MHE	material handling equipment
MSA	Mine Safety Appliances
MSDS	material safety data sheet
NIOSH	National Institute of Occupational Safety and Health
NRHP	National Register of Historic Places

LIST OF ACRONYMS (continued)

O ₂	oxygen
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PEL	permissible exposure limit
PEL-C	permissible exposure limit-ceiling
PID	photoionization detector
PMP	Project Management Plan
PM	Project Manager
PPE	personal protective equipment
ppm	parts per million
QA/QC	quality assurance/quality control
RQ	reportable quantity
SCBA	self-contained breathing apparatus
SLM	sound-level meter
SS	Site Superintendent
SSHSP	Site-Specific Health and Safety Plan
TCE	trichloroethene
TLV	threshold limit value
TPH	total petroleum hydrocarbons
TSI	thermal systems insulation
TtEC	Tetra Tech EC, Inc.
TWA	time-weighted average
WBGT	wet-bulb globe temperature

1. INTRODUCTION

This Site-Specific Health and Safety Plan (SSHSP) provides general health and safety procedures and controls to be followed during demolition field activities at the Cuyahoga Valley National Park (CUVA) Jaite Paper Mill site. This plan was prepared for the use of Tetra Tech EC, Inc. (TtEC) employees, subcontractors, and visitors to the site, and is based on identified baseline site conditions, the scope of work, and key personnel. If any conditions or scope of work covered by the plan change, a site-specific health and safety addendum will be generated prior to the beginning of any work.

Elements of the plan include identification of project personnel and training requirements, site history, description of the scope of work, personnel monitoring and protection, site control, and decontamination. The plan also provides an evaluation of site and work hazards, and details emergency response and first aid procedures.

1.1 Site Overview and History

The Jaite Paper Mill site is located on the east bank of the Cuyahoga River at the confluence with Brandywine Creek at Brecksville, Ohio. Figure 1-1 shows the location of the site. The mill was originally constructed in 1905 and operated continuously until 1984, by which time the size of the plant had grown to 180,000 square feet. Figure 1-2 shows the site plan for the mill. In 1985, the mill became part of CUVA. After inclusion into the park, the mill was determined eligible for, and was listed in, the National Register of Historic Places (NRHP) and a detailed National Historic American Building Survey of the plant was performed. A fire in October 1992 severely damaged a large part of the plant, which was then deemed ineligible for the NRHP (EDG 1993).

1.2 Purpose and Need

CUVA has a responsibility to manage, preserve, and protect the cultural and natural resources of the Cuyahoga River and the adjacent lands of the Cuyahoga Valley and to provide outdoor recreation opportunities for the use and enjoyment of present and future generations. The Jaite Paper Mill site in its current condition is a potential health and safety risk to visitors and staff at CUVA, as well as posing an unattractive visual experience that no longer fits into the cultural landscape or ecological setting of the Cuyahoga Valley. The purpose of the Demolition Plan is to develop and implement restoration actions that will return the Jaite Mill Paper site to a safe, hazard-free area for public use.

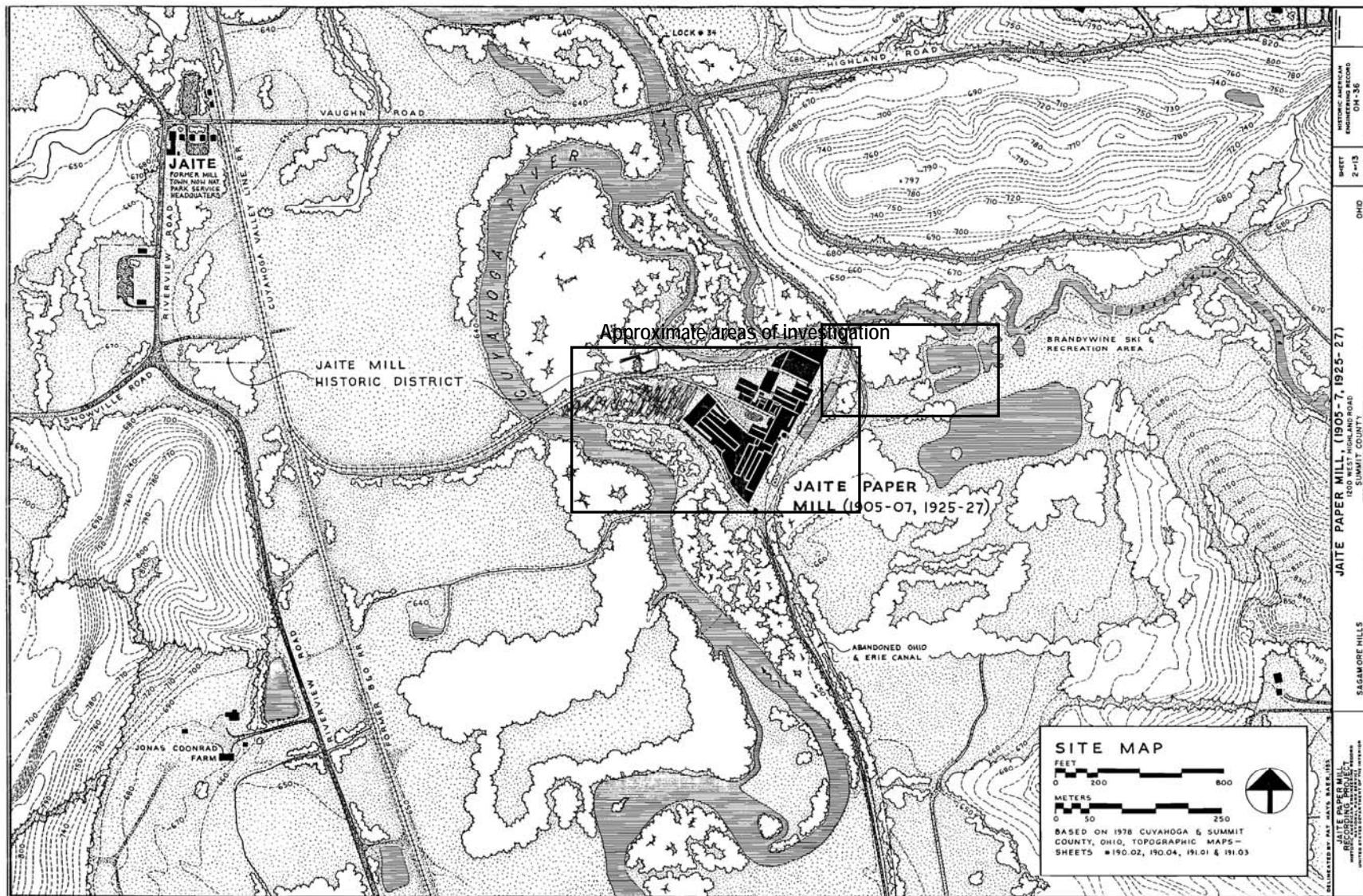


Figure 1-1. Site Location Map

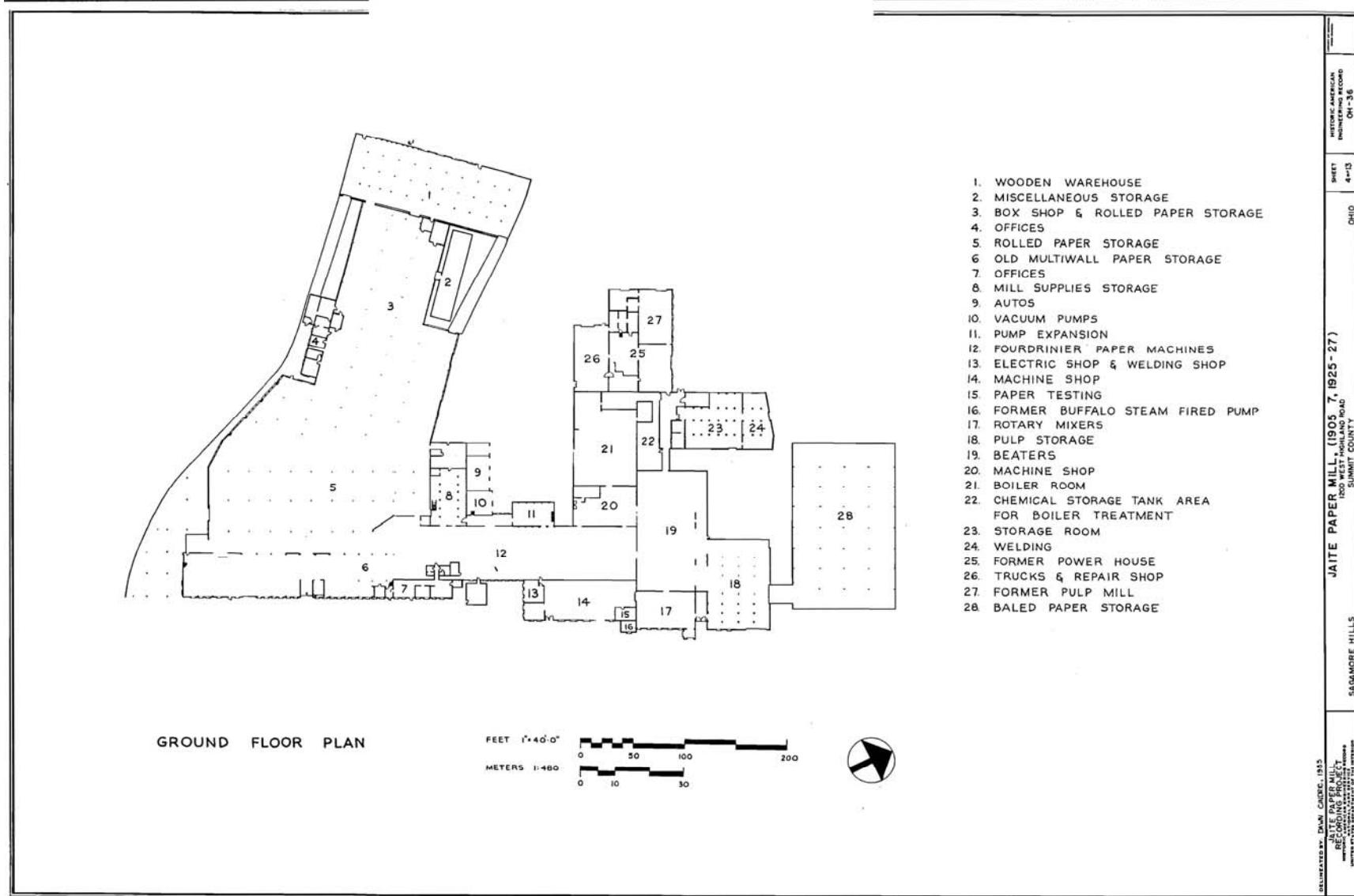


Figure 1-2. Jaite Paper Mill Site Plan

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2. ORGANIZATION/KEY PERSONNEL AND RESPONSIBILITIES

The following sections describe key project personnel and their responsibilities relative to implementing this SSHSP.

2.1 Project Manager

The PM, Carlos Henderson, is responsible for:

Ensuring the overall performance of the project;

Ensuring the health and safety of all personnel conducting site activities;

Performing regular inspections to ensure the SSHSP is being implemented;

Ensuring safe work rules and practices are enforced;

Coordinating with the Client, Site Superintendent (SS), and Health and Safety Officer (HSO); and

Implementing corrective actions.

2.2 Site Superintendent/Emergency Coordinator

The Site Superintendent (SS) and Emergency Coordinator (EC) is Rod Reese. The SS reports to the PM and is responsible for construction and construction management services. His responsibilities include, but are not limited to, the following functions:

Implementing the SSHSP and project safety performance;

Allocating necessary resources to perform assigned tasks and implement applicable H&S requirements;

Ensuring that construction-related Safety and Health requirements are incorporated into documents that govern applicable work, activities, and the procurement of services;

Ensuring establishment of appropriate procedures and instructions to meet procurement requirements, including commodity purchasing and subcontract administration;

Providing technical direction to the FTL, HSO, and subcontractor team members working on site;

Performing the duties of EC, as required;

Overseeing site access control;

Communicating with the NPS and subcontractors on construction-related matters;

Ensuring that applicable Health and Safety requirements and established procedures and instructions are passed down to lower-tier subcontractors, as applicable;

Overseeing and implementing the TtEC Training and Qualification Program;

Participating in major incident investigations; and

Functioning as the EC during a site emergency (see section 9).

The SS/EC has “stop-work authorization” if an imminent danger or potentially dangerous work practice exists.

2.3 Health and Safety Manager

The project HSM, Phil Bartley, is responsible for ensuring that this SSHSP meets all TtEC corporate health and safety guidelines, policies, and procedures as well as applicable health and safety laws and regulations. Additional responsibilities include the following:

Establishing project health and safety standards and guidelines;

Reviewing and approving changes to the plan;

Investigating accidents and near misses;

Planning, coordinating, and implementing project health and safety procedures;

Providing industrial hygiene and safety guidance to the HSO;

Ensuring that health and safety records are maintained and updated;

Conducting site audits, including audits of subcontractors; and

Maintaining a working knowledge of applicable federal, state, and U.S. Department of Defense health and safety standards.

2.4 Health and Safety Officer/Quality Control Manager, and Environmental Compliance Manager (alternate EC)

The site HSO, Jennifer Fadden, is responsible for assisting the PM and HSM to implement the requirements of this plan and to ensure that the work is being performed in accordance with this SSHSP. The HSO is the alternate EC in the event the SS is off site or unavailable. Specific duties of the HSO include:

Overseeing on-site activities and assisting the FTL, SS, and site workers in health and safety issues;

Conducting site-specific health and safety training;

Ensuring daily health and safety briefings are conducted;

Managing, inspecting and calibrating health and safety equipment;

Implementing changes to this SSHSP to reflect changes in site procedures;

Maintaining health and safety records;

Investigating accidents and incidents (including near misses);

Maintaining copies of the TtEC corporate health and safety manual and copies of this SSHSP on-site;

Conducting site inspections; and

Taking corrective actions, as necessary.

The HSO has “stop-work authorization” if an imminent danger or potentially dangerous work practice exists. Authorization to proceed with work will be verified by the HSM.

2.5 Field Team Leader

The FTL (Joe Adelman) will directly oversee and supervise work crews on site. The FTL will report to the HSO on site safety matters and to the SS on other matters such as schedule and construction activities in the field and to the Demolition Manager (Ed McCabe) on other matters. The FTL has the responsibility to implement the SSHSP. He will investigate all incidents in their work Specific duties of the FTL include:

Supervision and oversight of the asbestos abatement crew operations and other work crews;

Ensuring that workers have access to and are using appropriate PPE and work methods;

Full implementation of the SSHSP during field operations;

Conducting asbestos related air monitoring;

Ensuring that work is performed in accordance with OSHA engineering surveys performed by the Demolition Competent Person;

Ensuring that the work site is maintained in good order (housekeeping and free of hazards) and that debris and waste is placed into appropriate containers promptly;

Ensuring that near misses or incidents are reported to the HSO and assisting in incident investigations and corrective action;

Assists HSO in revising AHAs or work practices should changes to the SSHSP or work plans become necessary; and

The FTL is the Asbestos Competent Person (Asbestos Supervisor).

The FTL also has “stop work authorization” if an imminent danger or potentially dangerous work practice exists.

2.6 Demolition Manager

The Demolition Manager is Ed McCabe, P.E. The Demolition Manager will be the on-site field engineer. He will also perform the OSHA engineering surveys for demolition as the Competent Person.

2.7 Team Members

Team members include the TtEC and McCabe employees and subcontractors that work at the Jaite site, including, but not limited to managers, supervisors, operators and laborers. All team members including subcontractors have the responsibility to report any unsafe or potentially hazardous situations to the FTL

or HSO. Team members will maintain knowledge of the information, instructions, and emergency response actions contained in the SSHSP and will comply with the rules, regulations, and procedures as set forth in the SSHSP. Team members have Stop Work authority for imminent danger conditions, and shall notify the FTL, HSO, or SS on site of any unsafe condition. Team members are responsible for:

- Understanding and complying with health and safety requirements;
- Attending recommended daily safety meetings regarding the hazards and levels of protection required for the project before work begins;
- Attending weekly health and safety meetings as required by the Occupational Safety and Health Administration (OSHA) regulations; and
- Notifying the FTL immediately of any work-related injury, illness, spill, release, permit exceedence, or environmental or safety hazard issue at the work site.

Contractor Acceptance and Field Team Review sheets for this SSHSP are contained in Attachment 1.

2.8 First Aid/CPR Personnel

A sufficient number of jobsite supervisors, safety representatives, or persons in direct charge of crews shall be current in First Aid/CPR training. A minimum of one person, holding a valid certification of First Aid CPR training shall be present at all times at each jobsite. They will be also trained in universal precautions and the use of PPE as described in the Bloodborne Pathogens Standard of 29 CFR 1910.1030.

2.9 Subcontractors

Different subcontractors may be used during the completion of the field activities. Prior to awarding a subcontract for any work on site, the subcontractors will be evaluated under EHS 1-4 Subcontractor Review procedures, and are subject to TtEC approval. This includes transporters who will be hauling waste materials off site, performing work on site, and review of intended disposal or recycling facilities.

Appropriate Safety and Health contract terms will be included in subcontracts for work on the project and all subcontractors must comply with the applicable portions of the SSHSP. Subcontractors will not be allowed to enter the work zones until they have met the qualifications of the SSHSP and been properly briefed by the HSO. Subcontractors performing work in the exclusion zones or working with hazardous materials will be trained as hazardous waste workers, and those working with specific hazards, such as lead or asbestos will have required training.

2.10 Visitors

With the approval of the Superintendent and the HSO, visitors without full training and qualifications may be allowed into work areas for limited times with the following conditions:

All hazards are identified and below the permissible exposure limit (PEL) for airborne contaminants.

All work activities in the area are stopped or suspended.

All individuals are escorted with a direct controlling escort at all times.

All visitors are dressed appropriately. Visitors are required to supply their own steel-toed safety boots. Visitors will be provided with a hard hat, safety glasses (non prescription only), and high visibility vest that can be checked out at the Field Office and checked back in after use. These items will be required on site in any active work areas. Respiratory protection, medical clearance, and fit tests will not be provided for visitors, but visitors are required to adhere to the site rules and applicable regulations when entering a controlled work area. No entries will be made into exclusion areas.

2.11 Competent Persons

Competent persons as defined by OSHA are those individuals who are capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has the authority to take prompt corrective measures to eliminate them. Competent Persons are required for numerous activities that may be performed during the project. The TtEC HSM will evaluate individuals for designation as competent persons based on education and experience. This SSHSP will identify when a competent person is required and the individuals who have been charged with the responsibility. Ed McCabe is the OSHA Building Survey Competent Person and Demolition Competent Person. Joe Adelman is the asbestos competent person. Mr. Adelman is also qualified and trained in fall protection and confined space entry and can perform these functions as the competent person in the event that this is required.

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3. POTENTIAL HAZARDS

Potential hazards associated with activities at the CUVA Jaite Paper Mill site include chemical, environmental, physical, and biological hazards. Most of the work will be performed outdoors.

3.1 Chemical Hazards

Potential contaminants include asbestos, lead, crystalline silica, polychlorinated biphenyls, benzene, mercury, trichloroethene (TCE), total petroleum hydrocarbons (TPH), and toluene. Table 3-1 and the following sections summarize the chemical hazards that may be present at the project site. Material safety data sheets (MSDS) will be maintained at each work site.

Table 3-1. Chemical Hazards Assessment

Chemical Name	PEL/TLV ^a	Route of Exposure	Symptoms of Exposure	Target Organs
Asbestos	PEL = 0.1 f/cm ³ TLV = 0.1 f/cm ³	Inhalation, ingestion, skin and/or eye contact	Asbestosis (chronic exposure): dyspnea (breathing difficulty), interstitial fibrosis, restricted pulmonary function, finger clubbing; eye irritation; potential occupational carcinogen	Respiratory system, eyes
Lead (paint, dust)	PEL = 0.05 mg/m ³ TLV= 0.15 mg/m ³	Inhalation, ingestion	Abdominal discomfort, headaches, high blood pressure, irritability or anxiety, loss of appetite	Soft tissues, bones, liver, kidneys
Silica (as respirable dust)	0.1 mg/m ³	Inhalation, ingestion	Increased risk of a scarring lung disease called silicosis. Silicosis can be progressive and disabling. Silica is identified as a human carcinogen. Other impacts from Silica exposure may include increased susceptibility to tuberculosis and some kidney disorders.	Respiratory system kidneys.
Polychlorinated biphenyls	0.001 mg/m ³ (respirable); 0.5 mg/m ³ for dermal	Ingestion, skin contact	Rashes and acne type symptoms upon skin contact	Liver
Benzene	PEL = 1 ppm TLV = 0.5 ppm	Ingestions, inhalation, eye and skin contact, absorption	Headache, nausea, vomiting, respiratory irritation, blurred vision, skin and eye irritation	Central nervous system, eyes, skin, bone marrow, respiratory system
Mercury	PEL 0.025mg/m	Inhalation, skin absorption, eye and skin contact.	coughing, chest pains, headache, fatigue, salivation, weight loss, and skin and eye irritation	Central nervous system
TCE	PEL = 100 ppm TLV = 50 ppm	Ingestion, skin absorption, eye contact, inhalation	Ataxia, dizziness, headache, nausea, eye and skin redness, drying, diarrhea, vomiting	Liver, kidneys, skin, eyes, central nervous system

Table 3-1. Chemical Hazards Assessment (continued)

Chemical Name	PEL/TLV ^a	Route of Exposure	Symptoms of Exposure	Target Organs
TPH	PEL = 500 ppm	Ingestion, skin absorption, eye contact, inhalation	Irritation, burning and redness in eyes, skin irritation, cough and chest pain	Skin, eyes, respiratory system
Toluene	PEL = 200 ppm TLV = 50 ppm	Inhalation, skin absorption, eye contact, ingestion	Headache, dizziness, anesthesia, drowsiness, loss of consciousness, brain damage, possibly death	Lungs, skin, eyes, respiratory tract

^a Values are from ACGIH (2004).

PEL = permissible exposure limit; TLV = threshold limit value; mg/m³ = milligrams per cubic meter; mg/m = milligrams per meter; ppm = parts per million; TCE = trichloroethene

3.1.1 Asbestos

Asbestos is a white or white-brown fibrous mineral with a high heat capacity that has been used for decades as an insulating material for pipes, wall paneling, roof structures, and flooring, to name a few. Asbestos or asbestos containing material (ACM) may also be found as an additive to certain paints and sealants. Unless disturbed, asbestos poses no risk. If suspended in the air and inhaled consistently over many years, however, asbestos can cause fibrosis of the lung (a condition called asbestosis) and possibly lung cancer and/or cancer of the gastrointestinal (GI) tract. Asbestos does not pose a health hazard from other routes of exposure. Wet methods are used to control airborne fiber release whenever asbestos contamination is encountered. The use of respiratory protection is also normally required to control worker exposures when this material is handled. The 8-hour time weighted average permissible exposure limit for asbestos is 0.1 fibers per cc (f/cc).

Some sources of asbestos at the Jaite Paper Mill site include Galbestos™ roofing, built up tar based roofing, thermal system insulation (TSI), floor tile, miscellaneous gaskets and cementitious (or Transite™) siding and roofing.

At the Jaite Paper Mill asbestos is known to exist in numerous forms and locations and much of it is in friable and poor condition. Many of the building areas are structurally unsound and in danger of imminent collapse and workers will not be able to abate the asbestos prior to demolition. Wet methods will be used in areas where friable ACM cannot be removed prior to demolition. Asbestos surveys of the site have been completed under prior contract. If additional asbestos samples will be collected, they will be collected by an asbestos hazard emergency response act (AHERA) accredited asbestos building inspector.

Asbestos will be removed, by asbestos workers under the supervision of an asbestos competent person in accordance with 29 CFR 1926.1101.

Engineering controls and PPE, which shall be instituted to control potential employee exposure to asbestos, include, but are not limited to, the following:

Only trained and certified asbestos workers who participate in a medical surveillance program shall perform asbestos abatement;

Personnel shall be instructed to limit the disturbance of known or suspected ACM; Proper work procedures, PPE use, and decontamination methods will be used for the class of work being performed; If known or suspected ACM must be disturbed prior to abatement activities, proper exposure controls such as wetting the materials with amended water prior to disturbance shall be instituted; Structures being demolished shall be wetted with water prior to, during and immediately following demolition activities.

3.1.2 *Silica*

Silica may pose an exposure risk when cutting, breaking or crushing concrete or if roadways are allowed to become dusty [silica is common in soil]. The use of wet methods (dust suppression) and respiratory protection, if required during work, will control this exposure.

Exposure to respirable silica, such as silica sand, may increase the risk of a scarring lung disease called silicosis. Silicosis can be progressive and disabling. Silica is identified as a human carcinogen. Other impacts from Silica exposure may include increased susceptibility to tuberculosis and some kidney disorders. The OSHA PEL is dependent upon the concentration of Silica. The TLV, which is more restrictive than the PEL is 0.1 milligrams per cubic meter (mg/m^3).

3.1.3 *Lead*

Lead is a systemic poison that affects a variety of organ systems, including the nervous system, kidneys, reproductive system, blood formation, and GI system. The most important way lead enters the body is through inhalation, but it can also be ingested when lead dust or unwashed hands contaminate food, drink, or cigarettes. Once in the body, lead enters the bloodstream and circulates to various organs. Lead concentrates and remains in bone for many years. The amount of lead the body stores increases as exposure continues, with possibly cumulative effects.

An acute, short-term dose of lead could cause acute encephalopathy with seizures, coma, and death. However, short-term exposures of this magnitude are rare. Irreversible kidney damage can occur from acute exposure, as well as anemia.

Symptoms of chronic, long-term overexposure include appetite loss, nausea, metallic taste in the mouth, lead line on gingival tissue, constipation, anxiety, anemia, pallor of the face and the eye grounds, excessive tiredness, weakness, insomnia, headache, nervous irritability, fine tremors, numbness, muscle and joint pain, and colic accompanied by severe abdominal pain. Paralysis of wrist and, less often, ankle extensor muscles may occur after years of increased lead absorption. Kidney disease may also result from chronic overexposure, but few, if any, symptoms appear until severe kidney damage has occurred. Decreased sex drive, impotence, and sterility in men; and decreased fertility, abnormal menstrual cycles, and miscarriages in women characterize reproductive damage. Unborn children may suffer neurological damage or developmental problems due to excessive lead exposure in pregnant women. Lead poisoning's

most severe health effect is encephalopathy manifested by severe headache, convulsions, coma, delirium, and possibly death.

Sources of lead include previous storage of leaded gasoline (may be in the soil or present in tanks or fuel lines), and building or equipment paint. Lead paint or oxides may deteriorate and fall to the ground, creating lead contamination in adjacent soils.

The potential for lead must be evaluated prior to hot work on any coated surface. Controls for lead include removal by means that do not put lead particulates into the air (low speed saws and shears) and removal using solvents (such as paint strippers). Other hazards are presented when solvents are used during lead removal that should also be considered. The PEL for lead is 0.05 mg/m³.

3.1.4 Polychlorinated Biphenyls

Polychlorinated biphenyls (PCBs) were widely used in electrical equipment in the 1950-80 timeframe. The materials had a high coefficient for cooling and were nonconductive. They were widely used in liquid form as the coolant in electrical transformers. PCBs were also used in light ballasts. PCBs were used as an additive to paints in the 1950s.

PCBs were evaluated during past site investigations and sources of PCBs are believed to be gone, however some materials that could contain PCBs (ballasts and capacitors) were observed within the building during a site walk and will require removal and disposal.

PCB can be ingested and are difficult for the body to eliminate. Dermal contact with concentrated PCB can cause rashes and acne type symptoms. Proper personal protective equipment (PPE) will be worn during any work activities in which contact with liquid PCBs in concentrations greater than 50 parts per million (ppm) is expected. The National Institute of Occupational Safety & Health (NIOSH) permissible exposure limit—time weighted average (PEL-TWA) for PCBs is 0.001 mg/m³ (respirable). The OSHA PEL-TWA is 0.5 mg/m³ for dermal contact.

3.1.5 Mercury

The health effects of mercury exposure are dependent on its chemical form. Elemental mercury is toxic by inhalation, skin absorption, and eye and skin contact. Symptoms of exposure include coughing, chest pains, headache, fatigue, salivation, weight loss, and skin and eye irritation. The primary target organ of elemental mercury is the central nervous system, resulting in damage to sensory systems. The PEL-TWA for exposure to mercury vapor is 0.05 mg/m³.

Inorganic mercury compounds are toxic by inhalation, ingestion, skin, and eye contact. Acute poisoning results in lung damage. Chronic poisoning typically produces four classical symptoms: gingivitis, salivation, increased irritability, and muscle tremors. Delirium and other psychological abnormalities can also result from chronic exposures. Inorganic mercurials also have a corrosive effect on the alimentary canal, and kidney damage can result from exposure. The current PEL-C (ceiling) limit for inorganic mercury is 0.1 mg/m³. At the Jaite Paper Mill site, at least one mercury switch device was observed within a structure and several fluorescent lamps remain within fixtures. These devices are currently enclosed within manufactured articles where mercury exposure would only occur upon breakage. To the

extent possible, mercury articles will be removed intact from buildings and packaged for disposal/recycle in a manner that prevents breakage. Bulbs that cannot be removed prior to demolition will be handled within the demolition debris waste stream. The amount of mercury is not substantial such that air monitoring for exposure will be required unless breakage of a thermostat containing liquid mercury occurs and requires cleanup. The HSO will be notified of any broken thermostats or in the event that other articles are discovered.

3.1.6 Other Chemicals of Concern

Historic spill areas within the building or areas around the Jaite Paper Mill site may be contaminated with oils or other chemical substances used during plant operation. Most of these areas do not present a substantial health and safety concern during the demolition phase of work, but could present a hazard when performing soil work or disturbing contaminated soil areas, either in basements or the perimeter of the demolition areas.

It is also possible, that other previously unidentified chemicals may be encountered during work activities, which will require characterization and sampling to determine proper handling (including PPE) and disposal. These items, if identified, will be reported to the HSO so they can be evaluated and reported to the NPS. Additional sampling has been identified and has been addressed within a modified statement of work, which is included in Appendix I of the Demolition Plan. The samples proposed in the modification cover waste characterization, spill prevention, pre-demolition samples, and future work. It is possible that more sampling will be identified over the course of the demolition, as some buildings are inaccessible.

3.2 Hazard Communication

The HSO will ensure that a list of hazardous chemicals is developed for each work site and that current MSDS are obtained and maintained onsite for all chemicals procured. Each container of hazardous chemicals at the work site shall be labeled, tagged, or marked in accordance with 29 CFR 1910.1200.

The HSO will ensure that personnel working under this SSHSP receive site-specific training that covers the chemical, environmental, physical, and biological hazards associated with the tasks to which they are assigned. This training will include the potential hazards of chemicals procured for each activity, how to read an MSDS, and notification of the location where the MSDS are maintained. Site-specific training shall be documented in the workers' training files or on the Safety Briefing Sign-In Sheet (Attachment 5).

3.3 Environmental Hazards

Most of the work will be performed outdoors and in and around dilapidated structures. Other hazards are known to exist at the site and consist of soil piles and wire twist piles that are around the area where demolition will occur. Adverse weather is always a possibility and should be discussed with personnel during health and safety briefings as appropriate. Exposure to temperature extremes shall be controlled in accordance with *Temperature Extremes, EHS 4-6* and the weather forecasts will be monitored for preparedness.

3.3.1 Cold Stress

Outdoor work activities performed at the Jaite Paper Mill site in the winter months can pose a cold stress hazard to personnel. Potential hazards in cold environments include frostbite, trench foot or immersion foot, and hypothermia, as well as slippery surfaces and brittle equipment. Localized injuries resulting from cold are included in the generic term “frostbite.” There are several degrees of damage. Frostbite of the extremities can be placed into the following categories:

Frost nip or incipient frostbite, which is characterized by sudden blanching or whitening of skin.

Superficial frostbite, which is characterized by skin that presents a waxy or white appearance and is firm to the touch and by resilient tissue.

Deep frostbite, which is characterized by cold, pale, and solid tissue. This condition indicates an extremely serious injury.

Systemic hypothermia is caused by exposure to freezing or rapidly dropping temperatures. Its symptoms usually present in five stages: (1) shivering; (2) apathy, listlessness, sleepiness, and (sometimes) rapid cooling of the body to less than 95 degrees Fahrenheit ($^{\circ}\text{F}$); (3) unconsciousness, glassy stare, slow pulse, and slow respiratory rate; (4) freezing of the extremities; and (5) possibly death.

There is a tendency for workers in a cold environment to exhibit poor judgment and take short cuts. Workers should monitor themselves and their coworkers for signs of cold stress and notify the FTL and HSO immediately should symptoms become apparent. Current American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit value (TLVs) for cold stress should be used as a guideline. In general, the FTL shall follow these procedures to reduce cold stress:

Install heaters in the support zone and/or trailers to provide a warming area for site personnel;

Provide warm, sweet drinks and/or soups at the work site to provide caloric intake and fluid volume (coffee intake should be limited because of diuretic and circulatory effects);

Rotate workers in shifts;

Carefully schedule work and rest periods; and

Monitor workers’ physical conditions.

3.3.2 Heat Stress

Activities during the summer months may expose workers to temperatures exceeding 77 $^{\circ}\text{F}$. When activities are conducted during warm temperatures, heat stress may become a hazard. Heat stress additionally can be a hazard in the winter due to the layering of clothing and increased energy needed to perform work tasks. The FTL shall provide work conditions that prevent heat stress. In general, the FTL shall follow these procedures to reduce heat stress:

Have workers drink 16 ounces of water before beginning work, e.g., in the morning or after lunch.

Provide disposable, 4-ounce cups and water that is maintained at 50 to 60 $^{\circ}\text{F}$. Urge workers to drink one

or two of these cups of water every 20 minutes, for a total of 1 to 2 gallons per day. Provide a cool, preferably air-conditioned, area for rest breaks. Discourage the use of alcohol in nonworking hours and discourage the intake of coffee during working hours. Monitor for signs of heat stress.

Acclimate workers to site work conditions by slowly increasing workloads, e.g., do not begin site work activities with extremely demanding activities.

Encourage the use of sunscreen lotion with a skin protection factor of 15 or greater for protection of exposed areas of the skin.

Provide cooling devices to aid natural body ventilation. These devices add weight, however, so their use should be balanced against worker efficiency. An example of a cooling aid is cotton long underwear, which acts as a wick to help absorb moisture and protect the skin from direct contact with heat-absorbing protective clothing.

Make certain that adequate shelter is available to protect personnel against heat, which can decrease physical efficiency and increase the probability of heat stress. If possible, set up a rest area in the shade.

Workers should monitor themselves and their coworkers for signs of heat stress and notify the FTL and HSO immediately should symptoms become apparent. The following symptoms are examples of heat-related stress that may be encountered:

Heat rash: caused by continuous exposure of skin to heat and humid air; aggravated by chafing clothes.
Signs: A decreased ability to tolerate heat and obvious signs of discomfort.

Heat cramps: caused by profuse perspiration with inadequate fluid intake and chemical replacement (especially salts). Signs: muscle spasms and pain in the extremities and abdomen.

Heat exhaustion: caused by increased stress on various organs to meet increased demands to cool the body. Signs: shallow breathing; pale, cool, moist skin; profuse sweating; dizziness; and fatigue.

Work-rest regimes are based on ambient temperature and level of PPE worn. For strenuous field activities that are part of ongoing site work activities in hot weather, the following procedures shall be used, even if workers are not wearing impervious clothing, to monitor the body's physical response to heat and to manage the work cycle. These procedures shall be implemented when the ambient temperature of the work area exceeds 70° F. Three means are available to measure the physiologic responses to heat stress: heart rate, oral temperature, and body water loss. Personnel working in impermeable protective clothing will be monitored for work time based on temperature, humidity, and physiological monitoring. Local Wet-Bulb Globe Temperature (WBGT) indexes will be used for other personnel.

One or both of the following physiologic monitoring methods will be used for work conducted in protective clothing:

Measure heart rate by monitoring the radial pulse for 30 seconds as early as possible in the resting period. The heart rate at the beginning of the rest period should not exceed 110 beats per minute. If the heart rate

is higher, the next work period is shortened 33 percent, and the length of the rest period stays the same. If the pulse rate still exceeds 110 beats per minute at the beginning of the next rest period, the following work cycle is further shortened by 33 percent. The procedure is continued until the resting pulse rate is maintained below 110 beats per minute.

Measure body temperature with a clinical thermometer (either oral or using an ear temperature thermometer) as early as possible in the resting period. Temperature at the beginning of the rest period should not exceed 99°F. If it does, the next work period is shortened by 33 percent, and the length of the rest period stays the same. However, if the body temperature exceeds 99.6°F at the beginning of the next period, the following work cycle is further shortened by 33 percent. Body temperature is measured again at the end of the rest period to make sure that it has dropped below 99°F. Anyone with a body temperature exceeding 100.6°F shall not wear impermeable clothing.

3.3.3 Snow/Ice

Snow and ice are common during the winter months and can build up around the structures. Caution should be used when working in these areas. Sidewalks and work areas should be shoveled and cleared of ice before work is begun to reduce the possibility of slips and falls.

3.3.4 Lightning

Lightning is possible during spring, summer, and fall months and workers should watch for its occurrence, particularly in the afternoon. If lightning is observed in the area, equipment in use will be shut down and personnel will be informed to seek shelter within a solid structure (such as site trailers or within fully enclosed vehicles). TtEC adheres to the National Lightning Safety Institute guidelines. Outdoor work will not resume until a minimum of 30 minutes from the last observed lightning or thunder occurrence.

Lightning's distance from you is easy to calculate: if you hear thunder, it and the associated lightning are within auditory range or about 6 to 8 miles away. The distance from Strike A to Strike B also can be 6-8 miles. A good lightning safety motto is: "If you can see it (lightning) flee it; if you can hear it (thunder), clear it."

3.3.5 Tornadoes

Tornadoes are possible during the spring, summer, and fall months. As with lightning, turbulent weather should be avoided. If a tornado is spotted, work will cease and workers will be informed to seek shelter in a low-lying area or in a designated shelter building, and to stay away from doors and windows.

3.3.6 Wind

Wind may also be an issue, particularly during demolition operations or work from heights. High winds may cause elevated work platforms or equipment to become unstable and unsafe to operate and may cause debris to become airborne where it could strike workers. Wind also disperses dusts and particles particularly during dry conditions, which can get into workers eyes or respiratory tract. Wind conditions will be monitored and operations will be restricted as appropriate. Operation of man lifts will be restricted according to manufacturer recommendations, location, and exposure to wind that is sustained or

gusting at 20 mph or greater, and on a case-by-case basis by the HSO and FTL depending on the nature of the work and location of the work if winds of lesser speeds could cause unsafe conditions.

Dust control and fugitive particle control will be maintained at all times during work. If positive dust control cannot be maintained, the work activity will be suspended until such time as control can be maintained.

3.4 Physical Hazards

This section provides a description of the physical hazards that are associated with the planned field activities.

On-site personnel will be provided with the information and training necessary to avoid accidental injury and to assist in the recognition and control of workplace hazards. Workers are instructed to report and to help correct unsafe acts or conditions. Basic PPE (steel-toed boots, hard hats, and safety glasses) will be available and used during field activities (see Section 6). Workers will additionally wear high visibility, reflective vests (or equivalent) when working around heavy equipment or traffic.

Basic PPE will be available for site visitors, e.g. NPS staff, which will consist of hard hats, high visibility vests, and safety glasses. Steel-toed safety boots will not be provided for visitors, but are also required onsite in addition to the other PPE in regulated or hazardous areas or in areas where active work is being performed. TtEC will not provide respiratory protection, fit tests, or medical clearances for visitors who require or request entry into exclusion zones (i.e. asbestos work areas) such as NPS staff, however entry into these areas will be restricted to those persons who fulfill these requirements and provide necessary documentation.

Section 4 discusses Activity Hazard Analyses (AHAs). AHAs for work activities can be found in Attachment 4. AHAs may require modification as field conditions or work methods and procedures change. The FTL, SS, and HSO will work together to identify changed conditions and modify the AHAs appropriately.

3.4.1 Demolition Controls

Demolition work presents several hazards different from that of construction, in that buildings and structures may be in a poor or unknown condition of structural integrity and the addition of equipment or the wetting of components during asbestos abatement can create load stress above those normally carried by the structure. It is sometimes necessary to reinforce buildings prior to demolition. The Jaite Paper Mill demolition is, in part being performed under an emergency demolition order as portions of the structure are structurally unsound and in danger of imminent collapse. A letter from the Sagamore Hills Township authorizing the emergency demolition of structurally unsound, in danger or imminent collapse structures in accordance with the asbestos NESHAP requirements has been obtained and is located in Appendix D in the Demolition Plan. While demolition procedures are addressed in the Demolition Plan, the following will be applied to all demolition performed, to address the requirements of 29 CFR 1926.850 *Demolition*.

Prior to the start of demolition activities (defined as loading of floors while moving equipment, loading of roofs with personnel or equipment, cutting or removal of any structural building component, or excavation in the vicinity of the foundations) an engineering survey will be completed for each building. This survey will determine the condition of the structural framing, floors, walls, ladders, and stairs and to evaluate the possibility of unplanned collapse of any portion of the structure. A professional engineer will complete the survey. These reports will be maintained as project records.

Areas that are deemed structurally unsound or in danger of imminent collapse will be prioritized for demolition to the extent practical. The nature of the Jaite Paper Mill site includes many areas that fit this description. Demolition activities will be performed in a manner that does not present a hazard to personnel in other areas of the mill. During demolition, no personnel shall be within any other structure or within a fall radius around the structure being demolished. The Competent Person will define safe routes and work areas for each phase of demolition.

