0205 0406020003

CH2M HILL
Mound, Inc.
1 Mound Road
P.O. Box 3030
Miamisburg, OH
45343-3030

CH2MHILL

SM-060/03
August 28, 2003

Mr. Richard B. Provencher, Director
Miamisburg Closure Project
U. S. Department of Energy
P. O. Box 66
Miamisburg, OH 45343-0066

ATTENTION: Paul Lucas

SUBJECT: Contract No. DE-AC24-03OH20152
H BUILDING, ACTION MEMORANDUM/EECA, FINAL
H Bldg-GFS/I: Planning Documents Approved - Activity ID: EBDEE00HAL

REFERENCE: Statement of Work Requirement 055 - Regulator Reports

Dear Mr. Provencher:

Paul Lucas from your office has approved the following document to be released as Final:

- H Building, Action Memorandum/EECA, Final

If you or members of your staff have any questions regarding the document, or if additional support is needed, please contact Bob Ransbottom at 937-865-4220.

Sincerely,

K. L. Kehler
SMPP/TFV Project Manager

KLK/VKD

Enclosures

cc: David Seely, USEPA, (1) w/attachments
Brian Nickel, OEPA, (1) w/attachments
Ruth Vandegrift, ODH, (1) w/attachments
Mary Wojciechowski, Tetra Tech, (1) w/attchs
Frank Schmaltz, DOE/MCP, (1) w/attachments
Lisa Rawls, DOE/MCP, w/o attachments
Randy Tormey, DOE/OH, (1) w/attachments
Terry Tracy, DOE/HQ, (1) w/attachments
Dann Bird, MMCIC, (2) w/attachments
Jim Bonfiglio, MESH, (1) w/attachments
Public Reading Room, (4) w/attachments
Val Darnell, CH2M Hill, (1) w/attachments
Kurt Kehler, CH2M Hill, (1) w/attachments
John Fulton, CH2M Hill, w/o attachments
Bob Ransbottom, CH2M Hill, w/o attachments
Dave Rakel, CH2M Hill, w/o attachments
Admin Record (2) w/attachments
DCC (1) w/attachments

ACTION MEMORANDUM

ENGINEERING EVALUATION/COST ANALYSIS

H BUILDING

REMOVAL ACTION

AUGUST 2003

FINAL*

Department of Energy
Miamisburg Closure Project

CH2MHILL

** Revised from Building H Hot Laundry AM/EE/CA, May 1998.*

The Mound Core Team
500 Capstone Circle
Miamisburg, OH 45342

August 2003

Mr. Daniel Bird, AICP
Planning Manager
Miamisburg Mound Community Improvement Corporation
720 Mound Road
COS Bldg. 4221
Miamisburg, Ohio 45342-6714

Dear Mr. Bird:

The Core Team, consisting of the U.S. Department of Energy Miamisburg Closure Project (DOE-MCP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates your comments on the H Building Action Memorandum. Attached is our response.

Should the responses to comments require additional detail, please contact Paul Lucas at (937) 847-8350, x314 and we will gladly arrange a meeting or telephone conference.

Sincerely,

DOE/MCP: _____ 8/16/03
for Paul Lucas, Remedial Project Manager — date

USEPA: _____ 8/20/03
David P. Seely, Remedial Project Manager — date

OEPA: _____ 8/20/03
Brian K. Nickel, Project Manager — date

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Response to MMCIC Comments on the H Building Action Memorandum Public Review Draft June 2003

Substantive Comments

Comment 1. From our review of the H Building Action Memorandum, Public Review Draft, MMCIC concurs with the planned demolition of the building. In addition, as this area is part of the reuse of the site, MMCIC would appreciate the opportunity to coordinate with DOE and the clean-up contractor any anticipated work activities in this area.

Response 1. We appreciate your input and review of the document. The Core Team understands MMCIC's request regarding reuse of the site, and encourages MMCIC to meet with DOE to obtain an agreeable end state. MMCIC's requested reuse of this area per the 7/31/03 email from Dann Bird (MMCIC) to Kurt Kehler (CH2) indicated that crushed stone is the desired end state; we will work with MMCIC to support the requested change.

Comment 2. MMCIC requests to be updated on the demolition action progress. We would appreciate a copy of any of the work plans available that pertain to this demolition.

Response 2. Keeping project participants informed of progress and changes as projects progress is the primary driver for several activities that MMCIC participates in; monthly Progress Meetings (aka FFA Meeting), monthly Core Team meeting, and weekly status coordination meeting.

As requested, a copy of the draft demolition work plan has been sent to you separately. Demolition of H Building is expected to take place in September 2003.

Comment 3. It is MMCIC's understanding that after the demolition process is complete, the area will be restored to an appropriate condition in accordance with the *Mound Reuse Plan*. For the H Building area, this reuse includes a combination of street, parking area, landscaped area and open green space.

Response 3. Per the 7/31/01 email from Dann Bird (MMCIC) to Kurt Kehler (CH2), MMCIC would like the H Building area to be covered with crushed stone. The work plan currently includes site restoration as backfilling with gravel/soil, grading to support proper runoff, and seeding the area for erosion control. We will work with MMCIC to support the requested change.

Errata

Comment 1. No comments.

Additional Changes

In the Public Review Draft, CH2M Hill Mound, Inc. inadvertently left out two changes requested by Ohio EPA. Those changes have been added to the Final version, and include rewording of the Verification bullet on page 9, and the addition of a footnote regarding tritium to Table 4.

MIAMISBURG CLOSURE PROJECT

ACTION MEMORANDUM

Notice of Document Revision

The following Action Memorandum has been revised and is available (August 29, 2003) in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio.

AM Building H: Environmental Laboratory, Laundry Facilities, and Change Rooms

Document revisions include verification text on page 9, tritium footnote on Table 4, and revised project schedule.

Questions can be referred to Paul Lucas at (937) 847-8350 ext. 314

U.S. Department of Energy
U.S. Environmental Protection Agency
Ohio Environmental Protection Agency

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Miamisburg Closure Project

MIAMISBURG CLOSURE PROJECT
ACTION MEMORANDUM
Notice of Public Review Period

OhioEPA

The following document is available for public review in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio. Public comment on this document will be accepted June 28, 2003 through July 28, 2003.

AM Building H: Environmental Laboratory, Laundry Facilities, and Change Rooms

Questions can be referred to Paul Lucas at (937) 847-8350 extension 314

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ACRONYMS

ACM	asbestos-containing material
AM	Action Memorandum
ARARs	Applicable or Relevant and Appropriate Requirements
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	contaminant of concern
DCG	derived concentration guideline
DOE	Department of Energy
DOT	Department of Transportation
dpm/100cm^2	disintegrations per minute per one hundred square centimeters
EE/CA	Engineering Evaluation/Cost Analysis
ER	Environmental Restoration
FFA	Federal Facilities Agreement
HASP/JSHA	Health and Safety Plan/Job Specific Hazard Analysis
LSA	low-specific activity
MCL	maximum contaminant level
MCP	Miamisburg Closure Project
MMCIC	Miamisburg Mound Community Improvement Corporation
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	No Further Assessment
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OAC	Ohio Administrative Code
OEPA	Ohio Environmental Protection Agency
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration
pCi/g	picoCuries per gram
PRS	Potential Release Site
RA	Removal Action
RBGV	Risk-Based Guideline Value
REAPS	Reportable Excess Automated Property System
RMMA	Radiological Material Management Area

ACRONYMS
Continued

ROD	Record of Decision
RCRA	Resource Conservation and Recovery Act
RSE	Removal Site Evaluation
SARA	Superfund Amendments and Reauthorization Act
UB	unbinned
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound
VSAP	Verification Sampling and Analysis Plan

1.0 PURPOSE

The United States Department of Energy (DOE) is the designated lead agency under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and removal actions at the Miamisburg Closure Project (MCP) (previously called the Miamisburg Environmental Management Project or MEMP) are implemented as non-Superfund, federal-lead actions. DOE provides the On-Scene Coordinator (OSC). Non-Superfund, federal-lead removal actions are not subject to United States Environmental Protection Agency (USEPA) limitations on the OSC ($50,000 authority) and are not subject to National Oil and Hazardous Substances Pollution Contingency Plan (NCP) limitations on removal actions (i.e., $2,000,000 in cost and 12 months in duration).