Any subsequent damage to a facility or structure, such as a fire, excess snow or ice loading, undermining of foundations by flood, etc., will be cause for a follow-up survey by a competent person to determine the structural integrity before having any personnel reenter.

Prior to structural demolition, utilities will be physically disconnected (e.g., electrical leads cut or lifted and folded back, pipes isolated and/or cut, sewers plugged, capped or otherwise controlled outside the building area. Verification of utility disconnection will be a prerequisite to demolition. If all utilities are not disconnected, physical marking of those lines that have been de-energized will be required and a physical verification of no energy will be required before any demolition work on or near them.

Utilities that will remain, or are to be demolished later will be de-energized (locked out) and protected, or preferably relocated outside of the demolition area.

Temporary utilities required for demolition work, such as lighting, air-handling equipment, or water suppression will be installed separate from the building systems.

A pre-demolition checklist will be completed (if necessary) as a prerequisite to demolition to determine if hazardous materials are present, including those that may be present inside partially drained piping, tanks, and related equipment. If identified, these items will be removed to the extent possible prior to demolition. Additionally, since asbestos is known to be present, abatement will be conducted as required, prior to demolition, except for the areas deemed structurally unsound. Asbestos abatement is addressed in more detail in the Asbestos Abatement Plan, Appendix D.

During demolition preparation, openings in floors (basements, trenches, sumps, pits, etc., will be covered and fall prevention measures will be taken where applicable. If work will proceed over the floor openings, the coverings will be sufficient to support personnel, equipment and any loads that may travel over it, without failure or movement. Wall openings will have fall protection installed to a height of 42 inches. When wall openings are used for removal of equipment, the area inside will be barricaded and personnel working within the barricaded area will use fall protection equipment.

Demolition debris may be dropped provided that either (1) an enclosed chute is used that projects above the floor a minimum of 42 inches and 6 feet back from the projected edge of the opening above complying with OSHA 1926.850, or (2) debris may be dropped through holes in floors or walls. The area below, plus a safety zone for materials that may bounce or deflect will be barricaded and signs posted indicating the falling materials hazard. No access to the areas below chutes or drop areas is allowed unless debris handling is halted. Debris that contains hazardous materials that could be spread by dropping will be wrapped if necessary, and lowered to the ground level.

Once demolition has started on the structure, a demolition area must be maintained. Entrances (doors, stairs, or traffic paths) must be barricaded or secured to prevent entry. Demolition areas will be large enough to allow equipment to operate and to prevent demolition debris from flying, rolling or bouncing outside the area (generally a minimum of 75 feet or 150 percent of the height of the structure). If at any time during demolition, individuals are spotted in the demolition area, work will stop immediately until the individual can be removed and the situation corrected to prevent entry by others.

Demolition equipment working within the demolition area will be equipped with appropriate debris guards over the cab windows, cab windows will be in good condition, and cabs will be equipped with overhead protection devices.

Personnel are not allowed to enter roll off bins or truck beds once debris has been placed in them. If materials need to be moved or compressed, heavy equipment will be used.

Walls will not be used for stacking/piling debris against, unless it is shown that the wall can safely support the lateral load.

Buildings will be dismantled in a column by column manner or removing an entire section/area at a time.

Only personnel required to be in the area to support the demolition work will be allowed when the structure is being demolished. Dust suppression personnel will be stationed sufficient distances back to avoid being struck by flying debris. Individuals in elevated aerial lifts will remain upwind of dust and a sufficient distance away to avoid flying debris.

The Demolition Manager (competent person) will regularly inspect the area during demolition preparation and demolition to detect potential hazards from weakened structures or loosened materials.

When structures are to be pulled down, the pulling attachments and lines will be installed prior to structural weakening.

3.4.2 Slips, Trips, and Falls

Slip, trip, and fall hazards will be addressed by keeping the work area as free of debris and other litter and encouraging workers to maintain an “eyes on” approach and to watch where they are walking.

Housekeeping will be maintained on a daily basis. Site workers will wear high traction, safety-toed boots and pay careful attention to surface conditions. The work areas will be inspected as part of daily activities to identify hazards that could cause injury. The results of the inspections will be communicated with site personnel as necessary.

Spills of any substance will be cleaned up immediately using an absorbent material, rags, or the equivalent in an effort to eliminate a slip hazard.

Field areas and footpaths will be leveled or improved to provide safe travel routes and walking surfaces. Barricades will be put into place around areas that are unsafe to enter or present fall hazards (i.e., trenches, excavations, pits, basements, or holes). Items that present an impalement or cut hazard should an employee fall on it, step on it, or graze it (such as rebar, cut structural supports, protruding wire or other items) will be removed, cut or smoothed to grade, or be flagged or tagged in bright color paint or ribbon if cutting is not feasible.

3.4.3 Housekeeping

Good housekeeping is integral to the safety program. A high standard for housekeeping in our work areas will be maintained at all times. Debris will be promptly removed from the demolition areas. Walkways and traffic areas will be kept free of materials. All workers are expected to assist in maintaining the site and the expected level of housekeeping. This includes the following:

During demolition, work areas shall be kept reasonably clean;

Trash, refuse, waste, and scrap materials shall be removed and placed in appropriate containers for disposal (contaminated materials and wastes will be stored in designated storage areas); and

PPE worn in an exclusion zone will not be worn where personnel eat or take breaks.

3.4.4 Illumination

When working at night or within darkened buildings, the jobsite will be lighted in accordance with the illumination requirements of 29 CFR 1926.56 (5-foot candles for general area, warehouses, halls, etc.; 3-foot candles general lighting for excavation and waste areas, outdoor storage areas, field maintenance areas, and refueling areas; and 10-foot candles for shops and other related areas). Only explosion proof lighting equipped with ground-fault circuit interrupters (GFCIs) will be used in confined spaces or spaces with the potential for explosive conditions. Light fixtures will be equipped with guards to prevent damage to bulbs and injuries to site personnel. Metal case sockets must be grounded. Portable lighting in wet or conductive locations should be 12 volts or less.

3.4.5 Electrical

OSHA regulations require employees who may be exposed to electrical equipment to be trained to recognize the associated hazards and appropriate control methods. Extension cords used for portable tools or other equipment must be designed for hard or extra usage and be grounded (three-wire) and rated for outdoor use.

Single-phase, 120-volt, 15- and 20-ampere receptacle outlets must be equipped with GFCIs. GFCI units must be attached directly to or be located as close as possible to the receptacle. GFCI units located away from the receptacle will not protect any wiring between the receptacle and the GFCI unit. Only the wiring plugged into the GFCI and outward will be protected by the GFCI. Portable tools requiring electrical power should also be equipped with GFCIs.

Electrical equipment (tools, lights, extension cords, etc.) must be visually inspected prior to use. Equipment that could expose personnel to electric shock or are otherwise damaged must be removed from service. Electrical equipment should be labeled with its electrical output rating. Only licensed electricians should perform maintenance of electrical components and equipment.

3.4.6 Lockout/Tagout

In accordance with 29 Code of Federal Regulations (CFR) 1910.147, site personnel must use lockout/Tagout (LO/TO) procedures as necessary to control employee exposure to hazardous energy sources, particularly electrical, hydraulic, and pneumatic utilities and services. LO/TO is required when:

Work is performed on any electrical systems greater than 50 volts and/or 2 amperes;

Work is performed on any system that has been pressurized or could be pressurized greater than 15 pounds per square inch;

Work is performed on a system that contains liquids or solids that are under any pressure;

Work is performed on a system where there is potential for release of a hazardous material; and

There is any moving part that could injure a person if the part were to be activated inadvertently.

Subcontractors shall present their LO/TO procedures to the HSM for approval prior to conducting work. LO/TO work will meet the requirements of *Lockout Tagout, EHS 6-4*.

3.4.7 Confined Space

Activities requiring confined space entry must be conducted in accordance with 29 CFR 1910.146. By definition, confined space entry occurs when a worker breaks the plane of the entry with any portion of the body. Confined spaces are defined as spaces meeting all of the following criteria:

Is large enough and so configured that an employee can bodily enter and perform assigned work;

Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and

Is not designed for continuous employee occupancy.

A permit-required confined space is one that meets one or more of the following criteria:

Contains or has potential to contain a hazardous atmosphere;

Has the potential for engulfment; and

Has an internal configuration that could trap or asphyxiate an entrant.

To be considered a non-permit-required confined space, the space must not have the potential to contain any hazard capable of causing death or serious physical harm, including:

All atmospheric hazards have been eliminated and verified by testing;

Ventilation is not required to maintain a safe atmosphere; and

All recognized hazards have been eliminated.

Whenever possible, confined spaces will not be entered and will instead be opened and demolished without personnel entry. If entry is necessary, confined space entries will be identified and will be completed in accordance with *Confined Space Entry, EHS 6-1*. Planning will include coordination for monitoring, permitting, and confined space rescue prior to entry. All personnel who enter (or monitor) confined spaces must be trained. Verification of non-permit-required spaces, including air monitoring, must be documented. Site personnel will be made aware of permit- and non-permit required spaces and the requirements for working in both.

Activities requiring entry of a permit-required confined space should be approved by the HSM prior to performing work. An entry permit must be completed. The entry permit form can be found in Attachment 5.

3.4.8 Lead Exposure Control

If cutting or welding is performed the subcontractor shall conduct an evaluation to determine the potential for lead exposure during the operations. If lead is present, the subcontractor shall implement an exposure control program in accordance with 29 CFR 1926.62. The HSM and PM shall review and approve this procedure.

3.4.9 Fire Prevention

Fire prevention is the responsibility of all individuals. Proper housekeeping and the daily removal of debris are the primary means of reducing the chances of a fire. Further fire prevention strategies and controls to prevent the occurrence of fires on the project will be implemented in accordance with 29 CFR 1926.151:

Electrical installations shall meet the requirements of 29 CFR 1926, Subpart K;

Potential sources of fire ignition shall be located away from fuel sources;

Hot work shall be performed using hot-work permits (Section 3.4.10 and Attachment 5) in accordance with the AHA (Attachment 4);

Flammable and combustible liquids, compressed gases, and corrosives shall be stored in accordance with OSHA regulations;

Fire extinguishers shall be provided for the work site in accordance with applicable portions of 29 CFR 1926.150(c); and

Smoking is prohibited around the work site (designated smoking areas will be provided).

3.4.10 Hot Work

The FTL shall ensure that all work involving the use of cutting or welding equipment is conducted using a hot work procedure. The FTL shall coordinate with the local Fire Department the initiation of permits.

If it is necessary to use internal procedures, *Welding/Hot Work, EHS 6-5* procedure and permit will be used.

A fire watch will be provided when required for fire system issues, during, and for a minimum of 30 minutes after cutting, welding, grinding, or work with open flame in areas where a potential exists that sparks, slag, or hot material come in contact with flammable or combustible materials. Personnel performing fire watch duties will be trained as fire watches, including documented fire extinguisher training.

3.4.11 Noise

Major sources of noise for this project include operation of heavy equipment, generators, and demolition-related equipment. Personnel who may be exposed to noise levels greater than 85 dBA averaged over an 8 hour work period will be enrolled in a hearing conservation program per OSHA Hearing Conservation Regulation, 29 CFR 1910.95. Hearing protection is also required for personnel in an area where noise levels are greater than 90 decibels A-weighted (dBA) time-weighted average (TWA). Noise monitoring and dosimetry shall be performed to determine appropriate posting and noise controls and hearing protection for workers will be available on site. A copy of this regulation can be found in Attachment 3.

3.4.12 Ergonomic Hazards

Repetitive and awkward movements like those used during hand drilling, lifting, and various maintenance activities can lead to muscle fatigue, strain, or injury. Personnel will be instructed on proper manual lifting techniques (Section 3.4.13) and should perform stretching techniques prior to performing work as well as taking regular stretching breaks. Dollies and other mechanical equipment should be used to prevent strenuous work whenever possible.

3.4.13 Manual Lifting

Personnel performing manual lifting shall abide by the following guidelines:

DO design manual lifting and lowering for the task and workplace. If manual lifting must be accomplished, perform it between knuckle and shoulder height.

DO be in good physical shape. If you are not accustomed to lifting and vigorous exercise, do not attempt to do difficult lifting or lowering tasks.

DO think before acting. Place material conveniently within reach. Have handling aids available. Make sure sufficient space is cleared.

DO get the load close to your body. Test the weight before trying to move it. If it is too bulky or heavy, get a mechanical lifting aid or somebody else to help, or both. Place your feet close to the load. Stand in a stable position, with the feet pointing in the direction of movement. Lift mostly by straightening the legs.

DO NOT lift more than 50 pounds (lbs) without assistance.

DO NOT twist the back or bend sideways.

DO NOT lift or lower awkwardly.

DO NOT hesitate to get mechanical help or help from another person.

DO NOT continue lifting when the load is not of a manageable weight.

3.4.14 Material Handling Equipment

Personnel performing material handling equipment (MHE) shall abide by the following guidelines:

Know the weight of the load before trying to move it.

Know the capacity of the MHE before it is used to move the load.

Use tag lines to control loads that are lifted by MHE. Keep the tag line free of the body and free of obstruction during movement of the load.

Consult the FTL and HSO before lifts are made in strong winds. Wind adds extra hazards to material handling.

Lift loads only to the lowest height necessary to transport and place the load.

Perform materials handling in accordance with 29 CFR 1926.602.

Document forklift training in accordance with 29 CFR 1910.178 and maintain the documentation in the forklift operators' files.

3.4.15 Heavy Equipment Operations

Heavy equipment will be inspected for compliance to OSHA standards and mechanical conditions before it is allowed on site for use.

Daily inspections of each piece of equipment will be performed the first time each day that it is used. Equipment that is found deficient will be tagged out of service until it successfully passes inspection.

Daily inspection checklists will be filled out by the operator and will be turned over to the FTL and will be retained in the project files.

Equipment operators will be evaluated at the time of hire or when assigned to new equipment. The evaluation will include the operator's knowledge and operational skill on the equipment, including the use of safety equipment.

Seatbelt use is mandatory within heavy equipment. Backup alarms on heavy equipment will be functioning properly. If visibility is limited, the operator must also use a spotter for additional safety.

A fire extinguisher will be within or mounted upon each piece of equipment.

There is a potential for workers to be struck by heavy equipment or other vehicles or to be injured by contact with exposed mechanical parts. To control these hazards, regulated work areas will be established around each work area as necessary and safe work distances will be maintained between workers and mechanical equipment.

Personnel on foot are required to get the operator's attention and acknowledgement prior to entering into the swing area or reach of the machine. If radios are provided, radios are also a good means of communication with equipment operators, however in some cases the operator may not hear the radio. Personnel will wear high-visibility reflective vests on this project.

3.4.16 Vehicle Operations

Personnel using vehicles during the performance of work must possess a valid driver's license and obey posted speed limits, traffic signs, and traffic signals. Personnel riding in project vehicles must wear a seat belt at all times.

Regular inspections will be made of roadways and travel ways for obstructions, blind corners, or other congestion.

3.4.17 Crane Operations

The FTL shall ensure that crane operations are conducted in accordance with 29 CFR 1926.550. All subcontractors shall generate a pre-lift plan that addresses the following points for critical lifts:

Center of gravity for loads;

Lift points;

Sling types, attachment method, and capacities; and

Safety practices to be used during lifts.

The HSM or PM is responsible for reviewing and approving these plans.

3.4.18 Utilities

Any overhead wire shall be considered an energized line unless the person owning the line or the electrical utility authorities indicate that it is not an energized line and the wire has been visibly grounded.

A person will be designated to observe excavations or other equipment operations where visual clearance to energized lines is difficult for the operator to maintain. Parameters for minimum clearance from energized overhead lines are presented in Table 3-2. Electricity shall be considered to be on within all structures until proven inactive.

A review of available property maps, red lines, or as-built drawings will be performed before activities begin to identify potential buried utilities. Local utilities-locating personnel shall also be utilized to identify, mark, and de-energize buried utilities prior to starting intrusive activities. If additional concerns remain regarding the location of buried utilities, the HSM shall be contacted for guidance.

3.4.19 Water Hazards

Basements and pits or tanks in several locations around the site are known to or may contain water. Water presents a hazard to workers working in or adjacent to these areas. Drowning hazards may exist where workers could fall into the pits or basements filled with water. Other hazards such as with tanks may exist if the tank were breached in the proximity of workers. Some water has not been characterized

to determine if it has other chemical contamination and until sampled, contact with the water could be a hazard to workers. Additional sampling parameters and locations have been proposed. Where necessary for worker protection, spill prevention, or waste characterization, additional samples will be collected and analyzed at a laboratory. These additional proposed samples are included in Appendix I of the Demolition Plan. Where these hazards exist, specifically building 11 (expansion room), barricades will be placed around potential entrances where workers could walk into these areas, or alternatively in areas that are smaller than building 11, these areas will be covered with floor plates or covers or the water will be removed and the areas will be filled (after characterization). Warning signs or postings will be placed around the area so workers recognize the hazards of these areas. If workers conduct activities that could put them into a situation where they could fall into these areas before water is removed (i.e. abatement or sampling), workers will have means of approved fall protection or fall restraint systems that will not allow them to contact the water. A buddy system will also be utilized.

Table 3-2. Minimum Clearance from Energized Overhead Electric Lines

Nominal System Voltage (kilovolts [kV])	Minimum Required Clearance
0-50 kV	10 Feet
51-100 kV	12 Feet
101-200 kV	15 Feet
201-300 kV	20 Feet
301-500 kV	25 Feet
501-750 kV	35 Feet
751-1,000 kV	45 Feet

3.4.20 Fall Protection

Fall protection will be in accordance with *Fall Protection, EHS 3-8*, when personnel will be exposed to a potential fall of 6 feet or greater (for other than trucks).

Personnel working on surfaces with unprotected sides or edges 6 feet or more above a lower level will be protected from falls by the use of barriers, covers, guard rails, or personal fall arrest systems (full body harness, lanyard or retractable system and approved anchor points).

Ladder use above 6 feet will be limited to personnel movement and will not include working from/on ladders.

Personnel mounting equipment or trucks will follow the three-point rule. Work on equipment at greater than 6 feet will require fall protection.

Fall arrest equipment will be subject to daily inspections by the users and periodic inspection by the HSO. When fall arresting equipment is used, a rescue plan must be followed and rescue equipment will be available.

Personnel assigned work where fall protection is required will be provided training on maintaining fall protection, the selection, use and inspection of the personal fall arrest equipment and anchorages. A competent person will determine the suitability of an anchorage point.

3.4.21 Portable Ladders

Portable ladders shall be used only for their designated purposes, and shall be constructed, maintained, and used in accordance with American National Standards Institute standards A-14.1 and A-14.2, OSHA 29 CFR 1926 Subpart X, and manufacturers' instructions. Before use, each ladder shall be inspected to verify that all parts are in good condition and all components function properly. Defective ladders shall be tagged "Do Not Use" by the FTL.

In general, personnel shall follow these guidelines when using portable ladders:

Set ladders on flat, firm surfaces.

Contact both handrails of a straight ladder with the upper support.

To prevent slippage of a straight ladder, either have a second person hold the ladder in place or tie the ladder securely to the upper support.

Retain a ratio of 4 to 1 regarding the height of extension related to the distance of the bottom of the ladder to the wall or vertical plane (1 foot out for every 4 feet up).

Extend the handrails of a straight ladder at least 36 inches above the upper support.

Do not use metal ladders around electrical conductors.

Do not allow two people to use the same ladder.

Do not stand on the top rung of ladders.

Position the ladder so that no more than half of your body extends beyond either handrail during the work activity.

Review ladder raising and usage techniques as applicable under the guidance of the FTL.

3.5 Biological Hazards

Project personnel will be provided with the information and training necessary to avoid accidental injury or illness that can result from exposure to recognized biological hazards. Exposures to biological hazards are anticipated to be minimal; however, measures will be taken to eliminate or control potential exposure to poisonous plants, insects, animal droppings, or other sources of biological hazard to the extent practicable.

3.5.1 Insects/Spiders

Stinging insects and other pests, primarily spiders, bees, and wasps, are found in the site area during the warmer months. Field personnel should be cautious and avoid contact by always looking ahead to where they will be walking, standing, sitting, leaning, grabbing, lifting, or reaching.

Many insects bite or sting, but the bites or stings rarely cause serious reactions unless a person is allergic. However, some insects do transmit diseases. For example, certain types of mosquitoes transmit encephalitis and other diseases, certain types of ticks transmit Lyme disease, and certain types of biting fleas transmit tularemia or rabbit fever. Occasionally, stinging or biting insects that have been feeding on or have been in contact with poisonous substances can transmit this poison at the time of the sting or bite. If ticks are removed, the tick should be retained in a plastic bag to accompany the employee to the clinic for observation.

Persons who have experienced severe reactions from previous insect bites should be urged to secure any possible immunization or have an antidote readily available to prevent more serious reactions from future insect bites and stings.

The signs and symptoms of insect bites and stings are as follows:

Bee stings and the bites of mosquitoes, ticks, fleas, and bedbugs usually only cause local irritation and pain in the region of the sting or bite.

Moderate swelling and redness may occur and some itching, burning, and pain may be present.

In some instances, the effects of stings and bites from spiders and centipedes are much more severe than those of the insects previously mentioned. They may cause the following symptoms:

Generally, the bite consists of two small pinpoint punctures of the skin and produces local swelling and redness and a smarting, burning pain.

Exhaustion, sweating, and nausea may appear.

Pain or cramping may develop in the back, shoulders, chest, and limbs.

In some instances, the symptoms are mild and subside within 6 to 12 hours, but occasionally they are severe and can cause a state of collapse.

The northern black widow spider is a moderately large, glossy black spider with very fine hairs over their bodies that give it a silky appearance. A characteristic red or crimson marking in the form of an hourglass is found on the underside of the abdomen. Only the adult female is poisonous; the male and juveniles of both sexes are harmless. Adult males are about half the size of adult females with longer legs and usually have yellow and red bands and spots over the back, as do juveniles of both sexes. Although rare, care should be used when handling boxes, lumber or other piles of debris on site and leather gloves offer good protection.

3.5.2 Snakes

Poisonous snakes could be encountered during site activities. Ohio has only three species of venomous snakes, two of which have rattles at the end of the tail (eastern Massauga and timber rattlesnake). The third species is the copperhead. Although rare, field personnel are advised to be alert to this danger and visually scan the area before beginning work and periodically during work. Snake bites can be painful and lead to serious illness if not treated immediately. If bitten, employees must seek immediate medical

attention. The best thing to do, however, is to avoid contact. Wear sturdy leather boots and, if possible, avoid walking in areas where snakes may hide. When walking in potential snake zones personnel should look down at the areas next to both sides of their path. Use extreme caution when moving or lifting objects that could be used by snakes as cover. Never reach under or behind such objects or into other areas where snakes may hide. The signs and symptoms of a snake bite are as follows:

A sharp, stinging pain with one or more puncture marks in the area; and

Swelling, discoloration, and pain in the bitten area.

As the poison goes through the body, other symptoms develop, as follows:

Weakness;

Nausea and vomiting;

Weak and rapid pulse;

Respiratory distress; and

Shock.

Workers should inform the HSO immediately if bitten and will receive medical attention.

4. ACTIVITY HAZARD ANALYSES

The AHAs for work to be conducted at the Jaite Paper Mill site are provided in Attachment 4. The FTL and HSO will modify these AHAs as necessary; add new AHAs that reflect any changes in current tasks or additional tasks; and ensure that all personnel performing a task have received training on the AHA for that task. Any new or modified AHAs will be forwarded to the TM for review prior to beginning work on that task.

AHAs are included for the following tasks:

General site work, access, egress, heavy equipment operations, load and unload of bins;

Removal of PCB and mercury articles;

Demolition (including subgrade demolition);

Asbestos Abatement (prior to and during demolition);

Cleaning of Pits, sumps, and trenches; and

Sampling and chemical handling.

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5. PERSONAL PROTECTIVE EQUIPMENT

Personnel shall wear appropriate PPE during all field activities when the following conditions occur: (1) when the potential for exposure to contamination exists during the conduct of a site activity; (2) when site activities may generate vapor, gases, particulates, mists, or aerosols; or (3) when there is the potential for direct contaminant contact with the skin. It is anticipated that Level D protection will be required for all field activities with the exception of the asbestos abatement activities, during hot cutting or torching of painted surfaces where lead based paint may be present, and during sampling or chemical handling. Level C protection is addressed in the following section. The HSO will determine adequacy of PPE and whether protection needs to be upgraded or downgraded.

5.1 Level D Protection

The following PPE is considered typical Level D protection and is the minimum protection that should be used during all field activities:

Coveralls or work clothes (long sleeves and long pants);

Leather work boots with steel toes;

Leather work gloves;

Hard hat (only required when there is an overhead hazard present);

Hearing protection, as required;

Safety glasses; and

High-visibility traffic vests for all outdoor activities in vehicular traffic areas.

NPS visitors will be required to wear hard hat, steel toed boots/shoes, and safety glasses on site.

Contractor will have a limited number of hard hats and glasses for visitors.

5.2 Modified Level D Protection

Modified Level D protection (use of additional PPE as required by the HSO) shall be used when an increased need for dermal protection is recognized. Poly-coated Tyvek®, outer latex disposable boots, and disposable Nitrile gloves should be worn as necessary.

5.3 Level C Protection

Level C protection is required during asbestos abatement and during demolition of buildings where prior abatement cannot be performed, is required if hot cutting of lead based paint coated surfaces will be performed (torch cutting, welding, or hot abrasion), and may be required during sampling. Level C is not anticipated for other site activities, however the HSO will evaluate tasks to evaluate whether upgrades are required. If ambient air monitoring concentrations are detected above action levels (see Section 6), or other site conditions require an upgrade, the HSO shall notify the TM before work proceeds.

For Level C protection, personnel shall wear negative pressure respirators with the appropriate cartridges. If Mine Safety Appliances (MSA) brand cartridges are used, they shall be used for a maximum of 8 hours per day and discarded at the end of the shift (except for HEPA cartridges with no organic vapor), assuming that the site humidity is less than 50 percent, ambient air temperature does not exceed 100°F, and total organic vapors, as measured by a photoionization detector (PID), do not exceed 50 parts per million (ppm) at any time. This conservative approach presumes 20 percent of the measured organic vapors for 8 hours TWA are benzene, which is unlikely. If cartridges other than MSA brand are used, a health and safety professional should be contacted for a cartridge-replacement schedule from the cartridge manufacturer.

Asbestos worker respiratory protection is addressed in the Asbestos Abatement Plan, Appendix D.

5.4 Level B Protection

Level B protection is not anticipated for use during the activities to be conducted. If action levels for Level C are exceeded, work will be stopped and the HSM and TM will be contacted for assistance. If work is identified that will require the use of Level B protection, all necessary provisions will be included as addenda to this SSHSP.

5.5 Personal Hygiene

Personnel will be given training and encouragement on personal hygiene. Project policies include:

Personnel are expected to thoroughly wash their hands and faces prior to eating. Wash stations will be positioned with or in comfort stations to provide a means of washing before and after use.

Field equipment, such as gloves and hardhats, will not be placed on surfaces where food or drink is consumed, such as lunchroom tables.

Showers will be provided for workers involved in asbestos removal.

Outer protective clothing will be removed prior to exiting the exclusion areas, and general clothing and work boots should be left on the worksite and not worn home.

Eating, drinking, smoking and chewing are prohibited in the exclusion zone to reduce the possibility of ingestion of hazardous materials. Designated smoking areas will be established that are safely away from hazardous material, combustibles or explosive gases/materials.

Personal protective equipment that has become soiled or contaminated should either be cleaned or replaced.

6. PERSONNEL MONITORING STRATEGY AND ACTION LEVELS

Monitoring of the workplace air will be necessary during the demolition project to evaluate worker exposures to several target site contaminants including asbestos, crystalline silica (if concrete cutting, breaking, or crushing occurs), and lead. Some of these contaminants are found in the facility as constituents of building materials (i.e., lead in paint, asbestos in pipe insulation and other materials, silica in concrete). In other cases, the surface soils in and around the plant may also contain lead and asbestos particulates from building paint and structural material deterioration, as well as, petroleum hydrocarbons or volatile organics from underground fuel tank releases. Airborne dust containing these contaminants could be a source of worker exposure.

Monitoring for certain toxic gases and vapors may also be necessary, particularly if entering confined spaces where oxygen deficient or explosive atmospheres could be a hazard. It is possible; that carbon monoxide gas could accumulate inside confined areas of the plant or within the plant buildings from the operation of motorized equipment used in the demolition work.

Personal air monitoring will be performed in locations and for personnel at the discretion of the HSO with consultation with the HSM as necessary. Asbestos monitoring will be performed in accordance with the Asbestos Abatement Plan (Appendix D) and will include personnel air monitoring and area monitoring around the perimeter of the work areas. The FTL will conduct the air monitoring for asbestos exposure.

6.1 Program Elements

An air-monitoring program will be implemented on-site to identify, evaluate, and control potentially harmful airborne exposures to the contaminants mentioned above. This program will consist of a combination of real time air monitoring using direct reading instruments and full-shift integrated personal exposure sampling for the specific contaminants of concern. When necessary, environmental samples (bulk and wipe samples) will also be collected to confirm the nature and extent of contamination in each discrete work area prior to initiating an air monitoring effort. These hazard evaluations will also include monitoring for physical stressors, such as, noise and heat stress using sound level meters, noise dosimeters, and WBGT thermometers. A more comprehensive description of these exposure-monitoring approaches is presented below.

6.2 Real-Time Air Monitoring

A variety of direct reading air monitoring instruments will be used to measure airborne concentrations of toxic and flammable gases and vapors, oxygen levels, and particulate levels generated during the decontamination and demolition work. The results of this monitoring will be used to adjust work practices, select personal protective equipment and engineering controls, define regulated work zones, identify sources of airborne contamination, and initiate emergency response actions during a spill event. In some cases, real time air monitoring will be conducted in conjunction with integrated, personal exposure monitoring to verify monitoring results and to provide a surrogate means for assessing exposure levels on a real time basis.

The majority of exposure monitoring will be conducted using direct-read instruments in the workers' breathing zones (Table 6-1). Initial upwind background and work-zone readings will be obtained before the initiation of activities. Readings of breathing zones will be taken periodically during work activities. Monitoring results will be recorded in a field logbook, which will become part of the permanent project file. Monitoring, calibrating, and maintaining instruments are the responsibility of the FTL or a designee.

The different types of direct reading instruments that will be used on this project include the following sections and in accordance with the guidelines under Table 6-1 below.

Table 6-1. Direct-Read Exposure Monitoring

Activity(s)	Instrument	Action Level(s)	Actions
Potential contact with fuels or organic liquids spills of unknown substances or draining of tanks or lines.	PID	0–5 ppm 6–25 ppm >26 ppm	Use Level D/modified Level D PPE. Stop work and contact Task Manager for guidance (Level C operation). Stop work and contact Task Manager for guidance (Level B operation).
Confined Space Monitoring, or other areas where carbon monoxide may accumulate	O ₂ Meter	19.5% > O ₂ > 22%	Stop work and contact Task Manager for guidance
Confined Space Monitoring	CGI	LEL > 10%	Stop work and contact Task Manager for guidance
Heavy equipment operations, areas around portable generators or when using handheld power tools	SLM	>85 dBA TWA	Wear hearing protection with proper attenuation.

ppm = parts per million; dBA = decibals A-weighted; PID = photoionization detector; O₂ = oxygen; CGI = combustible gas indicator; SLM = sound-level meter; TWA = time-weighted average; % = percent

6.2.1 Combustible Gas/Oxygen Meter

A combination combustible gas and oxygen meter with direct reading sensors for carbon monoxide and hydrogen sulfide gas will be used during the work to evaluate the atmosphere in confined spaces prior to entry. This meter will indicate concentrations of flammable gas as a percent of the lower explosive limit (%LEL) relative to its calibration standard and oxygen levels as percent oxygen. In addition, carbon monoxide and hydrogen sulfide gases will be read directly in parts per million.

As a matter of policy, confined spaces will not be entered if flammable gases or vapors exceed 10 percent of the LEL, and oxygen levels are below 19.5 percent or above 22 percent. This combination meter will also be used to measure hydrogen sulfide and methane concentrations (as %LEL) in and around buildings where motorized equipment is operating and potentially generating carbon monoxide gas.

6.2.2 Colorimetric Tubes

Direct reading, colorimetric sampling tubes will be used if appropriate to measure ambient concentrations of chemicals in worker's breathing zones to assess whether potentially harmful concentrations exist.

Multiple samples will be collected over time and at various locations to estimate average airborne levels.

Highest value readings will be compared to permissible exposure limits and appropriate administrative, engineering, and personal protective measures will be taken to control excessive exposures.

6.2.3 Organic Vapor Monitoring

A PID equipped with a 10.6-electron volt lamp, calibrated with isobutylene, will be used to monitor the breathing zones of workers and the perimeter of the work area to assess the potential presence of volatile organic vapors. Isobutylene has ionization potentials below 10 and will produce relative responses of approximately 1:1 using the PID. A FID may be used in lieu of the PID.

Action Level: 5 ppm in worker's breathing zone

Action: Call TM, upgrade to level C respiratory protection

6.2.4 Personnel Exposure Monitoring

Personal air sampling for potential contaminants shall be conducted at the direction of the HSO. The asbestos competent person will collect asbestos samples. Sample results will be used to document employee exposures and the adequacy of PPE used on the project. The following procedures will be used to complete the sampling:

Conduct sampling in accordance with National Institute of Occupational Safety and Health or OSHA analytical methods.

Calibrate sampling pumps before and after use and document in the field logbook and on the equipment calibration log (Attachment 5).

With the concurrence of the HSM, initiate sampling if Level C action levels are reached.

For the sampling strategy, follow the premise that worst-case exposures are to be evaluated.

Use sample seals and chain-of-custody documentation to ensure the integrity of samples and results.

Submit field blanks in conjunction with exposed sorbent media for analysis.

Notify the employees in writing of the results. The FTL, who is directly responsible for this activity, must offer the employees an opportunity to discuss the significance of the results.

Forward field results to the corporate Health and Safety department for inclusion in each employee's medical record.

6.3 Noise Monitoring

Noise monitoring shall be conducted using a Type I sound-level meter (SLM) on the A-weighted scale during heavy equipment use and at any time the FTL or HSO has reason to believe that noise exposure may exceed the ACGIH Threshold Limit Value (TLV) of 85 dBA with a 3 DB doubling rate. The SLM shall be calibrated before and after use and documented in the field logbook and on the equipment calibration log (Attachment 5). A hearing conservation program must be implemented when noise levels equal or exceed 85 dBA.

6.4 Quality Assurance/Quality Control

Personnel operating the air and noise monitoring equipment will be trained in proper use of the equipment and will have adequate experience in performing monitoring activities. In general, the HSO will be responsible for ensuring proper calibration and maintenance of the equipment.

Equipment shall be calibrated daily or before each use. Calibration results shall be documented, as will the real-time results, in the field logbook and on the equipment calibration log. An equipment calibration log can be found in Attachment 5. The PID is calibrated using isobutylene. The O₂ meter/CGI is calibrated using methane, pentane, or hexane as recommended by the manufacturer. The oxygen reading is calibrated using ambient fresh air, setting the instrument at 20.9 percent volume to volume. The manufacturer's instructions should be followed for calibrating individual noise monitoring devices.

The user of the monitoring equipment is responsible for ensuring the equipment stays clean, dry, and fully charged. Operators shall not attempt internal repairs on this equipment. If a piece of instrumentation is damaged or malfunctions, the operator shall return it to the manufacturer for repair or replacement.

Documentation is critical for proper quality assurance/quality control (QA/QC) implementation. Users of monitoring equipment shall record all information gathered during calibration, use, and maintenance of the equipment

7. SITE CONTROL AND SECURITY

To minimize the transfer of potentially contaminated material from the work site, personnel will establish regulated work areas and designate work zones for personnel involved with the Jaite Mill demolition. Personnel will be responsible for implementation of appropriate decontamination procedures. Additionally, the site will be controlled from access by the public by appropriate fencing placement around the mill and along the roadways where trucks and bins will be moved or staged.

7.1 Controlled Work Zones

The FTL shall ensure that work sites are controlled to reduce the possibility of exposure to any onsite contaminants or the potential offsite transport of these contaminants by personnel or equipment. The SS and HSO will verify adherence to work zone controls. The possibility of exposure or translocation of substances shall be reduced or eliminated in a number of ways, including the following:

Set up security and physical barriers to exclude unnecessary personnel from the general area;

Minimize the number of personnel and equipment on site consistent with effective operations;

Establish work zones within the site;

Establish control points to regulate access to work areas or zones;

Conduct operations in a manner to reduce the exposure of personnel and equipment and to eliminate the potential for airborne dispersion; and

Implement appropriate decontamination procedures.

Work zones shall be established by the FTL on a case-by-case basis in conjunction with the demolition competent person. These controlled zones may consist of a single area designed to prevent unauthorized personnel from entering or may include a complex system using exclusion, contamination reduction, and support zones. Each zone shall be marked with caution tape and/or traffic cones, with designated access points clearly identified. Decontamination areas will be collocated with the access points.

7.2 Buddy System

The buddy system shall be used during all field activities. At no time will an individual work alone in a controlled work zone.

7.3 Site Security

Access to the site by visitors shall be restricted as follows:

All site visitors must notify the HSO and SS before obtaining access to a work zone.

Site visitors entering controlled work zones will be strictly limited. The HSO must approve entry and the visitor must demonstrate medical and training clearance to enter a controlled work zone and must be given site-specific training.

Visitors shall sign a copy of the Field Team Review Sheet contained in Attachment 1 after completing site-specific training.

Increased site security will be conducted by the NPS.

All site visitor access must be clearly documented, and visitors must comply with all provisions of this SSHSP.

8. DECONTAMINATION

The FTL is responsible for ensuring that all personnel and pieces of equipment leaving the site (or a dedicated exclusion zone) are properly decontaminated according to the procedures outlined in this section. Decontamination must be documented in the field logbook, which will become part of the permanent project file. Decontamination is only necessary if personnel, equipment, or tools come into contact with hazardous substances or materials. Decontamination of Asbestos workers will be addressed as part of the Asbestos Abatement Plan, Appendix D.

8.1 Personnel Decontamination

Personnel exiting controlled work zones must follow decontamination procedures. Only during an emergency evacuation will personnel be allowed to leave the site before decontamination. The following generalized decontamination procedures for Level C and Modified Level D PPE shall be performed:

Remove and wipe hardhat clean;

Rinse gross contamination from boots and gloves;

Scrub boots and gloves clean;

Rinse boots and gloves;

Remove outer boots (if used);

Remove outer gloves (if used);

Remove coveralls (Tyvek® or Saranex™) (if used);

Remove respirator, wipe clean, and store (if used); and

Remove inner gloves (if used).

Respirators, if used, shall be decontaminated daily as follows. Taken from the controlled work area, the face pieces are disassembled, the cartridges disposed of, and all other parts placed in a cleansing solution. After an appropriate time in the solution, the parts are removed and rinsed with tap water. Face pieces are allowed to air dry before being placed in sanitized bags. Personnel shall inspect their respirators daily or before each use to make certain they are in proper working order.

Decontamination procedures for Level D PPE shall be modified from the procedures above to include removing loose debris, washing or rinsing disposable garments, and discarding disposable materials. Subsequent to personal decontamination, all personnel (regardless of level of protection worn) are encouraged to shower as soon as possible after leaving the site.

At a minimum, disposable items (e.g., Tyvek®/Saranex™ coveralls, inner gloves, and latex overboots) shall be changed daily. Decontamination solutions shall be changed daily or as conditions require.

The HSO may simplify the procedures in the field if minimal contamination has occurred to specific protective equipment.

8.2 Sampling Equipment Decontamination

Small equipment shall be protected from contamination by draping, masking, or otherwise covering, without hindering the operation of the unit, as much of the instrument as possible with plastic. As necessary, air-monitoring equipment will be placed in clear plastic bags that allow reading of the scale and operation of the knobs. The sensors or probes may be partially wrapped, so long as the sensor tip and discharge port remains clear.

Contaminated equipment will be taken from the controlled work zone and the protective coverings removed and disposed in the appropriate containers. Any dirt or obvious contamination will be brushed or wiped off with a disposable paper wipe.

8.3 Heavy Equipment Decontamination

To prevent the spread of contaminants and inadvertent exposures to personnel, heavy equipment used in contaminated areas (i.e. in areas where equipment will be tracked in and out of contaminated soil areas or equipment that is used to load demolition debris that was created without prior asbestos abatement) shall be decontaminated prior to moving to a new location and before leaving the site. When decontaminating equipment, the following requirements will be implemented:

The primary method of heavy equipment decontamination will be to prevent as much contamination as possible up front. This will be done by keeping travel paths for equipment cleaned of contaminated debris to the extent possible (utilize a clean entry path and exit path), which will reduce the amount of debris (namely asbestos) from being entrained within the tracks or tires of heavy equipment in the first place.

A decontamination pad (or equivalent method) will be used to contain decontamination fluids if generated. Construction materials may be varied to meet specific requirements but must effectively contain all fluids.

The equipment will be inspected for gross debris. Where possible, contaminated soil deposits will be removed and containerized.

After removal of gross debris, the equipment will be steam cleaned using a high-pressure washer if appropriate.

After cleaning, the equipment will be allowed to dry and will be reinspected. Any remaining visible debris will be recleaned through additional washing.

After all debris is removed, the equipment will be released for transport to another location.

Decontamination fluids collected on the decontamination pad will be containerized and disposed of in accordance with the Waste Management Plan. Asbestos decontamination wastes will be disposed of as outlined in the Asbestos Abatement Plan (Appendix D).

Inspections of equipment for release from the site will be completed by the HSO or authorized alternate. Inspection results will be documented in field logbooks.

8.4 Disposal of Materials

Disposal of decontamination waste materials (including PPE, decontamination fluid, etc.) shall be contained and placed in a secure area before final disposition. Disposal shall be completed in accordance with the Demolition Plan and applicable laws and regulations.

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9. EMERGENCY RESPONSE AND EVACUATION PLAN

Prior to working onsite, personnel are responsible for becoming familiar with the Emergency Response Plan (ERP) presented in this section. Onsite personnel will notify the HSO and SS of actual or impending emergencies and cooperate fully as the ERP is implemented. In the event of injury, accident, or other emergency, all personnel are responsible for following the provisions of this SSHSP.

9.1 Emergency Coordinator

The emergency coordinator (EC) on site is the SS, Rod Reese. The EC shall ensure that this ERP is implemented in the event of an emergency. The alternate EC is the HSO, Jennifer Fadden.

9.2 Emergency Communications

The emergency communication system for site personnel includes the use of two-way radios or cellular phones when workers are performing activities in the field. Emergency air horns shall also be available for signaling an emergency that requires a site evacuation.

At a minimum, each work site shall have immediate access to a radio to immediately be able to contact someone who has access to a phone to contact emergency authorities. The emergency chain of command will be communicated to site workers as part of their overall orientation. Verbal communications onsite may be impeded by background noise caused by heavy equipment. Accordingly, personnel within the work zone when audible communication is not possible will use hand signals as listed in Table 9-1. A listing of personnel who are certified in First Aid and cardiopulmonary resuscitation (CPR) shall be available onsite and communicated to personnel.

Table 9-1. Hand Signals to be Used in the Event of an Emergency

Hand Signal	Meaning
Hand gripping throat	Out of air, cannot breath
Gripping partner's wrist or both hands on waist	Leave area now, no debate
Hands on top of head	Need assistance
Thumbs up	OK, I'm all right, I understand
Thumbs down	No, negative

9.3 Emergency Contacts

The following information shall be available at the site in a known and visible location:

Emergency contact phone list (see section 9.3.1 below);

Route to the hospital and/or clinic (Attachment 2);

Evacuation routes from site to the assembly area (see Figure 3-5 in the main text); and

Location description to give to emergency personnel in section 9.3.1.

9.3.1 Emergency Telephone Numbers

In Case of Emergency, dial 911. Project location information will be given to 911 as:

1200 West Highland Road at the junction of W. Highland Road and the Erie Canal Towpath Trail (approximately 0.5 mile east of the intersection of Vaughn Road and Riverview Road, Sagamore Hills, OH).

The caller will remain on the line with the emergency personnel and will drive the main access gate to wait for emergency personnel to arrive. Emergency personnel will be escorted to the site to assist.

If an injury occurs, the TtEC Project Manager, Carlos Henderson will be contacted. Carlos Henderson will contact TtEC Environmental, Safety, and Quality (ESQ) Manager, Phil Bartley and will contact Mark VanMouwerik (or Dee Strickland – alternate) with the National Park Service. The person who contacts Carlos will also contact the CUVA Communications Center to inform them of what is happening. The Communications Center can be reached 24 hours per day, seven days per week.

Immediately following the call to emergency services, the following will be contacted as above.

Carlos Henderson (425) 482-7807 or cell (425) 241-6337 (Action).

Phil Bartley (509) 372-5818 or cell (509) 321-4898 (FYI).

Mark VanMouwerik (970) 225-3507 or cell (970) 881-5319 (FYI).

Dee Strickland (440) 546-5920 or cell (440) 343-7474 (FYI alternate)

CUVA Communications Center (440) 546-5945 (FYI).

9.3.2 Medical Treatment

Sagamore Hills Medical Center - (330) 468-4500

A map of the route to the hospital is provided in Attachment 2. The route to the hospital will be posted in each project vehicle and conspicuously in the site field office.

9.3.3 Information and Response Organizations

CHEMTREC	1-800-424-9300 (contact for registered users of service for 24 hour emergency response assistance for spills onsite and during transport). Currently, NPS is not registered as a user.
National Poison Control Center	1-800-458-5842 (contact for emergencies if worker ingests or is exposed to suspected poison)
National Response Center	1-800-424-8802 (contact for spills exceeding reportable quantity (RQ) and any spill to surface waters)
Ohio EPA	1-800-282-9378 (contact for spills exceeding RQ (state RQ) and any spill to surface waters)

The Akron Air Quality Authority (point of contact for air emissions during work hours) is Lori Williams at (330) 375-2480.

9.3.4 Incident Reporting Procedures

All incidents resulting in injury, illness, or property damage require completion of an Accident/Incident Report Form (Attachment 5) within 24 hours. Depending upon the nature of the incident, additional agencies or individuals that may need to be notified, including the United States Environmental Protection Agency, OSHA, etc.

The investigation should be initiated as soon as emergency conditions are under control. The purpose of this investigation is not to attribute blame but to determine the pertinent facts so that repeat or similar occurrences can be avoided.

The investigation will begin while details are still fresh in the minds of the personnel involved. The person administering first aid may be able to start the fact gathering process if the injured are able to speak. Pertinent facts must be determined. Questions beginning with who, what, when, where, and how are usually most effective in discovering ways to improve job performance in terms of efficiency and quality of work as well as safety and health concerns.

9.4 Emergency Procedures

All on-site personnel shall follow the following emergency procedures. The HSO and EC must be notified of any onsite emergencies and is responsible for ensuring that the appropriate procedures are followed as described in this SSHSP.

The Sagamore Hills Medical Center will have been contacted and the work (including site contaminants) will be discussed with them. During preliminary contact, this hospital has indicated readiness and capability to receive and treat personnel on this project. The discussion with the hospital will include an explanation of work to be performed and associated contaminants.

9.4.1 Evacuation

In the event that an evacuation of site personnel is required (e.g., fire, explosion, or significant release of toxic gases), an air horn will be sounded for approximately 10 seconds to indicate initiation of evacuation procedures. When two-way radios are used, instructions will be given over the radio for evacuation. Unnecessary conversations will be suspended until the emergency is over.

Field personnel will exit the fenced area at either the southwest or southeast gate toward the towpath (gates will be unlocked during work hours) and will muster along the towpath near the parking area (wide spot in the road between the site and the towpath – see Figure 3-5 in the main text). Personnel will then be accounted for by the Project EC (Rod Reese), who will ensure that the required emergency personnel are contacted. In the event that the muster area is not safe (i.e. downwind from contaminants or smoke), personnel will move along the towpath toward the main gate, to the north of Brandywine Creek (north of the culvert/bridge).

Emergency responders should be provided with the following information:

Is an explosion or fire involved?

What kind of emergency is it and where is it located? Refer to section 9.3.1 for location information to tell emergency services.

What type of material is involved?

Was contamination released?

What is the nature of any injuries?

Personnel will not re-enter an evacuated area until instructed to do so by the EC.

9.4.2 Medical Emergency

In case of a medical emergency, the following steps will be taken:

Evaluate the situation before taking action. Ensure the area is safe to enter.

Eye contact: Flush eyes for 15 minutes using emergency eyewash. Seek medical attention.

Skin contact: Remove wet or contaminated clothing. Wipe off or brush off visible materials. Flush skin with water for 15 minutes (if possible). Seek medical attention if irritation persists. If a flush is not possible, CALL 911.

Inhalation: Remove person from contaminated environment to an area with fresh air. If respiratory problems persist, seek medical attention. If victim is not breathing, perform rescue breathing, if trained to do so, and CALL 911.

Use the available first aid kits to treat minor injuries, cuts, and burns.

If victim is unconscious with no pulse, CALL 911 and administer CPR, if trained to do so.

If victim must be transported to the hospital, perform decontamination, as appropriate.

If decontamination cannot be done because of the severity of injury/illness, wrap victim in blankets or plastic to reduce contamination of other personnel and the ambulance, if applicable. Alert emergency medical service personnel of potential contamination and instruct them about specific decontamination procedures. Provide an MSDS sheet if possible. Transport to the hospital with the HSO or designated escort, who will assist medical personnel in diagnosis and treatment based on contaminant knowledge.

If 911 is called, give them the project location information as: 1200 West Highland Road at the junction of W. Highland Road and the Erie Canal Towpath Trail (approximately 0.5 mile east of the intersection of Vaughn Road and Riverview Road, Sagamore Hills, OH).

9.4.3 Fire/Explosion Emergency

Personnel will be made aware of the location of fire extinguishers and emergency communications. Upon notification of a fire or explosion, site personnel will assemble at the emergency evacuation area. Calling 911 will alert the fire department.

If 911 is called, give them the location of the site as corner of Vaughn Road and the Ohio and Erie Towpath as in section 9.3.1. Tell them a sign is posted at the entrance and that someone will be at the entrance to open the gate and escort them to the injured person.

All site personnel will be moved a safe distance from the involved area and follow evacuation procedures if initiated. In no case will untrained personnel fight a fire other than an incipient stage fire of normal combustible materials by trained personnel.

9.4.4 Spill Response

In the event of a spill of hazardous materials onsite, the spill shall be absorbed and containerized as soon as possible after an initial evaluation of the material spilled and the immediate hazards. The HSO and EC will be notified immediately upon the event of a spill on site. In addition, the HSO may conduct air monitoring to characterize exposure hazards from the incident.

The HSO or EC will perform the following six steps when responding to a spill or environmental release:

1. Determine the nature and major components of the spill.
2. Make sure that all unnecessary persons are removed from the spill area.
3. Notify the HSM and PM that a spill or significant environmental release has occurred.
4. Notify the CUVA Communications Center (440) 546-5945.
5. If a flammable liquid, gas, or vapor is involved, remove all ignition sources, and use spark- and explosion-proof equipment and clothing or clean up the spill or release.
5. If possible, try to contain the leak or spill with the materials that are kept on hand for such instances.
6. Remove all surrounding materials that could react with materials in the spill.

Spills or releases may require immediate notification of emergency personnel and may be reportable to federal, state, or local agencies verbally and followed up by written notification as follows:

National Response Center 1-800 424-8802 (spill of 42 gallons of oil, ANY oil spilled into surface waters, spill of hazardous substance in excess of its Reportable Quantity (RQ)).

State of Ohio EPA 1-800-282-9378 (spill of 25 gallons of oil, ANY oil spilled into surface waters, spill of hazardous substance in excess of its RQ).

9.4.5 Natural Disaster

In the event of a natural disaster, including tornado or earthquake, work will cease, and an assessment of potential damage will be made. The appropriate steps listed in the ERP will be taken in the event that a fire, explosion, or spill results from a natural disaster.

10. MEDICAL SURVEILLANCE

Personnel who work onsite daily will have received a medical evaluation prior to performing work activities in accordance with 29 CFR 1910.120. Medical clearances will be filed onsite for each worker. This evaluation will also serve as a clearance for use of respiratory protection equipment.

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11. TRAINING

The following sections address the basic minimum requirements for training on this project.

All employees working onsite will receive hazard communication training on chemicals used at the project site and the hazards associated with each. This training is in addition to the training received on the SSHSP.

Site personnel shall be trained to recognize hazards and implement the hazard-control provisions of this SSHSP. The following sections address training requirements, including the conduct of site safety briefings.

Additional training is identified in the Demolition Plan.

11.1 Pre-assignment Training

Each field team member, or their supervisor shall provide the HSO with a document certifying the completion date of their 40-hour hazardous waste health and safety training. Personnel must also receive 8 hours of refresher training on an annual basis and must provide 8-hour refresher certificates to the HSO. Asbestos worker training records will be collected for all asbestos workers assigned to the project. Copies of medical clearance forms will also be collected and maintained for project workers on site.

11.2 Supervisor Training

The FTL and HSO shall have completed the basic 40-hour training course, first-aid and CPR training, and at least 8 hours of supervisor training. Additionally, the HSO will be trained as an Environmental Safety Supervisor (ESS) through TtEC training requirements, which include the 10-hour OSHA construction safety course materials. Competent persons will be designated or approved by the HSM for specific tasks requiring such designation.

11.3 Site-Specific Training

The HSO shall conduct site-specific training for field personnel, including subcontractors, before starting field activities. The following topics will be discussed:

Names of health and safety personnel and alternates responsible for site health and safety;

Health and safety organization;

Locations where copies of the SSHSP are kept;

Hazards at the site;

Hazard communication program;

Exposure risk;

PPE to be used;

Procedures for personnel and equipment decontamination;

Air monitoring;

Emergency procedures;

Asbestos awareness; and

Lead awareness.

Field personnel are responsible for knowing and understanding the information contained in this SSHSP.

At the end of the site-specific training, the HSO shall informally quiz attendees to assess their understanding of the health and safety requirements. Attendees shall also sign a Field Team Review Sheet (Attachment 1) stating that they have been trained in, understand, and agree to comply with the provisions of this SSHSP. Anyone refusing or unable to sign the form will be prohibited from working at the site.

When a new employee is assigned to the site, the HSO will present a similar briefing before the new employee participates in any field activities. New employees must sign the Field Team Review Sheet after receiving training and prior to beginning fieldwork.

11.4 Site Safety Meetings

Site safety orientation/training meetings shall be conducted by the HSO before field personnel begin work at specific sites, when there are modifications to this SSHSP, or when additional personnel begin fieldwork. The FTL will assist in presentation of topics and additionally will conduct asbestos related safety meetings for work in the regulated areas when necessary. Personnel involved in field activities will attend the meetings. Additionally, a daily site safety meeting will be held before the start of field activities. All field personnel will attend this meeting and document their attendance on the Safety Briefing Sign-In Sheet (Attachment 5). The minutes for the meeting will be documented in the field logbook or equivalent method. The meeting agenda will include the following activities:

Description of the assigned tasks and their potential hazards;

Coordination of site activities;

Identification of methods and precautions to prevent injuries;

Discussion of emergency planning;

Any modifications to the SSHSP; and

Input from field personnel on health and safety issues pertaining to site activities.

11.5 First Aid and Cardiopulmonary Resuscitation Training

At least two site employees per shift shall be currently certified in first aid and CPR consistent with the requirements of the American Red Cross Association or other recognized training organization.

11.6 Record Keeping

The HSO shall ensure that all health and safety record-keeping requirements mandated by 29 CFR 1910.1904, 29 CFR 1910.120, and any other applicable standard are complied with. Records to be maintained include on-site logs, accident/incident reports, OSHA Form 300, exposure monitoring records, training certificates, and field logbooks. Records shall be maintained in a consistent manner that meets applicable laws and regulations and contract requirements.

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12. SAFETY CONSIDERATIONS

For safety consideration, personnel will ensure that:

Telephone communications function;

Workers employ the buddy system during maintenance in the field, when possible;

Personnel shall carry cellular phones or two-way radios for communication in the event of an emergency when the buddy system is not feasible;

Workers know where all safety and emergency response equipment is located on site;

Workers wear reflective safety vests for all outdoor activities near roadways;

Personnel obey and enforce the “No Smoking” policy on the project site, and limit smoking to designated areas only;

Eating and drinking is restricted to break and support areas only, and personnel will wash their hands prior to eating and drinking;

Good housekeeping is employed, including keeping debris/trash off the floor/ground;

A vehicle is on site at all times to transport a worker (workers will not work if there is not a vehicle to transport them in the event of an emergency); and

Near misses and incidents will be reported to the FTL and HSO when they occur.

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13. REFERENCES

ACGIH (American Conference of Governmental Industrial Hygienists). 2004. Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices. ACGIH, Cincinnati, Ohio.

EDG (Environmental Design Group). 1993. Phase 1 Environmental Site Assessment. January 1992. Asbestos Assessment Report. June

OSHA (Occupational Safety and Health Administration). Current. Standards for General Industry (29 CFR Part 1910). CCH Incorporated, Chicago, Illinois.

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Attachment 1

Field Team Review Sheets

FIELD TEAM REVIEW SHEET

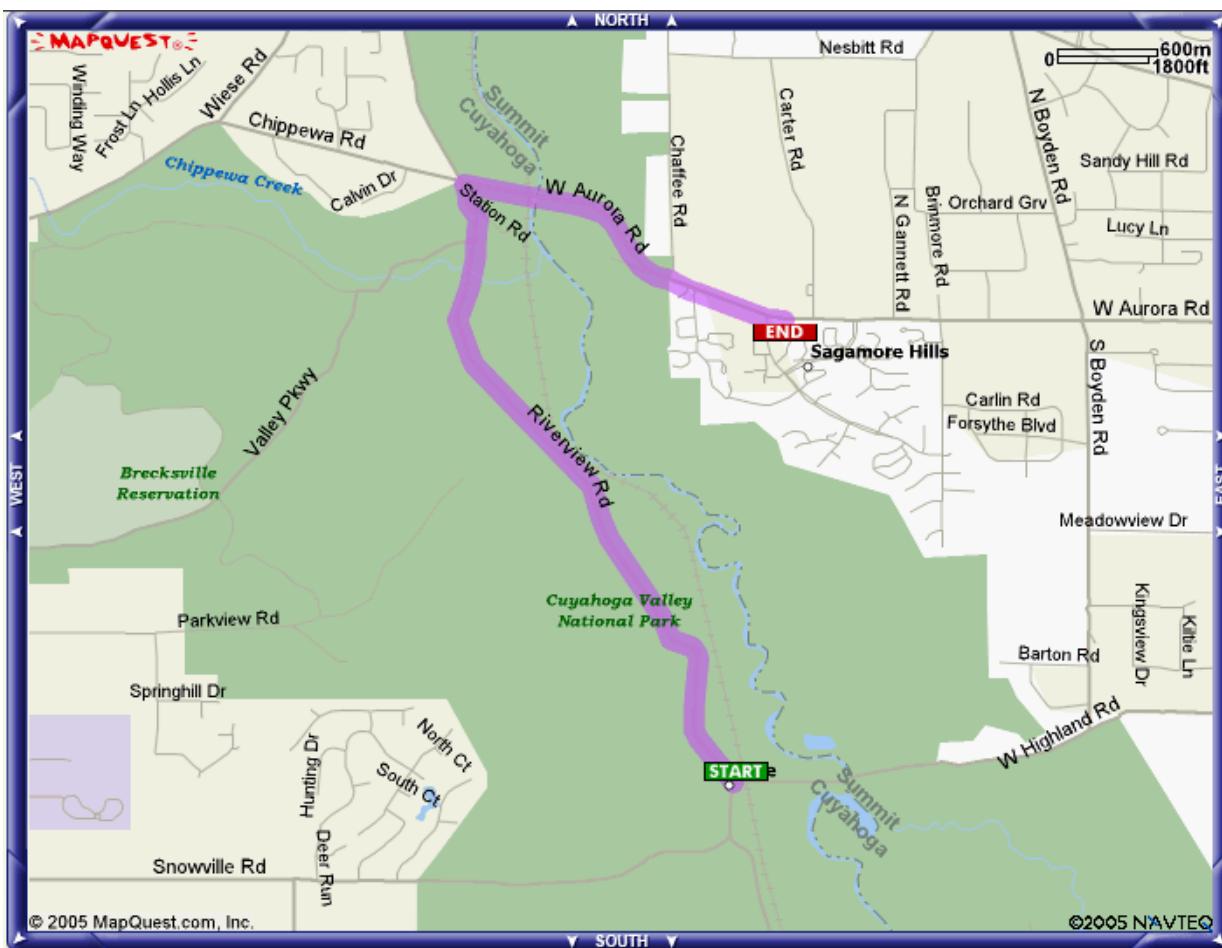
Each field team member shall sign this sheet after site-specific training is complete and before commencing work on site.

I have been trained in the contents of the Health and Safety Plan for the CUVA Jaite Paper Mill site and have been advised of the locations of copies available for review. I will comply with the provisions contained therein.

Attachment 2

Route to Hospital Map

Attachment 2. Hospital Route Map



To: Sagamore Hills Medical Center, 863 W Aurora Rd., Northfield, OH 44067 US

Driving Directions

1. Start out going WEST on VAUGHN RD toward RIVERVIEW RD. (0.01 miles)
2. Turn SLIGHT RIGHT onto RIVERVIEW RD. (2.70 miles)
3. Turn RIGHT onto CHIPPEWA RD/OH-82. Continue to follow OH-82. (1.34 miles)
4. End at Sagamore Hills Medical Ctr 863 W Aurora Rd Northfield, OH 44067 US

Total Estimated Time: 7 minutes

Total Distance: 4.05 miles

Attachment 3

Hearing Conservation Standard

Regulations (Standards - 29 CFR)
Occupational noise exposure. - 1926.52

 [Regulations \(Standards - 29 CFR\) - Table of Contents](#)

• Part Number:	1926
• Part Title:	Safety and Health Regulations for Construction
• Subpart:	D
• Subpart Title:	Occupational Health and Environmental Controls
• Standard Number:	<u>1926.52</u>
• Title:	Occupational noise exposure.
• Applicable Standards:	<u>1910.95</u>

1926.52(a)

Protection against the effects of noise exposure shall be provided when the sound levels exceed those shown in Table D-2 of this section when measured on the A-scale of a standard sound level meter at slow response.

1926.52(b)

When employees are subjected to sound levels exceeding those listed in Table D-2 of this section, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within the levels of the table, personal protective equipment as required in Subpart E, shall be provided and used to reduce sound levels within the levels of the table.

1926.52(c)

If the variations in noise level involve maxima at intervals of 1 second or less, it is to be considered continuous.

1926.52(d)

-

1926.52(d)(1)

In all cases where the sound levels exceed the values shown herein, a continuing, effective hearing conservation program shall be administered.

TABLE D-2 - PERMISSIBLE NOISE EXPOSURES

Duration per day, hours	Sound level dBA slow response
8.....	90
6.....	92
4.....	95
3.....	97
2.....	100
1 1/2.....	102
1.....	105
1/2.....	110
1/4 or less.....	115

.1926.52(d)(2)**1926.52(d)(2)****1926.52(d)(2)(i)**

When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. Exposure to different levels for various periods of time shall be computed according to the formula set forth in paragraph (d)(2)(ii) of this section.

1926.52(d)(2)(ii)

$F(e) = \frac{T(1)}{L(1)} + \frac{T(2)}{L(2)} + \dots + \frac{T(n)}{L(n)}$ where:

$F(e)$ = The equivalent noise exposure factor.

T = The period of noise exposure at any essentially constant level.

L = The duration of the permissible noise exposure at the constant level (from Table D-2).

If the value of $F(e)$ exceeds unity (1) the exposure exceeds permissible levels.

1926.52(d)(2)(iii)

A sample computation showing an application of the formula in paragraph (d)(2)(ii) of this section is as follows. An employee is exposed at these levels for these periods:

110 db A 1/4 hour.

100 db A 1/2 hour.

90 db A 1 1/2 hours.

$$F(e) = (1/4 \text{ divided by } 1/2) + (1/2 \text{ divided by } 2) + (1 1/2 \text{ divided by } 8)$$

$$F(e) = 0.500 + 0.25 + 0.188$$

$$F(e) = 0.938$$

Since the value of F(e) does not exceed unity, the exposure is within permissible limits.

1926.52(e)

Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.



[Next Standard \(1926.53\)](#)



[Regulations \(Standards - 29 CFR\) - Table of Contents](#)

Attachment 4

Activity Hazard Analyses

JOB SAFETY PLAN

Project: Jaite Paper Mill Demolition

Company: TtEC, Inc.

Prepared By: J. Fadden

Date: 12-12-05

Scope/Description: Asbestos Abatement (WITH DEMOLITION ACTIVITIES) and Emergency Demolition (WITHOUT PRIOR ABATEMENT)

The first part of this AHA consists of asbestos abatement activities for friable asbestos containing materials (ACM) occurring prior to demolition. Friable ACM in buildings that are structurally sound will undergo abatement per regulatory requirements. Nonfriable ACM (as regulations allow) can remain in buildings during demolition and disposed of as part of the construction and demolition debris (CD&D). Activities under this AHA also include packaging of friable ACM for disposal in an EPA approved asbestos landfill. All asbestos abatement activities are to be performed in accordance with the Asbestos Abatement Plan section of the HASP.

The second part of this AHA consists of asbestos abatement activities for friable ACM that is commingled with demolition debris (emergency demolition) where portions of the building are declared structurally unsound and in danger of imminent collapse. In these cases, all demolition debris (unless debris can be segregated) will be managed as asbestos containing material. Activities under this AHA also include packaging of commingled material for disposal in an EPA approved asbestos landfill. All asbestos abatement activities are to be performed in accordance with the Asbestos Abatement Plan section of the HASP.

(To be filled in.)

LIST WORK LOCATION (S) HERE: _____

MINIMUM DRESS REQUIREMENTS: General: Hard Hat, Safety Glasses with Side Shields, Steel-toed Footwear, Long Pants, Shirt with Sleeves, Leather work gloves during material handling activities; REFER TO IH MONITORING STRATEGY for respiratory protection, HASP and Asbestos Abatement Plan for PPE.

Emergency Contact Person(s):

Primary:

Emergency Phone No.:

APPROVALS

Does further evaluation of the job steps, associated hazards, or safety measures need to be performed? Yes No

If Yes, continue job safety plan on the following pages.

TtEC Management

Date: _____

Work Supervisor

Date: _____

ESQ Manager

Date: _____

WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
<p>Asbestos Abatement prior to demolition Friable, Class I abatement will be done using glovebag, wrap & cut or negative pressure enclosures methods.</p> <p>Galbestos and transite roofing and siding or other similar Category II non-friable asbestos material will be removed by cutting bolts or unbolting the panels prior to removal to minimize release of ACM during removal. The panels will be placed lowered to the ground and properly packaged in a shipping container for future off site disposal as ACM waste.</p>	<p>Potential chemical exposure – Asbestos and lead.</p>	<p>Disturbance of ACM will trigger asbestos-related requirements for handling of the material (per Asbestos Management Plan). Work procedures will be implemented that minimize or eliminate potential airborne contaminants.</p> <p>Trained asbestos workers under medical surveillance will be used for the abatement work. Fit testing will be done in accordance with Respiratory protection program and HASP.</p> <p>Dedicated work clothing and specified PPE shall be worn during work activities.</p> <p>Asbestos removal work area will be demarcated and posted in accordance with Asbestos Abatement Plan and regulations to prevent unauthorized entry of personnel.</p> <p>Air monitoring/sampling for asbestos workers, area monitoring, and perimeter monitoring will be done in accordance with HASP.</p> <p>Lead based paint may be present. Workers will not use hot methods to cut lead based painted materials without respiratory protection and monitoring per HASP.</p> <p>Asbestos waste will be properly bagged, marked and stored and signage will be applied to storage containers.</p> <p>Asbestos material will be kept adequately wet during abatement. Runoff will be controlled to prevent asbestos runoff from migrating out of the work area.</p> <p>Exit from control area will be done through a decontamination area where dirty PPE is left within the area (bagged) and personnel shower (as required) and don street clothing.</p> <p>Debris will not be dropped from elevated areas without a debris chute.</p> <p>Workers will use dedicated entry and egress area through decon station and will not track asbestos out of the controlled work area (includes equipment tires, tracks, buckets, tools).</p> <p>Critical barriers, negative pressure enclosures (as required) will be maintained to prevent airborne asbestos from leaving controlled work area.</p>



WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
	Potential for hazards during manual lifting of equipment and materials.	Proper hand protection, leather gloves, will be worn along with other required PPE; workers are to keep hands and other parts of the body parts, hands and feet clear of loads as they are lowered and positioned. Keep hands, feet clear of equipment pinch points.
	Potential for pinch points or crush hazards during abatement	Equipment or debris that needs abatement will be checked to ensure it is stable and will not shift during work. If addition of water will make buildings or equipment unstable (load stress), Competent Person will evaluate condition of building or structure
	Potential for muscle strains during manual lifting of equipment and materials.	Use proper lift technique (e.g., proper positioning and use of legs, not bending of back) and material handling equipment if feasible. Use material handling equipment and/or team lift if item over 50 lb.
	Falls from elevation and potential falls during use of the man lift or platforms; overhead hazards	If work required $\geq 6'$ level or working platform, fall protective system must be implemented – use of full body harness with retractable harness is required. The tie off point will be determined jointly by Competent Person. Ladders, if used, must be inspected prior to use, extended, and properly tied off. Daily man lifts and ladder inspections required; man lift operator must be qualified. Operator will not exit man lift once off the ground Workers will observe overhead structures to ensure that asbestos operations (i.e. cutting, unbolting, wetting) will not cause materials to fall or shift. Platforms and lifts will be positioned on level ground and will be appropriately secured.
	Slip, trip, fall hazards due to floor holes, major cracks, depressions, rough areas, etc.,	Holes, depressions, uneven surfaces must be repaired, filled in, drains plugged, etc. where possible; if uneven, hazardous conditions cannot be corrected, the area must be demarcated (e.g., yellow caution tape).
	Potential electrical hazards – shock, burn, electrocution, explosion of hazardous environment from static	GFCI will be used for portable electric power sources and tools, cords. Lighting sets will be appropriate for use in wet environments.

WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
Asbestos Handling During Emergency Demolition (demolition without prior abatement) Buildings are unsafe for entry (deemed as such by Competent Person in accordance with Emergency Demolition Order (on file), so abatement will not take place prior to demolition. This AHA to be reviewed in conjunction with Demolition AHA. This section just addresses asbestos exposure and control related assessment.	Potential slip/trip/fall hazards, while walking & operating on wet surfaces	Caution must be exercised on walking, working surfaces, especially plastic sheeting, due to water presence.
	Potential noise exposure	Appropriate hearing protection, minimum – expandable earplugs. A means to sound an alarm in the event of an emergency, e.g., air horn and/or radio will be available for use by the equipment attendant.
	Adequate lighting or visibility Fogged or misting of respirators and eye protection	Lighting will be used indoors to ensure adequate lighting for workers in work areas. Workers will maintain eye protection and respirators in condition that allows them to see and if it is a problem, they will exit through decon area to wash and fix problem. Anti-fog is recommended for full-face respirator cleaning before use to prevent this problem. If it continues, PAPR may be suitable choice.
	Release of asbestos laden water to environment	Adequately wet asbestos and debris but water will not be allowed to cause more than minor runoff from the building unless there is a means to collect and capture it. Asbestos shower water, decon water, or other water used during abatement that may be contaminated shall be treated through 5 micron filter or be collected into containers and sent off site for treatment by disposal facility.
	Potential chemical exposure – Asbestos and lead Potential spread of asbestos contamination during demolition	Disturbance of ACM will trigger asbestos-related requirements for handling of the material (per Asbestos Management Plan) for structurally unsafe structures. Work procedures will be implemented that minimize or eliminate potential airborne contaminants. Trained asbestos workers under medical surveillance will be used as the operators and ground crew workers. Fit testing will be done in accordance with Respiratory protection program and HASP. Both operators (in cab) and ground crews will be under respiratory protection and will wear appropriate PPE Dedicated work clothing and specified PPE shall be worn during work activities and air monitoring will be performed. Asbestos removal work area will be demarcated and posted in accordance with Asbestos Abatement Plan and regulations to prevent unauthorized entry of personnel.

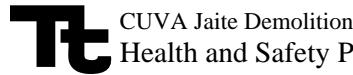


WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
		<p>Air monitoring/sampling for asbestos workers, area monitoring, and perimeter monitoring will be done in accordance with HASP.</p> <p>Lead based paint may be present. Workers will not use hot methods to cut lead based painted materials without respiratory protection and monitoring per HASP.</p> <p>Asbestos waste will be properly bagged, marked and stored and signage will be applied to storage containers. Containers will be loaded using heavy equipment to the extent possible.</p> <p>The building materials being demolished will be adequately wetted prior to demolition and be kept adequately wet during abatement so no visible emissions are released. Runoff will be controlled to prevent asbestos runoff from migrating out of the work area.</p> <p>Exit from control area will be done through a decontamination area where dirty PPE is left within the area (bagged) and personnel shower (as required) and don street clothing.</p> <p>Workers will use dedicated entry and egress area through decon station and will not track asbestos out of the controlled work area (includes equipment tires, tracks, buckets, tools).</p> <p>Asbestos debris will be loaded directly into bins that are lined and secured to prevent leakage or emissions. The debris in bins will be kept wet up to and during shipment so debris is not dry when transported.</p> <p>Bins will be cleaned if debris has contaminated the outer surfaces of the container. Bins will be marked with Asbestos marking and placards.</p> <p>If debris is segregated for recycling or alternate disposal, it will be free of asbestos contamination adhering to it. The asbestos supervisor will evaluate debris to ensure it is adequately cleaned for salvage.</p>



AHA ACKNOWLEDGEMENT

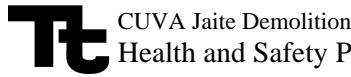
I have read, understand, and agree to abide by the provisions detailed in this AHA for asbestos abatement. I understand that failure to comply with these provisions may lead to disciplinary action and my removal from this job activity.



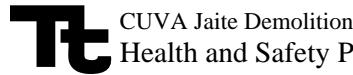
Activity Hazard Analysis			
Project: CUVA Jaite Demolition Project	Company: TtEC, Inc.	Prepared By: J. Fadden	Date: 12-12-05
Scope/Description: Cleaning of Pits, Tanks, Sumps or Trenches			
Tasks consist of removal of free liquids and solids from pits, sumps or trenches. Also includes containerizing wastes for future characterization and off-site disposal or recycling.			
(To be filled in.)			
LIST WORK LOCATION (S) HERE: _____			
This AHA is applicable to the following areas/tasks:			
MINIMUM DRESS REQUIREMENTS: General: Hard Hat, Safety Glasses with Side Shields, Steel Toed Footwear, Long Pants, Shirt with Sleeves, Leather work gloves during material handling activities; REFER TO IH MONITORING STRATEGY for PPE and IH Requirements of the HASP			
Emergency Contact Person(s): Primary: Emergency Phone No.:			
<u>APPROVALS</u>			
Does further evaluation of the job steps, associated hazards, or safety measures need to be performed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
If Yes, continue AHA on the following pages.			
TtEC Management	Date:	Work Supervisor	Date:
ESQ Manager	Date:		

This AHA should be revised as necessary to encompass the specific work in the work location, should be approved by all approvers and an evaluation of the work location specific revision should be completed.

WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
Removal of solids and liquids from pits sumps, tanks or trenches and structure cleaning Pits, sumps and trench covers will be removed for interior access. Solids will be removed via vacuum or small bucket attached to equipment where practical without confined space entry.	Potential Hazardous Atmosphere, hazards in Confined Spaces and requirement for Confined Space Permits.	Personnel must be aware that confined spaces exist at the site. No entry into vessels, sumps, or similar enclosures or areas will be performed without proper evaluation of the area, authorization, and permit if necessary, equipment, training, etc. Construction Supervisor and Site Safety Officer will evaluate specific hazards. If Confined Space Entry is required, all of the evaluation requirements of 29 CFR 1910.146 shall be followed
	Potential for muscle strains during manual lifting of equipment and materials.	Use proper lift technique (e.g., proper positioning and use of legs, not bending of back) and material handling equipment if feasible. Use material handling equipment and/or team lift if item over 50 lb.
	Potential electrical hazards – shock, burn, electrocution, explosion of hazardous environment from static or cord use.	GFCI and proper grounding will be used for cords and tools used in pits or sumps. Atmosphere will be monitored for hazardous conditions.
	Low ambient light levels, lack of illumination	Equipment shall operate with lights on. All personnel must wear reflective vests. Spotters must maintain a visible position to the equipment operator. Speed of equipment operation must be slowed to allow for diminished visibility; spotters to be equipped with air horn to indicate an immediate stop operation alert if needed. Temporary/portable light sources shall be used.
	Potential chemical exposure hazard during cleaning of pits and sumps or tanks	Dedicated work clothing and specified PPE shall be worn during work activities. Air monitoring and respiratory protection will be performed in accordance with IH Plan. Basic personal hygiene practices must be used to include washing of hands and face following work activities and prior to eating, drinking. Smoking in the work areas is prohibited.



WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
Removal of solids and free-liquids from pits sumps or trenches and structure cleaning <i>(continued)</i>	Equipment roll over	<p>Only trained equipment operators may operate heavy equipment.</p> <p>Extreme caution for trenches, pits, sumps, potholes, uneven terrain, and knowledge of equipment limitations shall be exercised by the Operator during operation of equipment.</p> <p>Barricading will be used (and spotters) to keep equipment from entering holes, pits, or sumps during work (when moving).</p> <p>All heavy equipment will be equipped with rollover protection systems and seatbelts shall be worn.</p> <p>Forklifts shall be used only to lift weights within their rated limits/capacities.</p>
	Potential pinch point hazards when attaching or removing rigging (e.g., chains, straps) to equipment and materials to be offloaded or loaded	Proper hand protection, leather gloves, will be worn along with other required PPE; workers are to keep hands and other parts of the body free and clear of rigging before tightening of the lift ensemble and/or lift activities commence. All rigging/lifting requires a hoisting/rigging checklist and inspection by competent person.
	Potential excessive noise level exposure	Wear hearing protection when working in vicinity of equipment as indicated or required.
	Potential slip, trip, fall hazards due to floor holes, sumps	<p>Holes, depressions, uneven surfaces must be repaired, filled in or demarcated (e.g., yellow caution tape) and personnel advised to prevent foot traffic in areas of sumps.</p> <p>If workers are potentially exposed to fall hazard of $\geq 6'$ level or working platform, fall protective system must be implemented – use of full body harness with retractable harness is required. The tie off point will be determined jointly by the FTL and Competent Person.</p>
	Potential falls from elevation during use of ladders.	Ladders, if used, must be inspected prior to use and properly secured and must be extended, secured or tied off as required.



WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
Removal of solids and free-liquids from pits sumps or trenches and structure cleaning <i>(continued)</i>	Potential for pinch point hazards during manual lifting of equipment and materials.	Proper hand protection, leather gloves, will be worn along with other required PPE; workers are to keep hands and other parts of the body free and clear of lift ensemble and/or lift activities; keep hands and feet clear of loads as they are lowered and positioned. Keep hands, feet clear of equipment pinch points
	Spills during removal or containerization of fluids	Spill kit will be on hand for dealing with liquid spills. Pumping or removal of liquids will be done using proper tools and methods. Drums or collection containers will be available and nearby to receive liquids. Containers will be kept closed after being filled.

THIS AHA IS NOT INTENDED TO COVER EVERY WORK ACTIVITY OR HAZARD THAT COULD BE ENCOUNTERED IN OR AROUND THE WORK AREA. THEREFORE, THIS AHA SHOULD BE USED IN CONJUNCTION WITH SPECIFIC WORK PROCEDURES AND PERMITS, PLANS ETC. REQUIRED FOR SPECIFIC TASKS (I.E. HOT WORK, CONFINED SPACE, FALL PROTECTION PLANS, ETC.).

UNDER NO CIRCUMSTANCES WILL WORK ACTIVITIES BE DONE THAT ARE NOT ADDRESSED IN ONE OF THESE DOCUMENTS



AHA ACKNOWLEDGEMENT

I have read, understand, and agree to abide by the provisions detailed in this AHA for Cleaning of Pits Sumps or Trenches. I understand that failure to comply with these provisions may lead to disciplinary action and my removal from this job activity.