This Action Memorandum (AM) Engineering Evaluation/Cost Analysis (EE/CA) has been generated to document the general site conditions that would justify application of a Removal Action (RA) consistent with CERCLA, to propose the RA described herein, and to allow public input (Reference 1).

2.0 SITE CONDITIONS AND BACKGROUND

2.1 Site Description

This section describes the physical site location, site characteristics, release of contaminants into the environment, and the site's National Priorities List (NPL) status.

2.1.1 Physical Location

The MCP Site is located on the southern border of the City of Miamisburg in Montgomery County, Ohio, approximately 10 miles south-southwest of Dayton and 45 miles north of Cincinnati.

This RA is proposed for the removal of H Building. This building includes Potential Release Sites (PRSs) 210 and 337, as noted in Table 1 (Appendix B). The location of H Building is shown on Figure 1 (Appendix A). Building photographs (taken in 2000) are provided in Appendix C, and floor plans are provided in Appendix E.

2.1.2 Site Characteristics

H Building was constructed in 1948 as one of the original group of buildings at the site. From 1948 through 1999, H Building housed laundry facilities for company-issued clothing used in performing work in clean and in contaminated areas. From 1948 through February 2003, it also served as a facility to dispense the company-issued clothing, and provided changing rooms. Other functions that were present in the building include maintenance shops (1948 – 1990s), an employee credit union (until 1998), a vehicle maintenance office (until the 1990s), and the bioassay and environmental analytical laboratories (1973 – 2002).

Areas within H Building and an area of soil beneath the building's slab are contaminated with radioactive materials. The process that resulted in the contamination was the laundering of clothing used to perform "hot" work. Process water generated from the laundry was collected in a holding tank on the "hot" (south) side of the building, and then drained through a pipe to a lift station at SW Building. In 1993, washable clothes used for "hot" work were replaced with disposable clothing, which allowed the wastewater from the laundry to be diverted to the site Wastewater Treatment Plant, Building 57.

H Building is a one-story structure with second-story penthouse and filter rooms. The walls are constructed of reinforced concrete block with a brick face exterior. The roof is made of metal with a built-up asphalt membrane. H Building contains 17,334 square feet of usable floor space. A sidewalk to the east and a roadway to the north and south border the building. On its west side, H Building shares a corridor with the former B Building (only slab remains). Buildings in the vicinity are A Annex Building (north) and OSW Building (northwest), office trailers (south and east), and R Building (southwest).

H Building is scheduled for decontamination and demolition in fiscal year 2003. The property on which it stands will then be transitioned to the Miamisburg Mound Community Improvement Corporation (MMCIC). Work is planned in two distinct phases: decontamination and demolition. This AM covers both phases. This includes the building's Safe Shutdown activities to be performed prior to decontamination and demolition. This work also covers any required surface decontamination exterior to H Building but within the building's 15-foot perimeter. The abandoned underground waste transfer line (PRS 423) exiting H Building is capped off, and will be removed as an Environmental Restoration (ER) project after the building demolition.

This AM/EE/CA was released in January 1999, at which time it only covered decontamination because the building was scheduled to be transitioned to MMCIC. The disposition of H Building was later changed to demolition. This document has been revised to include the building demolition.

2.1.3 Current Conditions

All operations have been discontinued or moved out of H Building. The washers and dryers currently in the laundry area are purported to be uncontaminated; however, radiological surveys will be performed to confirm appropriate disposition. Following their removal from the Radiological Material Management Area (RMMA), the washers and dryers will be handled via the Mound Reportable Excess Automated Property System (REAPS) program. Surplus materials, excess equipment, and abandoned systems will be removed from the building only if they are contaminated or have been identified for future use. Remaining materials will be demolished with the building.

Steam for heating is provided to H Building from the Powerhouse (P Building) via underground piping housed in a concrete conduit. Ventilation is provided by a roof-mounted HVAC system. Potable water and sanitary services are provided by means of the site water treatment and sewer treatment facilities. The wastewater currently generated in the building is sanitary water.

The building contains two sumps. One is located in the building's center corridor and is used to collect steam condensate. The other, a double-contained sump, located in Room H-133 was removed as a part of Phase I of this project (see Section 2.2.1). The external sump liner remains in place and will be removed with the building demolition.

2.1.4 Radiological Characterization

H Building underwent an in depth radiological characterization in 1998 to prepare for Phase I of the decontamination process. The characterization identified several areas of fixed and removable contamination, as summarized in Table 2. Figure 2 shows the existing floor plan of H Building laundry along with the existing drain system. The drains in Rooms H-113, 115,128,131,132 and 135 have the potential to have been exposed to contaminated effluent. The drains in H-133 and 134 were removed as part of Phase I of the decontamination (Circa 1998-99). Additional characterization is underway and is expected to be completed in April 2003.

Asbestos Survey

Previous asbestos survey results indicate that asbestos-containing material (ACM) exists in some pipe and duct insulations, some light fixture gaskets, and some lab fume hood linings. Floor tiles and asphalt roofing materials are assumed to be ACM. Other building materials are currently being reassessed to determine if they are ACM. All ACM regulated by EPA under NESHAP will be removed and disposed of by a licensed asbestos abatement contractor prior to demolition of the building.

Lead Survey

Previous surveys indicate that lead-based paint exists on some roof materials. As part of a partial roof replacement project in 2001-2002, loose lead-based paint was removed and the surfaces painted. No other data concerning lead paint within or on H Building was found. During the 4 March 2003 walk-through, some lead bricks were discovered in H Building; the bricks are to be claimed and moved by the site bioassay lab as part of their process. Some equipment abandoned within the building may contain lead shielding, but these materials were intact and none of this equipment posed an existing lead hazard; items containing lead shielding will be removed from the building prior to demolition. Untested painted surfaces were generally intact or in fair condition and did not present a lead hazard in their current state. No further assessment is required prior to demolition unless activities are planned which would involve disturbance of the paint via close worker contact.

2.1.2.2 Associated PRS Overview

As a result of the investigations and documentation accomplished to comply with the CERCLA cleanup process via the Federal Facilities Agreement (FFA)/DOE ER Program, DOE and the site contractor tabulated all the PRSs identified under the various regulatory programs in effect at the site. Of these 440 PRSs, six are in the vicinity of H Building (Table 1). Their locations are shown on Figure 3, and additional information is included in Appendix D.

Two of these, PRSs 210 and 337, are associated with H Building, and will be addressed in this AM/EE/CA and closed out via the OSC Report(s).

2.1.5 Release or Threatened Release into the Environment

The potential release of radionuclides and/or hazardous chemicals prompted this RA.

2.1.6 National Priorities List Status

The USEPA placed the Mound Site on the NPL by publication in the Federal Register on November 21, 1989.

2.2 Other Actions to Date

The site initiated a CERCLA program in 1989, now guided by the agreement among the DOE, Ohio Environmental Protection Agency (OEPA), and USEPA. An FFA under CERCLA Section 120 was executed between DOE and USEPA Region V on October 12, 1990. It was revised on July 15, 1993 (EPA Administrative Docket No. OH 890-008984) to include OEPA as a signatory. The general purposes of the FFA are to:

- ensure that the environmental impacts associated with past and present activities at the site are thoroughly investigated and appropriate remedial actions taken as necessary to protect the public health, welfare, and the environment,
- establish a procedural framework and schedule for developing, implementing, maintaining, and monitoring appropriate removal actions at the site in accordance with CERCLA, Superfund Amendments and Reauthorization Act (SARA), the NCP, Superfund guidance and policy, and Resource Conservation and Recovery Act (RCRA) guidance and policy, and
- facilitate cooperation, exchange of information, and participation of the parties in such actions.