Activity Hazard Analysis				
Project: Jaite Paper Mill Demolition	Company: TtEC, Inc.	Prepared By: J. Fadden	Date: 12-12-05	
Scope/Description: Structural Demolition				
Tasks consist of mechanical demolition of structures at the Jaite site. Demolition is comprised of hazards that consist of: heavy equipment operations; labor and ground crew operations, fall protection, as well as various other general workplace hazards (caught by/stuck in between, slips, trips, and falls, chemical hazards). This AHA covers the specific hazards associated with the demolition work in and around the Jaite Mill based on current tasks that will be performed during this phase of work.				
Sections below include 1) Specific hazards of demolition. Demolition of basements is also addressed in this AHA. 2) Emergency Demolition (demolition without prior asbestos abatement due to structurally unsound, in danger of collapse condition (to be reviewed with Asbestos Abatement AHA)				
This AHA is to be used in conjunction with the General Site Hazard AHA and the Asbestos Abatement AHA specific to the hazards of abatement.				
(To be filled in.)				
LIST WORK LOCATION (S) HERE: _____				
MINIMUM DRESS REQUIREMENTS: General: Hard Hat, Safety Glasses with Side Shields, Steel Toed Footwear, Long Pants, Shirt with Sleeves, Leather work gloves during material handling activities; REFER TO HASP for PPE and IH Requirements of the work specific tasks.				
Emergency Contact Person(s): Primary: Emergency Phone No.:				
<u>APPROVALS</u>				
Does further evaluation of the job steps, associated hazards, or safety measures need to be performed? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If Yes, continue AHA on the following pages.				
TtEC Management	Date:	Work Supervisor	Date:	
			HSM	Date:



WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
<p>1) General Demolition Hazards</p> <p>Other checklists apply (asbestos abatement, general equipment operations, etc.) and should also be reviewed in conjunction with this AHA.</p> <p>For demolition, structural steel components will be cut mechanically with a hydraulic shear as necessary and the buildings will be collapsed. Various methods of demolition may be utilized at the discretion of the demolition competent person (<u>torch cutting provisions are also included below</u>).</p> <p>Sizing and segregation of the building components will be at grade level using a shear attachment and/or grapple bucket and will include use of skid steer and/or loader for handling and loading of debris.</p> <p>Structural members of adjacent buildings to remain will be clearly marked with high visibility paint (as appropriate) to indicate they are to remain.</p> <p>Floor slab will be swept clean upon completion of the demolition for later demolition of basement structures.</p> <p>Prior to demolition, a pre-demolition checklist will be filled out for each definable area that will be demolished. This checklist will be used to identify items that remain within the building that require segregation from other debris for disposal or later removal (i.e., asbestos), and to address special safety concerns, etc.</p>	<p>Flying and falling objects and debris – impact, struck-by hazards</p> <p>Potential struck-by/caught-between hazards due to congestion, restricted area size for staging & maneuvering during vehicle and equipment operation</p> <p>Potential for pinch point hazards when manual lifting of equipment and materials.</p> <p>Accidental collapse of adjacent building or structural damage to adjacent building from the demolition</p>	<p>Operator must be skilled in demolition techniques.</p> <p>The demolition area will be barricaded and/or marked with yellow barricade tape; personnel will be kept clear a <i>minimum</i> of 100' from the area surrounding the demolition zone and will be restricted from access into the other attached building structures during demolition.</p> <p>Traffic will be restricted around the perimeter of the building being demolished. Warnings and barricading (if required) will be issued prior to pull down and personnel will be posted at potential entrance points to ensure no personnel enter area.</p> <p>If the view to the rear of vehicles or equipment is obstructed during a backing maneuver, the use of spotters is required. Spotters and operators must maintain eye-to-eye contact. If a spotter is not available for backing maneuvers, the operator must exit the vehicle/equipment and inspect the lane of travel prior to performing the maneuver. All equipment is required to have a backup alarm and must be functional. Prior to all vehicle/equipment operation, the operator must visually determine that the travel path is wide enough and path is clear. As necessary or indicated, traffic flow adjacent to the staging area may be rerouted or halted.</p> <p>Whenever possible, personnel walking paths and routes will be clearly separate from where equipment is operating or trucks are driving.</p> <p>Proper hand protection, leather gloves, will be worn along with other required PPE; workers are to keep hands and other parts of the body free and clear of edges of materials and equipment when placing items on the ground or other surfaces equipment pinch points, e.g., forks and arms of fork trucks, lids and gates of roll-off boxes; keep hands and feet clear of loads as they are lowered and positioned.</p> <p>No person shall be allowed to enter any building that is connected to or adjacent to a building undergoing any aspect of demolition. Before entry into adjacent building after demolition, PE will perform structural assessment of building if entry is required (at the discretion of the PE).</p>



WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
	Pitfalls	<p>Pits, holes, basements, catch basins, etc. will be demarcated and barricaded or covered if possible as part of the site mobilization activities and will be maintained throughout the duration of the project.</p> <p>As equipment works to clear debris from surfaces after or during demolition, the operator (and any involved ground crew) will watch for exposed pitfalls so they can be recovered or barricaded.</p>
	Potential struck-by, caught-between hazards and overhead electrical hazards during equipment operation, demolition, unloading of roll off boxes and similar containers – suspended loads.	<p>Equipment is not to be raised, suspended, etc. within 10' feet of any potentially energized line or system. Personnel must remain clear of raised load(s) and be aware that shifting weight of the boxes can cause vehicle tipping. Roll off's being unloaded or loaded must be on level ground to help prevent the potential truck tipping; personnel need to be > 3 bin lengths away from the rear or sides of the roll off's and dump body's in case of tipping, cable breakage and whipping.</p>
	Changing conditions	<p>Structural damage beyond what was found in survey due to changed condition (weather, abatement, water load, etc.). Unsafe structures will be re-examined by PE (McCabe) before entry, and before demolition to ensure sound approach. After demolition, heavy equipment will be used to the extent possible, to clean up the area that was demolished and workers will be kept free of the area until debris hazards are taken care of and the floor in and around the building footprint can be assessed for damage.</p> <p>Floor plates and other mechanisms that protected from uneven surfaces or fall hazards will be re-evaluated and put into place before working in the area.</p> <p>Equipment or debris that needs abatement will be checked to ensure it is stable and will not shift during work.</p> <p>If partial demolition of the structure is performed (staged demolitions) a building survey may be required for the remaining building areas left standing prior to entry and to evaluate changed conditions.</p>



WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
	Exposure to chemical hazards	Some materials that remain in building during demolition may contain hazardous materials, including lead, asbestos, or a previously unidentified material. PPE will be worn during debris segregation as identified in HASP. Monitoring will be done as necessary or indicated for operators and ground crew. Water suppression will be used during demolition to keep dusts down.
Final Structure Demolition	Potential pinch point hazards when attaching or removing rigging (e.g., chains, straps) to equipment and materials to be offloaded or loaded	Proper hand protection, leather gloves, will be worn along with other required PPE; workers are to keep hands and other parts of the body free and clear of rigging before tightening of the lift ensemble and/or lift activities commence. All rigging/lifting requires a hoisting/rigging checklist and inspection by competent person.
	Potential struck by binders or straps during securing of loads on trucks.	<p>Use nylon straps where possible.</p> <p>Assure area on other side of truck trailer is clear of personnel before throwing strap over load</p> <p>Avoid use of chain binders when possible. Use of over-center style chain binders is prohibited. Chain binders, if used must be ratchet style.</p> <p>Use caution when engaging and disengaging chain binders to avoid struck by hazards.</p>
	Potential fire hazard during torch cutting.	Hot work permit required for torch cutting; permit must be completed and reviewed prior to work activity; safety requirements specified in TtEC EHS 6-5 <i>Welding/Hot Work</i> must be followed. Areas of specific concern include clearing of flammables / combustibles from work area, open ventilation of the work area, designation of fire watches, and use of required personal protective equipment. Hot Work Permit must be completed by qualified person (cutter) and reviewed by FTL prior to work activity.



WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
Final Structure Demolition	Potential fume generation.	Torch cutting of coated/painted metal will require the use of respiratory protection as specified in the IH plan until personnel exposure monitoring data can be collected and analyzed.
	Physical hazards of cutting – potential for burns, including eyes, cuts.	Personnel not involved with the operation must be kept clear of the area. Proper shading of protective eyewear will be used by personnel performing the task, i.e., cutter and fire watch (at least Shade # 4) and respiratory protection used by the operator. Positive control over the cutting torch will be maintained.
	Falls from elevations while attaching cables	Personnel will follow fall protection procedures in accordance with site work plans and procedures. Work platforms will be properly secured on even terrain. Personnel will only work from ladders that are properly tied off and personnel will also have means of fall protection.
	Potential for cables and attachments to fail or fly as supports are pulled	Clear personnel from area. Operator cabs to have guards on windows. Operator to wear hardhat and safety glasses in cab.
WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
Emergency Demolition - Demolition without prior asbestos abatement Above checklist items apply as well, however there will be no entry into building to conduct abatement or removal of other hazards prior to abatement	Exposure to asbestos (to workers or the spread of asbestos out of work area)	See Asbestos Abatement AHA.
	Exposure to other hazardous materials that were not able to be removed prior to demolition (also refer to sampling AHA and mercury/PCB item removal AHA)	Operator will use caution while demolishing building or when sizing and loading debris into bins or piles to look for items such as drums, containers, cylinders, tanks, ballasts, etc. which will require evaluation, potential sampling, and containerization. Asbestos trained workers will be the ones sorting items found in the debris. After the equipment operator stages (or clears area around items), the workers will (with operator approval) enter the area to evaluate and remove the items to another location for handling. It may also be necessary to perform decon of materials if they have asbestos on them.
	Spills	Areas of potential spills (tanks, drums, pipes, etc.) will be treated with caution and care so as not to breach the container until the area is safe for evaluation, sampling, or removal of liquids. A spill kit will be on hand in the event of a spill.



WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
	Pitfalls	<p>Buildings that are not abated (or entered prior to demolition) may have unprotected sumps, trenches, pits, or basement areas that will be exposed as demolition and clearing of debris are performed.</p> <p>Operators will work methodically using equipment, to clear areas on the ground prior to tracking into the area. When these items are discovered, the operator will work with ground crew to get the areas barricaded or covered adequately.</p> <p>If equipment will be traveling over covers, the covers will be sufficient strength for equipment to operate over (i.e., heavy steel plate).</p>
	Sharp debris (cuts, scrapes, crushing, punctures).	<p>Ground crew, in some cases, may have to sort through some debris to remove items from the debris. To the extent possible, equipment will be used to sort the debris and make the debris pile as stable and small as possible.</p> <p>Ground crews will not walk on debris piles. The debris will be sorted using assistance of heavy equipment. Personnel will watch for nails, sharp metal, broken glass, etc. Leather gloves will be worn over other gloves to protect hands.</p>
	Flying debris, falling debris, collapse	<p>Demolition area will be extended out beyond building perimeter (usually 75' away) and no personnel will be within adjacent buildings during demolition. The operator performing demolition and the FTL will determine when it is safe for select ground crew personnel to assist. ALSO REFER TO GENERAL AHA AND DEMOLITION AHA.</p> <p>Ground crews will not remain in the area while the operator is performing demolition, sizing or moving debris (stay about 75' away). Operator and ground crews will communicate on tasks before conducting simultaneous work activities.</p>



WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
Evaluation of Basements Prior to Demolition May include entry to perform asbestos abatement (i.e., piping), removal of hazardous materials (drums or other hazmat), sampling for characterization (i.e., fly ash, soil, etc.)	Overhead hazards (falling debris, low ceilings), trip hazards, slips, trips, falls, cuts, scrapes, punctures.	Entry into basements only after above ground structures are cleared and demolished and a PE has performed structural assessment for entry. Adequate lighting will be used so personnel can see obstacles and hazards and mark or protect these areas prior to performing other work. Hazards will be eliminated by removal or protection (capping, cutting off, barricading, covering) as indicated. Area above will be protected so that equipment or personnel cannot drop objects into basements or fall into basements (barricades, etc.).
	Engulfment, hazardous atmosphere, limited egress (confined space hazards)	Entry into basements may require confined space permit depending on configuration and/or atmosphere Confined space procedures will be utilized as necessary after evaluation by Competent Person.
Demolition (Breakup, Crushing and Removal of Concrete Foundations, Floor or Basements) Work will be accomplished using excavator (or similar heavy equipment) with hydraulic hammer attachment or pulverizer attachment to break up and size the concrete into pieces that are conducive to either being hauled off site or for use as fill within the basement areas. <i>AHA does not include hot work for removal of rebar from concrete (torch cutting addressed in General AHA)</i>	Exposure to silica dust or other respirable from concrete	Wet methods will be used to control dust from concrete breakup Personnel will wear respiratory protection per the HASP. Monitoring will be performed for respirable dust and silica during the work to ensure no exposure to silica dust.
	Slips, trips and falls into basement when breaking up concrete Equipment rollovers	Equipment with longest reach will be used to break up the basement concrete. Basements will be filled or leveled to grade to the extent necessary to prevent fall hazards and rollovers of equipment into basement structures as the work progresses.
	Strains, sprains, crushing, or punctures and cuts from the concrete or rebar	Personnel will not enter or walk on the rubble pile while or after basements and concrete are broken up. Rebar and other sharp objects will be cut off or cut out of concrete or barricades will be established around perimeter of debris piles to prevent entry. If rebar is removed, rebar will be placed into proper container to minimize the hazards of rebar debris piles.

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UNDER NO CIRCUMSTANCES WILL WORK ACTIVITIES BE DONE THAT ARE NOT ADDRESSED IN ONE OF THESE DOCUMENTS



AHA ACKNOWLEDGEMENT

I have read, understand, and agree to abide by the provisions detailed in this AHA for Final Structure Demolition. I understand that failure to comply with these provisions may lead to disciplinary action and my removal from this job activity.

Activity Hazard Analysis			
Project: Jaite Paper Mill Demolition	Company: TtEC, Inc.	Prepared By: J. Fadden	Date: 12-12-05
Scope/Description: General Site Conditions and Requirements			
Emergency Contact Person(s): Primary: Emergency Phone No.:			
Specific Work Location(s): General Site Operations Other AHAs must be referenced for specific hazards particular to certain activities such as demolition and asbestos abatement, including specific hazards			
WORK SCOPE: General Site Operations <p>Includes: Transport of equipment and supplies to location(s) within the plant site Loading and unloading of equipment from flatbed, box and specialty trailers and other types of vehicles Temporary staging of equipment and supplies for mobilization to plant worksite location(s) Traffic routes and pinch points Operation of lift equipment including fork trucks and other lift equipment Manual lifting of materials and equipment Heavy equipment operations and personnel working around heavy equipment operations during site activities Fall Protection and fall hazards Electrical hazards Environmental Hazards Slips, trips, and falls Torch Cutting of metal Portable Power Tool use Generator hook up and electrical connection</p>			
NOTE: Reviewer must refer to the <i>Activity Hazard Analysis (AHA) – Demolition, Asbestos Abatement, etc.</i> for a detailed description of other safety considerations and controls related to the specific work activities planned within specific areas.			
<u>APPROVALS</u>			
Does further evaluation of the job steps, associated hazards, or safety measures need to be performed? Yes [X] No [] If Yes, continue AHA on the following pages.			
TtEC Management	Date:	Work Supervisor	Date:
		HSM	Date:

WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
General Site Conditions (all work activities)	Temperature Extremes (heat stress, cold stress, hypothermia, dehydration, frostbite) during work	Layering of clothing for the weather conditions Hydration of workers. Drink adequate amount of water during shift; avoid alcohol consumption (excessive) in evenings. As conditions dictate (<i>per TtEC EHS 4-6, Temperature Extremes</i>), workers will be advised of the signals of heat stress and preventive measures. Conditions will be monitored (ambient weather and/or workers) per plan requirements and worker protection regimens implemented as necessary.
	Active work and physical labor in hot or cold conditions where workers wearing added clothing – heat stress	Warming station or similar area will be provided, as needed, for personnel warm up during breaks.
	Low pace work, work done in cold, or work in wet clothing or improper clothing – cold stress, hypothermia, frostbite	Wind speed will be measured in the field and the effect on debris, dust, aerial work, etc.). Weather will be monitored by radio or internet (extreme weather warnings). Work at elevations or raised equipment (e.g. manlifts or manbaskets will be suspended for wind speeds (sustained or gusting) of 20 mph or greater, or at lesser wind speeds if deemed necessary by the Site Safety Officer.
	Extreme weather conditions (wind, snow and ice, slips, trips, falls)	Snow or ice (or wet conditions) can create slippery conditions on site. Paths and work surfaces will be kept de-iced.
	Weather can create unsafe conditions in buildings	Excess snow or ice loading of structures could cause collapse of structures that were previously deemed safe (also see demolition AHA). No entry into structures under snow or ice load will be allowed unless Competent Person deems safe (PE)
	Insects, animals (poisonous, stinging, biting)	Open panels or disturb debris piles with caution. Use caution walking through thick grass. Do not approach animals if animals do not flee when you approach. If bee, hornet, or wasp nests are observed, spray will be applied from a distance to knock down the nest or swarm (preferably in very early morning, night, or late evening when swarm has gathered in nest).
	Unsafe structures and grounds (debris hazards, fall hazards, overhead hazards, chemical hazards	No entry into buildings or along side buildings that are structurally unsound as determined by PE. Access into all buildings is strictly controlled on this project and must be performed using proper PPE and AHA evaluation (see demolition AHA and asbestos abatement AHA).

WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
<ul style="list-style-type: none"> - Mobilization /Demobilization - Site Access and Egress - Heavy Equipment and Haul Trucks - Staging and loading of Equipment and Bins 	Contact with energized power lines (in ground, above ground)	While some lines may be removed or verified as visibly disconnected by licensed electrician to be non-energized, some lines may be energized for work. Energized lines/circuits will be marked/indicated with warning signage and workers informed of the location of the energized lines.
	Contact with overhead electrical lines include vehicle and equipment movement around the site and demolition work under and around buildings where these lines are located.	Heavy equipment and attachments capable of reach will not be operated within a minimum of 10' from any potential energized source (may be overhead, at grade, or below ground); all work areas must be visually examined for potential hazards prior to setup and/or movement of equipment where overhead, energized systems are present.
	Contact with energized lines (utilities) below grade	Work done below grade (digging, excavating, trenching) if performed will be done after utilities are verified by licensed utility locate personnel. Hand digging will be done when within 24 inches of underground electrical utility. Operators and Site Personnel (including haul truck/delivery truck drivers) will be made aware of the electrical hazards for separation from electrical lines and requirements for ground penetrations in site orientation.
	Potential for vehicle to move during offloading & loading; struck-by and caught-between hazards.	Emergency brakes will be engaged and wheels choked on vehicles and trailers prior to off-loading and/or onloading.
	Pedestrian/worker foot traffic; potential struck-by, caught-between hazards.	Personnel are to stay within established, marked walkways when accessing or leaving the equipment staging areas or other areas where heavy equipment is operating. Personnel will wear bright colored (e.g., orange or bright green) vests and/or "high visibility" clothing. Personnel will make eye contact with operator and verify okay to proceed prior to entering area where trucks or equipment are operating.

WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
<ul style="list-style-type: none"> - Mobilization /Demobilization - Site Access and Egress - Heavy Equipment and Haul Trucks - Staging and loading of Equipment and Bins 	<p>Vehicle/Equipment parking/staging in designated staging area(s); potential struck-by/caught-between hazards due to potential congestion, restricted area size for staging & maneuvering.</p>	<p>If the view to the rear of vehicles or equipment is obstructed during a backing maneuver, the use of spotters is required. Spotters and operators must maintain eye-to-eye contact. If a spotter is not available for backing maneuvers, the operator must exit the vehicle/equipment and inspect the lane of travel prior to performing the maneuver. Heavy equipment required to have a backup alarm must have a functional unit. Prior to all vehicle/equipment operation in the staging areas, the operator must visually determine that the travel path is wide enough and path is clear. As necessary or indicated, traffic flow adjacent to the staging area may be rerouted or halted.</p>
	<p>Pinch points or crushing hazards from bins, latches, hasps, rigging (chains, hoists, etc.) or operating equipment where there is stored energy or overhead hazard.</p>	<p>Workers will be instructed to keep hands and body free from bins or equipment that can shift or close, or snap back on worker, or is in the process of being released from a truck or other equipment until the equipment is securely placed on the ground. Workers will be instructed to stay clear of the swing radius of doors or clear of the direction of a latch, hasp, or lever release when opening or releasing the devices. Workers will be instructed never to position themselves underneath suspended loads or between equipment that could shift.</p>
	<p>Failure of rigging (e.g., chains, straps, slings) during offloading / onloading <u>due to equipment failure</u> – potential struck-by, caught-between, and equipment damage hazards.</p>	<p>All rigging equipment (e.g., straps, slings, chains) must be inspected prior to use and removed from service if any deficiency noted (e.g., fraying of straps or slings, line separation, stretching or twisting of links). Tightness and serviceability of attachments (e.g., screw pin anchor shackles, safety latches on lift hooks) must be confirmed before each lift is performed.</p>
	<p>Slips, trips, falls (uneven surfaces or trip hazards) or puncture hazards from falls</p>	<p>Holes will be covered or barricaded. Traffic paths will be evened out for use (pedestrian/equipment). Boards with nails will be removed and not be in walkways (housekeeping). Sharp debris (rebar, posts, etc. will be cut off to grade, capped, or bent over so as not to prevent a hazard to workers.</p>

WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
<ul style="list-style-type: none"> - Mobilization /Demobilization - Site Access and Egress - Heavy Equipment and Haul Trucks - Staging and loading of Equipment and Bins 	<p>Failure of rigging (e.g., chains, straps, slings) during offloading / onloading due to <u>exceedence of equipment capacity</u> – potential struck-by, caught-between, and equipment damage hazards.</p>	<p>Chains, straps, slings and other related equipment used for lifting of equipment must be tagged or marked to show the rating of the device. Lift equipment many not exceed 75% of its rated capacity without the preparation of a Critical Lift Plan by a Competent Person (TtEC and/or McCabe) in accordance with TtEC CP-13, <i>Critical Lift</i>.</p> <p>Suspended loads and equipment may not be swung or positioned above personnel; personnel may not walk or work underneath of suspended or moving loads.</p> <p>Chain binders can release suddenly and can cause harm to personnel handling them. Avoid use of chain binders when possible. Use of over-center style chain binders is prohibited. Chain binders, if used must be ratchet style.</p> <p>Proper hand protection, leather gloves, will be worn along with other required PPE; workers are to keep hands and other parts of the body free and clear of rigging before tightening of the lift ensemble and/or lift activities commence; keep hands and feet clear of loads as they are lowered and positioned.</p>
	<p>Manual lifting of equipment and materials during preparation for offloading / loading – potential muscle strains and pinch points.</p>	<p>Use proper lift technique (e.g., proper positioning and use of legs, not bending of back) and material handling equipment if feasible. Use material handling equipment and/or team lift if item over 50 lb.</p>
	<p>Debris hazards in staging areas or loading of bins – potential for slips, trips, falls or cuts</p>	<p>Debris will be loaded into containers by heavy equipment and if debris requires compaction, this will be done by equipment (i.e. excavator attachment). Personnel will not enter or climb around in debris piles or bins. Debris staging areas will be kept in orderly fashion and out of walkways (good housekeeping). If ground crews handle debris, they will wear leather gloves.</p>
	<p>Potential for chemical exposure in debris piles (asbestos, lead based paint)</p>	<p>Because debris piles may contain asbestos, asbestos trained personnel wearing appropriate PPE and respiratory protection will be used to handle debris from buildings that have potential for asbestos. Debris will be appropriately wetted down prior to handling so that dust is not generated during loading.</p>

WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
<ul style="list-style-type: none"> - Mobilization /Demobilization - Site Access and Egress - Heavy Equipment and Haul Trucks - Staging and loading of Equipment and Bins 	Movement of heavy equipment, attachments on equipment, and vehicles – turns, backing and forward movement, raising/lowering of attachments such as forks, booms, rotation of superstructures – excavators; potential struck-by, caught-between and equipment damage hazards.	Prior to the movement of equipment or vehicles, the operator will confirm that the travel path, rotation radius (e.g., excavator), extension reach (e.g., boomed equipment), and/or area underneath of the equipment, (e.g., below raised forks), is clear of personnel, equipment, structures that could be impacted. Use of a spotter, or visual examination of the work area by the operator, performed outside of the equipment or vehicle, is required.
	Noise exposure that potentially exceeds permissible exposure limits.	Equipment operators while operating the equipment or tools will wear hearing protection; personnel working in proximity to the running equipment are required to wear hearing protection as specified in the HASP.
	Fall from elevations during ascending and descending of heavy equipment.	Three-point stance shall be maintained during mount and dismount of equipment.
	Equipment roll over	<p>Only trained and competent equipment operators may operate heavy equipment.</p> <p>The Operator shall exercise extreme caution for trenches, pits, sumps or potholes and uneven terrain during operation of equipment on unpaved roads.</p> <p>All heavy equipment on this project will be equipped with rollover protection systems when required and seatbelts shall be worn at all times.</p> <p>Forklifts shall be used only to lift weights within their rated limits/capacities.</p>
	Equipment failure	Daily inspections of equipment will be performed and documented prior to use. Deficiencies will be corrected before use. Equipment will not be modified without manufacturer approval.
	Struck by bins while loading or unloading	Roll off's being unloaded or loaded must be on level ground to help prevent the potential truck tipping; personnel need to be > 3 bin lengths away from the rear or sides of the roll off's and dump body's in case of tipping, cable breakage and whipping.

WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
- Portable Power Tool Use	Cuts and Lacerations Flying Debris or kick back Dust or Debris in eye Fumes or dust (respiratory)	Workers will be familiar with the safe operation and appropriate use of the power tools being used (user manual). Tools will be regularly inspected (and before use) and defects will be corrected before use. Power tools will have appropriate guarding as manufactured. Guards will not be removed for operation. Proper PPE shall be worn at all times, which includes– safety glasses (face shield necessary in many applications where debris could fly), leather work gloves, hard hat, if burns are a hazard, fire retardant work clothing; where respiratory hazards exist, appropriate respirator selection and use.
	Electrical Shock	Power tools will be double insulated and have 3-wire cord to ground. Cords that are defective (frayed, torn) will be removed from service and replaced. GFCI use for power tools. GFCI placement close to power source.
	Noise exposure that potentially exceeds permissible exposure limits.	Equipment operators while operating the equipment will wear hearing protection; personnel working in proximity to the running equipment are required to wear hearing protection as specified in the HASP.
	Fire Hazard	If tools can create sparks or flame (i.e. grinding), a hot work permit will be required. Fire extinguisher and fire watch. Combustibles removed within 50'.

WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
- Working from heights including ladders, man lifts or other aerial platforms or scaffolds	<p>Working at or above 6' from ground level or from elevations on equipment and/or vehicles, including trailers; potential fall hazards.</p>	<p>If work required $\geq 6'$ level or working platform, fall protective system must be implemented – use of full body harness with fall-arresting lanyard is required. Competent Person will determine the tie off point.</p> <p>Man lift inspections will be performed daily before use</p> <p>Stop work if winds > 20 mph or at lesser wind speed if deemed necessary by the Site Safety Officer.</p>
	<p>Tipping or rolling of equipment on uneven surfaces</p>	<p>Man lifts or rolling scaffolds will only be used on even terrain that does not have holes. Locking mechanisms and tie downs will be secured prior to working from devices. Competent person for scaffold use.</p>
	<p>Overhead hazards</p>	<p>Workers will watch for overhead hazards when working from man lifts or aerial platforms.</p> <p>Weight limit will be observed (persons and equipment)</p>
	<p>Ladder use (falls)</p>	<p>Ladders, if used, must be inspected prior to use and be properly secured and on level ground. Personnel will not work off of ladders.</p> <p>Ladders will be inspected before use and will be 1A compliant. Ladders will be extended and tied off as required.</p>

WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
- Electrical Hookup and Portable Generator Use	<p>Improper connections/disconnection or installation of generator could cause electrocution of workers.</p>	<p>Direct wire activities shall be conducted by a qualified electrician who shall confirm all live wiring is protected (conduit, covered panels) to prevent contact with personnel</p> <p>Determine whether any part of an electric power circuit, exposed or concealed, is located such that performance of work could bring any person, tool, or machine into physical or electrical contact with it.</p> <p>Live parts of wiring or equipment will be guarded to protect all persons.</p> <p>Restrict access to authorized persons only. Never leave an energized generator, panel, transformer, or any other open source of energy unprotected or not barricaded when a qualified person is not at the work site.</p> <p>Follow lock-out/tag-out procedures. Connections must not be made to the generator when the generator is running.</p> <p>If a generator is used, be sure it is a type that does not require grounding. If it requires grounding, follow manufacturer's directions. NEC 250-6 lists the exceptions for grounding portable and vehicle-mounted generators. Follow the other requirements specified above in this AHA. Ensure that the outlets on the generator are protected by GFCI. If they are not, be sure to install an inline portable GFCI. Test GFCI daily prior to start of use.</p> <p>Disconnect and coil power cables when not in use.</p>

WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
<p>- Torch Cutting</p> <p>Torch cutting may be used for pre-cutting on selected structures prior to demolition, cut off of rebar or other protruding metal, cutting of pipes or pipe sections, sizing of metal for scrap if shear or other mechanical methods are not adequate or preferred.</p>	<p>Potential fire or explosion hazard (hot work) if torch cutting performed.</p>	<p>Hot work permit required for torch cutting; permit must be completed and reviewed prior to work activity; safety requirements specified in TtEC EHS 6-5 <i>Welding/Hot Work</i> must be followed. Areas of specific concern include: clearing of flammables / combustibles from work area, open ventilation of the work area, designation of fire watch, and use of required personal protective equipment. Hot Work Permit must be completed by qualified person (cutter) and reviewed by Construction Supervisor and Safety Rep. prior to work activity.</p> <p>Torch cutting will not be performed on untested fuel lines or on tanks that hold or previously held combustible materials until those materials are properly emptied and the tank/vessel, or line is purged and inerted.</p>
	<p>Potential fume generation.</p>	<p>Building exterior areas where cutting will be performed are typically open with adequate natural ventilation; additional ventilation should not be required. Cutting of non-coated/non-painted metal will be the typical scenario; Safety Rep. must be consulted prior to any hot cutting on painted or coated surfaces. Respiratory protection, combination organic vapor/acid gas/HEPA cartridges, $\frac{1}{2}$ - face respirator will be used (See PPE section of this Plan).</p>
	<p>Physical hazards of cutting – potential for burns, including eyes, cuts.</p>	<p>Personnel not involved with the operation must be kept clear of the area. If torch cutting used, proper shading of protective eyewear will be used by personnel performing the task, i.e., cutter and fire watch (at least Shade # 4) and respiratory protection used by the operator. Positive control over the cutting tools, saw and/or torch will be maintained.</p>

WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
- Torch Cutting (continued)	Cuts, scrapes, bruises, crushing injuries from unstable debris during cutting	Materials being cut will be in stable location prior to cutting or will be secured to prevent shift when cut that could hit or fall on worker. Worker will position self out of path of potential shifting equipment; will not place feet or body underneath item being cut. Worker will not walk over or on top of debris piles Worker will enlist help of heavy equipment to move or reposition items that could shift when cut or have equipment perform the cut if possible.

THIS AHA IS NOT INTENDED TO COVER EVERY WORK ACTIVITY OR HAZARD THAT COULD BE ENCOUNTERED IN OR AROUND THE WORK AREA. THEREFORE, THIS AHA SHOULD BE USED IN CONJUNCTION WITH SPECIFIC ACTIVITY HAZARD ANALYSIS (AHA'S) AND ALSO ANY AND ALL PERMITS, PLANS ETC. REQUIRED FOR SPECIFIC TASKS (I.E. HOT WORK, CONFINED SPACE, FALL PROTECTION PLANS, ETC.).

UNDER NO CIRCUMSTANCES WILL WORK ACTIVITIES BE DONE THAT ARE NOT ADDRESSED IN ONE OF THESE DOCUMENTS

AHA ACKNOWLEDGEMENT

I have read, understand, and agree to abide by the provisions detailed in this Job Plan for General Site Hazards, Equipment Mobilization, Demobilization, Staging, Laydown, Access and Egress, Tool use and Heavy Equipment Operations. I understand that failure to comply with these provisions may lead to disciplinary action and my removal from this job activity.

Activity Hazard Analysis

Project: Jaite Paper Mill Demolition

Company: TtEC, Inc.

Prepared By: J. Fadden

Date: 10-12-05

Scope/Description: Removal of mercury containing items, PCB ballasts

Tasks consist of removal mercury-containing items (e.g., switches, fluorescent light tubes) and PCB containing light ballasts.

MINIMUM DRESS REQUIREMENTS: General: Hard Hat, Safety Glasses with Side Shields, Steel Toed Footwear, Long Pants, Shirt with Sleeves, Leather work gloves during material handling activities; REFER TO HASP for PPE and IH Requirements

Emergency Contact Person(s):

Primary:

Emergency Phone No.:

APPROVALS

Does further evaluation of the job steps, associated hazards, or safety measures need to be performed? Yes No

If Yes, continue job safety plan on the following pages.

TtEC Management

Date:

Work Supervisor

Date:

ESQ Manager

Date:

This AHA should be revised as necessary to encompass the specific work in the work location, should be approved by all approvers and an evaluation of the work location specific revision should be completed.

WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
Remove Mercury and PCB Containing Items from Buildings/Equipment Remove mercury-containing switches, mercury containing fluorescent light tube and PCB containing light ballast. In some cases, removal may occur prior to demolition, however in cases where structures are structurally unsound, these items may require removal after demolition (ballasts mostly)	Potential falls from elevation during use of the man lift or ladders.	If work required $\geq 6'$ level or working platform, fall protective system must be implemented – use of full body harness with retractable harness is required. The site supervisor and site FTL will determine the tie off point jointly. Check with FTL before performing any work that requires body positioning above ground level. Ladders, if used, must be inspected prior to use and properly secured. Daily man lifts and ladder inspections required; man lift operator must be qualified. Operator will not exit man lift once off the ground; lift is not to be used to raise/lower materials to the ground.
	Potential falls due to uneven work surfaces, pits, sumps or basements	Floors will be cleared of debris and level ground platforms will be used for man lifts or ladders placed to support the work. Covers sufficient to support the load of personnel and equipment will be placed over pits or sumps in path and area where equipment will be used. In no cases will equipment or personnel remove these items if the structure is unsafe to do so (walls, floors and ceilings must be evaluated by competent person and deemed safe for the intended work).
	Cuts, scrapes, or other hazards from debris during sorting and removal of items from debris pile (angular sharp debris, heavy equipment operations, shifting debris piles)	The debris (fixtures) will be moved out of the pile carefully by heavy equipment so that ground crew can safely approach and remove articles (i.e., ballasts from light fixtures). Personnel will not remove articles until the area is safe and they have clear communication with the operator and competent person to enter the area. Personnel will wear gloves and use proper tools to remove articles from the fixtures. Items will be placed into proper containers that are marked and labeled.

WORK ACTIVITY	HAZARDS PRESENT	REQUIRED SAFETY MEASURES/ PPE
	Exposure to mercury vapor or skin contact	<p>Visual inspection of work area for evidence of mercury release where mercury switches are used. If mercury contamination is identified, avoid contact, leave immediate area and contact Supervisor.</p> <p>Wear PPE as described in the HASP and avoid breakage of the switch or bulb during removal.</p> <p>Properly store mercury containing lights and switches MSDS will be reviewed for mercury articles</p>
	Exposure to PCB through skin contact	<p>Visual inspection of work area for evidence of leaking potting material from ballast. If leaking oil contamination is identified, avoid contact and notify Supervisor.</p> <p>Wear PPE as described in the HASP and avoid breakage of the ballast during removal. (Nitrile gloves will be worn while handling ballasts).</p> <p>Properly store PCB containing ballast.</p> <p>MSDS for PCBs will be reviewed.</p>

THIS AHA IS NOT INTENDED TO COVER EVERY WORK ACTIVITY OR HAZARD THAT COULD BE ENCOUNTERED IN OR AROUND THE WORK AREA. THEREFORE, THIS AHA SHOULD BE USED IN CONJUNCTION WITH OTHER PLANS AND AHAS REQUIRED FOR SPECIFIC TASKS (I.E., HOT WORK, CONFINED SPACE, FALL PROTECTION PLANS, ETC.).

UNDER NO CIRCUMSTANCES WILL WORK ACTIVITIES BE DONE THAT ARE NOT ADDRESSED IN ONE OF THESE DOCUMENTS



AHA ACKNOWLEDGEMENT

I have read, understand, and agree to abide by the provisions detailed in this AHA. I understand that failure to comply with these provisions may lead to disciplinary action and my removal from this job activity.

Activity Hazard Analysis

Activity: Sampling for Waste Characterization **Analyzed By/Date:** Jennifer Fadden, 12-12-05 **Reviewed By:** _____

Principal Step	Potential Hazard	Recommended Control
Collecting samples for waste characterization or spill prevention Samples may be collected from drums, tanks, pits, or debris piles or building components using a variety of sample equipment.	Back strains	Avoid prolonged repetitive motion. Rotate job tasks with other workers if necessary. Get help or use mechanical lifting devices for heavy loads of 50 lb. or more.
	Debris hazards or unsafe structures	Sampling will not take place within any unsafe structure. Operators will, at the direction of the Competent Person, demolish around structures to minimize damage to items requiring sampling if items are within unsafe structures
	Exposure to chemical contaminants	Wear required PPE and respiratory protection as specified in the HASP. Use visual inspection and ambient air monitoring to select PPE and respiratory protection. Remove PPE properly and wash hands after handling samples. Try to establish preliminary hazard of chemical being sampled (i.e., pH strips, determine if oil or solvent, or if acidic, etc.) before sampling to ensure correct sampling suite and also correct container selection. Try to use disposable sample equipment to eliminate need for decon. MSDS will be reviewed for chemical hazards (anticipated or known) Asbestos bulk samples will be taken by Asbestos Building Inspector using appropriate PPE and respiratory protection.
	Splashes	Wear safety glasses or goggles and face shield. Use proper sampling equipment for liquids to minimize splashing Wear proper PPE (chemical resistant) if indicated

Activity Hazard Analysis

Activity: Sampling for Waste Characterization **Analyzed By/Date:** Jennifer Fadden, 12-12-05 **Reviewed By:** _____

Principal Step	Potential Hazard	Recommended Control
	Slips, trips, and falls	Maintain good housekeeping. Mark or remove all identified trip and slip hazards. Maintain proper illumination in work areas. Ensure sampling is done in safe location that is not in structurally unsound area. For tank sampling, ensure that stable platform is being used to collect sample from. Use buddy and fall protection if indicated to prevent falling into tank. Do not enter tank to collect sample
	Fire/Explosion or chemical reaction	Should a drum or sample be suspected of holding flammable or reactive content, the container will be approached slowly, and opened using non-spark tools. Transfer of liquids to new drum will be done using proper grounding and bonding technique. A fire extinguisher will be nearby and escape route will be accessible.
	Hazardous atmospheres	If sampling in pit or tank is required, follow Confined Space procedures and Fall Protection Plan. Monitor atmospheres Use remote sampling technique to the extent possible to prevent need for entry (i.e., sample scoop/jar on extended rod, sample out of equipment bucket, etc.).
	Strains from use of tools such as shovels	Inspect all tools for damage before use. Do not use damaged tools. Maintain steady pace and follow the rest periods given on the job. Use appropriate tools for the task and maintain in good condition. Use auger instead of shovel if available to get into soil piles or drum contents.

Activity Hazard Analysis

Activity: Sampling for Waste Characterization **Analyzed By/Date:** Jennifer Fadden, 12-12-05 **Reviewed By:** _____

Principal Step	Potential Hazard	Recommended Control
Sample handling	Preservative chemical hazards (i.e., methanol, hydrochloric acid, sodium hydroxide)	<p>Wear required PPE.</p> <p>Use visual inspection and ambient air monitoring to select PPE and respiratory protection.</p> <p>Decontaminate exteriors of sample containers. Avoid spills. Ensure spill cleanup supplies are available.</p> <p>Wear gloves when handling preservative chemicals</p> <p>MSDS will be on site and reviewed for chemical hazards of preservatives</p>
Sample Transport to laboratory	Transport hazards to courier (fire, explosion, spill, vapors)	<p>Samples will be shipped in accordance with USDOT hazardous material regulations including material of trade exemption requirements as applicable (proper packaging, labeling, shipping papers, shipping description, avoid breakage, containment in case of spill etc.) as required by regulation</p> <p>Carrier will be informed of hazards</p>

Equipment to be Used	Inspection Requirement	Training Requirement
Hand tools (shovel, scoops)	Daily and before use	Specific training for hand tools.
Auger	Daily, before and during use	Specific training for operators.
Equipment bucket	Daily, before use	Operator training to use equipment with bucket, work around HE ops.
COLIWASA or jar sampler	Before Use	If glass, proper use to prevent breakage

Attachment 5

Field Forms

EHS MONTHLY CHECKLIST AND ACTION ITEM REPORT

Project: _____ **Area of Inspection:** _____

Inspection Type: **Weekly** **Monthly**

Inspector: _____ **Date:** _____

Signature: _____ **Time:** _____

REQUIREMENTS	OBSERVATIONS (N/A if not applicable)	FINDING YES/NO
Work Conditions		
1 Walking /Working Surfaces		
2 Aisles and Passageways		
3 Platforms/Scaffolding		
4 Ladders		
5 Stairs		
6 Exits/Egress		
7 Roadways		
8 Ventilation		
9 Lighting		
10 Noise Exposure		
11 Ergonomics		
Materials		
1 Stacking and Storage		
2 Chemicals and Fuel		
3 Compressed Gases		
Equipment		
1 Hand/Portable Tools		
2 Machine, Tools, Guarding		
3 Mobile/Heavy Equipment		
a. Physical inspection of equipment		
b. Review of daily inspection reports		
c. Review of equipment deficiency correction logs/records		

REQUIREMENTS	OBSERVATIONS (N/A if not applicable)	FINDING YES/NO
4 Lifting Gear Equipment		
5 Materials Handling Equipment		
6 Mechanical Power Systems		
7 Hydraulic Power Systems		
8 Pneumatic Power Systems		
9 Electrical Power Systems		
10 Valves and Controls		
Hazard Controls		
1 Other Heavy Equipment		
2 Lock-Out Systems		
3 Signs and Tags		
4 Color Coding		
5 Materials Labeling		
6 Warning Systems		
Emergency Systems		
1 Emergency Instructions		
2 Fire Protection		
3 Eye Wash and Showers		
4 First Aid Kits/Stations		
5 Emergency Rescue Equipment		
Protective Equipment		
1 Eye Protection		
2 Ear Protection		
3 Respiratory Protection		
4 Head Protection		
5 Hand Protection		
6 Foot Protection		
7 Body Protection		
8 Fall Protection		

REQUIREMENTS	OBSERVATIONS (N/A if not applicable)	FINDING YES/NO
Hazardous Waste Storage Area(s)/Satellite Accumulation Areas^{1,2}		
1 Designated, secured area with “Hazardous Waste” signage. For SAA area is marked “SAA”. (SAA)		
2 Containers:		
a. DOT-spec. containers (for wastes to go off-site only)		
b. Intact/in good condition (SAA)		
c. Waste compatible with containers (e.g., no evidence of corrosion, softening, bulging) (SAA)		
d. Marked “Hazardous Waste”/ visible Accumulation Date. <i>For SAA, marked “Hazardous Waste” or identify container contents and Accumulation date (SAA)</i>		
e. Securely closed and stored to prevent rupture/leaking, except when add/remove waste. (SAA)		
f. Labeled with EPA Id. No.		
g. For SAA only, Stored “at the point of generation” and meets quantity limits.		
3 Reactive/ignitable wastes stored at least fifty (50) feet from property.		
4 Liquid wastes within secondary containment.		
5 Incompatible wastes separated by a dike, wall, berm or other device.		
6 Stored for less than 90 days. <i>(CERCLA projects may have storage variance).</i> ³		
7 Container tracking log accurately reflects containers stored. (SAA)		

¹ For sites with multiple storage areas or Satellite Accumulation Areas (SAAs), indicate location where deficiencies are noted.

² For SAAs, evaluate only rows marked with (SAA).

³ If stored on site 75 or more days, TSDF/transporter has been selected (EHS 1-4), pick-up date scheduled and PM/PESM are aware of 90-day limit.

REQUIREMENTS	OBSERVATIONS (N/A if not applicable)	FINDING YES/NO
8 Area maintained in an orderly fashion and complies with state/EHS plan requirements. (SAA)		
Hazardous Waste Tank Storage Area <i>(Daily inspection is being conducted and maintained on-site)</i>		
Waste/Stockpiles - State Regulated Non-Hazardous Wastes (Refer to PESM Checklists, if applicable)		
TSCA PCB Wastes – must be inspected at least every 30 days (GMP - weekly) (Refer to PESM TSCA Checklist for inspection items)		
Point Source Discharges/ Air Emissions		
1 Permit conditions are being met.		
2 Monitoring equipment is fully operational.		
3 Equipment calibrations and maintenance is up-to-date.		
4 Discharge sampling performed at required intervals.		
5 Review monitoring results (<i>Report permit exceedances per EHS 1-7</i>)		
6 DMR and Plant Logs properly completed, signed, and submitted (if required).		
7 Fugitive Dust – Appropriate BMPs are instituted for fugitive dust emissions.		

Stormwater Discharge Activities		
1 SWPPP /Soil Plan reflects current activities.		
2 Monitoring/sampling performed at required intervals.		
3 Review monitoring results <i>(Report permit exceedances per EHS 1-7)</i>		
4 BMPs in SWPPP/Soil Plan implemented.		
5 Visual observations indicate stormwater meets water quality criteria.		
6 Inspections conducted as required and documented. Corrective actions are implemented and documented.		
Other Conditions or Work Practices		
1		
2		
3		
4		

Review previous week's/month's Action Item Report. Carry forward action items that have not been implemented. Note outstanding action items with an (F) in the "Action Item" column on this report. Note an (F) in the "Date Completed" column on previous week's/month's Action Item Report. End of Checklist - Monthly Inspections must be sent to PESM and Project Manager.

Project:

Area of Inspection:

Inspection Type: **Weekly** **Monthly**

Date of Inspection:

ACTION ITEM	RESPONSIBLE PARTY	SCHEDULE	DATE COMPLETED
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			

Reviewed by: _____
Site Superintendent/Site Manager _____ Date _____

*cc: Project Manager (monthly only)
PESM (monthly only)*

Tetra Tech EC, Inc.

DAILY SAFETY AND HEALTH REPORT

Project:

Date:

Contract #:

Activity/Area

Weather:

Temperature: High Low

<u>Inspection Checklist</u>	<u>OK</u>	<u>Condition</u>	<u>Inspection Checklist</u>	<u>OK</u>	<u>Condition</u>
Fences & Barricades	_____	_____	Lock/Tag	_____	_____
Signs & Posting	_____	_____	Hot Work	_____	_____
PPE Available & Worn	_____	_____	Housekeeping	_____	_____
Vehicle Speeds	_____	_____	GFCI usage	_____	_____
Excavation Markings	_____	_____	Cordset Use	_____	_____
Access Control	_____	_____		_____	_____
Seatbelt Use	_____	_____		_____	_____

Incident or Other Notable Items:

Safety & Health Activities

Tt Safety & Health

Signature

Date

EHS 5-2 ATTACHMENT A



1. The test subject shall be allowed to smell a weak concentration of the irritant smoke to familiarize him with the characteristic odor of each.
2. The test subject shall properly don the respirator selected as above, and wear it for at least 10 minutes before starting the fit test.
3. The test conductor shall review this protocol with the test subject before testing.
4. The test subject shall perform the conventional positive pressure and negative pressure fit checks. Failure of either check shall be cause to select an alternate respirator.
5. Break both ends of a ventilation smoke tube containing stannic oxychloride, such as the MSA part No. 5645, or equivalent. Attach a short length of tubing to one end of the smoke tube. Attach the other end of the smoke tube to a low pressure air pump set to deliver 200 milliliters per minutes.
6. Advise the test subject that the smoke can be irritating to the eyes and instruct him to keep his eyes closed while the test is performed.
7. The test conductor shall direct the stream of irritant smoke from the tube towards the faceseal area of the test subject. The test conductor shall begin at least 12 inches from the facepiece and gradually move to within one inch, moving around the whole perimeter of the mask.
8. The following exercises shall be performed while the respirator seal is being challenged by the smoke. Each shall be performed for one minute.
 - i. Normal breathing.
 - ii. Deep breathing. Be certain breaths are *deep* and *regular*.
 - iii. Turning head from side-to-side. Be certain movement is complete. Alert the test subject not to bump the respirator on the shoulders. Have test subject inhale when his head is at either side.
 - iv. Nodding head up-and down. Be certain motions are complete. Alert the test subject not to bump the respirator on the chest. Have the test subject inhale when his head is in the fully up position.
 - v. Talking - slowly and distinctly, count backwards from 100, or read the rainbow passage which follows this protocol.
 - vi. Normal breathing.

EHS 5-2 ATTACHMENT A

IRRITANT FUME PROTOCOL

9. If the irritant smoke produces an involuntary reaction (cough) by the test subject, the test conductor shall stop the test. In this case the tested respirator is rejected and another respirator shall be selected.
10. Each test subject passing the smoke test without evidence of a response shall be given a sensitivity check of the smoke from the same tube to determine whether he reacts to the smoke. Failure to evoke a response shall void the fit test.
11. Steps B4, B7, B8 of this protocol shall be performed in a location with exhaust ventilation sufficient to prevent general contamination of the testing area by the irritant smoke.
12. Respirator successfully tested by the protocol may be used in contaminated atmospheres up to ten times the PEL. In other words, this protocol may be used to assign protection factors not exceeding ten.

RAINBOW PASSAGE

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

EHS 5-2 ATTACHMENT B**TETRA TECH EC, INC.**
QUALITATIVE RESPIRATOR FIT TEST RECORD

Date of Test: _____ Project/Location: _____

Print Name: _____ Print Tester's Name: _____

	TEST 1	TEST 2	TEST 3
Respirator Manufacturer			
Model			
Facepiece style			
Size			
Type cartridge used for test			
Positive/negative pressure check (Pass or Fail)			
Test agent (Irritant fume or Isoamyl acetate)			
Sensitive to test agent (Yes or No)			
Normal breathing (Pass or Fail)			
Deep breathing (Pass or Fail)			
Moving head side to side (Pass or Fail)			
Speaking - (Pass or Fail)			
Bending (Pass or Fail)			
Jogging (Pass or Fail)			
Normal breathing (Pass or Fail)			
Passed test (Yes or No)			

I understand the limitations of the respirator(s) for which I was tested; how to inspect, use, and maintain the respirator; and, how to obtain information about the respirator use requirements on the project(s) on which I work. I also understand that it is my responsibility to inspect my respirator prior to each use.

Signature of Person Tested: _____

The fit test(s) was performed according to the fit test procedure specified in the Tetra Tech EC, Inc. Respiratory Protection Program, EHS 5-2.

Signature of Tester: _____

EHS 6-1 ATTACHMENT A



TETRA TECH EC, INC.

CONFINED SPACE ENTRY PRE-ENTRY BRIEFING CHECKLIST

Project Name: _____ Project Location: _____

Date: _____ Time: _____

Completed By: _____

Attendee(s): _____

- Hazard Communication (including the signs, symptoms, and modalities of chemical overexposure).
- Physical hazards present.
- All hazard controls.
- Acceptable entry conditions.
- Emergency procedures.
- Rescue procedures.
- Duties of entrants and attendants during routine and emergency operations.
- Frequency and Types of Monitoring.
- Communications system backup to be used.
- Review of work to be accomplished during entry.
- Decontamination procedures (if necessary).
- PPE disposal
- Potential emergencies that may occur outside the confined space.

EHS 6-1 ATTACHMENT B



TETRA TECH EC, INC.

CONFINED SPACE ENTRY PERMIT

PERMIT VALID FOR ONE SHIFT ONLY. ALL PERMIT COPIES REMAIN AT SITE UNTIL JOB COMPLETED.

DATE: _____ SITE LOCATION/DESCRIPTION: _____

PURPOSE OF ENTRY: _____

SUPERVISOR(S) IN CHARGE OF CREWS/TYPE OF CREW/PHONE #: _____

COMMUNICATION PROCEDURES: _____

RESCUE PROCEDURES AND PHONE NUMBERS: _____

REQUIREMENTS COMPLETED	DATE	TIME	REQUIREMENTS COMPLETED	DATE	TIME
Breathing Apparatus	_____	_____	Line(s) Broken-Cappe Blank	_____	_____
Emergency Escape/Fall Retrieval Equipment	_____	_____	Protective Clothing	_____	_____
Fire Extinguishers	_____	_____	Purge-Flush and Vent	_____	_____
Full Body Harness w/ "D" Ring	_____	_____	Respiratory Protection	_____	_____
Lifelines	_____	_____	Secure Area (Post and Flag)	_____	_____
Lighting (Explosive Proof)	_____	_____	Standby Safety Personnel	_____	_____
			Ventilation	_____	_____

Note: For items that do not apply, enter N/A in the blank. See reverse side for special requirements.

RECORD MONITORING RESULTS EVERY 1/4 HOUR

TEST(S) TO BE TAKEN	Permissible Entry Level	Time(s)
PERCENT OF OXYGEN	19.5% to 22.0%	_____
LOWER FLAMMABLE LIMIT	Under 10 %	_____

REMARKS: _____

EHS 6-1 ATTACHMENT B

GAS TESTER NAME & CHECK #	INSTRUMENT(S) USED	MODEL &/OR TYPE	SERIAL &/OR UNIT #
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

SUPERVISOR AUTHORIZATION—ALL CONDITIONS SATISFIED: _____ **DEPT/PHONE** _____

PRINT NAME: _____ **SIGNATURE:** _____ **FUNCTION (i.e., entrant, attendant, or supervisor)** _____

SPECIAL REQUIREMENTS: _____

COMMENTS: _____

EHS 6-4 ATTACHMENT A**TETRA TECH EC, INC.****LOCKOUT/TAGOUT PERMIT**

Project Name: _____ Location: _____

SECTION A							SECTION C		
DATE: _____ SHIFT: _____							REQUESTOR: _____		
EQUIPMENT DESCRIPTION: _____							NOTIFIER: _____		
EQUIPMENT LOCATION: _____							SHUT DOWN BY: _____		
REASON FOR LOCKOUT/TAGOUT: _____							ISOLATOR: _____		
SUPERVISOR ON DUTY: _____							VERIFIER: _____		
AUTHORIZED EMPLOYEE: _____							APPROVED BY: _____		
LOCKOUT LOCATIONS: _____									
SECTION B ISOLATION INFORMATION			SECTION D EQUIPMENT ISOLATION				SECTION F LOCKOUT/TAGOUT REMOVAL		
Device Description	Location	Isolation Position	Applied By	Lock #	Date	Time	Removed By	Date	Time
SPECIAL INSTRUCTIONS FOR REMOVAL OR RELEASING STORED ENERGY									

EHS 6-5 ATTACHMENT A



TETRA TECH EC, INC.

HOT WORK PERMIT

No. _____

Site Name: _____

Site Location: _____

Permit Issue Date: _____ Permit Expiration Date: _____

Describe work to be performed and location where activity will be conducted:

SAFETY ZONE for work established by (check all that apply)

Cones Caution Tape Natural Barrier Welding Screen Building Other, explain:

SAFETY REQUIREMENTS (check YES or NO)

Fire Extinguisher properly rated YES NO Fire watch present YES NO

Combustibles covered within 50 ft YES NO Work area clean YES NO

Cables, hose lines, regulators, cylinders, electric sources checked YES NO

SAFETY EQUIPMENT (check all that apply) respirator welders mask burning goggles

face shield, and _____

Are **SPECIAL FIRE PROTECTION** procedures being implemented? (If yes, describe):

AIR MONITORING REQUIREMENTS			
	<input type="checkbox"/> FID/PID	<input type="checkbox"/> O ₂	<input type="checkbox"/> CGI
Background:			
Time:			

Supervisor Signature _____ User Signature _____

Air Monitor Signature _____ User Signature _____

Fire Watch Signature _____ User Signature _____

Appendix B

Statement of Work

Statement of Work
Krejci Dump Site Settlement: Jaite Paper Mill Restoration
Emergency Demolition and Removal of Buildings and Contents
Cuyahoga Valley National Park
Sagamore Hills, Ohio
July 26, 2005
Revised August 17, 2005

Modifications to the August 17, 2005 Statement of Work can be found in text boxes (like this one) below.

I. Introduction/Background

The approximately 24-acre Jaite Paper Mill Site is located on the natural floodplain between the Cuyahoga River and Brandywine Creek in Cuyahoga Valley National Park, about 15 miles south of Cleveland. The Mill Site is approximately one-half mile south of Vaughn/Highland Road on a dirt road, immediately adjacent to the very popular and highly used Ohio & Erie Canal Towpath Trail. The first mill buildings were originally constructed in 1905; when the mill ended operations in 1984, the building complex had grown to a size of about 123,000 square feet (approximately three acres). In 1985, the entire 24-acre Site became part of the Park and the building complex was listed in the National Register of Historic Places (NRHP) and documented in detail by the Historic American Building Survey. A fire in October, 1992, however, severely damaged several buildings and the plant was then de-listed from the NRHP. After the fire the building complex was fenced off, enclosing approximately six acres. See the attached images and maps for further Site information.

Environmental Site Assessments (ESAs) and a Screening Investigation (SI) conducted after the fire by Environmental Mitigation Group found contamination on-site from contaminants that included, but was not limited to, polychlorinated biphenyls (PCBs), asbestos-containing materials (ACM), and petroleum, oil, and lubricant (POL) products. Underground storage tanks (UST) were also found on-site.

To date the following mitigation activities have occurred at the Site:

- Removal and disposal of six PCB capacitor banks
- Removal and disposal of all drums containing hazardous materials
- Removal of underground storage tanks (UST)
- After the 1992 fire, removal of significant quantities of asbestos, and demolition and removal of part of the structure
- Removal of retrofitted fuel-oil-fired boilers (original coal-fired boilers still remain)

In April of 2002, settlements were reached at the Krejci Dump CERCLA Site, in another area of the Park. Part (\$1.4 million) of these settlements are to be spent on reimbursing the Park "...for injury to, destruction of, or loss of natural resources at the (Krejci Dump) Site...." The term "natural resources," by definition, includes the *services* that those resources provided (43 CFR 11.14 (ll)). Restoration work at the Jaite Paper Mill Site was chosen by Park staff as the way in which the injured and lost natural resource services at the Krejci area would be compensated for. With this restoration project, NPS is fulfilling its obligation under the Krejci Dump litigation settlements, CERCLA, and the NPS Organic Act.

All work at the Jaite Paper Mill Site was originally organized into four Phases: I – Data Collection A; II – Data Collection B; III – Restoration Planning; and IV – Restoration Implementation. Phases I and II are complete; Phases III and IV have not yet begun. The Phase I and II work involved the following:

- Acquisition and review of all work and documents associated with the entire 24-acre Site
- An on-site inventory and Site Inventory Report of entire building complex and surrounding areas
- A Project Management Plan (includes Health and Safety Plan, Quality Assurance Project Plan, Field Sampling and Analysis Plan, and Field Engineering Quality Control Plan) for all work to be done at the entire Site
- A Supplemental Site Investigation (SSI) that collected over 150 samples from the entire Site, delineated waste piles at the Site, and performed preliminary structural assessments of the water tower and the Fourdrinier paper-making machinery
- A Site Characterization Report that stated and discussed the SSI results

Phase III will be done as needed for the three work components in Phase IV. The main work components in Phase IV are: 1) demolition and removal of the building complex; 2) removal and/or mitigation of contaminated media (e.g., soil, solid waste piles) from the Site; and 3) preservation of certain historical features from the Site and the re-establishment of a forested wetland. This Statement of Work addresses part of Phase III and part of Phase IV – i.e., a Demolition Plan and its implementation.

Walk-throughs during the 2003 Site Inventory, during the 2004 Supplemental Site Investigation, and after a recent 2005 meeting at the Park together indicate that much of the building complex has deteriorated significantly and is doing so at a surprisingly rapid rate. The conditions there pose obvious and immediate health and safety risks to Park staff and to unauthorized trespassers. In September, 2004, approximately one-third of the square footage of the building complex was recommended for early demolition and removal. This recommendation was based on a) at least partial roof collapse, and b) high level of fragility of a building/room such that the intended or unintended collapse of an adjacent building/room could cause it to collapse too. In March, 2005 (only six months later), the square footage meeting these two criteria increased by over 50%, putting the current square footage of the entire building complex recommended for emergency demo/removal at approximately 50%. This percentage is likely to increase at a similarly rapid rate in the future.

Additionally, in buildings/rooms that are not recommended for demolition, asbestos and asbestos-containing-material (ACM) are widespread, lying on floors and hanging from pipes. This material poses an immediate risk to human health and is also in need of removal.

II. Services to be Performed

There are three main tasks associated with this contract: 1) prepare a Demolition Plan, 2) demolish and remove buildings and related materials as per that Plan, and 3) prepare a Project Completion Report.

Rooms/buildings to be demolished, removed, etc. are listed in priority order in section 2.b, below. This order and the work scope herein should be followed as stated unless the contractor can suggest a different approach that is more cost-effective and that the Contracting Officer's Representative (COR) and the Park approve. Demolition activities should be planned and implemented such that the building materials and contents (described later) are demolished, mitigated, separated or combined into waste streams, removed, disposed of, etc. in the most cost-effective manner possible.

1) Demolition Plan

The Demolition Plan shall contain all information that is pertinent for the contractor to do not only the work described in Demolition and Removal work (section 2, below), but also work for the entire building complex (including floors, foundations, basement rooms, etc.). The Plan shall be written at a level of detail that will be sufficient for subsequent contracting efforts – informative, but not overly prescriptive and restrictive.

At a minimum, the Demolition Plan should contain:

- In general terms, the work that will be done under this contract and the sequence of the different tasks
- Project schedule, including time estimates for each demo/removal task under this contract
- In reasonably specific terms, an explanation of how this work will be done – e.g., the various mechanical, manual, or explosive methods and equipment that will be used
- Work that is expected to remain to take demo/removal of the building complex to completion, including expected sequence of, and time estimates for, these remaining tasks
- Waste streams that will be generated and how each will be removed and disposed of
- Names and locations of the companies receiving Site-generated materials
- Roles and Responsibilities of personnel, including on- and off-site contractor and subcontractor personnel
- Location and size of staging areas, employee parking area, equipment parking and storage area(s), temporary on-site office, etc.

- Expected location and duration of temporary on-site repositories for waste materials generated during demolition. Waste streams should be identified and any special or required treatment of or restrictions on temporary waste piles should be briefly described. In particular, 36 CFR Part 6, Subparts 1-12 (Solid Waste disposal in NPS units) should be addressed as appropriate for this task.
- A section addressing visitor protection, including precautions that will be taken, such as fencing, signage, towpath access restrictions, etc. Contractor will work closely with the COR and Park on this.
- Any other plans or procedures needed or required by law during the demo/removal work (e.g., dust control plan, storm water pollution prevention plan, fuel spill plan if fuel is stored on-site, etc.)
- A description of Site access and egress (locations of gates, gate-locking procedures for the hours of the day and days of the week, emergency egress procedures, etc.)
- A list of personal protective equipment and procedures for contractor and subcontractor employees and authorized Site visitors (e.g. NPS employees). To the extent possible, state areas where, or activities during which, Site access will be restricted.
- A list of all required permits and clearances
- Statement of utility or service needs/uses during the project (electricity, water supply, toilets, phone service, etc.)
- A list of the statutes, regulations, policies, etc. that pertain to this demo/removal work
- A Health and Safety Plan (see paragraph below)

Modification #2 (1/19/06):

Edit Draft Demolition Plan as needed to accommodate the broadened scope of work. This includes updating the project schedule. An additional iteration of the Plan will be submitted to and reviewed by the COR (see modified Deliverables section below).

The Demolition Plan should incorporate previous reports and plans generated for the Site as appropriate so that 1) there are no contradicting plans or procedures for the demo/removal activities, and 2) previous work or information is not unnecessarily duplicated. Where existing plans are adopted in whole or in part (e.g. the Health and Safety Plan), that should be stated in this Plan and the adopted plan should be cited. Procedures and instruction in existing plans can be supplemented as needed. Changes to existing plans or procedures, however, must be discussed with and approved by the COR before they are accepted and used. Existing reports and plans include the 2003 Site Inventory Report, the 2004 Project Management Plan (includes a Health and Safety Plan, a Quality Assurance Project Plan, a Field Sampling and Analysis Plan, and a Field Engineering Quality Control Plan), and the 2005 Site Characterization Report. Other

potentially relevant reports include a 1992 Asbestos Assessment Report, a 1993 Screening Investigation, and a 1993 Phase I Environmental Site Assessment.

Modification #1 (1/12/06):

Collect and analyze approximately 31 waste-characterization samples of building materials and contents as per the Dec. 9, 2005 “Rationale for Additional Samples” document from TtEC. All “category A, B, and C” samples from that document will be collected, except the PVC well samples and/or the odd sample that may no longer be appropriate. The building materials and contents to be sampled include, but are not limited to window glazing, concrete floor stains, trench/pit/basin/drum/tank/sump contents, roofing material, meters, oil and lubricants in motors, pipe chases, etc. Additional samples of similar material that is discovered further into the project shall also be collected if needed; this includes basement drains (if they exist) and any follow-up discrete sampling that may be needed based on composite sample results.

Submit a short *Additional Sampling Report* to COR with description of work done, results, and brief discussion/interpretation of results.

Modification #2 (1/19/06):

Take digital photos of all media and materials sampled for waste-characterization samples (described in the 1/12/06 modification above) and include them in the *Additional Sampling Report*.

Modification #2 (1/19/06):

Arrange recordkeeping and project management as appropriate so that all costs (e.g., sampling, laboratory analyses, handling, disposal, etc.) associated with hazardous substances and petroleum (as those terms are defined in CERCLA) releases are tracked and can be separated out from costs associated with non-hazardous materials.

Regarding compliance with the National Environmental Policy Act (NEPA) and NPS Director’s Order #12, the Demolition Plan and its implementation are an “emergency action” as per NPS Director’s Order #12 Handbook, section 2.14. As such, this work is categorically excluded from further NEPA compliance and documentation.

Preparing the Demolition Plan will require one post-award site visit by the contractor, another meeting at the park to discuss the Draft Demolition Plan with NPS staff, and phone calls with NPS staff as needed.

2) Demolition and Removal work

Work shall be done at the Jaite Paper Mill building complex *in the order prioritized below*.

- a. Remove all ACM and miscellaneous debris from the floors of the long room(s) where the Fourdrinier Machinery is located (see building/room #12 in the “ground floor plan” schematic) and from any confined spaces in/around/under that machinery where possible. Any other immediate ACM or debris hazards (e.g., hanging from the ceiling or walls) should be removed also. The ceiling-level metal beams immediately E of the fourdrinier machinery

should be cut and removed; the brick wall above the machinery should be removed; the piping above the machinery should stay; and the brick wall just W of the S end of the machinery should stay. Throughout all this, the fourdrinier machinery should be protected from damage.

Modification #2 (1/19/06):

All of Bldg. #12 and associated structures should be demolished and removed.

ACM and LBP that is setting on or connected to the fourdrinier machinery should be abated such that safe levels are achieved. The pit or catch basin underneath the fourdrinier should be cleaned out such that safe levels of these and any other contaminants are achieved. The pit or any other voids under the fourdrinier should be filled to grade with size 57 gravel.

A temporary protective roof structure should be built around the fourdrinier machinery. This structure should last a minimum of approximately five years. Specifications include: roof should be a shed roof with low end oriented toward the west; roof should overhang the fourdrinier by four feet on each of the four sides; there should be enough clearance between the top edge of the fourdrinier (12 ft. max height) and the low edge of the roof to allow for future machinery inspections; if cost-effective, preference should be given to metal building materials that can be disassembled and used elsewhere by the park once the permanent protective structure is ready to be built.

b. Demolish buildings/rooms and remove the resulting waste materials from the Site. Only debris within the footprint of the demolished building or that falls immediately nearby due to demo activities needs to be removed from the site.

Modification #2 (1/19/06):

Replace the words “immediately nearby” in the sentence above with “elsewhere.”

“Buildings/rooms” includes walls, ceilings/roofs, and anything contained within or on them (e.g., pipes, ducts, equipment, furniture, fallen debris, etc.). Floors, foundations, loading docks, basement rooms, and underground appurtenances (e.g., pipes, tanks, etc.) are *not* included in this definition and should *not* be demolished or removed at this time. Also, note that ACM-free masonry and concrete materials can be left onsite after being demolished. Demolition activities should be planned and implemented such that ACM, materials contaminated with lead-based paint, and all other materials that are not contaminated by either are demolished, mitigated, separated or combined into waste streams, removed, disposed of, etc. according to regulatory requirements and in the most cost-effective manner possible.

Modification #2 (1/19/06):

Clean, ACM-free masonry and concrete materials only (i.e., containing no metal, etc.) should only be left onsite when used to fill basement rooms and subterranean tanks and catch basins (see a text box below for details). Otherwise, all these materials should be removed from the site and disposed of.

For information on the extent and nature of ACM contamination throughout the building complex, refer to ACM survey results in the 2005 Site Characterization Report (esp. Chp. 4 and Appendices D and I) and the 1992 Asbestos Assessment Report.

As for the soundness of the buildings at the site, in general, all structural steel and masonry elements of the structure that are straight, level and plumb and that have not been damaged or compromised by previous work can be considered sound and stable. In general, all wood framing (deck, joists, beams etc.) and all secondary non-structural elements (windows, partition walls, drop ceilings etc.) are highly deteriorated and can be considered unsound and unstable. The contractor is responsible for following all OSHA regulations and should consult with a structural engineer if there is question concerning the adequacy of a particular individual structural member or its ability to withstand forces imposed during asbestos removal and demolition work.

Areas to be demolished have been prioritized by the Park as follows:

- a) Baled Paper Storage (#28)
- b) Rotary Mixers, Pulp Storage, and Beaters (#17, 18, 19)
- c) Wooden Warehouse and Miscellaneous Storage (#1, 2)
- d) Box Shop, Rolled Paper Storage, Old Multiwall Paper Storage, and Offices (#3, 4, 5, 6, 7).
- e) Mill Supplies Storage, Autos, Vacuum Pumps, and Pump Expansion (#8, 9, 10, 11)
- f) Machine Shop, Boiler Room, and Trucks & Repair Shop (#20, 21, 26)
- g) Electric Shop & Welding Shop, Machine Shop, Paper Testing, Former Buffalo Steam Fired Pump (#13, 14, 15, 16), and the small wooden building just S of the water tower
- h) Former Power House and Former Pulp Mill (#25, 27), including the metal stacks and associated machinery
- i) Chemical Storage Tank Area, Storage Room, Welding (#22, 23, 24), and the fenced metal framework (substation?) just W of these buildings (and remove power line back to the pole)

The following features at the Site will be preserved and eventually restored by the Park; all demolition and removal activities must avoid altering or damaging these features:

- Water tower structure

Modification #2 (1/19/06):

A detailed engineering evaluation of the water tower (as described in Appendix K of the 2005 Site Characterization Report) shall be conducted. Specifically:

- Engage a specialist experienced in climbing and assessing water towers of this type to conduct a detailed inspection of the entire structure. The specialist should perform a structural analysis of the water tower to determine if it is structurally adequate to be retained, giving particular attention to the condition of the leg bases and the roof, due to some deficiencies observed during the initial assessment. The structure should also be evaluated for any contaminants that may affect its treatment, handling, or disposal (e.g., LBP, ACM, etc.).
- If the tower cannot be retained, an *Unretainable Condition Water Tower Report* of the findings and reasons for removal should be presented as soon as possible to NPS so that removal can occur while the Mill Demo and Removal contractor is still mobilized. All information – especially that collected above-ground – that those demolishing/dismantling the tower will need should be collected and provided in the report. The report should also include a cost estimate to take down and remove the structure.
- If the tower can be retained, a brief *Retainable Condition Water Tower Letter Report* stating this should be presented as soon as possible to NPS. The detailed engineering evaluation should then continue as needed to prepare and submit to NPS a *Water Tower Detailed Evaluation Report*. This report should describe in detail the condition of the water tower (including photos where appropriate), recommend restoration measures for the tower, and estimate the costs to restore it. The information should be sufficient to allow another contractor, at a later date, to draw up restoration plans and specifications for the water tower without having to climb the tower again.

- Fourdrinier machinery

Modification #2 (1/19/06):

“Fourdrinier machinery” is further clarified here as all the machinery from (and including) the “rope reel” to (and including) the end of the “head box,” a length of approximately 210 feet.

- Artesian wells
- Railroad bumper post at the southeast end of the building complex
- Railroad spurline along the south edge of the building complex

Modification #2 (1/19/06):

“Railroad spurline” is further clarified here as the berm itself and any rails that are present.

Modification #2 (1/19/06):

- Loading dock retaining wall (approx. 3 ft. high) along the length of the southern railroad spur to identify the southern boundary of the mill site.
- Concrete retaining walls at the end of the southern railroad spur at the southeast corner of the site.
- Concrete foundation wall at the southwest corner of Building #1 (wooden warehouse) to mark the southwest extent of the site (approx. 3 ft. high and 10 ft. in each direction).
- Concrete block foundation wall at the northwest corner of Building #27 (former pulp mill) to mark the northwest extent of the site (4 courses above grade and approx. 6 ft. in each direction).
- Loading dock wall at the northeast corner of the northern dock to mark the northeast extent of the site (approx. 4 ft. high and 10 ft. in each direction).

- Ohio & Erie Canal remnant east of building complex

Demo/removal work should be in compliance with relevant statutes, regulations, and policies. There are many such requirements. See Table 6-1 (from the 2004 Project Management Plan) for the complete list (these encompass demo/removal work, cleanup, and restoration of the entire 24-acre Site). Some regulatory requirements particularly relevant to this demo/removal work are:

- Solid Waste Disposal Sites in NPS Units (36 CFR Part 6, Subparts 1-12)
- National Emission Standards for asbestos
- Lead Paint Abatement requirements
- National Ambient Air Quality Standards (e.g., for dust)
- National Oil and Hazardous Substances Pollution Contingency Plan (if fuels will be stored on-site)
- Various other hazardous waste, solid waste, and storm water management regulations

Other tasks that the contractor will be responsible for include:

- Remove vegetation as needed; it can be left whole and onsite

Modification #2 (1/19/06):

Woody vegetation (e.g., trees) that has been removed (e.g., uprooted or cut) during demolition work should be either chipped and left onsite or hauled off-site and disposed of, whichever is cheapest. If the wood is chipped, chips can be left in place anywhere throughout the site, as long as it is within the fenceline.

- Treat (if necessary), haul, and dispose of wastes in a manner compliant with all applicable regulations and requirements; this especially pertains to ACM and lead-based paint (LBP) wastes

- Obtain necessary permits for all work associated with this project
- Arrange location of utility lines if needed
- Work with COR and Park staff to ensure visitor and traffic safety during project

Modification #2 (1/19/06):

Fencing separating the towpath from the Jaite Mill access road should be extended from the NE gate area down around the two artesian wells and connecting to the chain link fence that is currently around the site.

A six-foot high, approximately 800-lineal-foot chain-link fence should be installed around the settling (AKA “aeration”) ponds 1 and 2 that are located just E of the towpath. The rectangular-shaped fenceline should be on top of the berm-like features that surround these two ponds. Any old fencing there should be removed. A pedestrian gate should be installed in the NW corner of the fence.

- Explore costs/benefits of recycling and selling waste materials; if the net cost is cheaper to the overall demolition/removal project, employ one or both of these activities
- Repairing and/or replacing all or part of the existing fence and gates as work at the site requires
- After demolition and removal work described in this Statement of Work is complete, mitigate any health and safety hazards at the area such as holes, sharp objects (i.e., cutting or impalement hazards), high objects that might fall to the ground, minor attractive nuisances, etc. Regarding basement rooms in buildings that are being demolished, basement ceilings (i.e., ground-level floors) should be demolished and caved into the space immediately below; basement floors should be punctured through to the soil well enough to minimize pooling of water and drowning hazards.

Modification #2 (1/19/06):

“Sharp objects (i.e., cutting or impalement hazards)” is further clarified here to include any pipes sticking six inches or more up and out of the floor anywhere on the building complex footprint, including areas where there are no longer building structures overhead.

“Basement room” work is further clarified and expanded here to also include: sampling of any basement drains for contaminants; plugging (e.g., grouting) any basement drains; removal and disposal of any ACM or other wastes in these rooms; taking a GPS reading of each basement drain and recording it in the Project Completion Report; and filling in rooms with clean, broken concrete or masonry materials.

- The septic tank to the west and the two storm water basins to the north should be sampled for waste characterization purposes if they haven’t been already; any liquid in these subterranean structures should be pumped out and properly disposed of; all pipes entering or exiting them should be plugged; and the voids should be filled with clean, broken concrete or masonry materials.
- All drains found within the footprint of the building complex should be sampled and analyzed to characterize waste, plugged, and located with a GPS reading. These results should be included in the Project Completion Report.

3) Project Completion Report

After the demo/removal work described in this Statement of Work is complete, a short Project Completion Report should be prepared stating and illustrating what was done. Any information that could be helpful to the contractor (assuming it is a different one) that finishes the building complex demo/removal work should be included.

III. Deliverables

- Administrative Draft Demolition Plan to be reviewed by COR
- Draft Demolition Plan to be reviewed by NPS
- Final Demolition Plan
- Draft Project Completion Report to be reviewed by COR
- Final Project Completion Report

Modification #1 (1/12/06):

- *Draft Additional Sampling Report*
- *Final Additional Sampling Report*

Modification #2 (1/19/06):

- *Draft Updated Project Schedule*
- *Final Updated Project Schedule* (Include in Final Demolition Plan if possible; otherwise append to it)
- *Second Administrative Draft Demolition Plan* to be reviewed by COR
- Depending on water tower (WT) evaluation findings, *Draft Unretainable-Condition WT Report OR Draft Retainable-Condition WT Letter Report*
- Again, depending on WT evaluation findings, *Final Unretainable-Condition WT Report OR Final Retainable-Condition WT Letter Report*
- Only if retainable, *Draft WT Detailed Evaluation Report*
- Only if retainable, *Final WT Detailed Evaluation Report*

III. Schedule/Time of Delivery

This order shall be in place for 365 days from the notice to proceed. All reasonable efforts should be made by all parties to meet or exceed (i.e., perform more quickly) the following schedule. Should elements of this schedule turn out to be unreasonable, or should the schedule change during the demolition planning or implementation processes, they can be changed, but only with the approval of the COR.

- 0 - 30 days: Site visits and meetings as needed. Contractor prepare and deliver one electronic copy via email file or C.D. of the Administrative Draft Demolition Plan to COR, and cc the Contracting Officer.
- 30-35 days: COR review this and send comments back to contractor, and cc the Contracting Officer.
- 35-80 days: Contractor prepare and deliver nine hardcopies of the Draft Demolition Plan to COR, and cc the Contracting Officer.
- 80-95 days: NPS review this and send comments back to contractor. COR will consolidate all NPS comments so that the contractor receives one set of comments, and cc the Contracting Officer.
- 95-120 days: Contractor prepare and deliver nine hardcopies and two C.D.s (with a pdf version of the document on each) of the Final Demolition Plan to COR, and cc the Contracting Officer.
- 120-240 days: Contractor conduct all demo/removal work at the Jaite building complex site as scoped in this SOW and the Delivery Order.
- 240-255 days: Contractor prepare and deliver one electronic copy via email file or C.D. of the draft Project Completion Report to COR, and cc the Contracting Officer.
- 255- 260 days: COR review this and get comments back to contractor

- 260-270 days: Contractor prepare and deliver nine hardcopies and two C.D.s (with a pdf version of the document on each) of the final Project Completion Report to COR, and cc the Contracting Officer.

Modification #1 (1/12/06):

- Within six weeks (42 calendar days) from new Notice to Proceed: Contractor deliver one electronic copy of *Draft Additional Sampling Report* to the COR and one to the Contracting Officer (CO)
- Within three work days of receiving *Draft*: COR get comments to contractor, cc CO
- Within 1.5 wks (10cd) of receiving COR comments: Contractor deliver nine hardcopies and two electronic copies of *Final Additional Sampling Report* to COR and one hardcopy to CO

Modification #2 (1/19/06):

- ASAP, but no more than (NMT) 2 weeks (14 calendar days (cd)) from the new notice to proceed (NTP): Contractor deliver one electronic copy of *Draft Updated Project Schedule* to the COR and one to the Contracting Officer (CO)
- NMT 2 work days after receiving *Draft*: COR get comments to contractor, cc CO
- NMT 1 wk (7cd) after receiving NPS comments: Contractor insert *Final Updated Project Schedule* into Final Demolition Plan
- NMT 3 wks (21cd) from new NTP: Contractor deliver one hardcopy and one electronic copy (compact disc) of *Second Administrative Draft Demolition Plan* to COR and one electronic copy (compact disc) to CO
- NMT 3 work days after receiving this: COR get comments to contractor, cc CO
- NMT 1.5 wks (10cd) after receiving COR comments: Contractor deliver *Final Demolition Plan* as specified in original SOW (above).
- Before actual demolition work begins on-site: all additional fencing will be installed and operational.
- NMT 4 wks after NTP: Brief explanation submitted to NPS on how Recordkeeping practices will be adjusted to track any costs assd. with CERCLA and petroleum substances on-site.
- ASAP, but NMT 5 wks (35cd) from new NTP: Depending on the WT evaluation findings, contractor deliver nine hardcopies and one electronic copy of *Draft Unretainable-Condition WT Report* to COR and one hardcopy to CO **OR** one electronic copy of *Draft Retainable-Condition WT Letter Report* to COR and one to CO
- NMT 1 wk (7cd) after receiving either of these *Drafts*: NPS and/or COR get comments to contractor, cc CO
- NMT 1.5 wks (10cd) after receiving NPS comments: Again, depending on the WT evaluation findings, contractor deliver nine hardcopies and two electronic copies of *Final Unretainable-Condition WT Report* to COR and one hardcopy to CO **OR** nine hardcopies and one electronic copy of *Final Retainable-Condition WT Letter Report* to COR, and one hardcopy to CO

If WT is retainable:

- NMT 3 wks (21cd) after delivering *Final Letter Report*: Contractor deliver nine hardcopies and one electronic copy of *Draft WT Detailed Evaluation Report* to COR, and one hardcopy to CO
- NMT 2 wks (14cd) after receiving *Draft*: NPS get comments to contractor, cc CO
- NMT 2 wks (14cd) after receiving NPS comments: Contractor deliver nine hardcopies and two electronic copies of *Final WT Detailed Evaluation Report* to COR, and one hardcopy to CO

V. Designated Officials

A. Government Representatives

1. The Restoration Project Manager and Contracting Officer's Representative for this work order is Mark VanMouwerik who can be reached at (970) 225-3507 or via FAX at (970) 225-3579.
2. The CUVA Point-of-Contact for this Task Order is Bill Carroll who can be reached at (440) 546-5901 or via FAX at (440) 546-5905.

Modification #2 (1/19/06):

The CUVA first Point-of-Contact is Bill Carroll

The CUVA second Point-of-Contact and alternate COR is Dee Strickland who can be reached at (440) 546-5920 or via FAX at (440) 546-5905.

The CUVA third Point-of-Contact is Dave Humphrey who can be reached at (440) 546-5970 or via FAX at (440) 546-5982.

3. The Contracting Officer is Theora McVay who can be reached at (402) 661-1662, via FAX at (402) 661-1663, or via email at Theora_mcvay@nps.gov.

Appendix C

Subgrade Work – Demolition, etc.

Appendix C

Subgrade Demolition

This demolition plan is provided for future reference and for Contract Modification 3 tasks. This Demolition Plan is subject to addition and/or change upon the receipt of additional Scope of Work modifications. Excavations and construction activities will be performed in accordance with the OSHA Construction Standard, 29 CFR 1926, specifically, Subpart P – Excavations. Figures C-1 and C-2 show the basement floor plan and basement section view, respectively.

Basement room work includes the following tasks:

- Sampling any basement drains for contaminants;
- Plugging (grouting) any basement drains;
- Removing and disposing ACM or other wastes in these rooms;
- Taking GPS readings of each basement drain and recording it in the Project Completion Report;
- Filling in rooms with clean, broken concrete or masonry materials;
- Cleaning basements (removing materials) and plugging underground drains; and
- Sufficiently puncturing basement floors to minimize future pooling of water.

I. Removal of Subgrade Contents Prior to Demolition (Current Scope)

Removal of subgrade contents will be performed in a manner to prevent potential contamination of additional soil and/or groundwater.

- A. Dewatering – Dewatering activities will be performed as necessary to access subgrade structures and underground appurtenances, and prevent sloughing of excavation slopes and walls. This includes any pumping, ditching, draining, and other required measures for the removal or exclusion of groundwater or surface water. Sampling of water for suspect contaminants will be required prior to discharge to the environment.
- B. Debris Removal – Similarly, any solid debris will removed from basements or other subgrade structures due to the potential contamination of debris from previous historical operations. It is known that asbestos containing materials have been identified in some the subgrade structures, including, but not limited to, buildings 11, 17, 19, and 21. Solid debris will be containerized and characterized for suspect contaminants prior to disposal or backfilling operations of said materials.

The basements contain a large amount of accumulated debris. There is a possibility that some ACM (Mainly Galbestos), paint chips, and other debris has accumulated on the floor of basements. The debris will be scooped up into collection containers and sampled for waste characterization. It will be disposed of as per waste characterization testing conducted similar to the additional sampling rationale modification included in Appendix I of the Demolition Plan. The recommended sample parameters include: asbestos, PCBs, TCLP RCRA metals, TPH, and semi-volatiles.