2.2.1 Previous Removal Actions

A partial decontamination of H Building was performed in 1998-99. This work included the removal of several radiologically contaminated items and a partial decontamination of the building's interior surfaces.

The initial project scope consisted of a removal action designed in two phases with the ultimate goal of decontaminating H Building and transferring it to MMCIC. The objective of Phase I was to perform decontamination of the hot laundry area, and the objective of Phase II was to clean out and prepare for transition the rest of the building.

DOE and MMCIC changed the disposition of H Building from transfer to demolition. At the time of this change, most of the Phase I activities had been completed. Based on the scope change, it was decided for safety and efficiency to complete the remaining Phase I work scope with the building demolition.

2.2.1.1 *Completed Tasks*

Building Preparation: Utility feeds to all abandoned equipment and systems were disconnected. Excess equipment, abandoned systems, material, process and utility piping and conduit were removed.

Removal of Hot Laundry Filter Bank. Filters were removed from the filter banks and disposed of as radioactive waste. Surfaces in the empty filter area (previously inaccessible) were radiological surveyed and wiped down.

Wastewater Line Removal. The stainless steel wastewater line from H-133 to the B Building corridor was drained and removed.

Wall Decontamination. The walls of the hot laundry area (Rooms H-129, 130, 131,133,134, and 135) were decontaminated via wet wiping or mechanical means.

Floor Decontamination. Fixed contamination on the H-129, 130, 131, 132 and 135 floors was removed via mechanical means. Excess dust material was removed using a HEPA filtered vacuum.

Sump Removal (H-133). The sump (laundry water tank, Tank 2, PRS 210) was removed from the floor of H-133. Due to the sump containing tritium-contaminated sludge, it and its associated piping were size reduced and disposed of as radioactive waste. The contaminated portion of the interior tank (that had contact with the effluent) was removed. The concrete sump exterior liner remains imbedded in the floor subsoil, and will be removed as part of the building demolition.

Floor Removal. The contaminated portions of the floors in Rooms H-133 and 134, and portions of the floors necessary to access the drains and contaminated sub-floor, were removed.

Drain Removals. Drains and associated piping in Rooms H-133 and 134 were removed.

2.2.2 Current Actions

Current actions pertinent to the H Building Action Memorandum include work planning and review of characterization data. Work Planning consists of the up-front work required to execute Safe Shutdown and the Asbestos Abatement activities in accordance with Environmental Safety & Health requirements, DOE orders, and best management practices.

2.3 State and Local Authorities' Roles

2.3.1 State and Local Action to Date

In 1990, as a result of the site's placement onto the NPL, DOE and USEPA entered into an FFA that specified the manner in which the site CERCLA-based environmental restoration

was to be implemented. In 1993, the FFA was amended to include the OEPA as a signatory. DOE remains the lead agency.

2.3.2 Potential for Continued State and Local Response

Eventual release of the site for industrial/commercial use is planned. Periodic environmental monitoring of the area may be required until a final Record of Decision (ROD) is implemented for the entire site. This monitoring would require coordination with local, state, and federal authorities. Current plant-wide environmental monitoring programs will continue until such time as remediation is completed. OEPA will continue its oversight role until all terms of the FFA have been completed.

3.0 THREAT TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

3.1 Threats to Public Health or Welfare

The potential release of radionuclides and/ or hazardous chemicals may create a potential threat to the public health or welfare.

3.2 Threats to the Environment

The potential release of radionuclides and/or hazardous chemicals may create a potential threat to the environment.

3.3 Removal Site Evaluation

The Removal Site Evaluation (RSE) requirements, as outlined under USEPA's NCP regulations in the Code of Federal Regulations (CFR) 40 CFR 300.415, are presented throughout this AM/EE/CA. The source and nature of the potential release include fixed and removable radiological contamination on interior building surfaces (Table 2), and contaminated soil underneath the building in the vicinity of PRS 210. On the basis of this information, the Core Team recommends a RA for H Building. Following building demolition, contaminated soil will be removed and verification performed to document sufficient removal. PRS 210 and 337 (Table 1) will be closed out in the OSC Report. An evaluation by public health agencies has not been performed for this area, and, therefore, is not included in this AM/EE/CA.

The NCP identifies eight factors that must be considered in determining the appropriateness of a Removal Action [40 CFR 300.415(b)(2)]. These criteria are evaluated in Table 3.

4.0 ENDANGERMENT DETERMINATION

As the location is currently configured and access controlled, actual or threatened releases of pollutants and contaminants from this site do not pose an endangerment to public health or welfare or to the environment. However, to eliminate the possibility of endangerment, as

the site transfers from DOE ownership and control, DOE has determined that removal of the contaminants is appropriate.

5.0 PROPOSED ACTION AND ESTIMATED COSTS

5.1 Proposed Action

The proposed action is the decontamination and demolition of H Building, shown in photographs in Appendix C. Since the proposed action is within the site boundaries, it is not expected to have a disproportionate impact on low income or minority populations.

5.1.1 Proposed Action Description

The H Building removal action is scheduled to begin in late June 2003, and is planned to continue through September 2003.

The proposed action is expected to result in multiple fieldwork efforts. Components of the proposed action include the following:

- **Project Planning**

  Due to the complexity of the work, multiple work plans may be generated for each phase of the project. Appropriate environmental controls will be considered, identified, and applied through the work planning effort. Work plan documents will be reviewed and approved by DOE and made available to USEPA and OEPA upon request. Project specific safety documentation, i.e., Health and Safety Plan/Job Specific Hazard Analysis (HASP/JSHA), will be reviewed and approved by DOE.

- **Public Notification**

  A notice of the availability of this AM/EE/CA for 30-day public review will be published in a local newspaper.

- **Establish Work Zones**

  Work zones will be established around the outside of and inside H Building, establishing air monitoring for personnel and at the work zone perimeters (as appropriate), installing temporary facilities and utilities, construction hazard abatement, general housekeeping, and establishing dust control prior to decontamination and demolition activities.

- **Decontamination**

  Decontamination activities will be as specified in the Work Plan as summarized below.

1. Isolate remaining utilities; drain all systems of liquid. (The only utilities previously isolated were supplying Rooms H-133 and 134.)

2. Remove excess equipment and surplus materials such as laundry equipment, building support equipment (fans, water fountains, etc.), lab equipment, and cleaning supplies. Equipment from Rooms H-131, 132,133 and 134 was previously removed.

3. Remove equipment containing lead shielding.

4. Contain and remove the filter bank based on the radiological characterization and then dismantle for disposal as low-specific activity (LSA) waste.

5. Prepare the filter bank ductwork for removal by using fixative and containment of openings. Negative airflow will be used as an engineering control during disassembly. Dispose of as LSA waste.

6. Remove the hot laundry exhaust stack along with its associated ductwork and dispose of as LSA waste.

7. Remove the contaminated exhaust ductwork in the H-134/135 wall and package and dispose of as LSA waste.

8. Remove remaining contaminated drain piping (approximately 15 feet) in Rooms H-131 and 132, and contaminated drain running north from Room H-134 underneath the east breezeway. Additional contaminated drains may be identified in the ongoing characterization effort (expected to be complete in April 2003). Remove any associated contaminated drains and debris. Other potentially contaminated drains include those under Rooms H-113, 115, 128, and 135.

9. Remove the concrete (PRS 210, Tank 2, Room H-133) sump exterior liner imbedded in the floor subsoil. The sump (the interior tank of the sump that had contact with the effluent) was previously removed.

10. Decontaminate Rooms H-127, 127A, 128, 130, and 132; all have fixed contamination on their floors. Also remove surface contamination from the Penthouse floor and filter bank.

11. Asbestos abatement contractor will remove and dispose of all ACM regulated by EPA under NESHAP.

- **Demolition**

Demolition activities will be as specified in the Work Plan as summarized below.

1. Demolish building superstructure.

2. Remove the building floor slab.

3. Remove the foundation, down to at least two feet below grade. Foundation removal must include at least two feet below the bottom of sump linings.

4. Remove inactive drain lines and underground piping, down to two feet below grade.

5. Remove contaminated soil below hot laundry area. Analytical soil results from location SCR231 showed elevated levels of plutonium-238 and thorium-232.

- **Verification**

Soil verification will include sampling and analysis of soil remaining after demolition and limited excavation to confirm that the cleanup objectives have been met. A Core Team-approved Verification Sampling and Analysis Plan (VSAP) will further define the verification sampling and analysis process.

Contaminants of concern (COCs) and accompanying cleanup objectives for the H Building removal action targeted by this document are listed in Table 4. The cleanup objectives are generally based upon the established background levels plus the most recent 10^{-5} Risk-Based Guideline Value (RBGV) for the more conservative scenario (construction or office worker). The VSAP will also include isolated hot spot criteria; i.e., a verification result that exceeds background plus three times the 10^{-5} RBGV and the need for further excavation at that location. If exceedances occur, additional cleanup will occur. Exceptions to the use of the hot spot criteria will require review and approval by the Core Team. If information is realized before or during the course of the removal action that could change the COCs verified, the information will be brought to the attention of the Core Team for evaluation. Since multiple contaminants are present, the data may be reviewed to determine if cumulative risk is acceptable. Verification results will be documented in an OSC Report.

- **Site Restoration**

Equipment, materials, waste containers, and barricades will be removed. Excavation resulting from removal of piping, footers, tank /sump liners will be backfilled and compacted to original contours and elevation unless otherwise specified. The area will be seeded as needed.

- **Documentation of Completion**

The completion of the RA will be documented in the OSC Report(s).

5.1.1.1 Rationale, Technical Feasibility, and Effectiveness

The RA chosen is necessary for the removal of known contamination and to ensure that migration of the contamination does not occur.

Verification sampling will be employed to confirm the effectiveness of the RA. Verification sampling results will be documented in the OSC Report(s).

5.1.1.2 Monitoring

Health and Safety monitoring will be performed throughout the RA according to standard MCP procedures, as specified in the Work Package(s), JSHA/HASP, and Radiological Work Permit(s).

5.1.1.3 Uncertainties

The major uncertainties are the concentration levels of the contaminants and the extent of contamination (lateral and depth). The minor uncertainties include location of utilities that may exist in the areas of excavation.

5.1.1.4 Institutional Controls

DOE will remain in control of the locations addressed by this RA until transfer of ownership of the parcel(s) they are in. If necessary, enforceable deed restrictions will be in place at the time of transfer in order to ensure future protection of human health and the environment.

5.1.1.5 Post-Removal Site Control

Initially, post-removal site control will be provided by DOE/MCP. The property is to be sold to MMCIC. The institutional and site controls needed at the time of the site transfer in order to ensure future protection of human health and the environment will be included in the ROD.

5.1.1.6 Cross-Media Relationships and Potential Adverse Impacts

The potential cross-media impact associated with the RA is the potential for unintended release of contaminated materials into the atmosphere or surface/groundwater. Careful monitoring and control will be implemented during the RA.

No potential adverse impacts of the RA have been identified.

5.1.2 Contribution to Future Remedial Actions

To facilitate Further Assessments and Removal Actions in or near the site of this RA, the exact dimensions of the excavation and the levels of contamination identified and removed will be documented. The OSC Report(s) will document the RA with photographs, drawings, and other information collected during the fieldwork.

The information obtained, as a result of these removals, will be used in determining the availability of the site for final disposition and will be subject to review in the subsequent residual risk evaluation.

5.1.3 Description of Alternative Technologies

Alternative technologies frequently evaluated for CERCLA remediation include institutional controls, containment, collection, treatment, and disposal. Based on the prevailing conditions, the following alternatives (in addition to the proposed alternative of dismantlement) were developed.

1. No Action
2. Institutional Controls

The performance capabilities of each alternative with respect to the specific criteria are discussed below.

5.1.3.1 No Action

The "No Action" option was eliminated from further consideration. The Core Team determined that a RA is warranted for H Building.

5.1.3.2 Institutional Controls

Existing Plant institutional controls effectively minimize the potential for contact of the subject contamination with the general public. However, after ownership is transferred, these same institutional controls will be difficult to monitor and enforce. Thus, institutional controls were eliminated from further consideration. A RA is warranted.

5.1.4 EE/CA

This document serves as the AM and EE/CA.

5.1.5 Applicable or Relevant and Appropriate Requirements (ARARs)

MCP ARARs for the ER Program have been identified (Reference 2). CERCLA regulations require that RAs comply with ARARs. The application of ARARs to wastes expected from H Building Removal Action is provided in Appendix F.

The following have been identified as applicable, or relevant and appropriate to this RA:

5.1.5.1 Air Quality

- 40 CFR Part 61 Subpart H: National Emissions Standards for Emissions of Radionuclides other than Radon from Department of Energy Facilities.
- Ohio Administrative Code (OAC) 3745-15-07(A): Air Pollution Nuisances Prohibited.

- OAC 3745-17-02 (A, B, C): Particulate Ambient Air Quality Standards
- OAC 3745-17-05: Particulate Non-Degradation Policy
- OAC 3745-17-08: (A1), (A2), (B), (D): Emission Restrictions for Fugitive Dust

5.1.5.2 To Be Considered

- EPA/230/02-89/042: Methods for Evaluating the Attainment of Cleanup Standards.
- DOE Order 5400.5: Radiation Protection of the Public and the Environment

5.1.5.3 Worker Safety

- 29 CFR Part 1910: Occupational Safety and Health Act (OSHA) - General Industry Standards
- 29 CFR Part 1926: OSHA - Safety and Health Standards
- 29 CFR Part 1904: OSHA - Record keeping, Reporting, and Related Regulations

5.1.5.4 Storm water Runoff

- National Pollutant Discharge Elimination System (NPDES) Permit No. 1IO00005*HD, June 1998.

5.1.6 Other Standards and Requirements

- 49 CFR 172, 173: Department of Transportation (DOT) hazardous material transportation and employee training requirements.

Other standards or requirements related to the actual implementation of the RA may be identified subsequently during the design phase and will be incorporated into the Work Plan for this RA.

5.1.7 Project Schedule

The schedule established for planning and implementing the RA is illustrated in Figure 4. The schedule illustration indicates five fieldwork campaigns for this AM/EE/CA (two in FY03-Q2, one in FY03-Q3, and two in FY03-Q4). The actual number, duration, and timing of these campaigns may differ from Figure 4.

5.2 Estimated Costs

The cost estimate to perform the RA is shown in Table 6. Costs include the construction activities, all engineering and construction management, disposal, and site restoration.

6.0 EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

There is the potential for the contaminants to migrate if action is delayed or not taken.

7.0 OUTSTANDING POLICY ISSUES

There are currently no outstanding policy issues affecting performance of this RA.

8.0 ENFORCEMENT

The Core Team consisting of DOE, USEPA, and OEPA has agreed on the need to perform the removal. The work described in this document does not create a waiver of any rights under the FFA, nor is it intended to create a waiver of any rights under the FFA. The DOE is the sole party responsible for implementing this cleanup. Therefore, DOE is undertaking the role of lead agency, per CERCLA and the NCP, for the performance of this RA. The funding for this RA will be through DOE budget authorization and no Superfund monies will be required.

9.0 RECOMMENDATION

This decision document represents the selected Removal Action for H Building, developed in accordance with CERCLA as amended by SARA, and not inconsistent with the NCP. This decision is based on the administrative record for the site.

Conditions at the site meet the NCP Section 300.415 (b)(2) criteria for a removal and we recommend initiation of the removal action.