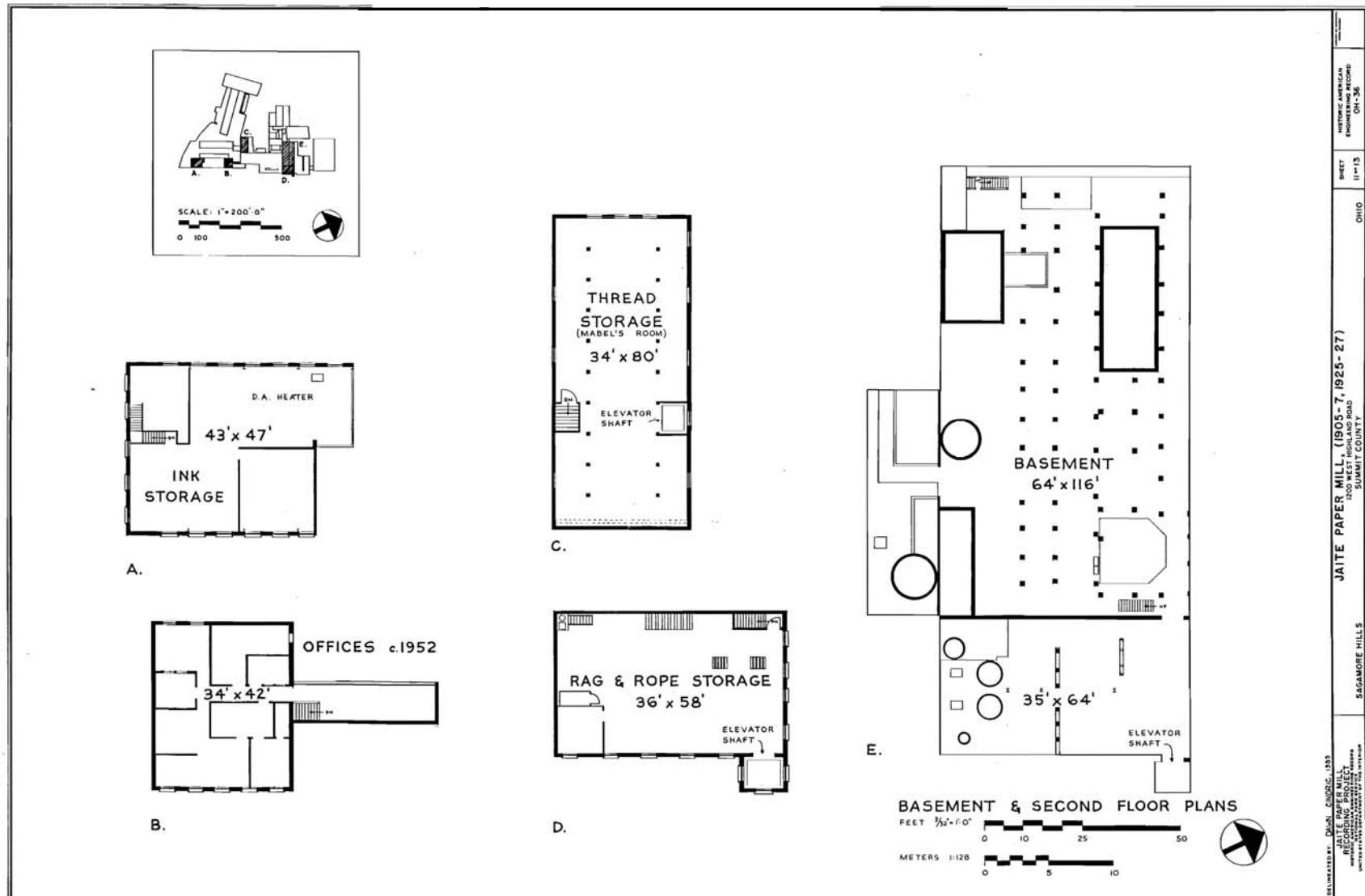


Figure C-1. Basement and Second Floor Plans

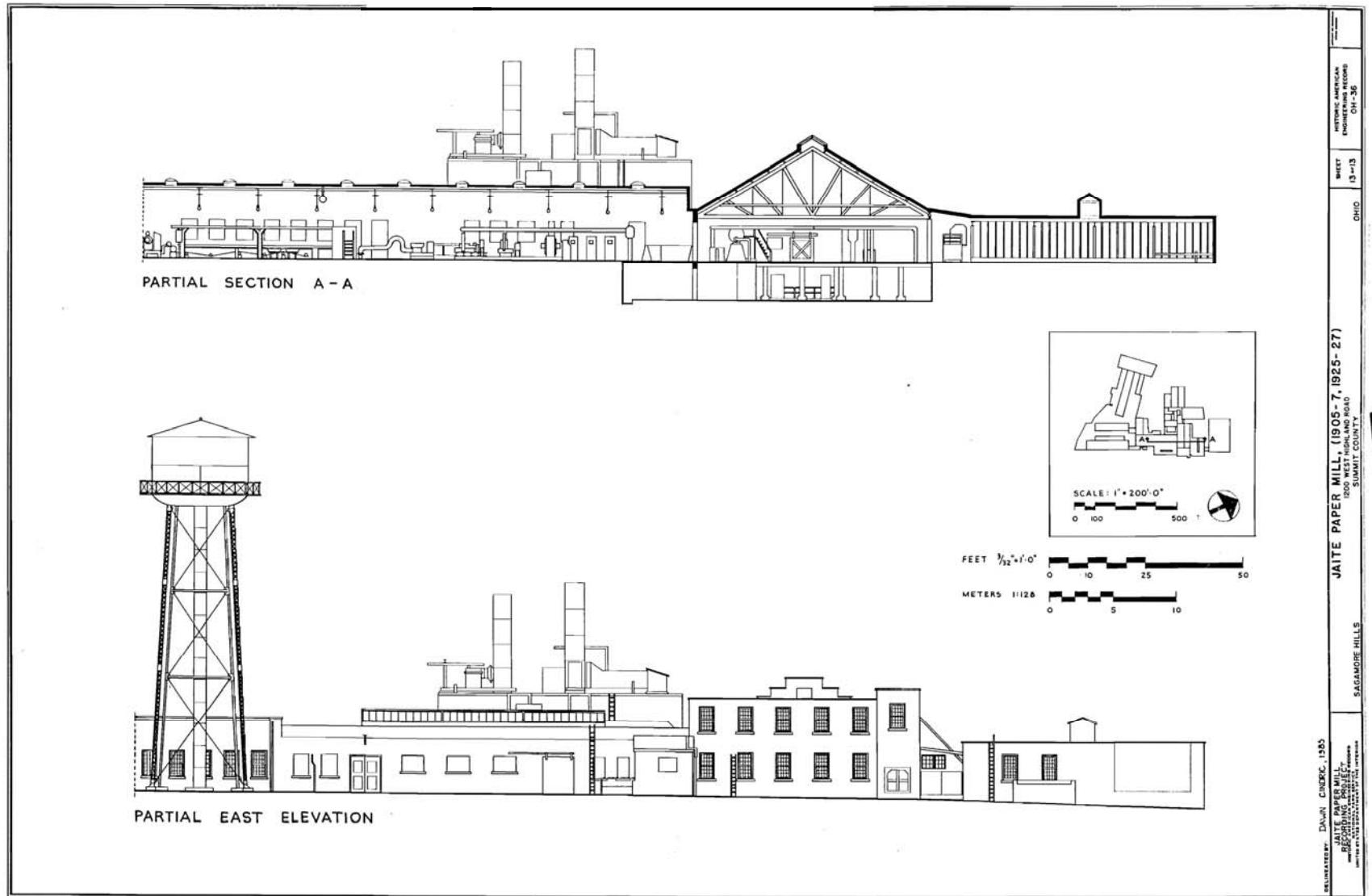


Figure C-2. Basement Section View (Rag and Rope Storage [D. from Figure C-1], Basement Room [E. from Figure C-1])

II. Removal of At-Grade and Below-Grade Structures (Future Work)

Except for the features listed to be saved in Section 4.1 of this Plan, floors, footings, foundation walls, concrete slabs on grade, and loading docks will be demolished, removed, loaded, transported, and deposited at a designated stockpile area on site until disposal or use is determined. Excavation of soils adjacent to basement walls, floors, and footers may be required to provide access for removal of such structures. Excavated soils will be stockpiled at a safe distance adjacent to the void created by the removal of the structure.

The sloping of excavations will be performed in accordance with 29 CFR 1926 Subpart P. Sheet piling, shoring, or bracing may be necessary to safely support the sides of excavations, as well as the support of structures above and below the ground, such as the Fourdrinier Building (#12) and associated machinery, water tower, and southern railroad spur. Some foundations of adjacent structures may be left in place in lieu of the above stated support systems to support the remaining structures. The decisions to remove adjacent supporting foundations or leave in place will be made in the field, due to the lack of building subgrade building plans and information.

No bedrock is expected to be encountered; therefore, it is not included in this scope. No excavation of bedrock will be performed, unless otherwise specified. It is unknown if building pilings exist due to the lack of structural drawings. A determination regarding piling removal or abandonment will be made if and when they are encountered.

Subgrade utilities to be removed (to a certain depth) are yet to be determined. Concrete will be disposed of off site or broken concrete may be reused to the extent as prescribed by contract modifications in accordance with additional scope of work. If concrete cannot be used on site, stockpile of concrete will be hauled off site to an approved landfill or concrete recycler. If concrete is used on site, sampling will be required of the reuse stockpile to ensure it meets site goals.

III. Backfilling (Future Work)

- A. Suitable Materials – Suitable materials consist of native material, clean hard fill, engineered fill or borrow (imported) material meeting the criteria requested by the client. Native material will be obtained from on-site excavations, provided the materials are not classified as unsuitable.
- B. Unsuitable Materials – Any material defined as hazardous, hydric soils (reference local soil survey), or any material that cannot meet the compaction and stability requirement for the intended use specified by the client. All fill materials imported or native will be free of organic materials, scrap material, refuse, or any other deleterious material.

IV. Compaction (Future Work)

It is recommended that backfill be compacted to 95 percent relative compaction in areas subject to vehicle or structural loads, and 85 percent in other areas. No compaction of existing, undisturbed soils will be performed.

V. Grading (Current Scope and Future Work)

Grading of backfilled areas will conform to the natural contour of the landscape. Grade areas will be graded to drain slightly away from backfilled areas and structures. Undisturbed areas will not be graded. Grading will be limited to new fill materials (or clean native materials) to prevent the spread of potential contamination. Erosion control will be implemented as needed. **Appropriate steps are prescribed to mitigate contamination hazards because contamination outside the building footprint that is not due to demolition is a main concern.** Presently, there is Galbestos laying on the ground outside the mill on both sides (Building 22 and along RR track outside furnace room). Sampling for PCBs before final grading will be required. This approach will mitigate the risk of grading over or spreading potential contamination. ACM debris removal outside the building footprint will be required, and removal of surface soil around the building footprint (Typically 2 to 6 feet, depending on sample results) would be required.

VI. Disposition of Excavated Materials (Future Work)

Clean hard fill will be demolished and sized for excavation, on-site transportation, and stockpiling purposes. Disposal and/or recycling of excavated materials have not yet been determined.

Concrete crushing for recycling purposes may be implemented on site at the discretion of the client. Dust suppression systems may be required for concrete crushing operations.

Appendix D

Asbestos Abatement Plan

McCabe Engineering

3470 Brecksville Road
Richfield, Ohio 44286

PHONE: 330-659-3550

FINAL ASBESTOS ABATEMENT PLAN

FOR

Jaite Paper Mill

**1220 Highland Road
Sagamore Hills, Ohio**

Plan Date: 1/31/06

PLAN PREPARED & APPROVED BY: _____

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1.0 INTRODUCTION

1.1 Statement and Purpose

The following is the Asbestos Abatement Plan for McCabe Engineering for the Jaite Paper Mill Demolition Project. The purpose of this asbestos abatement plan is to develop a working program by which the removal of the existing asbestos containing materials is performed in such a way so as to minimize and/or eliminate the impact of the asbestos removal activity to workers, the environment, and areas adjacent to the asbestos removal activity.

1.2 Applicable Regulations

The following Regulations apply to the asbestos abatement activity. In any instance where adopted standards are in conflict with each other, the most stringent shall apply.

- OSHA Safety & Health Regulations for Construction 29 CFR 1926 Subpart T, Demolition
- OSHA Respiratory Protection Standard 29 CFR 1910.134
- OSHA Asbestos in Construction Standard 29 CFR 1926.1101
- U.S. EPA (NESHAP) 40 CFR 61 Subpart M
- OEPA, OAC 3745-20 Asbestos Emission Control
- ODH, OAC 3701-34 Asbestos Hazard Abatement

1.3 Notifications and Permits

The NPS has specifically stated that portions of the buildings are “unsafe for entry” and McCabe has obtained the required local agency determination in accordance with the asbestos NESHAP for emergency demolition. This information is provided to meet the requirements of EPA 40 CFR 61.145 (a)(3) and 40 CFR 61.145(b)(4)(xiv). McCabe will also obtain a local demolition permit from the city. Notifications to the Ohio Department of Health (ODH) and Ohio EPA will also be made 10 days prior to asbestos abatement activities.

2.0 SCOPE OF WORK

2.1 Stages of Abatement

Asbestos abatement activities are grouped into two categories (prior to demolition for safe structures and coinciding with demolition for unsafe structures) based on the structural integrity of the buildings. The abatement activities which are forecasted prior to demolition and during demolition may change based on the structural integrity of the buildings as determined by the future OSHA engineering survey for the buildings. This plan outlines the general procedures and approach to abatement techniques based on the building status determined by the outcome of the OSHA engineering survey. Buildings will either be deemed safe or will be deemed unsafe to enter to perform abatement based on the OSHA survey results performed by the Demolition Manager. Since conditions of the buildings could change at any time due to deteriorating conditions, it is not possible to definitively state which buildings will or will not be safe for entry until such a time as the Demolition Manager gives the final notice to proceed with abatement or demolition based on the final OSHA surveys. Additionally, because many of the buildings are connected, the demolition of one structure could affect the integrity of adjacent structures that may have previously been safe for entry, which would in turn, require additional evaluation by the Demolition Manager to determine if safe or unsafe for entry to perform abatement. The sequence of abatement in various work

areas and buildings is therefore, somewhat fluid, and this abatement plan is structured to cover the types of ACM present and the work methods that will be implemented based on buildings that are deemed safe or unsafe.

The asbestos-containing materials identified in this plan are based on the building materials identified and tested in the initial asbestos survey (EMG, dated June, 1992) and supplemental asbestos survey (included in Final Site Characterization Report, Tetra Tech, dated February 25, 2005) provided at the Pre-Bid Meeting. Additional sampling may be required if additional materials are discovered or suspected of being asbestos containing. A modified scope of work was issued by the NPS to cover some additional proposed sampling for, among other things, suspect ACM that was not addressed in the Site Characterization Report. Additionally, in lieu of sampling, suspect ACM may be presumed ACM. Additional materials, work scopes or significant quantities may be added to this plan as an addendum.

2.2 Asbestos Locations and Quantities

2.2.1 Asbestos Abatement Prior to Demolition Activities

Building #3 – Box Shop and Rolled Paper Storage and Building #5 – Rolled Paper Storage

- (Sample #5 – 50%, #6 – 55%, #7 – 50%) Approx. 1,200 linear feet of 2"-4" TSI pipe insulation throughout (see drawings).
- (Sample #2 – 4%) Approx. 144 square feet of floor tile (poor condition) in south office @ w.end of bldg #3.
- (Sample #3 – 22%) Approx. 360 square feet of floor tile (poor condition) in north office @ w.end of bldg #3.
- (Sample #17 – 30%) Approx. 2 square feet of friable paper in box on wall in the Paste Room.

Building #11 – Expansion Room

- Assumed – Approx. 1,000 square feet of transite siding.
- Assumed – Approx. 54 square feet of transite insulating board.

Building #12, - Fourdrinier building

- (Sample #49- 40%, #51- 50%) Approx. 200 linear feet of 10" TSI pipe insulation and fittings.
- (Sample #52-50%) Approx. 150 linear feet of 6" TSI pipe insulation and fittings.
- Approx. 2,000 square feet of TSI pipe insulation debris on floor beneath the piping described above.
- (Sample #47 – 20%) Approx. 360 square feet of floor tile (poor condition) in un-numbered yellow building to the east of the #12 bldg.

Area #22 – Chemical Storage Tank Area for Boiler Treatment

- Assumed – Approx. 20 linear feet of 10" pipe insulation.

Building #23 - Storage Room

- Assumed – Approx. 60 linear feet of 10" TSI pipe insulation in hallway on south end of building.
- Assumed – Approx. 85 linear feet of 2" TSI pipe insulation extending from the hallway northward into welding (building # 24).
- Assumed – Approx. 2 cubic yards of miscellaneous TSI pipe insulation on the floor to the north of the switchboard room.
- Assumed – Approx. 10 linear feet of 4" cement pipe on the ground outside the west side of

building #23.

Switchboard Room (within larger Storage Room)

- (Sample #54 – 40%) Approx. 60 square feet of transite insulating board.
- Assumed – Approx. 300 square feet of transite walls and door.

Building #25 – Former Power House

- (Sample #56 – 30%) Approx. 40 square feet heavy fabric covering the opening, which separates the east and west portions of the building.
- Assumed – Approx. 4 linear feet of TSI piping in middle storage room off former power house area.
- Assumed – Approx. 125 square feet of transite paneling.
- Assumed – Approx. 50 lbs. (an area of approximately 500 square feet) of deteriorated TSI pipe insulation on ground in southern portion of Former Power House near wire partition.
- Assumed - Approx. 2,200 square feet of Galbestos roofing

Building #26 – Trucks & Repair Shop

- Assumed – Approx. 60 linear feet of TSI pipe insulation.

Building #27 – Former Pulp Mill

- Assumed – Approx. 22 liner feet of TSI pipe insulation on ground.
- Assumed – Approx. 60 square feet of transite paneling on ground.
- Assumed – Approx. 3,960 square feet of transite roofing.

Water Tower

- Assumed – Approx. 30 linear feet of TSI pipe insulation from water tower to bldg. #13 (Elec. Shop). This ACM is above ground between the base of the water tower and runs to building 13.

Miscellaneous ACM scattered on the floors (fallen pipe insulation and roofing from deteriorated equipment and structures) are included in the above estimates. In safe structures, these materials will be removed and bagged as ACM. If the materials cannot be segregated from other materials or debris, the sum of the debris will be removed and disposed of as ACM.

2.2.2 Asbestos Abatement Coinciding with Demolition Activities, Due to Unsafe Structures

Building #8 Mill Supplies Storage

- Assumed – Approx. 80 square feet of floor tile (poor condition) in the restroom at the west end of bldg #8.

Building #16 – Buffalo Steam-fired Pump Room

- Assumed - Approx. 1 square foot of cement board on a small oven in the room over the former Buffalo steam fire pump room.
- Assumed – Approx. 40 linear feet of TSI piping in former Buffalo steam fire pump room (only 1' visible, the remainder is under water or previously removed).
- (Sample # 48 – 10%) Approx. 150 square feet of floor tile (poor condition).

Building #17 – Rotary Mixers

- Assumed – Approx. 8 linear feet of TSI pipe insulation beneath rotary mixing tanks.
- Assumed – Approx. 2 cubic feet of tank and pipe TSI on 2nd floor of rotary mixer room, SW

corner.

Building #19 – Beaters

- Assumed – Approx. 157 linear feet of TSI pipe insulation in several locations throughout.

Building #20 –Machine Shop

- Assumed – Approx. 160' of TSI pipe insulation in several locations throughout.

Building # 21 Boiler Room

- (Sample #60 – 20%) Approx. 500 square feet mud drum TSI on the two coal fired boilers.
- Assumed - Approx. 100 linear feet of 6" TSI pipe insulation associated with the coal fired boilers.
- (Sample #16 new survey – 45 %) Galbestos roofing on ground inside building 21.
- (Sample # 87 - 60%) Approx. 4,700 square feet of Galbestos roofing

Building #24 – Welding Shop

- Assumed – approx. 4 cubic yards of miscellaneous TSI pipe insulation on floor.

Miscellaneous ACM scattered on the floors (fallen pipe insulation and roofing) are included in the above estimates. In unsafe structures, these materials will be disposed of with the debris as ACM if not able to be segregated from the debris.

3.0 WORK PRACTICES AND ENGINEERING CONTROLS

3.1 Regulated Areas

Regulated areas will be readily identified with red asbestos hazard barrier tape and warning signs. Once the regulated area has been established, EPA and OSHA approved warning signs will be installed not only on the decontamination station but also posted along the regulated area perimeter. A negative pressure enclosure is also considered a regulated area and will likewise be posted.

Warning signs shall be placed in locations visible to all persons potentially accessing the work area. The warning signs shall bear the following information:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY

Asbestos Labels will be affixed to all feasible products containing asbestos, including waste containers. Asbestos labels shall bear the following information:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

The regulated area shall be established at a minimum of ten (10) feet around operations covered by this Work Plan. The regulated area may be of greater size due to specific site conditions if deemed necessary by the Supervisor. The proposed regulated areas for this project will consist of the footprint of the building in which the abatement is taking place. This demarcation may vary as site conditions change.

Entry into the regulated area will be restricted to only those designated representatives who have a current Asbestos Abatement Certification card issued by the State of Ohio and who are wearing proper PPE in accordance with this plan and the SSHSP. Personnel of other trades not engaged in the abatement of asbestos containing materials (ACM) will not be allowed in the regulated area. There will be one approved entrance to the regulated area. This entrance will be for the use of the asbestos abatement workers and approved representatives while abatement activities are being conducted.

On the exterior side of the entrance to the regulated area there will be a Regulated Area Sign In/Out sheet. All personnel will be required to sign this form and provide the following information: name; organization; time of arrival; time of departure; asbestos certification card number; and the type of respiratory protection utilized. The project logbook will reflect what tasks that each individual worker performed while working in the containment area. The asbestos competent person (supervisor) will maintain the sign in/out sheet.

Documents will be compiled and maintained in accordance with the regulations which will include, but are not limited to: notifications, permits, medical and training records, air monitoring data, sign in/out sheets, waste disposal forms and documents, and other pertinent documentation. Documents will be retained in the project files on site and will be posted in visible locations as required.

A designated break area will be established at the project site. This break area shall be free of all abatement activities. A designated smoking area will be established and under no circumstances, shall workers eat, drink, chew, or smoke in a regulated area or before undergoing decontamination.

If the exposure assessment determines exposures to be below the excursion level and the PEL (0.1 f/cc), other personnel will be allowed to enter the regulated area. However, access will be limited to those personnel with work duties that require them to be present in the regulated area (personnel must have on the full required PPE).

3.2 Removal Procedures and Engineering Controls

RACM that is present within structures that are safe to enter will be abated in accordance with the following removal processes for Class I and Class II removal. In buildings that are deemed unsafe, section 3.2.3 describes the work methods and techniques that will be followed.

In addition to the work practices set forth below for both Class I and Class II removals, engineering controls and work practices including the use of HEPA equipped vacuum cleaners, wet methods and prompt clean up and disposal will be used regardless of the level of exposure. RACM need not be wetted when the temperature is below freezing.

3.2.1 Class I Removal - Pipe Insulation / Thermal System Insulation (TSI) or Surfacing Materials

- Intact asbestos insulation on piping within buildings that are safe to enter will be removed via glove bag method, or will be wrapped in two layers of 6-mil poly and cut (wrap and cut method) and the length of piping and insulation staged in a labeled, leak-tight container prior to disposal.
- In the event glove bag systems or wrap and cut methods cannot be performed on TSI or surfacing materials (class I materials), critical barriers will be installed to all openings to the regulated area (except where activities are performed outdoors), or another isolation method shall be used and verified by perimeter monitoring. Specific control methods such as negative pressure enclosure (NPE), glove bag systems and other alternate methods are further described in section (g)(5) of 29 CFR 1926.1101.

3.2.2 Class II Removal

Transite Siding/Shingles, Floor Tiles and Mastic, Fire Doors, Galbestos Roofing

Intact removal of these materials will be performed to the extent possible. All Class II removals will be performed in accordance with the specific work practices for each material described in section (g)(8) of 29 CFR 1926.1101.

- Transite and Galbestos roofing materials will be unbolted (if possible) from the structure to minimize breakage to the extent possible and lowered to the ground, where they will be wetted and contained in leak-tight wrapping for disposal.
- Floor tiles in poor condition will be removed by wetting and manual scraping the tiles from the substrate.
- Fire doors will be removed from their hinges, and contained in leak-tight wrapping for disposal.
- Roofing material that is considered regulated asbestos-containing material (RACM) will be adequately wetted and segregated from other non-RACM building materials to the extent possible using various types of mechanical construction equipment. Removal methods will keep the roofing as intact as possible. However, in areas where the friable roofing material has collapsed and is commingled with other inseparable building materials, the sum of the debris will be disposed as RACM.

3.2.3 Demolition Debris Commingled with RACM

- Adequately wet the building materials during wrecking operations and ensure that it remains wet until collected/contained for disposal. Mechanical demolition using an excavator with a grapple or bucket will be the primary removal method of demolition on this project, where buildings are designated as unsafe for entry. Water hoses will be directed at the point of contact and debris on the ground will be kept adequately wet. Ensure that no visible emissions are generated during demolition activities in which RACM is present. During this demolition activity, a competent person must be on-site. RACM will be packaged in leak-tight containers, such as a lined roll-off box or dump truck, and properly labeled for transportation and disposal..
- In order to reduce the volume of the regulated waste stream, RACM identified in the demolition debris will be removed or segregated to the extent possible by wetting and containing it in leak-tight wrapping (in accordance with the NESHAP regulations). If asbestos debris cannot be removed from the other demolition debris, due to safety reasons, the sum of the demolition debris in the vicinity in which the asbestos is known or suspected to be present (i.e. wing of a building) shall be disposed as asbestos waste.
- For large facility components, such as reactor vessels large tanks or steam generators, the RACM is not required to be stripped as long as the component is removed, wrapped, transported, stored, disposed of, or reused without disturbing the RACM.

****RACM need not be removed prior to demolition if:**

- It is a Category I nonfriable ACM and is not in poor condition;
- It is encased in concrete or similar material and is wetted whenever exposed;
- It was not accessible for testing and was, therefore not discovered until after demolition began and, as a result of the demolition, the material cannot be safely removed. If not removed for safety reasons, the exposed RACM and any asbestos-contaminated debris must be treated as asbestos-containing waste material and adequately wetted at all times until disposed of; or
- It is a Category II nonfriable that has a low probability of becoming friable during demolition.

****Definition Note:**

Category I non-friable asbestos containing material (ACM) – asbestos containing packing, gaskets, resilient floor covering, and asphalt roofing products containing more than 1% asbestos.

Category II non-friable ACM – any material, excluding Category I non-friable ACM, containing more than 1% asbestos, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

3.3 Waste Transportation and Disposal

McCabe will be the transporter of the asbestos waste. McCabe will perform asbestos abatement and will store and dispose of waste in accordance with this asbestos plan, the SSHSP, and shall comply with all local, federal and state laws. The waste generator for this project is the National Park Service (NPS). All waste shall be identified and tracked via the Asbestos Waste Shipment Record (WSR).

3.3.1 RACM

RACM that is removed prior to demolition will be adequately wet, contained in two layers of 6-mil polyethylene and staged in labeled, leak-tight containers (roll-off box) until the time of transportation and disposal. The asbestos waste containers will be properly labeled with asbestos warnings and generator labels. Trucks or containers will have the appropriate Class 9 placards on all four sides. The waste material will be loaded onto a truck and hauled to an EPA approved asbestos landfill.

3.3.2 Category II Nonfriable

Category II non-friables, which will be removed prior to demolition, must be wetted, and placed in sealed, labeled bags or wrapping per OSHA requirements. There are no EPA packaging requirements for Category II materials, however, this material does need to be disposed in an EPA approved asbestos landfill.

3.3.3 Category I and C&D

Category I non-friables, which will be removed as part of a *renovation*, must be wetted, and placed in sealed, labeled bags per OSHA requirements. However, Category I materials may remain as part of the demolition debris, and do not have to be removed prior to *demolition*. There are no regulatory disposal requirements for Category I non-friable materials, but these materials cannot be recycled and will be sent to a landfill as part of the demolition debris. The landfill will be notified of the presence of Category I non-friable asbestos.

4.0 WORKER PROTECTION

This section applies to all employees who will be entering the regulated areas and is intended to meet the requirements of OSHA 29 CFR 1926.1101.

4.1 *Respiratory Protection*

All respirators used shall conform to requirements of 29 CFR 1926.1101 (Asbestos in Construction) and 29 CFR 1910.134 (Respiratory Protection). Respirators selected are from those approved by the National Institute for Occupational Safety and Health (NIOSH). Personnel air monitoring will be performed to verify that fiber concentrations do not exceed the level of protection used.

Based upon previous analytical data from similar Class I operations, including glove bag, wrap & cut and debris clean up operations inside a NPE, a half-face (negative pressure) air-purifying respirator (HFAPR), equipped with high efficiency particulate air (HEPA) filters will be adequate respiratory protection for all Class I, Class II and demolition activities that will be performed (please provide to TtEC for review). (Suggest leaving out.)

4.2 Personal Protective Equipment (PPE)

The following table is a summary of the personal protective equipment and respirator required for each operation until the exposure assessment is complete.

OPERATION	PPE	MINIMUM RESPIRATOR
Removal of ACM inside negative air enclosures.	Disposable full body coveralls with head and foot coverings, hardhat, safety glasses.	Half-face Negative Pressure Respirator
Glove bag operations / Wrap & cut method	Disposable full body coveralls with head and foot coverings, hardhat, safety glasses.	Half-face Negative Pressure Respirator
Transite and Galbestos intact removal	Disposable full body coveralls with head and foot coverings, hardhat, safety glasses.	Half-face Negative Pressure Respirator
Demolition activities where RACM is present	Disposable full body coveralls with head and foot coverings, hardhat, safety glasses.	Half-face Negative Pressure Respirator

All personnel working in regulated areas for this project will have successfully completed training in asbestos abatement practices and procedures, and will have current Asbestos Abatement Certification as required in the State of Ohio. Required personal protective equipment must be worn at all times when in the regulated area.

For demolition work with RACM, ground workers and operators will be outside the regulated area, but will don Tyvek suits and HFAPR until a downgrade (if possible) in PPE is warranted. Downgrading respiratory protection will only be allowed after review of air monitoring results.

4.3 Hygiene Facilities

A 3-stage decontamination unit will be established directly adjacent (where practical) to the regulated area for all Class I operations over 25 linear feet/10 square feet, or any Class II and III jobs where exposures exceed the PEL or there is no negative exposure assessment. The 3 units are described below:

Equipment/Dirty Room - This room is where employees will remove and dispose of their contaminated clothing prior to leaving the regulated area and entering the shower room. They will also be able to store their contaminated work equipment in this area.

Shower Room - One shower will be located within the decontamination unit. Hot/ cold water, soap and clean, disposable towels will be provided. Wastewater will be filtered through a 5-micron filter prior to discharge or may be disposed with ACM debris.

Clean Room - The clean change room is used for removing street clothes and donning new disposable clothing and respirators prior to entering the regulated area. It is also used for re-dressing after leaving the regulated area.

Before the employees enter the decontamination unit, they will HEPA vacuum themselves from head to toe to remove any gross contamination. Upon leaving the work area, through the decontamination station, the worker will remove their contaminated clothing, place the disposable suit in an asbestos waste

disposal bag, and enter the shower. All tools and equipment, including heavy equipment, used by the worker to perform their duties in the regulated area will be thoroughly cleaned using water prior to those tools or equipment being allowed to leave the regulated work area. The rinse water will be collected and either filtered through a 5-micron filter or contained and disposed with the RACM. Employees are restricted from taking work clothing home that has been used in the regulated area.

4.4 *Medical Surveillance*

This section applies to each employee who will be exposed above the permissible exposure limits for a combined total of 30 or more days a year. It is the responsibility of the asbestos competent person to determine the history of exposure. Medical monitoring shall be administered by a licensed physician and shall consist of the following elements: physical exam, medical and work history questionnaire, and chest x-ray.

In cases where employees are required to wear a negative pressure respirator, medical monitoring shall be administered in accordance with 29 CFR 1910.134. This should include but not be limited to a review of the employee's ability to perform the work and use the respirator by a local physician who determines what health and physical conditions are pertinent.

5.0 AIR MONITORING AND VISUAL INSPECTIONS

Sampling of airborne concentrations of asbestos fibers shall be performed in accordance with 29 CFR 1926.1101 and as specified herein. The Asbestos Competent Person will perform the sampling and air monitoring. All monitoring shall be performed according to NIOSH Method 7400.

5.1 *Personal Air Monitoring*

Samples are to be taken once per eight-hour work shift at the rate of one (1) personal air sample for 25% of workers within the work area performing similar tasks. One excursion sample (the first half hour) will be taken when work practices are most likely to produce exposures above the excursion limit for employees in each work area followed by monitoring to determine a time weighted average (TWA). Personal samples may be split into as many individual samples as necessary throughout the day to avoid overloading of the air-monitoring cassette with dust, dirt, etc. This sampling shall be performed to verify that the level of protection is below the PEL of 0.1 f/cc.

5.1.1 Exposure Assessment

Based upon previous analytical data from similar Class I operations, including glove bag, wrap & cut and debris clean up operations inside a NPE, a half-face (negative pressure) air-purifying respirator (HFAPR), equipped with high efficiency particulate air (HEPA) filters will be adequate respiratory protection for all Class I, Class II and demolition activities that will be performed on site. (suggest leaving out)

The initial exposure assessment will be performed at the commencement of the project to determine worker exposures. Personal samples shall be representative of a full shift including at least one sample for each job classification in each work area.

5.1.2 Periodic Monitoring

If the exposure assessment reveals employee exposure to be below the TWA, further exposure determination need not be repeated unless there is a change of equipment, process, control, personnel, or a new task has been initiated that may result in additional employees being exposed at or above the action level. If the decision is made to downgrade respiratory protection for Class I and II operations, personal exposure monitoring will continue during these operations. If there has been such a change, additional air monitoring will be required. Additional monitoring may be instituted by the asbestos competent person for additional documentation, such as 3rd party liability.

5.1.3 Termination of Monitoring

If the exposure assessment determines that no employee is exposed to airborne concentrations of asbestos at or above the permissible exposure limit, a written record of this determination shall be made. This record shall include the date of determination, location within the work site, and the name and social security number of each employee monitored.

5.2 Environmental Monitoring

At least one environmental sample per work shift will be collected from inside the regulated area. Samples will be taken at the discretion of the air-monitoring technician. Samples should be representative of the conditions inside the regulated area.

5.3 Perimeter Monitoring

Perimeter monitoring will consist of one sample per work shift at each boundary of the regulated area. The number of samples and location will vary and will be determined in the field, once the regulated area has been established. Samples will be taken at the discretion of the air-monitoring technician. If sampling outside the regulated area shows airborne levels have exceeded background or the PEL (0.1 fibers per cubic centimeter), whichever is greater, stop all work and correct the condition(s) causing the increase.

5.4 Visual Inspection and Final Clearance of NPE

Final clearance sampling is not required for the buildings that will be demolished, as the work is outdoors and the buildings will not be occupied after abatement, however, a visual inspection will be performed. Visual inspections will be performed in accordance with ASTM E 1368 to ensure that a regulated area is free of any accumulations of dirt, dust, or debris. For buildings that will not be demolished, after the NPE has passed a visual inspection, a lock down material may be applied to the interior of the containment and area impacted by the abatement. When the area is dry, the asbestos competent person and shall perform. Should the area not meet the visual inspection criteria, the abatement contractor shall take appropriate actions to re-clean the area and shall repeat the sampling and analysis at the abatement contractor's expense. Clearance sampling mentioned above for the NPE will be maintained in accordance with Class I procedures.

5.5 Testing Laboratory

All air monitoring analysis will be performed by Phase Contrast Microscopy (PCM). An accredited laboratory or competent person with qualified training (NIOSH 582 or equivalent) will perform the analysis.

6.0 SITE PERSONNEL

All persons entering the regulated area are required to comply with all sections of this Work Plan and the SSHSP. All personnel performing asbestos related activities, not including demolition activities with RACM must present a copy of the following documents: (1) current asbestos worker or supervisor training certificate, (2) current ODH identification card, (3) current medical clearance to wear a respirator for asbestos work, and (4) current respirator fit test for the respirator being worn.

6.1 Asbestos Supervisor

McCabe has designated Mr. Joseph J. Adelman (Asbestos Supervisor) as the asbestos competent person. The asbestos competent person shall have the authority to immediately halt work during the exposure assessment phase if the provisions of this work plan are not met. An asbestos competent person shall be on-site at all times through the end of demolition. Mr. Adelman's duties are further outlined in Table 2-1 of the Demolition Plan and the SSHSP. The Asbestos Supervisor shall perform the following duties:

- Ensure all work is performed in compliance with the policies and procedures outlined in this Work Plan.
- Identify hazards and select the appropriate control strategy.
- Submit notification to the proper authorities and/or agencies.
- Ensure only authorized employees enter the regulated area.
- Supervise or perform all air monitoring required by this work plan.
- Understand and be able to interpret air-monitoring data.
- Ensure that employees working within the regulated area wear protective clothing and respirators as required by applicable regulations and this Work Plan.
- Ensure that employees use the hygiene facilities and observe the decontamination procedures specified in this Work Plan.
- Ensure that engineering controls are functioning properly.

6.2 Demolition Supervisor

Mr. Ed McCabe, P.E. (Demolition Supervisor) is the OSHA engineering survey and demolition competent person. Mr. McCabe's responsibilities are further described in Table 2-1 of the Demolition Plan.

6.3 Asbestos Worker

Each worker entering the regulated area shall have participated in 32 hours of specific training which shall include a hands-on component. Information concerning the hazards associated with asbestos shall be communicated to employees according to the requirements of the Asbestos Standard 29 CFR 1926.1101(k). This information shall include but is not limited to the requirements concerning warning signs and labels, material safety data sheets, and the contents of this work plan.

OHIO DEPARTMENT OF HEALTH

246 North High Street
Post Office Box 118
Columbus, Ohio 43266-0118
Telephone: (614) 466-3543



Bob Taft
Governor
J. Nick Baird, M.D.
Director of Health

Memorandum

TO: All Asbestos Staff Members

FROM: Mark Needham, Administrator, Asbestos Program *MN*

SUBJECT: Removal/Abatement of Non-friable Asbestos Containing Materials

DATE: January 13, 2000

For several years we have been asked to clarify the question, "When does non-friable asbestos containing material (ACM) become friable?" Until further notice, the following is Ohio Department of Health (ODH) asbestos program procedure:

With respect to the removal/abatement of the following non-friable asbestos containing materials, as assessed by an ODH certified Asbestos Hazard Evaluation Specialist:

1. vinyl and asphalt flooring
2. roofing
3. cementitious siding and shingles or transite panels
4. gaskets

ODH considers these materials as remaining non-friable if the work practices and methods of compliance set forth in the OSHA standard 29 CFR 1926.1101 (g) are followed and exposure monitoring or a negative exposure assessment show that the PEL is not being exceeded. All other non-friable asbestos containing materials will be dealt with on a case by case basis.

If these materials remain non-friable, ODH rules for removal, license and certification do not apply, and no prior notification is required. Any notifications received by ODH for removal of non-friable ACM will be considered a notification that non-friable ACM will be rendered friable during removal. These projects will be inspected by ODH as asbestos hazard abatement projects.

Appendix E

Applicable Permits

Applicable Permits for Jaite Paper Mill Demolition

- Local demolition permit from municipality – McCabe Engineering is in the process of obtaining
- Sagamore Hills Letter for Emergency Demolition Order - Attached
- If ground disturbance of > 1 acre will be done onsite, coverage under the EPA construction Storm Water general permit will be sought (Notice of Intent and Notice of Termination to EPA would be submitted) and a Storm Water Pollution Prevention Plan would require development for the project.
- Air emissions source permit may be required (Only if Concrete Crushing is added to Scope).
- Landfill permits required for disposal of waste off site. Submit waste profile sheet to disposal facility and they issue permit to accept waste at their facility. This applies for any waste that is sent off site for disposal (non-hazardous, asbestos, hazardous, or PCB waste).
- Grading permit from municipality – As needed, although not expected for this phase of work.





11551 Valley View Road
Sagamore Hills, Ohio 44067-1099
(330) 467-0900
(330) 655-7899 Fax

October 26, 2005

McCabe Corporation
Attn: Edward McCabe
3470 Brecksville Road
Richfield, Oh 44286

Re: Jaite Paper Mill

Dear Mr. McCabe:

Please accept this letter as Sagamore Hills Township's order to demolish the Jaite Paper Mill buildings per the specification and schedule of the Cuyahoga Valley National Park (CVNP).

Sagamore Hills Township concurs with the CVNP Emergency Demolition and Removal Scope of Work. The buildings that comprise the remnants of the Jaite Paper Mill are structurally unsound and in danger of imminent collapse, (the majority of which have already collapsed).

We understand a planning and scheduling meeting is planned for November 8, 2005 with CVNP personnel. Please advise the Township as to scheduled start dates after this meeting, we acknowledge that time is of the essence to insure the safety of our citizens and visitors to the CVNP.

Sincerely,

SAGAMORE HILLS TOWNSHIP
BOARD OF TRUSTEES

Paul Schweikert
Paul Schweikert,
Trustee, Chair

RECEIVED

OCT 28 2005

McCABE ENG. CO.

Appendix F

Letter Work Plan for Pre-mobilization Activities (12/22/05)



TETRA TECH EC, INC.