Approved:

DOE/MCP: for Paul Lucas, Remedial Project Manager — 6/9/03 Date

USEPA: David P. Seely, Remedial Project Manager — 6/24/03 Date

OEPA: Brian K. Nickel, Project Manager — 6/10/03 Date

10.0 REFERENCES

1. Federal Facilities Agreement under CERCLA Section 120, USEPA, October 12, 1990.

2. List of Ohio Administrative Code and Ohio Revised Code ARARs, Letter from Nickel to Kleinrath, August 19, 1998.

Appendix A

Figures

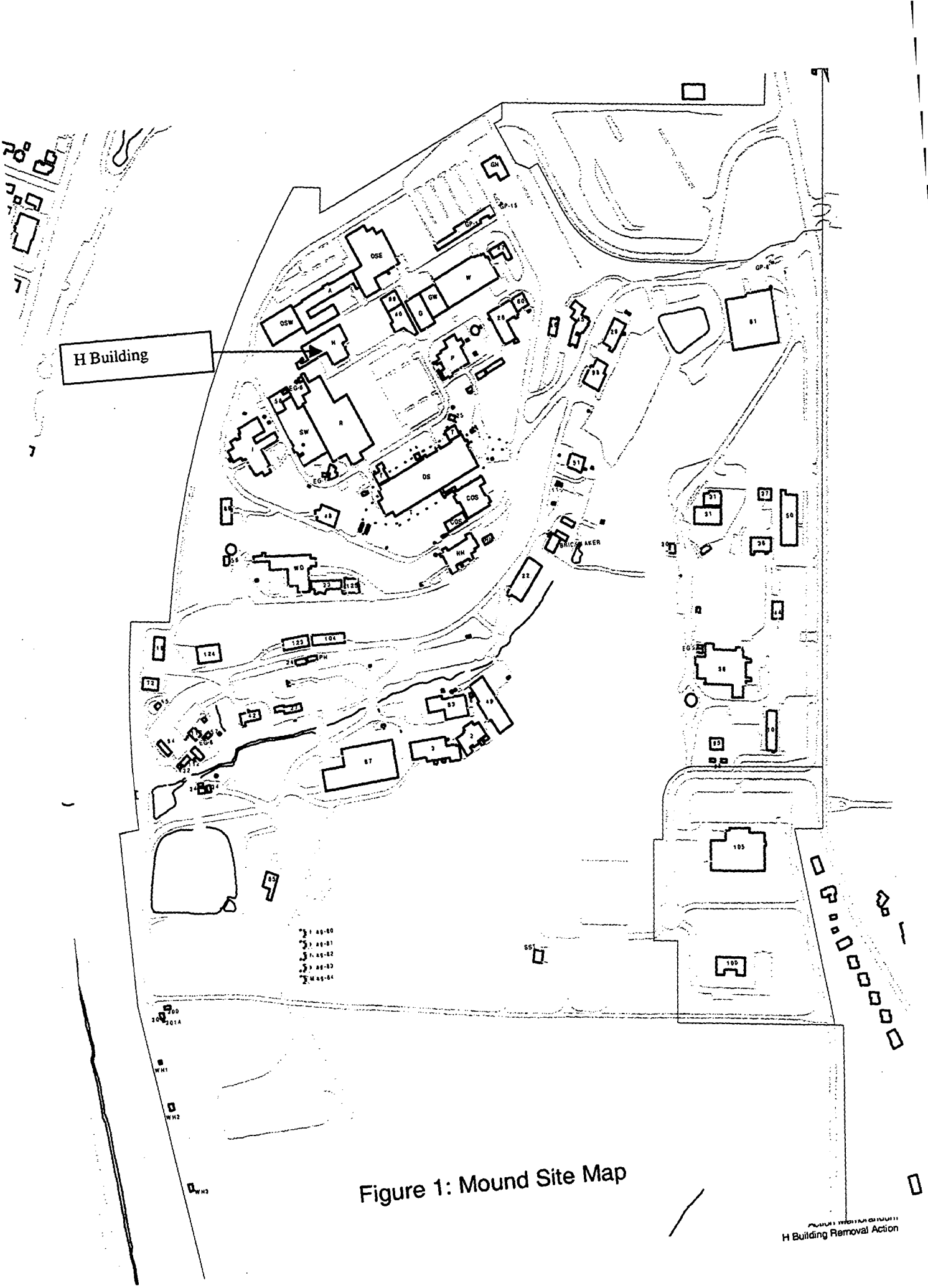
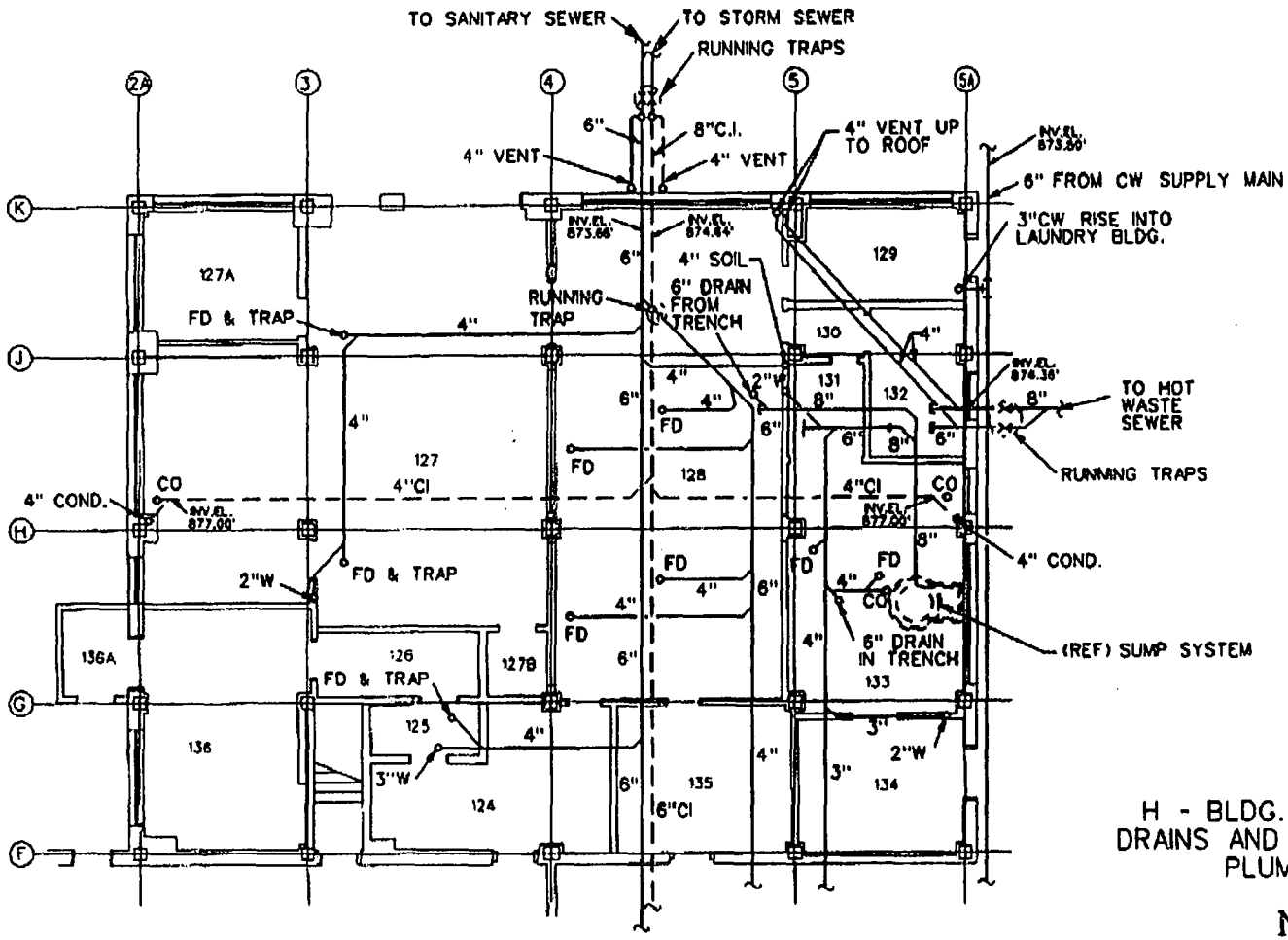
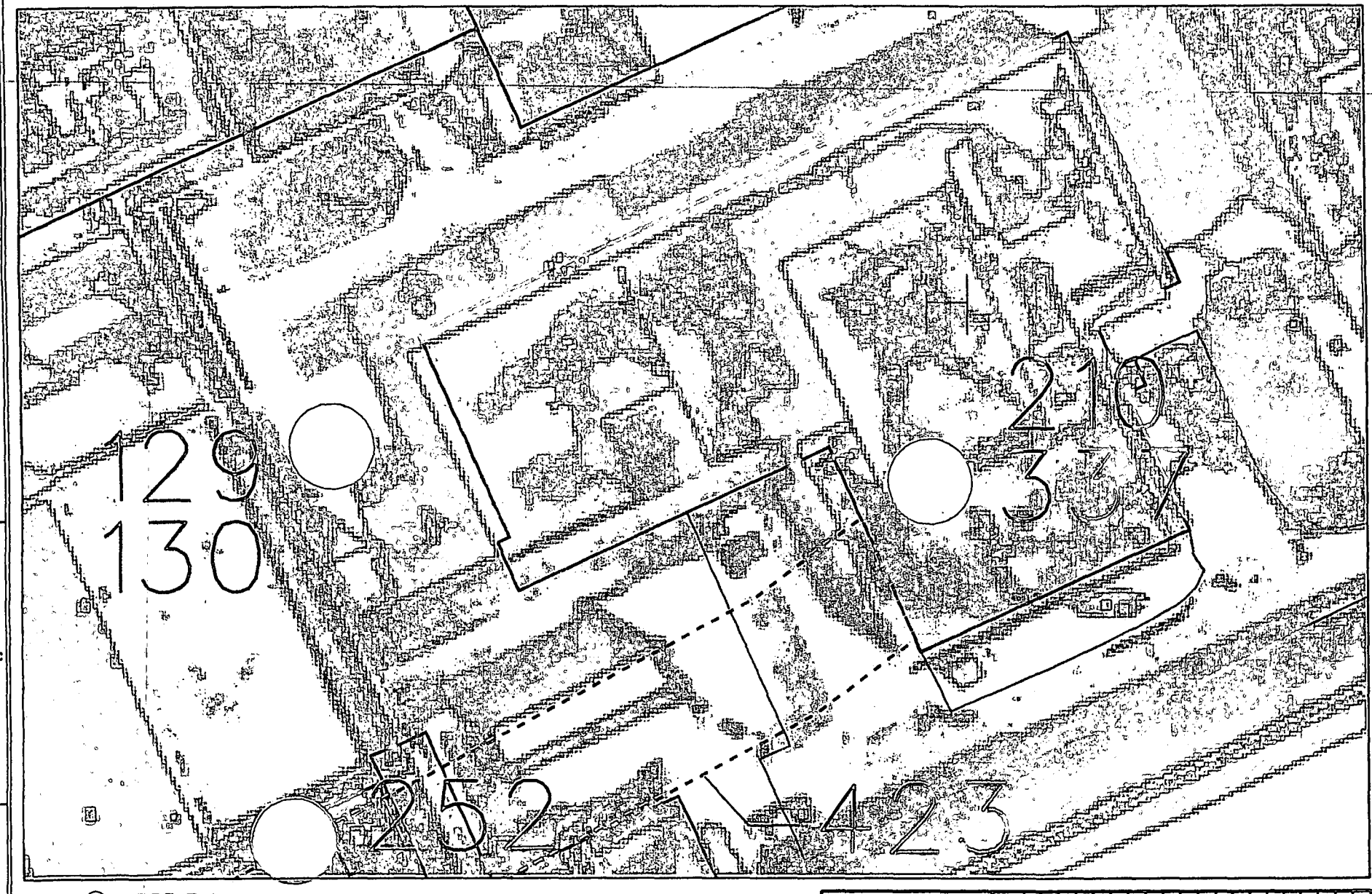


Figure 1: Mound Site Map

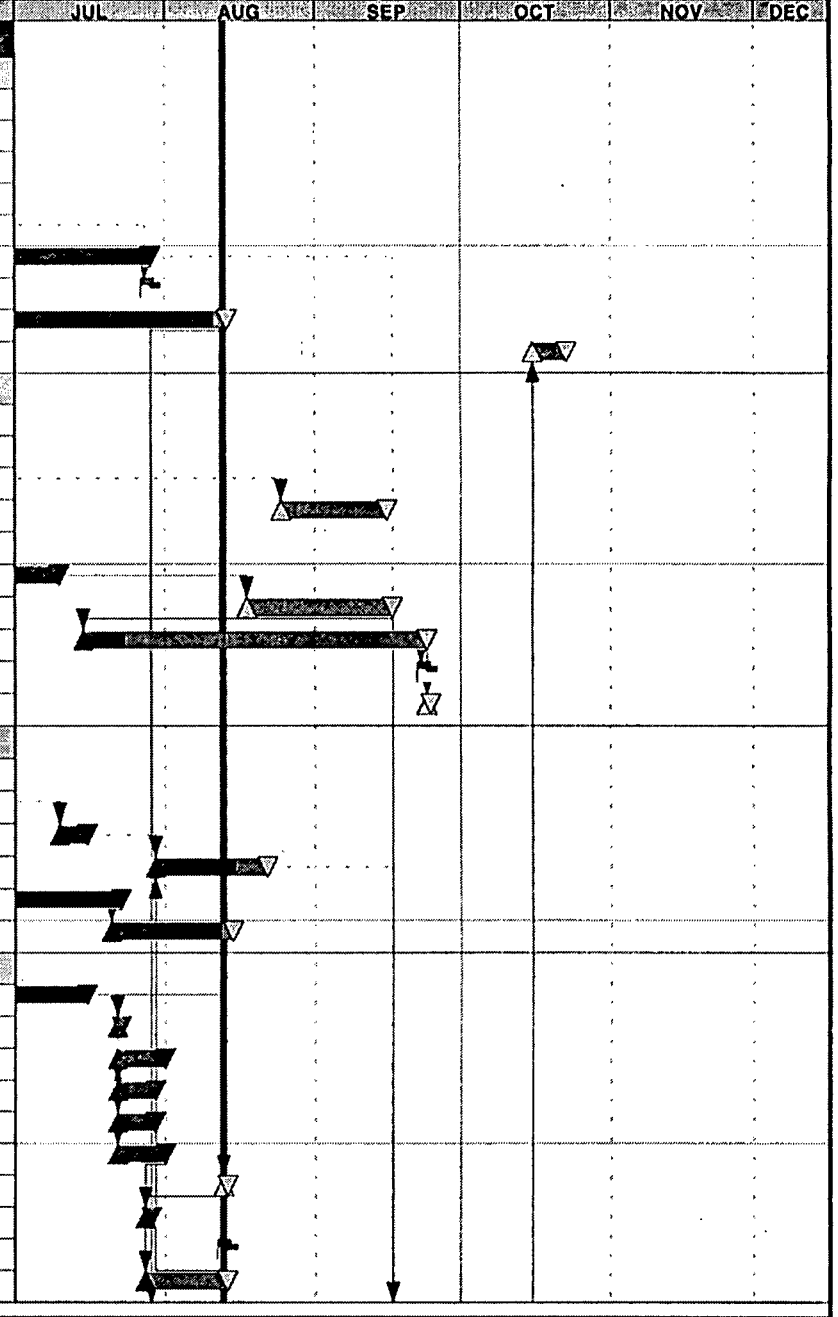


UNCL

Figure 2: H Building Laundry Drains and Associated Plumbing


129
130
PRS Point
PRS Area
PRS Line
20 10 0 20 40FT
GRAPHIC SCALE
MOUND
Environmental Restoration Geographic Information System
Figure 3:
Building H and Vicinity
UNCLASSIFIED
vicinity.dgn
ER-GIS
STE
03/25/03
SSF
MSTATION