December 22, 2005
GSA Contract No.GS10F0208J, SIN899-8
NPS Delivery Order No. D2310-05-5086
NPS2-CUVA-JAITE2-SL-025R (X)
TtEC Project # AE02.5086

Mr. Mark VanMouwerik, Contracting Officer's Representative
National Park Service
1201 Oakridge Dr., Suite 110
Fort Collins, CO 80525

Subject: Letter Work Plan for the Conduct of Pre-Mobilization Activities at the Jaite Paper Mill Demolition Site, Cuyahoga National Park, Brecksville, OH

Dear Mr. VanMouwerik:

Tetra Tech EC, Inc. (TtEC) is pleased to submit this Letter Work Plan to conduct limited pre-mobilization activities at the Jaite Paper Mill Demolition Site for the National Park Service (NPS) under General Services Administration (GSA) contract GS10F0208J, SIN 899-8, Delivery Order D2310-05-5086. The scope of the delivery order is for the Emergency Demolition and Removal of Buildings and Contents, Cuyahoga Valley National Park, Sagamore Hills, Ohio. This Letter Work Plan (Attachment A) is an early submittal describing non-demolition site preparation actions in advance of commencing demolition related activities.

The limited mobilization work activities described in the Letter Work Plan are in conformance with the final approved Project Management Plan (PMP) (TtFW 2004) and its appendices, including the Health and Safety Plan (HASP) (Appendix A) and the Field Engineering Quality Control Plan (Appendix D). TtEC plans to proceed with the pre-mobilization tasks upon approval of the Letter Work Plan. The final Letter Work Plan will be an integral part of the final Demolition Plan, incorporated as an appendix.



143 Union Boulevard, Suite 1010, Lakewood, CO 80228-1875
Tel 303.988.2202 Fax 303.980.3539
www.tteci.com

December 22, 2005
Jaite Paper Mill
Letter Work Plan

We appreciate the opportunity to submit this Letter Work Plan to NPS and wish to continue our long-term support of NPS restoration actions at the Cuyahoga Valley National Park. Please do not hesitate to contact me at 425-482-7807 or e-mail me at carlos.henderson@tteci.com.

Thank you again.

Sincerely,
TETRA TECH EC, INC.



Carlos Henderson, P.E.
Project Manager, Jaite Mill Demolition

cc: Theora McVay
 Mark Griswold
 Ed McCabe
 Joe Adelman
 Rod Reese
 Jennifer Fadden
 Bob Didonato
 Project File

Attachments: Letter Work Plan with Activity Hazard Analysis

ATTACHMENT A

Letter Work Plan for Limited Mobilization Activities at Jaite Paper Mill

In order to facilitate ease of access for performing demolition work on site, Tetra Tech EC, Inc.'s (TtEC) subcontractor, McCabe Engineering (McCabe) plans to perform minor tasks on site in advance of formal approval of the Demolition Plan. The following activities are in anticipation of potential weather related issues such as (but not limited to) snow and freezing weather that may: 1) conceal hazards and/or obstructions; 2) freeze undulating ground; and 3) cause additional damage to existing structures due to roof loading.

This Letter Work Plan will be used to cover the limited activities, incorporate health and safety concerns and demonstrate how TtEC and McCabe will mitigate the hazards while performing work. An activity hazard analysis is attached.

The scope of work activities will be limited to the following tasks:

1. Separation of the towpath from the project access roads using existing logs as suggested by the National Park Service during the 8 December 2005 site visit.
2. Repairing and securing the site perimeter fencing in areas to help thwart unauthorized access into the facility. Repair activities will consist of patching holes or replacing small sections of fencing. No installation of additional posts is anticipated.
3. Clearing of concrete and brick debris from the ground in areas where traffic paths will be and stockpiling of that debris in an area that is not in the travel paths.
4. Removal of a section of the loading dock on north side of facility where concrete sides have deteriorated into the area of the intended access path around the north side of the facility. This concrete will be stockpiled with the other concrete debris, all of which is to be left on site.
5. Installation of an access ramp from the ground level up onto the loading dock (approximately 3 feet high) area on the northernmost portion of the facility. Ramp materials will consist mainly of clean hard fill (brick, concrete, and imported stone or gravel) that is already present on site as a result of buildings that have collapsed and concrete from the removal of a portion of the loading dock. Operators will be familiar with identifying potential asbestos containing materials (i.e., asphaltic roofing) and these materials will not be included in the fill.
6. Removal of trees within the vicinity of the fence to allow access and room to work around buildings.

7. Demarcation of structures of historical significance (for protection of the structures) with orange construction fencing, barrier tape, traffic cones, caution signs, or similar barricades.
8. Place gravel on culvert and stabilize guardrail outside the fence along the roadway where it is deteriorating to provide stability along roadway perimeter and allow more separation distance between towpath and roadway. This may involve placing a temporary bulkhead there to hold the gravel fill in place. The bulkhead would most likely consist of steel sheet piling or wood planks, and would be installed with hand tools (sledge hammer, etc.).
9. Conduct initial OSHA engineering survey of the buildings to determine structures that are unsafe or safe in order to plan asbestos abatement activities in accordance with the emergency demolition order. Understand that this is the initial survey and that a follow up survey will be required prior to starting work to determine if there are changes to the building conditions.
10. Make a sturdy sign (plywood and wood posts, for example) approximately 4' by 5' that identifies the Jaite site for emergency vehicles. It will be easily visible from the road and will be in place from the beginning of pre-mobilization activities through the end of demobilization activities. It will read:

Jaite Mill Site
1200 W. Highland Road
Entrance [with arrow]
Authorized Personnel Only

Any changes to the work itemized above will be taken up with the NPS Contracting Officer's Representative (COR) Mark VanMouwerik and approved by the Contracting Officer before being implemented. If Mr. VanMouwerik is not stationed on site or he cannot be reached by phone (office – (970) 225-3507, cell – (970) 881-5319), Park employee Dee Strickland (also designated COR) will be contacted instead (office – (440) 546-5920, cell – (440) 343-7474).

The work will be accomplished using a small crew (2-5 people) under the supervision of Joe Adelman (Project Manager) and/or Ken Nemiec (General Superintendent/Equipment Operator). A limited variety of heavy equipment will be mobilized to the site to accomplish the work until the Demolition Plan is approved at which time full mobilization will occur.

Heavy equipment to be used may consist of a small excavator and dump truck to load and haul materials and stabilize roadways. In addition, a bobcat loader or small backhoe may be utilized to move materials including trees. Chains may be used for rigging to assist movement of the trees along the towpath. Hand tools may consist of a portable jackhammer for breaking up concrete pad so it can be moved to debris pile, a chainsaw for cutting down trees, and various hand tools for repairing the fence and securing the guardrail.

The work will be performed by qualified heavy equipment operators and workers trained to use the equipment they will be using safely. Work will be observed by a TtEC safety representative. A daily safety briefing will be performed for workers addressing site hazards, work rules, and scope of activities. This meeting will be documented as part of the project files.

Personnel working on this project will wear the following personal protective equipment: hardhat, steel toed safety boots, safety glasses, high visibility garment (vest), leather work gloves (other than operating equipment within the cab), and hearing protection where workers could be exposed to noise above 85 dB. The proposed work will not include activities within buildings or activities for which air monitoring or respiratory protection will be required. This Letter Work Plan will be present on-site, describing the potential hazards and safety precautions for workers, as well as a copy of the Site Health and Safety Plan from the Demolition Plan, which will be used to address general site hazards such as inclement weather, and hazards of the buildings, including awareness of suspected asbestos containing materials.

Spotters will be used to control pedestrian traffic in areas where heavy equipment will be used in areas where the public has access (along the towpath) to prevent hazards to pedestrians.

Fugitive dusts from roadways, clearing or grading, or stockpiles will be controlled during work with the use of water spray if dust emissions are present. A small spill control kit (sorbent pads, shovel, and poly) and portable ABC fire extinguisher will be onsite during the work in the event of a spill from the equipment or a small fire while using fuel for the portable power tools.

Care will be taken that this phase of work does not cause excessive land disturbance that could cause stormwater runoff to the Brandywine Creek. If runoff may be a problem, silt fencing will be placed in appropriate locations along the perimeter of the site.

Vehicle access to and from the site will be controlled at the gate where the towpath and access road meets the main road. Project vehicle traffic will be allowed on and off the property by a McCabe representative who has a key. The gate will be locked unless vehicles are entering or leaving the site. A minimum of two personnel present for this work will have keys for the main access gate.

In the event of a medical emergency, there will be a minimum of 2 personnel who are trained in first aid and CPR on site. A basic first aid kit will be on site during the work. Cell phones will be used to contact 911 (police, fire, medical personnel) if required. The caller will contact 911 and relay the nature of the emergency and the location to emergency personnel.

The location will be described to 911 personnel as:

- **1200 W. Highland Road, at the junction of W. Highland Road and the Ohio and Erie Canal Towpath Trail (approximately ½ mile east of the intersection of Vaughn Road and Riverview Road), Sagamore Hills, OH.**

The caller will remain on the telephone with emergency personnel and will drive to the main access gate, open the gate, and wait for emergency personnel to arrive. Emergency personnel will be escorted to the site to assist.

If evacuation of the site is required, personnel will exit the fenced area at either the north or south gate (gates will be unlocked during the work to allow personnel an alternate route out of the gated facility) and will muster along the towpath near the parking area (wide spot in road between site and towpath) and personnel will be accounted for. The emergency coordinator will be the McCabe Superintendent, who will ensure that all personnel are accounted for and that required emergency personnel are contacted.

The emergency muster location and evacuation routes are shown on figure 1.

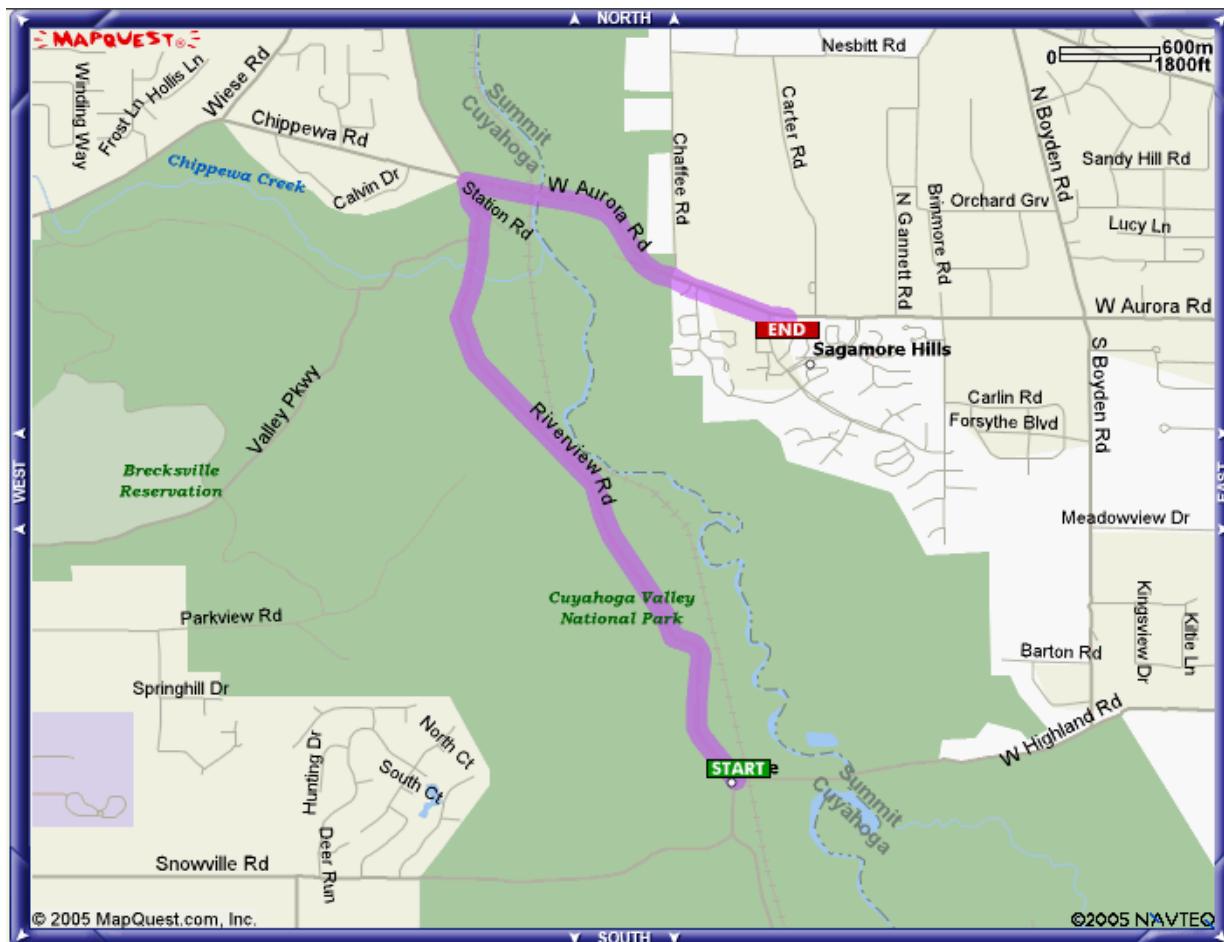
Figure 1. Site Evacuation Map



**Figure 1
 Site Plan**

The route to the nearest hospital is shown on figure 2.

Figure 2. Hospital Route Map



From: 15610 Vaughn Rd., Brecksville, OH 44141-3018 US
To: Sagamore Hills Medical Center, 863 W Aurora Rd., Northfield, OH 44067 US

Driving Directions

1. Start out going WEST on VAUGHN RD toward RIVERVIEW RD. (0.01 miles)
2. Turn SLIGHT RIGHT onto RIVERVIEW RD. (2.70 miles)
3. Turn RIGHT onto CHIPPEWA RD/OH-82. Continue to follow OH-82. (1.34 miles)
4. End at Sagamore Hills Medical Ctr 863 W Aurora Rd Northfield, OH 44067 US

Total Estimated Time: 7 minutes

Total Distance: 4.05 miles

If an injury occurs, the TtEC Project Manager, Carlos Henderson will be contacted. Carlos Henderson will contact TtEC Environmental, Safety, and Quality (ESQ) Manager, Phil Bartley and will contact Mark VanMouwerik with the National Park Service. The person who contacts Carlos will also contact the CUVA Communications Center to inform them of what is happening. The Communications Center can be reached 24 hours per day, seven days per week.

In Case of Emergency, dial 911.

- Carlos Henderson (425) 482-7807 or cell (425) 241-6337.
- Phil Bartley (509) 372-5818 or cell (509) 321-4898.
- Mark VanMouwerik (970) 225-3507 or cell (970) 881-5319.
- CUVA Communications Center (440) 546-5945.

EHS 3-5 ATTACHMENT A



TETRA TECH EC, INC.

ACTIVITY HAZARD ANALYSIS FORM

Project/Location: Jaite Paper Mill	Estimated Start Date:	Phase of Work: Premobilization (limited activities) to facilitate access and egress at site before winter sets in (see attached Letter Work Plan)	
Analysis Performed by Joe Adelman, Jennifer Fadden		Date: 11-13-05	Analysis Approved by:
			Date:
PRINCIPAL STEPS	POTENTIAL SAFETY/HEALTH	RECOMMENDED CONTROLS	
Cutting of trees for site access using chainsaw	Noise	Hearing Protection (earplugs) will be worn by worker	
	Tissue Cuts and kick back	Worker will be trained to use equipment properly and will be observed during work task. Worker will wear steel-toed boots and leather work chaps and leather gloves. Chainsaw will be in good working order and chain will be sharpened.	
	Struck by tree	Operator(s) will be alert to their surroundings. Other operators or personnel will not be operating in the vicinity of each other while tree cutting is done. A wedge will be cut from the tree to promote directional falling. If necessary, the tree will be tied off with rope/strap/chain or shored to prevent falling in an undesired direction.	
	Flying debris (wood chips)	Saw will have guarding in place as manufactured. Worker will wear eye protection (safety glasses and face shield) and hardhat.	
	Fire from refueling chainsaw	Refueling will be done using small funnel to minimize contact of fuel with manifold. Chainsaw will be allowed to cool between refueling. Care will be exercised not to overfill the chainsaw by using careful pouring.	

EHS 3-5 ATTACHMENT A



TETRA TECH EC, INC.

ACTIVITY HAZARD ANALYSIS FORM

<p>Separation of Towpath from project access road with existing logs using bobcat or backhoe. Chains may be used as rigging to facilitate tree movement.</p>	<p>Struck with equipment and Danger to the public/pedestrians using towpath (struck by)</p> <p>Crushing or pinch points from shifting logs or chains</p> <p>Muscle strains</p>	<p>Operators will be trained and skilled at using assigned equipment properly and will be observed during work task. Workers will wear steel-toed boots and hardhat and high visibility garments on the ground. Ground crew will maintain eye contact with operator and use hand signals and/or other agreed upon means of communication during operations.</p> <p>Heavy equipment will be equipped with functioning backup alarms or will alternatively use horn and spotter combination when backing up.</p> <p>Trained spotter(s) will be used in both directions on towpath to stop and direct pedestrian traffic during placement of the logs when heavy equipment is operating.</p> <p>Heavy equipment will be used to move logs. Heavy equipment will not be lifting or moving logs while personnel are near the logs. Rigging (if used) will be secured to equipment and logs while logs are on stable ground. Chains will be inspected by competent person to ensure they are rated for the lift and are in good condition.</p> <p>Use proper lift technique (e.g., proper positioning and use of legs, not bending of back) and material handling equipment if feasible. Use material handling equipment and/or team lift if item over 50 lb.</p>
<p>Drilling (portable drill) & bolting of planks or plates to existing guardrail along access road for stabilization and in location of culvert</p> <p>Filling (with gravel) western edge of small culvert using bobcat</p>	<p>Cuts and scrapes, drill shavings in eye, or struck by hazards</p> <p>Struck with equipment</p> <p>Slope hazard presented by culvert (potential rollover)</p>	<p>Proper PPE (leather gloves) will be worn; safety glasses and hardhat will be worn to protect eyes and head. Plates (if metal plates are used) will not have overly sharp edges.</p> <p>Worker/operators will be trained to use equipment properly (including seatbelt use at all times) and will be observed during work task. Worker will wear steel-toed boots and hardhat. Spotter will be used during heavy equipment operations along the towpath so the public will not be endangered by HE operations (as above).</p> <p>Bobcat will remain on roadway or ground around culvert will be evaluated for stability if bobcat will be used off the roadway for moving gravel.</p>

EHS 3-5 ATTACHMENT A



TETRA TECH EC, INC.

ACTIVITY HAZARD ANALYSIS FORM

OSHA Engineering survey – needs to be performed in order to develop abatement scope to determine safe / unsafe buildings	Slips, trips, falls, nails Building collapse Presence of potential ACM around buildings being inspected	Caution will be exercised when traversing the debris. Care will be taken so as not to step on nails or other debris, holes or depressions around or within structures. Steel-toed boots will be worn during the survey. Caution will be exercised in areas with partially collapsed roof and deteriorated flooring with existing basement at the discretion of the demolition competent person (PE). The buddy system will be used during the inspection and buddy will have cell phone or other communication device in case of emergency. Caution will be exercised when entry of structures is necessary so as not to disturb ACM materials on the floor. The structures are damp due to exposure to the elements already.
Repairing / Installing steel chain link fencing using hand tools)	Cuts and scrapes Flying debris Slips, trips, falls Struck by or caught between or pinch points	Proper PPE will be worn (leather gloves, hardhat, steel toes). The correct tools will be evaluated and used for repairing the fence. Proper PPE will be worn (safety glasses) and hard hat Caution will be exercised when traversing uneven terrain. Fencing will be secured in manner that if strain is put onto the fence section that fails, the worker(s) will not be in the path of strain where being struck by the fencing material is likely.
Relocation of concrete debris using bobcat or backhoe	Struck with equipment Muscle strain Stable ground around area of removal and placement Building collapse in vicinity of concrete debris removal	Worker/operator will be trained and skilled in using equipment properly and will be observed during work task. Proper PPE and high visibility garments will be worn and use of spotters/horn (as above) Worker will use proper lifting techniques and not attempt to lift heavy objects over 50 pounds by themselves. Workers will inspect travel paths for obstacles including depressions, holes, pits, or debris piles before traveling on path with equipment and load. If concrete removal could have impact on adjacent structure, the PE will determine the extent of the removal that can be done safely.

EHS 3-5 ATTACHMENT A



TETRA TECH EC, INC.

ACTIVITY HAZARD ANALYSIS FORM

Removing of a portion of the loading dock with excavator and jackhammer	<p>Struck with equipment</p> <p>Flying debris (concrete)</p> <p>Noise hazards</p> <p>Ergonomic hazards</p> <p>Collapse of loading dock (struck by, crush)</p> <p>Dust hazards</p> <p>Contact with electrical lines when using excavator</p>	<p>Worker will be trained to use equipment properly and will be observed during work task. Worker will wear steel-toed boots and hardhat.</p> <p>Worker will wear eye protection (safety glasses and face shield) and hardhat.</p> <p>Worker will wear hearing protection.</p> <p>Jackhammer operator will wear leather gloves. Maintain steady pace when using tools and take adequate rest periods. If possible, rotate tasks among the workers. Use appropriate tools for the task and maintain tools in good condition.</p> <p>To the extent practicable, excavator will be used to remove large portions of concrete. Worker using jackhammer will position on stable ground or concrete that is not in the fall zone.</p> <p>Dusts will be reduced by use of water spray if needed to keep silica dusts down</p> <p>Heavy equipment and attachments capable of reach will not be operated within a minimum of 10' from any potential energized source (may be overhead, at grade, or below ground); all work areas must be visually examined for potential hazards prior to setup and/or movement of equipment where overhead, energized systems are present. McCabe has verified with local electrical utility provider that electrical wires (overhead wires) are de-energized and air-gapped within the boundary of the fence and across the towpath roadway. The verification is in writing. Although de-energized, the wires will be protected from damage and operators will be aware of overhead lines when working or traveling along their path.</p>
Installation of temporary haul roads with excavator and dump truck within fence boundary	Struck with equipment	<p>Worker will be trained and skilled in using equipment properly and will be observed during work task. Workers will wear steel-toed boots and hardhat and high visibility garment around HE (and as above)</p> <p>Avoid equipment swing areas</p> <p>Make eye contact with operators before approaching equipment.</p> <p>Understand and review hand signals.</p> <p>Workers must always be in visual sight of the operators.</p> <p>Use trained spotters.</p>

EHS 3-5 ATTACHMENT A



TETRA TECH EC, INC.
ACTIVITY HAZARD ANALYSIS FORM

Relocating debris on building pads using bobcat or backhoe	Struck with equipment Overhead lines or guide wires	Worker will be trained and skilled in using equipment properly and will be observed during work task. Workers will wear proper PPE for HE operations as discussed in above sections. Heavy equipment and attachments capable of reach will not be operated within a minimum of 10' from any potential energized source (may be overhead, at grade, or below ground); all work areas must be visually examined for potential hazards prior to setup and/or movement of equipment where overhead, energized systems are present Operators will be informed of overhead wires. Guide wires are not energized. The electric provider has confirmed that there is no electricity on the site.
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Appendix G

NPS Protocol for Changes and

Modifications

NPS PROTOCOL for CHANGES and MODIFICATIONS
CUVA Jaite Paper Mill project
12/1/05

All changes to an existing delivery order that will result in a 1) cost increase, or 2) time extension (i.e., alteration of the End Date) can only be approved by the Contracting Officer (CO). These changes, whether they originate with the contractor or with the government, require a formal modification to the delivery order. Changes originating with the Contractor should be documented in a formal written request (email is acceptable) to the CO and the Contracting Officer's Representative (COR) and should include information such as a description of the proposed change, the reason for the change, the timeline for implementing the change, and any other pertinent information. The COR will then proceed as outlined below if he/she agrees that the change is necessary to completing the work under the SOW. Modifications are processed as follows:

- NPS Contracting Officer's Representative (COR) prepares description of change with the government's estimated cost (if applicable) of the change and forwards it to the person in the program office who prepares purchase requests in IDEAS
- NPS program office prepares and approves purchase request in IDEAS and forwards it, with attachments, i.e. cost estimate (if applicable) and description of change, to the Contracting Officer (CO)
- the CO sends a Request for Proposal to the contractor
- if applicable, the contractor submits a cost proposal to the CO
- the proposal is reviewed by the CO and the COR
- if a cost increase is involved, CO initiates negotiations between the NPS CO and COR and the contractor as needed
- CO processes and issues the negotiated modification to the delivery order

Changes cannot be implemented by the contractor until the written modification is issued.

Under certain conditions (e.g., safety issues, imminent work stoppage or delay), however, the contractor may receive verbal permission from the CO to proceed. For this to occur, the contractor would discuss the technical aspects of the change with the COR, who in turn would discuss it with the CO, who in turn would call the contractor and grant the permission to proceed. A written change order will be issued by the CO. As soon as possible, subsequent to completion of the process outlined above, the delivery order would be formally modified by the CO to "definitize" the change order and the verbal notice to proceed.

Proposed changes that would result in a cost increase may involve a determination as to whether there was an unforeseeable condition that makes the change necessary, or if the condition was, in fact, foreseeable and is the responsibility of the contractor. Determinations may also have to be made whether certain tasks fall in or out of the Statement of Work scope. If, during technical discussions, the COR and the contractor are unable to agree on the determination, the final decision rests with the CO.

In situations where proposed changes will not increase costs or alter the End Date, the contractor will notify the COR of the proposed change. The COR will review the proposed change with the CO and if this is agreed to, the COR shall forward a written description of the change to the CO. The CO shall execute a modification to the delivery order to definitize the no-cost change. The CO will forward this to the COR and the contractor.

Appendix H

OSHA Engineering Survey Results

(Will be inserted after Demolition Plan Approval)

Appendix I

Additional Sampling Rationale

RATIONALE FOR ADDITIONAL SAMPLES AT JAITE PAPER MILL SITE

1.0 Introduction

The rational for sampling services are based on our November 8, 2005 pre-performance site visit, site walks to exposed areas accessed from collapsed building sections that were inaccessible during the 2004 Site Characterization, as well as review of the following documents:

FWENC (Foster Wheeler Environmental Corporation). 2003. *Jaite Paper Mill Site Inventory Report for Cuyahoga Valley National Park, Brecksville, Ohio.* Prepared for the National Park Service, Cuyahoga Valley National Park, and the National Park Service, Environmental Response, Damage Assessment and Restoration Branch.

TtFW (Tetra Tech FW, Inc.). 2005. *Jaite Paper Mill Site Characterization Report for Cuyahoga Valley National Park, Brecksville, Ohio.* Prepared for the National Park Service, Cuyahoga Valley National Park, and the National Park Service, Environmental Response, Damage Assessment and Restoration Branch.

TtFW. 2004. *Jaite Paper Mill Project Management Plan for Cuyahoga Valley National Park, Brecksville, Ohio.* Prepared for the National Park Service, Cuyahoga National Park. August.

EMG 1992. *Asbestos Assessment Report.*

EMG. 1993. *Phase I Environmental Site Assessment.*

EMG. 1993. *Screening Investigation.*

SUNPRO. 1994. *Underground Storage Tank Removal Project.* November.

URS Greiner. 1997. *BUSTR Site Assessment Report.*

MVTI 2002. *Phase II Environmental Site Assessment.*

MVTI. 2003. *Risk Assessment for the Former Jaite Paper Mill.* 27.

Note: The names Tetra Tech FW, Inc., and Foster Wheeler Environmental Corporation are previous names for Tetra Tech EC, Inc., a wholly owned independent operating unit of Tetra Tech, Inc., since March 2003, when the assets and relevant projects of Foster Wheeler Environmental Corporation (FWENC) were acquired from Foster Wheeler and renamed to Tetra Tech FW. In January 2005, Tetra Tech FW changed its name to Tetra Tech EC to emphasize its separation from Foster Wheeler

2.0 Sampling Tasks

The Additional sampling tasks are broken into the following subtasks which include:

- a. Additional sampling required for demolition and disposal. (Category A)
- b. Sampling needed in areas where a potential environmental release could occur during demolition (Category B)

- c. Sampling needed for future demolition, disposal, and rehabilitation (for future work scope, will be addressed in Demolition Plan)

The three subtasks were based on the following assumptions:

1. Sampling includes areas exposed from sections that have collapsed and areas that were previously inaccessible during previous sampling activities for accurate waste characterization sampling
2. Sampling needed in areas requiring mitigation for Spill Prevention and for Environmental Compliance.
3. Sampling for future work scope was assumed to be sampling conducted below grade (Basements, lower sump areas, ground surface under basements). This is not an all inclusive list since there are unknowns due to site accessibility
4. Additional sampling is based on standard sampling turn around times (5-7 days) and rush turn around times (24-48 hours).

3.0 Sampling Classification by Building Section

In order to provide representative samples, each area is listed below and categorized. In many cases, composite samples of similar areas ([Sumps, catch basins], [Oils from motors, blowers]) will be used to provide a cost effective sampling approach, but still provide proper waste characterization. The following list provides a comprehensive inventory of categorization throughout the site:

Building #1 (Wooden Warehouse)

- Fluorescent bulbs *
- Ballasts *
- Small sump pit @ SE corner (dry on 11/14/05) (no info available) – **Category A**.

Building #2 (Misc. Storage)

- Steel door (not previously identified, assumed fire-rated, asbestos content unknown) – **Assume ACM.**

Building #3 (Box Shop & Rolled Paper Storage)

- Window glazing, friable (not previously identified, asbestos content unknown) – assumed ACM, was not sampled
- Fluorescent bulbs *
- Ballasts *
- Open vault pit in concrete floor (approx. 2'x 8') – depth and contents unknown (no info available) – **Category A**
- Electric motors on blowers throughout – electric motors have capacitors – potential PCBs - **Category A**
- Pipe trenches in floor – most are covered with metal plates, a small percentage appear to be used for electrical conduits. Contents unknown. (no info available) – **Category A**
- Electrical boxes (2nd floor), west end – inaccessible (may contain ACM or PCB materials) – **Category B**

- Compressor and fuel tank(?) in pit in concrete floor near building #4 offices – potential PCBs, and fuel source/other oils. – **Category A**.

Building #4 (Offices)

- Nothing

Building #5 (Rolled Paper Storage)

- Window glazing, friable (not previously identified, asbestos content unknown)
- Fluorescent bulbs *
- Ballasts *
- Electric motors on blowers – electric motors have capacitors – potential PCBs – **Category A**
- Floor scale pit (sampled in 1993) – **need to evaluate past sample data**
- Pipe trenches – most covered with steel plates (no info available) – **Category A**
- 2 steel tanks – approx. 500 and 1,000 gallons (each partially filled with water/liquid) in Paste Room – **Category B**
- Sump in paste room (dry on 11/14/05) (no info available) – **Category A**

Building #6 (Former Boiler House – Fire)

- Pipe trenches – most are open, with dirt, leaves and debris (no info available) – **Category A**
- Steel plate on the concrete pad (Too heavy to lift)
- Pipes extending up from slab – unknown origin– **Category C**
- Catch basin – to the east of the #6 slab (no info available) – **Category A**

Building #7 (Former Offices - Fire)

- Nothing

Building # 8 (Mill Supplies Storage)

- Fire doors (2) (not previously identified, assumed fire-rated door, PACM)
- Elevator pit, approximately 2 feet deep **Category A**
- Compressor tanks (2), piping and pit (no info available) – **Category A**

Building #9 (Auto Garage)

Nothing

Building #10 (Vacuum Pump Room)

- Vacuum Pumps and motors – Potential PCB oils & lubricants – **Category A**

Building #11 (Expansion Room)

- Water in pit & tank – Additional analyses for other potential contaminants (asbestos) in bottom of pit/tank. **need to evaluate past sample data**
- TSI and transite in bottom of pit – some can be seen, unknown total quantity – **Category A**

Building #12 (Fourdrinier Building)

- Fluorescent bulbs *
- Ballasts *
- Pit beneath Fourdrinier Line – some sludge/water samples taken in 1993. Limited asbestos cleaning where accessible. **Category C**
- Drum on rack – unknown contents (not previously identified) – **Category A**

- Gear boxes, Pumps, motors - Potential PCB oils & lubricants – **Category A**
- Mixing tank (approx. 10'diam x 8' deep) below concrete foundation and associated crawlspace at N. end – (not previously identified) unknown contents and confined space **Category C**
- Drum in entrance to crawlspace in floor at N. end (not previously identified) (need to evaluate to determine sampling of drum contents) – **Category C**
- Pumps and gearboxes on top of mixing tank - Potential PCB oils & lubricants – **Category A**
- Significant staining on floor at south end of Fourdrinier equipment - Potential PCBs – **Category C**
- Several pipes leading into Catch basin at south end of Fourdrinier equipment – **Category C**

Building #13 (Electric Shop)

- Fluorescent bulbs *
- Ballasts *
- Window glazing (not previously identified, asbestos content unknown) – **Category A**

Building #14 – Machine Shop (Former Power House)

- Misc equipment - Potential PCB oils & lubricants – **Category A**
- 2 small fuel operated heaters – potential fuel source – **Category A**
- PCB capacitor (“Chlorinol”) – **Category B**
- Fluorescent bulbs *
- Ballasts *
- Window glazing (not previously identified, asbestos content unknown) – **Category A**

Building #15 (Paper Testing)

- Fluorescent bulbs *
- Ballasts *
- Window glazing (not previously identified, asbestos content unknown) – **Category A**

Building #16 (Former Buffalo Steam Fired Pump Room)

- Fluorescent bulbs *
- Ballasts *
- Steel box with white friable suspect ACM - (not previously identified, asbestos content unknown) – **Category A**

Building #17 (Rotary Mixers)

- Rotary Mixing Tanks (3) – waste char. & asbestos content unknown – **Category A**
- Open top tank (approx. 150 gallons) with water – contents unknown – **Category B**
(Asbestos sample needed)
- Fire door (not previously identified, assumed fire-rated door, PACM)
- Window glazing (not previously identified, asbestos content unknown) – **Category A**
- Elevator pit – potential PCBs (no information available) – **Category A**
- Basement – Unknown contents – **Category C**
- Cabinet on 2nd floor (inaccessible) – **Category B**
- Steel box on 2nd floor (inaccessible) – **Category B**
- Basement of elevator with pumps and compressor tank – Potential PCBs – **Category A**

Building #18 (Pulp Storage)

- Significant staining on concrete floor - Potential PCBs – **Category C**

Building #19 (Beaters)

- Fluorescent bulbs *
- Ballasts *
- Window glazing (not previously identified, asbestos content unknown) – **Category A**
- Water in square steel tank (approx. 300 gallons) on N. side (not previously identified, contents unknown) (needs sampling per Brad) – **Category B**
- Steel tank on pedestal (Doroliver) - (not previously identified, contents unknown) (needs sampling per Brad) – **Category B**
- Basement – Unknown contents – Category C

Building #20 (Machine Shop)

- Gear Boxes and lubricants - Potential PCBs – **Category A**
- 2 open top tanks (approx. 150 gallons each) – filled with solid misc. debris (needs sampling per Brad) – **Category B**
- Significant staining under equipment – potential PCBs – **Category C**
- Fluorescent bulbs *
- Ballasts *
- Meter on N. exterior wall of restroom – inaccessible, nature unknown, possible mercury – **Category B**

Building #21 (Boiler Room)

- Flow meters – Potential mercury containing – **Category B**
- Window glazing (not previously identified, asbestos content unknown) – **Category A**
- Large steel tank (approx 10,000 gal.) – contents unknown – **Category B**
- Small steel tank (approx. 150 gal.) – contents unknown – **Category B**
- Fly ash – needs waste characterization (sample) – **Category A**
- Bottom ash – needs waste characterization (sample) – **Category A**
- Potential stack insulation – asbestos – **Category A**
- Potential PCBs/Mercury in silver paint – **Category A**
- Galbestos roofing on bldg #21 – Potential PCBs – **Category A**

Building #22 (Boiler chemical treatment storage)

- Concrete tanks (3) – 2 with water, 1 empty – (approx. 5,000 gal. each) (sample) – **Category B**
- Steel tanks (2) – 1 unknown/inaccessible (approx. 100 gal.), 1 empty (approx. 300 gal.) (sample) – **Category B**

Building #23 (Storage w/ wooden shelves)

- Fluorescent bulbs *
- Ballasts *
- Staining on concrete – Potential PCBs – **Category C**
- Fire extinguisher

Building # 24 (Welding)

- Catch basin – to the north of the #24 building (no information available) – **Category A**

Building #25 (Former Power House)

- Expansion Tank mounted near ceiling – inaccessible, contents unknown (investigate) – **Category B**
- Large Transite wall (approx. 10' x 8') - (not previously identified, asbestos content unknown) (assume ACM) – **Category A**
- Transformer Oil in small steel box behind transite wall - (not previously identified, asbestos and PCB contents unknown) (sample) – **Category A**
- Pipe trenches – mostly open with dirt and debris (sample) – **Category A**
- Fluorescent bulbs *
- Ballasts *
- Window glazing (not previously identified, asbestos content unknown) – **Category A**

Building #26 (Trucks & Repair Shop)

- Pit in concrete floor with 2 empty drums – sampled in 1993 - need to evaluate past sample data
- Fire Door (not previously identified, assumed fire-rated door, PACM)
- Fluorescent bulbs *
- Ballasts *
- Window glazing (not previously identified, asbestos content unknown) – **Category A**

Building #27 (Former Pulp Mill)

- Fluorescent bulbs *
- Ballasts *
- Window glazing (not previously identified, asbestos content unknown) – **Category A**
- Catch basin – to the west of the #27 building (sample) – **Category A**

Building #28 (Baled Paper Storage)

- In ground scale – dirt and debris in pit (approx. 4' deep) (sample) – **Category A**

Other

- Drums of IDW on the grounds. **Category B**
- PVC wells that should be located and filled with bentonite chips. Well pipe locations are on a drawing and should be found and “abandoned.” **Category C**

*Fluorescent bulbs and associated ballasts will not required testing, however these materials will need to be dismantled, collected (were possible) and properly packaged for transport to the disposal facility. Ballasts, which are not labeled as “PCB free”, or labels that are not legible will be treated as PCB and lead containing. Ballasts which are “PCB free” will be treated as hazardous for lead (which is common to fluorescent ballasts). Any leakage associated with PCB ballasts or unlabeled ballasts should also be treated as PCB containing.

- Any water in basements/rooms to be “punctured” – **Spill Prevention Category B**
- Potential additional mercury containing devices – **Category C**
- Potential additional PCB containing devices – **Category C**
- Additional Pipe chases/trenches – asbestos – **Category C**

4.0 Table of Samples

The following table summarizes the listing of Category A and Category B Samples required for the Demolition of the above grade structures. Some Category C Samples are listed for informational purposes but are not all - inclusive:

Jaite Paper Mill Additional Sample Table

Building(s)	Type of Sample	Category	Anticipated Sample Parameters	Total # of Samples
1, 5, 24, 27	Sump and Catch Basin Solids (composite) ¹	Waste Characterization (a)	TCLP RCRA metals 1311, TCLP VOCs by 8260 (RCRA List), PCBs by 8082, ACM	2 (1 plus duplicate)
All buildings	Gear and Motor Oil ² (composite sample)	Waste Characterization (a)	PCBs, flammability, RCRA metals, total halogens (used oil burn spec)	1
3, 5, 8, 11, 12, 17, 25, 26, 28	Trench and Pit Contents ³	Waste Characterization (a)	TCLP RCRA metals 1311, TCLP VOCs by 8260 (RCRA List), PCBs by 8082, ACM	1
3	Fuel Tank Liquids ⁴	Waste Characterization (a)	PCBs, flammability, lead	1
All	Glazing on Windows ⁵	Pre-Demolition Sample (a)	Asbestos Bulk by PLM	9
12	Drum contents ⁶	Future Work (c)	RCRA metals, volatiles by 8260, semi-volatiles by 8270SIM, flashpoint	1
12	Drum contents ⁶	Future Work (c)	RCRA metals, volatiles by 8260, semi-volatiles by 8270SIM, flashpoint	1
12, 18, 20, 23	Concrete Floor ⁷	Future Work (c)	PCBs (concrete surface chip sample), TCLP volatiles, TPH	5 (4 plus 1 duplicate)
17, 19, 20, 21, 22	Water sample (tanks) ⁸	Spill Prevention (b)	Asbestos (if tank is open on top), pH, TPH, BTEX	6 (5 plus duplicate)
20	Water sample (tank) ⁸	Spill Prevention (b)	Asbestos (if tank is open on top), pH, TPH	1
20	Stained debris/floor under equipment	Waste Characterization (a)	TCLP RCRA Metals, TCLP VOCs by 8260 (RCRA List), PCBs by 8082, ACM	1
21	Fly Ash	Waste Characterization (a)	TCLP RCRA Metals	1
21	Galbestos Roofing	Pre-Demolition Sample (a)	PCBs by 8082	1
25	Oil in box	Waste Characterization (a)	PCBs by 8082	1

¹ Sump and catch basin solids in various locations will be removed and consolidated for waste characterization sampling

² One sample of oil from motors drained throughout plant will be taken (composite) for waste characterization/recycle (however,

³ Trench and Pit solids in various locations will be removed and consolidated for waste characterization sampling for disposal

⁴ Tank contents assumed to be fuel or fuel and water mixture

⁵ Glazing may have asbestos. Need representative # of samples for areas of window glazing, assume 3 areas, 3 samples each samples and 3 distinct types of glazing in areas (some is other color or on newer age windows).

⁶ Drums assumed to contain liquid petroleum or solvent product (contents not known presently)

⁷ Sampling For Disposal Services

⁸ Tanks assumed to be water containing and no sludge on bottom.

Category A (waste characterization or pre-demolition characterization samples)

Category B (samples for spill prevention)

Category C (samples will be included in demolition plan for future work are based on having one duplicate approximately every 10 samples.)