ID	Description	ID	Dur		Start	Finish
H Building						
Regulatory						
BD00H100	Revise Action Memo Addendum	2	12	100	13FEB03A	26MAR03A
BD00H110	Historical Documentation	2	4	100	27JAN03A	30JAN03A
BD00H120	Quality Review	2	2	100	26MAR03A	27MAR03A
BD00H130	DOE Review	2	5	100	02APR03A	09APR03A
BD00H141	Core Team	3	30	100	10APR03A	09MAY03A
BD00H142	Public Review	3	34*	100	25JUN03A	28JUL03A
BD00H144	H Bldg Work Planning & Regulatory	3	0	100		28JUL03A
BD00H370	Write Demolition Work Plan	2	66	98	26MAR03A	13AUG03
BD00H430	Write OSC Report	2	4	0	16OCT03	22OCT03
Radiological						
BD00H145	Scoping Survey	2	18	100	03FEB03A	03MAR03A
BD00H147	Characterization Surveys	1	12	100	05MAY03A	21MAY03A
BD00H150	Rad Survey Plan (MARSSIM)	2	56	100	04MAR03A	02JUN03A
BD00H160	Rad Surveys	2	12	0	25AUG03*	15SEP03
BD00H170	Isotopic Analysis	2	35*	100	23APR03A	19JUN03A
BD00H175	Decon Work Plan	2	62	100	06MAR03A	09JUL03A
BD00H180	Decon	2	17	0	18AUG03	16SEP03
BD00H190	Rad Survey Results Report	2	4	12	15JUL03A	23SEP03
BD00H193	H Bldg Radiological Support/Decontamination	2	0	0		23SEP03
BD00H200	Perform NESHAP Calculations	2	1	0	24SEP03	24SEP03
Safe Shutdown						
BD00H210	Asbestos Survey	2	16	100	26FEB03A	22MAY03A
BD00H220	Place Asbestos Abatement Subcontract	2	20*	100	25JUN03A	26JUN03A
BD00H230	RAPCA Notification	1	10	100	10JUL03A	15JUL03A
BD00H240	Asbestos Abatement After Utility Disconnect	2	14*	71	30JUL03A	21AUG03
BD00H250	Write Safe Shutdown Work Plan	2	75	100	26FEB03A	22JUL03A
BD00H260	Perform Safe Shutdown Work	2	16	90	21JUL03A	14AUG03
Utilities						
BD00H280	Write Utility Disconnect Package	2	71	100	05MAR03A	15JUL03A
BD00H290	Electrical Disconnect	2	1	100	22JUL03A	22JUL03A
BD00H300	Steam Drain and Disconnect	2	2	100	22JUL03A	31JUL03A
BD00H310	Glycol	2	3	100	22JUL03A	29JUL03A
BD00H320	Install Temporary Power	2	1	100	22JUL03A	29JUL03A
BD00H330	Water Drain and Disconnect	2	2	100	22JUL03A	31JUL03A
BD00H340	Fire Suppression Drain and Disconnect	2	1	0	13AUG03	13AUG03
BD00H350	Fire Alarm Disconnect	2	1	100	28JUL03A	28JUL03A
BD00H357	H Bldg Facility Prep/Removals	2	0	0		13AUG03
BD00H360	Communications Disconnect	2	1	0	28JUL03A	13AUG03



Start Date 06JAN03
Finish Date 22MAR04
Data Date 13AUG03
Run Date 26AUG03 05:44

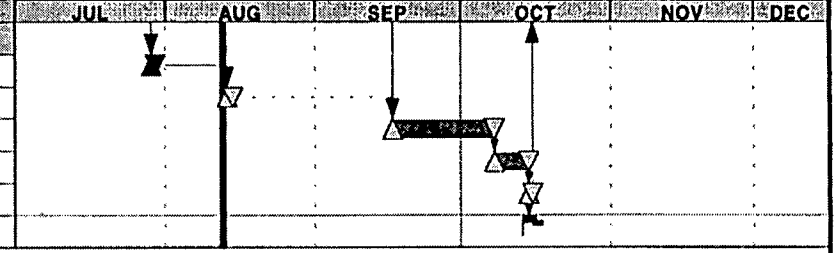
Early Bar
Progress Bar
Critical Activity

BLD1

Sheet 8

FIELD SCHEDULES FOR BOSS
CH2MHILL MOUND, INC.
Calendars 1=5 Day
2=4 Day
3=7 Day

ID	Description	ID	Dur		Start	Finish
Demolition						
BD00H380	ISMS Review	2	5	100	29JUL03A	29JUL03A
BD00H390	RAPCA Demolition Notification	1	1	0	14AUG03	14AUG03
BD00H400	Demolition	2	12	0	17SEP03	07OCT03
BD00H410	Soil Sampling	2	4	0	08OCT03	14OCT03
BD00H420	Site Restoration	2	1	0	15OCT03	15OCT03
BD00H425	H Bldg Demolition	2	0	0		15OCT03



Start Date	06JAN03
Finish Date	22MAR04
Data Date	13AUG03
Run Date	26AUG03 05:44

Early Bar
Progress Bar
Critical Activity

BLD1

Sheet 9

FIELD SCHEDULES FOR BOSS
CH2MHILL MOUND, INC.
Calendars 1=5 Day
2=4 Day
3=7 Day

Appendix B

Tables

Table 1: PRSs in Proximity to H Building

PRS	CERCLA or Bldg. Related	Binning Status	Comments
129	CERCLA	No Further Assessment (NFA)	B Building Solvent Storage Shed.
130	CERCLA	NFA	B Building Temporary Storage Area.
210	Building	Unbinned (UB)	Room H-133 Laundry Water Tank (Tank 2). Included in this AM/EE/CA.
252	Building	UB	B Building stack. Will be addressed in a separate document.
337	Building	UB	H Building Condensate Sump (Tank 268). Included in this AM/EE/CA.
423	CERCLA	Removal Action (RA)	Hot Waste Line – Segment 1A. Will be addressed in the Underground Waste Transfer Lines Leading to WD Building RA.

Only one soil sample in the vicinity of the PRS 210 tank was collected. Data results indicate the soil is contaminated above hot spot criteria for both plutonium-238 and thorium-232.

Table 2: Radiological Characterization Summary

Type	RSDS	Room / Location	Amount (dpm/100 cm2)	5400.5 Guidelines for Groups 1,3,4 (fixed + removable) (dpm/100 cm2)	NUREG 1500 Guidelines (removable) (dpm/100 cm2)	Attachment 1 Limit (fixed + removable) (Note 2) (dpm/100 cm2)	Comments
Highest Alpha Removable Activity	98-H-003-MR 98-H-023-MR	H-133 floor H-206 wall	27- both locations.	20	211	20	Contamination to be removed.
Highest Alpha Fixed Activity	98-H-003-MR	H-133 floor	140,000	100	Note 1	100	Entire floor has been removed and dispositioned as low-level radiological waste.
Highest Beta Removable Activity	All	All	<1,000	1,000	9940	1,000	No action necessary.
Highest Beta Fixed Activity	98-H-033-MR	Top of light fixture	9,400	5,000	Note 1	5,000	Light to be removed.
Highest Tritium Removable Activity	98-H-042-MR	H-212	4,278	10,000	Note 1	10,000	No action necessary.
Water Sample Sump H-133	98-H-006-MR	Sump (H-133)	11.53 nCi/L Tritium <2.22 dpm/cc α < 15 nCi/L α	DCG=s 2000 nCi/L Tritium 2 dpm/cc α (Pu)	MCL=s Note 3	N/A	No action necessary. Note 5. No Water remains.
Sludge Sample H-133 Sump	98-H-040-MR	Sump (H-133)	400 pCi/g Pu-238 234,000 pCi/g tritium	N/A	N/A	N/A	Note 4, Note 5 All sludge and water were removed with the tank.