Appendix J

Jaite Paper Mill Demolition

NEPA Project Tracking Form

Attorney-Client Communication

Attorney Work Product

Confidential

FOIA-Protect, Do Not Release

NEPA PROJECT TRACKING FORM

PROJECT NUMBER 5.25

CUVA/JAGA/FILA

PROJECT MANAGER: LISA PETIT

DATE: 11 APRIL 2005

PROJECT DESCRIPTION:

NOTE—UNLESS THIS PROJECT IS COVERED BY A PROGRAMMATIC CATEGORICAL EXCLUSION, THE PROJECT MANAGER AND AN INTERDISCIPLINARY TEAM MUST HAVE VISITED THE SITE AND THERE IS AGREEMENT THAT NONE OF THE CRITERIA IN SECTIONS C OR D BELOW HAVE YES AS AN ANSWER. THE IDT SHOULD REVIEW THE LIST OF CATEGORICAL EXCLUSIONS AND LIST ANY THAT ARE PERTAINENT. A FULL ENVIRONMENTAL SCREENING FORM MUST BE COMPLETED IF NO CATEGORICAL EXCLUSIONS (CE) APPLY OR IF A SECTION 3.4 CE IS APPLICABLE. THE LIST OF EXCEPTIONS TO A CE SHOULD BE CHECKED BEFORE A RECOMMENDATION IS MADE. SPECIFY IF ANY TREES WILL BE CUT AS PART OF THIS PROJECT.

DEMOLITION OF UNSTABLE STRUCTURES AT JAITE PAPER MILL SITE

Restoration of the Jaite Paper Mill site in CUVA is being undertaken in fulfillment of NPS obligations under the Krecji Dump litigation settlements of April 22, 2002. The restoration project involves 4 phases: (1) Onsite inventory and report and project management plan development, (2) Supplemental Site Investigation and Site Characterization Report (SCR), (3) Completion of a Restoration Plan/Environmental Assessment, and (4) Restoration implementation. Phases 1 and 2 have been completed as of March, 2005. The Site Investigation found dangerous conditions that led to the following recommendation in the SCR by the contractor: "Some of the building structures of the Jaite mill facility are in the process of collapsing or have already collapsed, thereby representing a physical risk to anyone at the site during restoration activities. Because LBP [lead-based paint] and ACM [asbestos-containing material] are present onsite, it is recommended that an interim action be undertaken to demolish and remove the structures that are more severely deteriorated, to reduce the risks while the more complete demolition/restoration plan and environmental assessment are being prepared (Jaite Paper Mill Final SCR, February 2005, p. 5-3)." This work was originally planned for Phase 4, after the Restoration Plan (and the Demolition Plan) was complete; however, the recommendation now is to move much of this demolition work up in the schedule to before Phase 3.

Heavy snowfalls in the last several winters have expedited the decay of the site structures. In the six months since the contractor investigated the site last August ('04), the structures that met their criteria for recommending early demo/removal increased by over 50%. (Their criteria were 1) at least partial roof collapse, and 2) a high level of fragility such that intended or unintended collapse of an adjacent structure could cause it to collapse also.) In addition, public trespassing on the site

has increased in the last few years, posing obvious additional risk to human health and safety on the site.

For the reasons above, demolition and removal of unsafe structures on site would be considered an Emergency Action (NPS DO-12, 2.14), undertaken to protect human health and safety. As such, no further NEPA compliance is needed for this interim action in the Jaite Paper Mill Restoration Project.

Some tree cutting may be required as part of the demolition and removal of unsafe structures. Any trees that are identified for removal will be assessed for potential as roosting sites for the federally endangered Indiana bat. Potential roost trees will be cut only if emergence surveys and/or mist net surveys determine that Indiana bats are not present.

EMAIL OR SEND TO KEVIN SKERL, NEPA COORDINATOR**

THIS FORM WILL BE SENT TO THE SUPERINTENDENT'S OFFICE FOR A DETERMINATION OF ACTION NEEDED. WHEN NEPA COMPLIANCE IS COMPLETE, OR AN EA/EIS IS REQUIRED, THE PROJECT MANAGER WILL BE NOTIFIED BY THE NEPA COORDINATOR.

SUPERINTENDENT'S DETERMINATION OF THRESHOLD LEVEL:

1. No, this project does not warrant NEPA compliance
2. Yes, this project does warrant NEPA compliance
NEPA COMPLIANCE FINDING

- A. No categorical exclusions apply or the potential for adverse environmental impact was identified by the IDT in either Section C or D of the ESF. Therefore, either an environmental assessment or an environmental impact statement must be prepared. The project manager should consult with the NEPA Coordinator to determine the appropriate course of action.
- B. This project is a categorical exclusion not requiring further documentation (check all that apply below)

“CE 3.3 D., Routine and continuing government business—for example, supervision, administration, operations, maintenance, and replacement activities having limited context and intensity, meaning the activities are limited in size and magnitude or have short-term effects.”

“CE 3.3 M., Day-to-day maintenance, resource management, and research activities that have no potential for environmental impact or are not otherwise listed in section 3.4.”

Other CE, which is
 As a "general rule", but not always, new construction actions require preparation of an environmental assessment, and are not within the scope of a categorical exclusion. However, this project at this time in the history of the park is clearly not a major federal action, and checking this block with one of the section 3.3 categorical exclusions above completes NEPA compliance.

Darin Stover for Bill Carroll April 20, 05
Signature, Superintendent's Office Date

Appendix K

Storm Water Pollution Prevention Plan

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CONSTRUCTION STORM WATER GENERAL PERMIT

1. INTRODUCTION

This Storm Water Pollution Prevention Plan (SWPPP) has been prepared to ensure demolition activities conducted at the Jaite Paper Mill (located at Cuyahoga Valley National Park, Brecksville, Ohio) meet the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Demolition Activities. The demolition field activities will be conducted during the winter and spring of CY 2006. The National Park Service (NPS) Environmental Quality Division (EQD) contracted Tetra Tech EC, Inc. (TtEC) to perform an Emergency Demolition and Removal of Buildings and Contents at the former Jaite Paper Mill. The scope of this project involves four main tasks: (1) prepare a Demolition Plan, (2) demolish and remove buildings and related materials as per the Demolition Plan, (3) conduct additional site work, and (4) prepare a Project Completion Report.

The Demolition Plan is intended to meet the requirements stipulated within the U.S. General Services Administration (GSA) Contract No. GS10F-0208J, NPS Delivery Order D2310055086, and the Statement of Work (SOW). The Demolition Plan contains all information that is pertinent to the building demolition and removal work, as well as the entire building complex (including floors, foundations, basement rooms, etc.) in subsequent phases.

These demolition activities are considered construction projects; therefore, a SWPPP is required.

This SWPPP includes supplemental information and requirements that will be followed for the demolition activity that will be completed during the spring of CY 2006 (March through June 2006).

1.1 Purpose and Scope

The purpose of this SWPPP is to meet the requirements of the NPDES General Permit for Storm Water Discharges from Demolition Activities, provide the appropriate reporting and documenting requirements, and provide pollution prevention measures for the reduction and/or elimination of adverse surface water runoff from the site during the demolition activities.

This SWPPP will be kept on site during the demolition activities. All field personnel will be briefed prior to the start of the demolition activities on the requirements set forth in this plan.

1.2 Facility Description

The Jaite Paper Mill site is located on the east bank of the Cuyahoga River at its confluence with Brandywine Creek at Brecksville, Ohio. Figure K-1 shows the location of the site. The mill was originally constructed in 1905 and operated continuously until 1984, by which time the size of the plant had grown to 180,000 square feet. Figure K-2 is a site plan that shows the layout of the ground floor plan with 28 room names. Figure K-3 shows the basement floor plan and rooms destroyed in the fire of October 1992. Figure K-4 shows a basement section view of the Mill Site. A Site Plan indicating the locations of the proposed job trailer, haul routes, access gates, protected features, tentatively safe and unsafe structures, etc., is included in Figure K-5. All figures can be found in Attachment 1. In 1985, the mill became part of the Cuyahoga Valley National Park. After inclusion into the park, the mill was

determined eligible for, and was listed in, the National Register of Historic Places (NRHP), and a detailed National Historic American Building Survey of the plant was performed. A fire in October 1992 severely damaged a large part of the plant, which was then deemed ineligible for the NRHP (FWENC 2003).

1.3 Site Storm Water and Drainage Features

The Jaite Paper Mill site storm water and drainage features are summarized below. Figure K-6 shows site storm water and drainage features (Attachment 1).

- The Jaite Mill site topography is gently graded (2 percent or less grade). Visual evidence of this is the existence of five rail spurs for staging rail cars without rolling.
- The areas between the existing buildings have engineered graded contours that drain to two existing on-site catch basins.
- The water sheet flows primarily runs to the north side of the site, which is bounded by Brandywine Creek.
- The rail entrance located at the northwest edge of the site is generally the lowest elevated section on the site.
- The historical remnant of the Ohio-Erie Canal is located on the east side of the site which is upgradient of site sheet flow. The remnant is bermed with approximately 0 to 3 feet of soil above grade, and existing site grading conditions pose no threat to storm water runoff.

1.4 Potential Pollutants

Potential pollutants on site were determined based on past site operations and past site investigations. Demolition equipment also contain fluids, oils, and lubricants that are potential pollutants.

Pollutants generated as a result of demolition activities at the Jaite Paper Mill facility that can potentially mix with storm water are asbestos waste (friable or non-friable), recyclable debris, PCB or RCRA hazardous waste or universal waste, organic materials, and decontamination water. Additional materials removed from the buildings such as ballasts, fluorescent lamps and other mercury containing devices, or other hazardous materials found on site are other potential pollutants.

2.0 ACTIVITY DESCRIPTION

This SWPPP covers the demolition activities that will be conducted at the Jaite Paper Mill Site during the winter and spring season of CY 2006 (March through June, CY 2006). The total approximate area of the Jaite Paper Mill demolition is estimated at 2 acres. Detailed figures of the work area and adjacent water bodies are provided in Attachment 1.

A thorough description of the complete field activities is provided in the demolition plan for this task order. Below is a list of the site activities to be conducted.

Demolition of the Following Buildings:

- Fourdrinier Building #12
- Rotary Mixers, etc. (#18,18,19)
- Woodin Warehouse and Miscellaneous Storage (#1,2)
- Box Shop, etc (#3,4,5,6,7)
- Mill Supplies, etc. (#8,9,10,11)
- Machine Shop, etc. (#20,21,26)
- Electrical Shop, etc. (#13,14,15,16)
- Former Power House, etc. (#25,27)
- Chemical Storage etc. (#22,23,24)
- Baled Paper Storage (#28)

Additional Waste Characterization Sampling and Site Tasks:

- Fourdrinier machine ACM and LPB Abatement
- Mill basement room sampling, cleaning, and filling
- Septic tank and storm water basin sampling, cleaning, and plugging.
- Building footprint drain sampling, cleaning, and plugging
- Water Tower Detailed Assessment
- Wood chipping and disposal
- Towpath fencing
- Aeration pond fencing

Industrial storm water discharges will not be conducted at the site.

3.0 CONTROLS TO REDUCE POLLUTANTS

Storm water pollution prevention measures known as Best Management Practices (BMPs) will be implemented throughout the project. The demolition activities are not expected to generate any type of contaminated surface water runoff. In addition, the BMPs listed below will ensure that no surface water runoff will leave the areas being worked. The following BMPs will be implemented to minimize impacts to storm water.

Control of Surface Water Runoff—The main concerns of storm water control are control of surface water runoff where it may wash pollutants or sediment into nearby bodies of water. Potential sources of pollution affecting the quality of storm water discharge from the Jaite Paper Mill site include the following:

- Existing oils or other pollutants on pavements in vicinity of the work;
- Fuel/lubricating oils from demolition equipment; and
- Runoff of sediment from disturbed soils.

Prevention of Storm Water Contamination—BMPs that will be used to prevent contamination of storm water during project activities include the following:

- Inspect work area and surrounding area;
- Identify potential pollutant sources;
- Review direction of water flow;
- Keep the work site clean;
- Protect any material stored outside from the effects of wash-off through the use of covers and/or secondary containment as necessary;
- Inspect and maintain demolition equipment on a regular basis;
- Repair leaking equipment;
- Conducted ongoing inspections of the area throughout the project to make certain BMPs are being effective and maintained;
- Maintain records of all inspections;
- Avoid storing waste materials or other chemicals/fuels at or near the working areas; and
- Avoid conducting work during heavy rain fall that creates overland sheet flow conditions, which would create surface water runoff.

Prevention of Storm Water Runoff—BMPs that will be used to prevent sediment from washing away during project activities include the following:

- Native vegetation will be disturbed to the least extent possible during project activities;
- Silt fence may be placed downgrade from all excavations as needed; and
- Work will be stopped during high rain events, preventing the release of additional sediment.

Spill Prevention Control and Countermeasures

Care will be exercised at all times to prevent Oil and Hazardous Substances (OHS) from entering the ground, drainage areas, or local bodies of water. Spill Prevention and Control is addressed in section 7.0 of the Jaite Paper Mill Demolition Plan.

4.0 COPY OF THE PERMIT REQUIREMENTS AND NOI

A copy of the Notice of Intent (NOI) has been included as Attachment 2.

5.0 APPLICABLE STATE OR LOCAL REQUIREMENTS

Laws and regulations applicable to the demolition activities include:

- OAC 3745, Chapter 38-Ohio NPDES General permits; and
- 40 CFR Parts 122-125.

These laws and regulations cover storm water, snow melt, and surface water runoff and drainage associated with industrial activity (as defined in 40 CFR Part 122), or such activities that disturb 1 acre or more and that discharge to surface waters must be conducted in compliance with the storm water management regulations (Note: Ohio is a delegated state with regard to NPDES permits).

6.0 INSPECTIONS

The required inspection schedule is detailed in Section 3.0, Controls to Reduce Pollutants. The SS for this project, a qualified person for inspection for erosion control prevention, will conduct the inspections. The inspections will be documented on the Daily Production Report. The results of the inspections will also be documented in the completion report that will be prepared for this Delivery Order.

According to the *Cuyahoga* (Cleveland) County SWCD, inspections are required every 7 calendar days or within 24 hours after 0.5 inch or more of rainfall.

7.0 MANINTAINING AND UPDATING THIS PLAN

A copy of this plan will be maintained at the project site for the duration of the field activities. A copy of the NOI will be posted at the restoration site. In addition, prior to the start of field activities, this plan will be reviewed during the initial site briefing. All site personnel will be aware of and follow the requirements of this plan. Any revisions to this plan will be conducted in accordance with Section 7.0 of the work plan.

8.0 PERMIT ELIGIBILITY RELATED TO TOTAL DAILY MAXIMUM LOAD

This plan was prepared for the National Park Service Cuyahoga Valley National to comply with the terms and conditions of the United States Environmental Protection Agency (EPA), NPDES, Multi-Sector General Permit (MSGP) for Storm Water Discharge associated with Industrial Activities. However, the demolition activities are not expected to generate any surface water runoff from the sites that will leave the project areas. BMPs that will be implemented, as included in Section 3.0 of this SWPPP, will help ensure that no demolition related surface water runoff leaves these sites.

9.0 REFERENCES

- FWENC (Foster Wheeler Environmental Corporation). 2003. *Jaite Paper Mill Site Inventory Report for Cuyahoga Valley National Park, Brecksville, Ohio.* Prepared for the National Park Service, Cuyahoga Valley National Park, and the National Park Service, Environmental Response, Damage Assessment and Restoration Branch. June.
- TtFW (Tetra Tech FW, Inc.). 2005. *Jaite Paper Mill Site Characterization Report for Cuyahoga Valley National Park, Brecksville, Ohio.* Prepared for the National Park Service, Cuyahoga Valley National Park, and the National Park Service, Environmental Response, Damage Assessment and Restoration Branch. February.
- TtFW. 2004. *Jaite Paper Mill Project Management Plan for Cuyahoga Valley National Park, Brecksville, Ohio.* Prepared for the National Park Service, Cuyahoga National Park. August.
- EMG (Environmental Mitigation Group). 1992. *Asbestos Assessment Report.* Prepared for NPS. June
- EMG. 1993. *Phase I Environmental Site Assessment.* Prepared for NPS. January.
- EMG. 1993. *Screening Investigation.* Prepared for NPS. July.
- SUNPRO. 1994. *Underground Storage Tank Removal Project.* Prepared for NPS. November.
- URS Greiner. 1997. *BUSTR Site Assessment Report.* Prepared for NPS. November 18.
- MVTI (MV Technologies, Inc.). 2002. *Phase II Environmental Site Assessment.* Prepared for NPS. October 28.
- MVTI. 2003. *Risk Assessment for the Former Jaite Paper Mill.* Prepared for NPS. June 27.

Note: The names Tetra Tech FW, Inc., and Foster Wheeler Environmental Corporation are previous names for Tetra Tech EC, Inc., a wholly owned independent operating unit of Tetra Tech, Inc., since March 2003, when the assets and relevant projects of Foster Wheeler Environmental Corporation (FWENC) were acquired from Foster Wheeler and renamed to Tetra Tech FW. In January 2005, Tetra Tech FW changed its name to Tetra Tech EC to emphasize its separation from Foster Wheeler.

ATTACHMENT 1
FIGURES

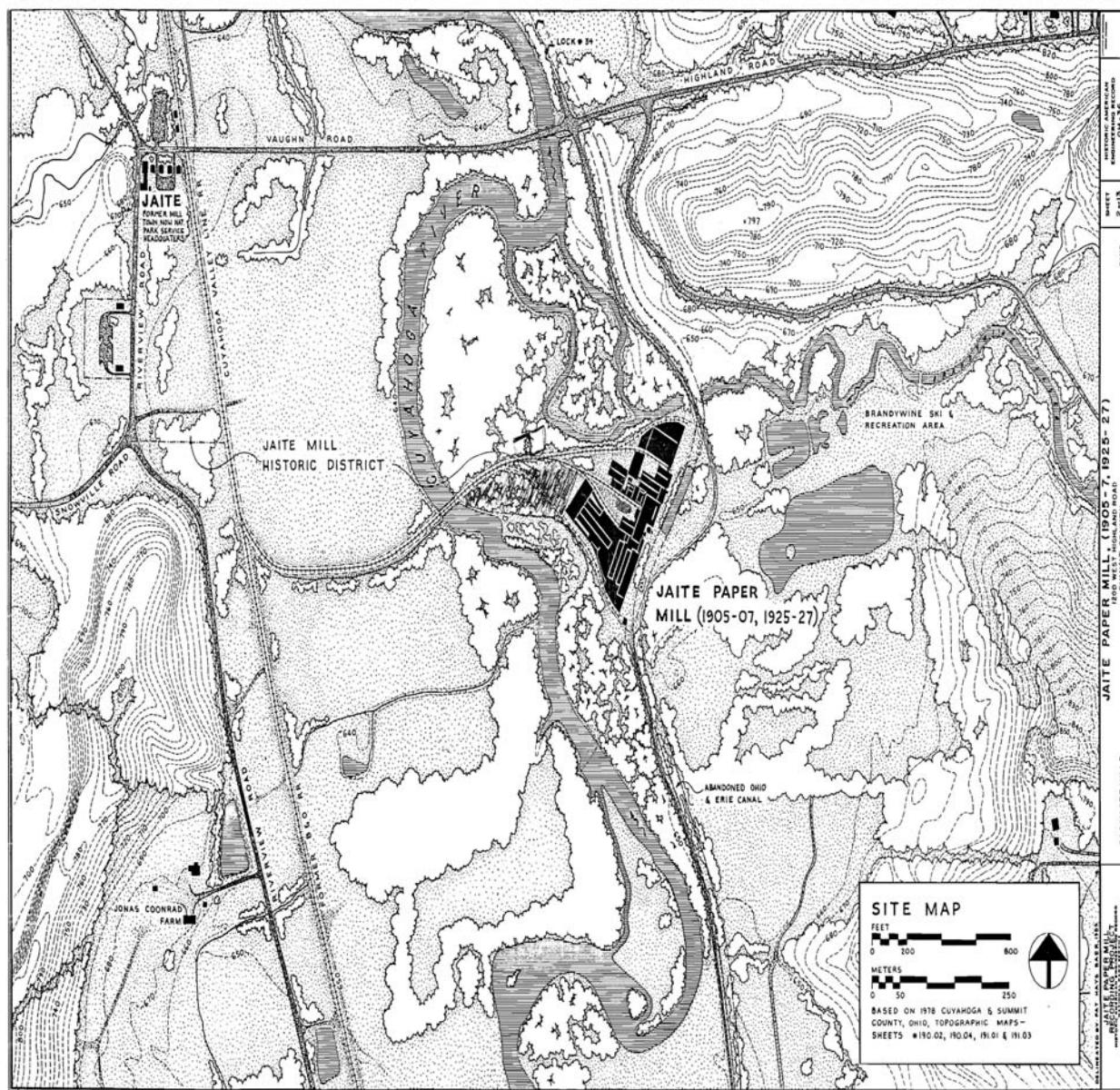


FIGURE K-1
SITE LOCATION

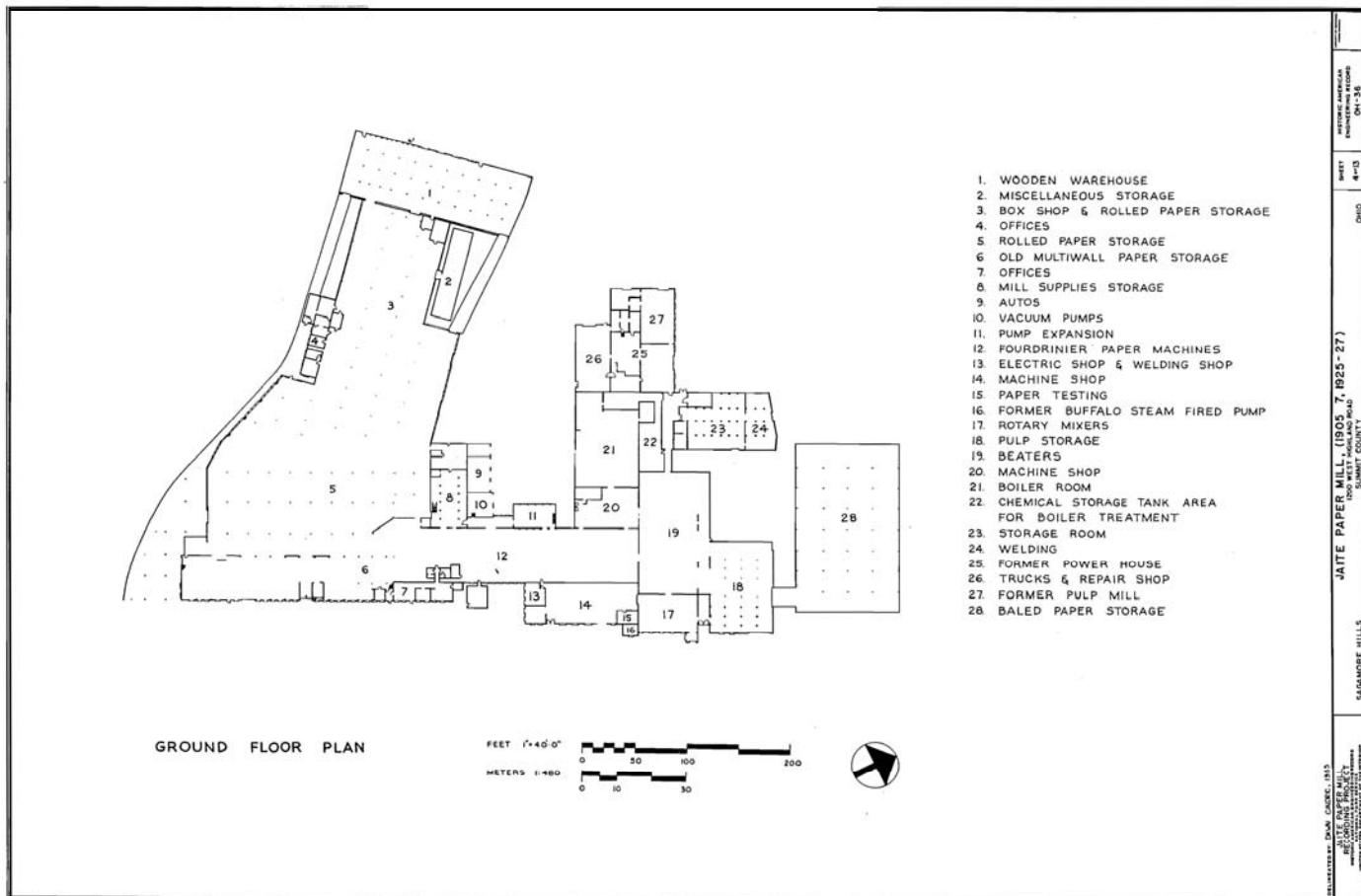


FIGURE K-2
SITE GROUND FLOOR PLAN

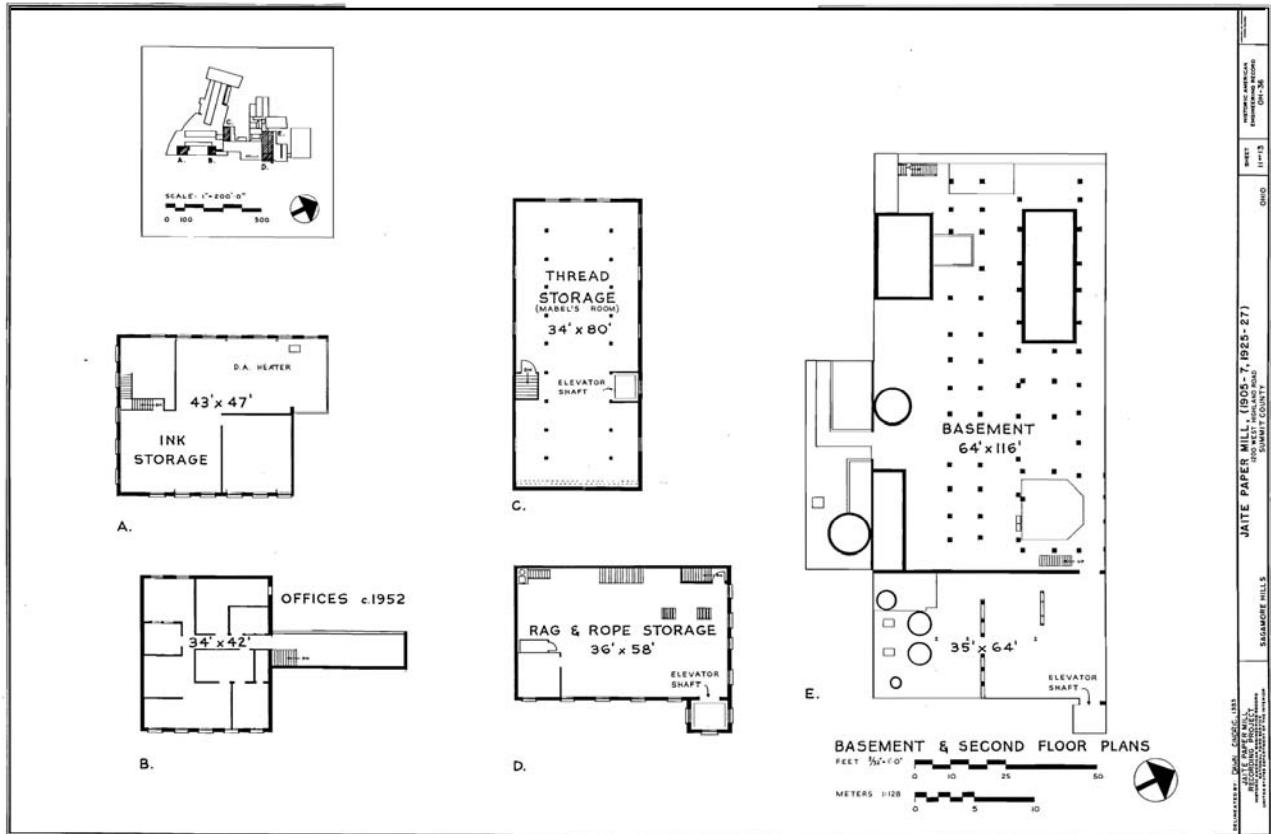


FIGURE K-3
BASEMENT FLOOR PLAN

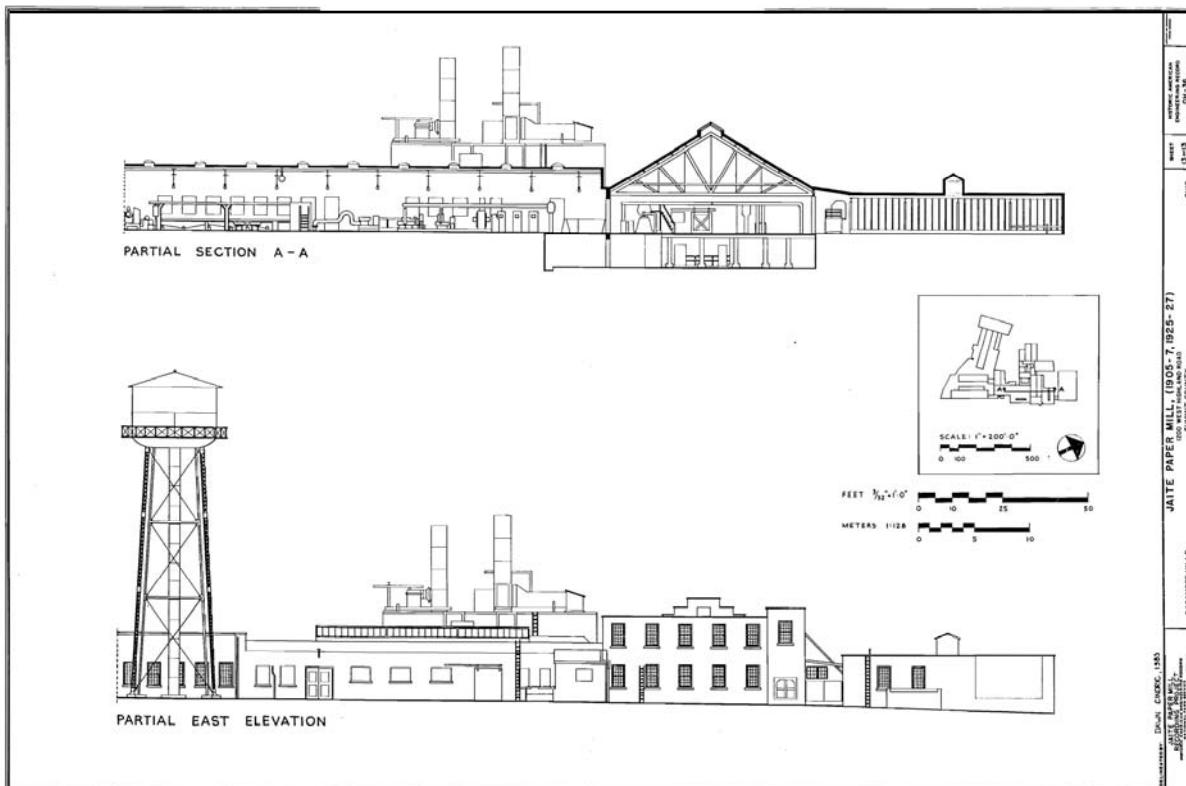
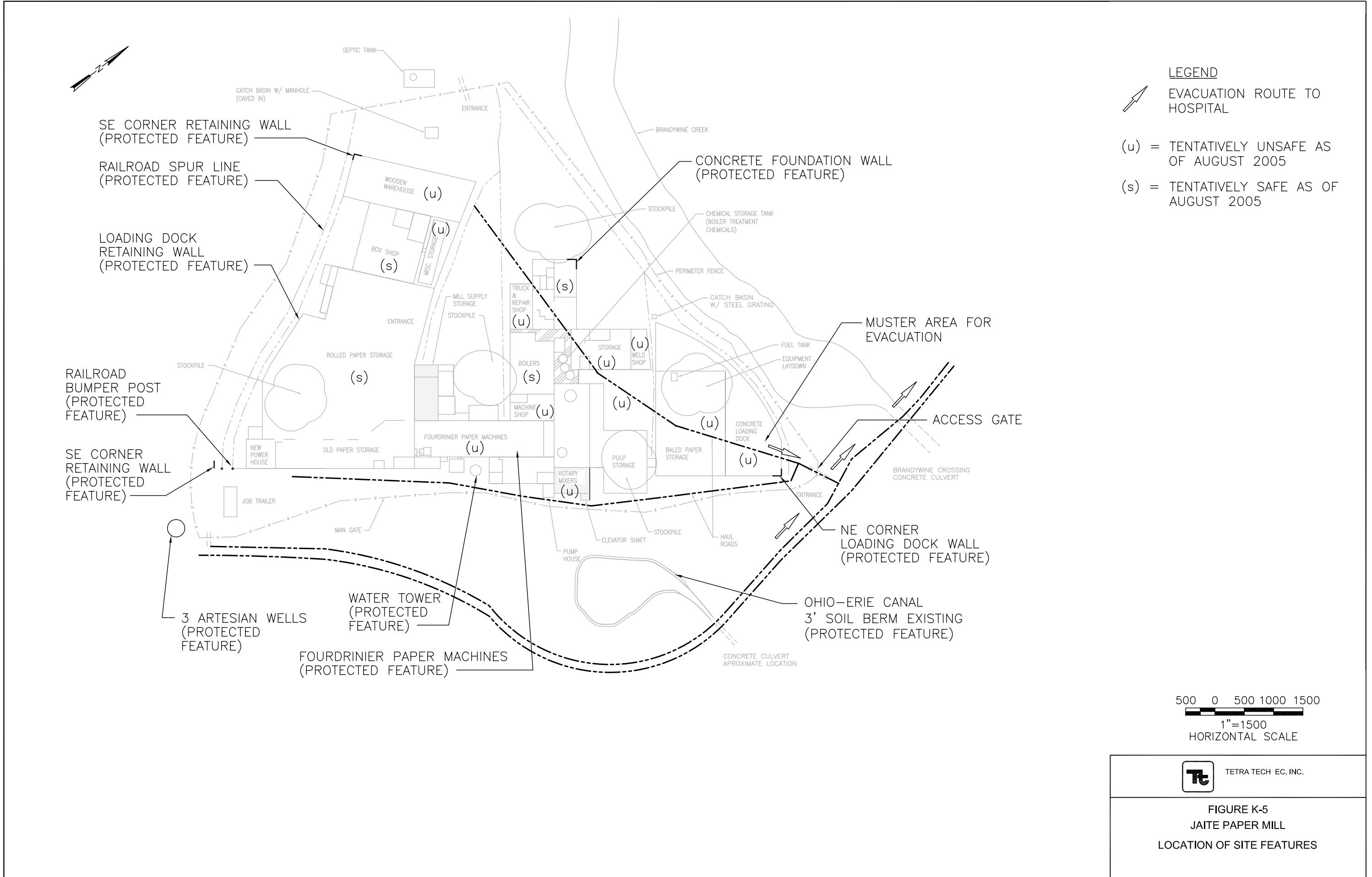
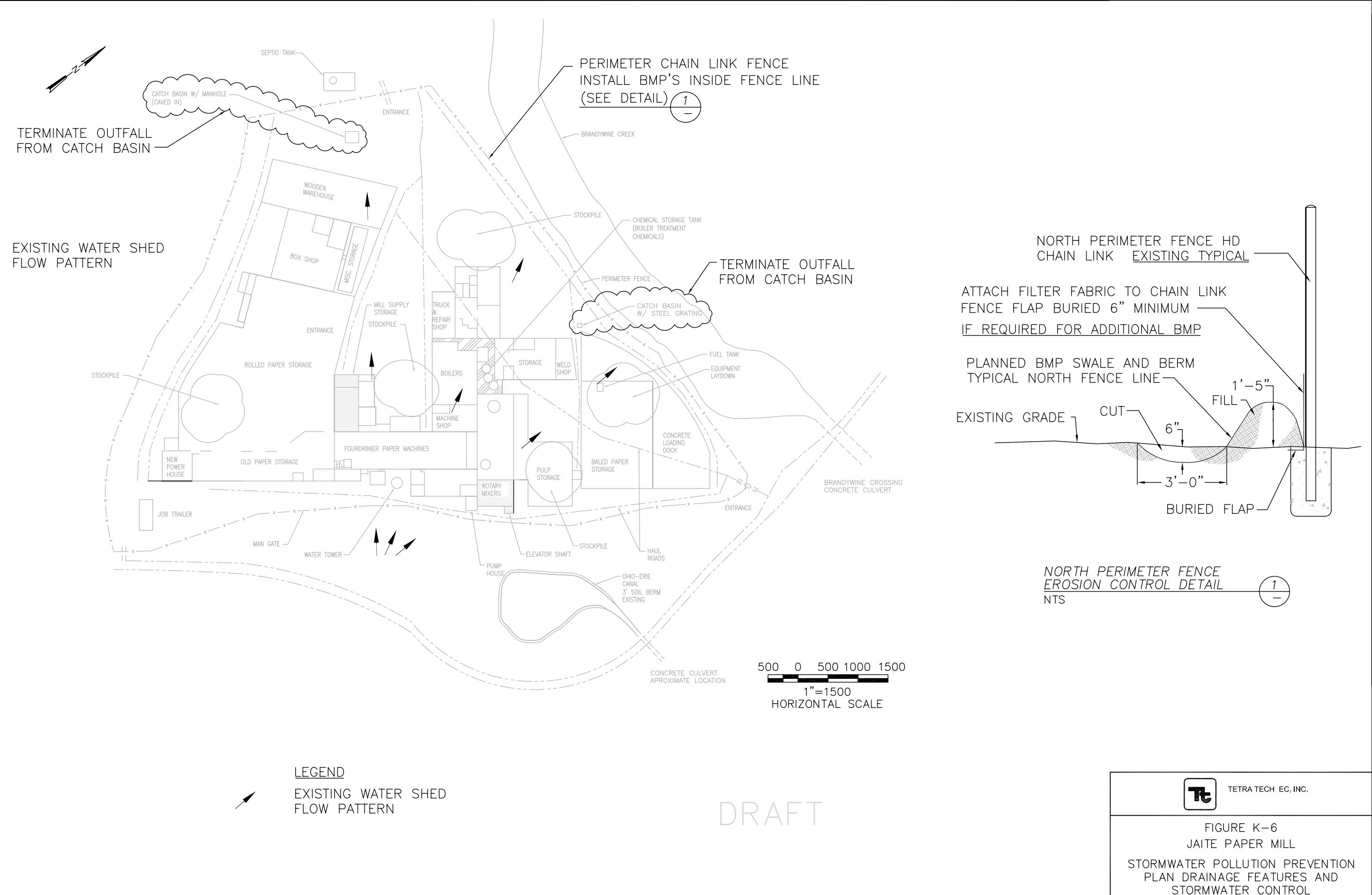


FIGURE K-4
BASEMENT SECTION VIEW





ATTACHMENT 2
NOTICE OF INTENT TO CONDUCT DEMOLITION

Notice of Intent (NOI) For Coverage Under Ohio Environmental Protection Agency General Permit

(Read accompanying instructions carefully before completing this form)

Submission of this NOI constitutes notice that the party identified in Section I of this form intends to be authorized to discharge into state surface waters under Ohio EPA's NPDES general permit program. Becoming a permittee obligates a discharger to comply with the terms and conditions of the permit. Complete all required information as indicated by the instructions. Forms transmitted by fax will not be accepted. A check for the proper amount must accompany this form and be made payable to "Treasurer, State of Ohio." (See the fee table in Attachment D of the NOI instructions for the appropriate processing fee.)

I. Applicant Information/Mailing Address

Company (Applicant) Name: McCabe Corporation
 Mailing (Applicant) Address: 3470 Brecksville Road
 City: Richfield State: Ohio Zip Code: 44286
 Contact Person: Joe Adelman Phone: (330) 659-3550 Fax: (330) 659-3596
 Contact E-Mail Address: jadelman@mccabeengineering.com

II. Facility/Site Location Information

Facility Name: Former Jaite Paper Mill
 Facility Address/Location: 1200 West Highland Road
 City: Sagamore Hills State: Ohio Zip Code: 44067
 County(ies): Summit Township(s): Northfield
 Facility Contact Person: Bill Carroll Phone: (440) 546-5901 Fax: (440) 546-5905
 Facility Contact E-Mail Address: _____
 Quarter: _____ Section(s): _____ Range: _____

Receiving Stream or MS4: Brandywine Creek, a tributary of the Cuyahoga River

If aware of a state nature preserve within 1,000 feet of the facility/site, check here:

Enter river code here, if discharge is to a river designated scenic, wild, or recreational, or to a tributary within 1,000 feet (see instructions): _____

General Permit Number: OHC000002 Construction Storm Water Initial Coverage: Renewal Coverage:

Type of Activity: Construction Storm Water - 1 to 5.99 acres disturbed Fee = \$200

SIC Code(s): - _____ - _____ - _____ - _____

Existing NPDES Permit Number: _____

ODNR Coal Mining Application Number: _____

Outfall	Design Flow (MGD)	Latitude	Longitude
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

For Ohio EPA Use Only	
Check ID (OFA): _____	
Person: _____	
Place: _____	
DOC #: _____	
ORG #: _____	
Rev. ID #: _____	

Other DSW Permits Required: _____

Proposed Project Start Date (MO DY YR): 03/06/06 Estimated Completion Date: (MO DY YR): 06/05/06

Total Land Disturbance (Acres): 3.00 MS4 Drainage Area (Square Miles): _____

Payment Information: Check # 13966 Check Amount: \$200 Date of Check: 02/17/06

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Applicant Name: Rebecca Lewis

Title: Vice-President

Applicant Signature: Rebecca Lewis

Date: 02-17-06

Appendix L

ACM Letter to Ohio EPA

(Will be inserted once it is received.)