RSDS *Radiological Survey Data Sheet*
dpm/100cm² *disintegrations per minute per one hundred square centimeters.*
pCi/g *picoCuries per gram.*
nCi/L *nanoCuries per liter.*
DCG *derived concentration guideline*
N/A *not applicable*
MCL *maximum contaminant level*
Note 1 NUREG-1500 gives guidelines for removable beta and alpha only.
Note 2 Limits are based on MD-80043, Radiological Work Requirements Procedure 400 "Transfer of Radioactive Material and Unrestricted Release of Property/Waste" Attachment 1.
Note 3 MCL=s taken from National Primary Drinking Water Regulations 40 CFR part 141 subpart B .16. For gross alpha, 15 pCi/L. For Tritium, from Table "A" 20,000 pCi/L average annual concentration would result in a whole body dose equivalent of 4 mrem.
Note 4 RBGVs 1 x 10^{-5} Pu-238=61 pCi/g and tritium (H^3)= 2,350,000pCi/g.
Note 5 the water and sludge from the H-133 Sump were removed as well as the sump interior tank as part of the 1998 Phase I decontamination effort. The concrete sump exterior liner remains imbedded in the floor subsoil, and will be removed as part of the building demolition.
Note 6 This table is based on the latest **1998** radiological data. There are new radiological surveys being performed and will be incorporated into this document once completed.

B205

Table 3: Evaluation of Removal Action Appropriateness Criteria

Criteria	Evaluation
"...potential exposure to nearby human populations, animals, or the food chain..."	There is potential exposure to nearby human populations, animals, or the food chain from radionuclides and/or hazardous chemicals if present institutional controls were relaxed.
"Actual or potential contamination of drinking water supplies..."	There is potential for contamination of onsite drinking water supplies by radionuclides and/or hazardous chemicals. The contaminants could migrate to the groundwater that is the source for the plant drinking water.
"Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;"	Not applicable.
"High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;"	There is potential for soil contamination (plutonium-238 and thorium-232) to migrate if present institutional controls were relaxed.
"Weather conditions that may cause hazardous substances to migrate or be released;"	Not applicable.
"Threat of fire or explosion;"	Not applicable.
"The availability of other appropriate federal or state response mechanisms to respond to the release;" and	There are no other state or federal mechanisms required to respond. The FFA established a combined state and federal mechanism to respond under CERCLA. DOE is the designated lead agency at the site under CERCLA.
"Other situations or factors that may pose threats to public health or welfare or the environment."	Not applicable.

Table 4 – Soil Cleanup Objectives (pCi/g)

Contaminant	Background	Guideline Value (10^{-5})	Cleanup Objective
Actinium-227 +D	0.11	4.5	4.6
Plutonium-238	0.13	61	55*
Thorium-232 +D	1.4	0.7	2.1
Tritium	1.6	2,350,000	2,350,000**

Radionuclides labeled with a "+D" indicate that pertinent daughters are included within the risk calculation.

Cleanup objectives are 10^{-5} RBGVs plus background, unless otherwise specified.

pCi/g – picoCuries per gram

ND – non detect

NC – not calculated

* *Value of 55 was based on Core Team decision.*

** *This value represents the cleanup objective for tritium in soil. A conservative model was developed to account for the potential for tritium in soil to "leach" to groundwater at unacceptable levels. The model used is described in draft information shared with Ohio EPA, i.e. Draft Soil Screening Level for Tritium Migration to Groundwater at the Mound Facility, facsimile dated 3 December 2002 (Darnell to Nickel). The resulting value of 75 pCi/g is comparable to a screening level that represents the activity of tritium in soil that, if transported via groundwater to the buried valley aquifer (BVA), could pose unacceptable risk (exceed the MCL). If the 95% upper confidence limit (UCL) of the measurements of tritium in soil is less than the screening level of 75 pCi/g, removal is not required. If the 95% UCL is greater than 75 pCi/g, further evaluation is required.*

Table 5: Fiscal Year Campaigns

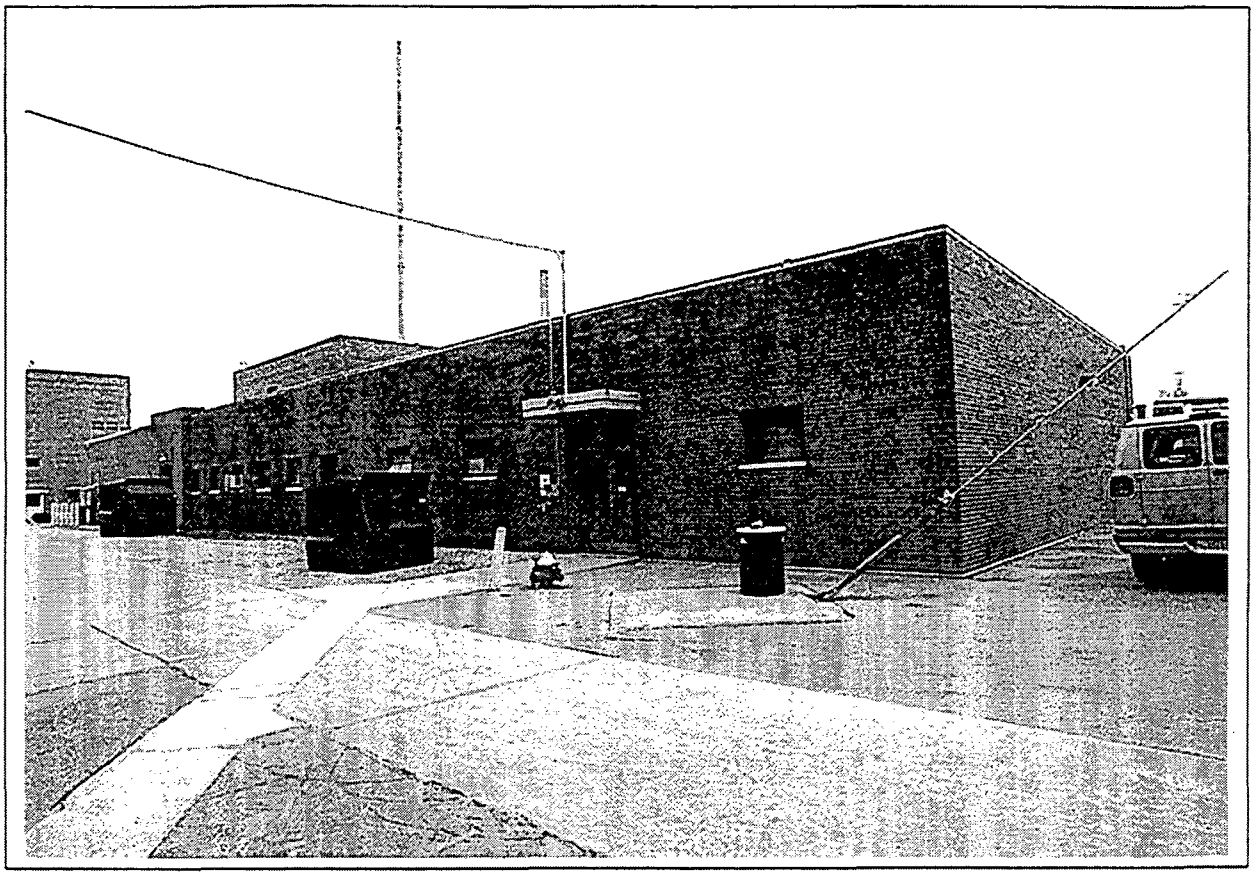
Fiscal Year Campaign	Actions
FY03-Q2	Safe Shutdown Activities
FY03-Q2	Asbestos Abatement
FY03-Q3	Decontamination Activities
FY03-Q4	Demolition
FY03-Q4	Project Closure

Table 6: Removal Action Cost Estimate

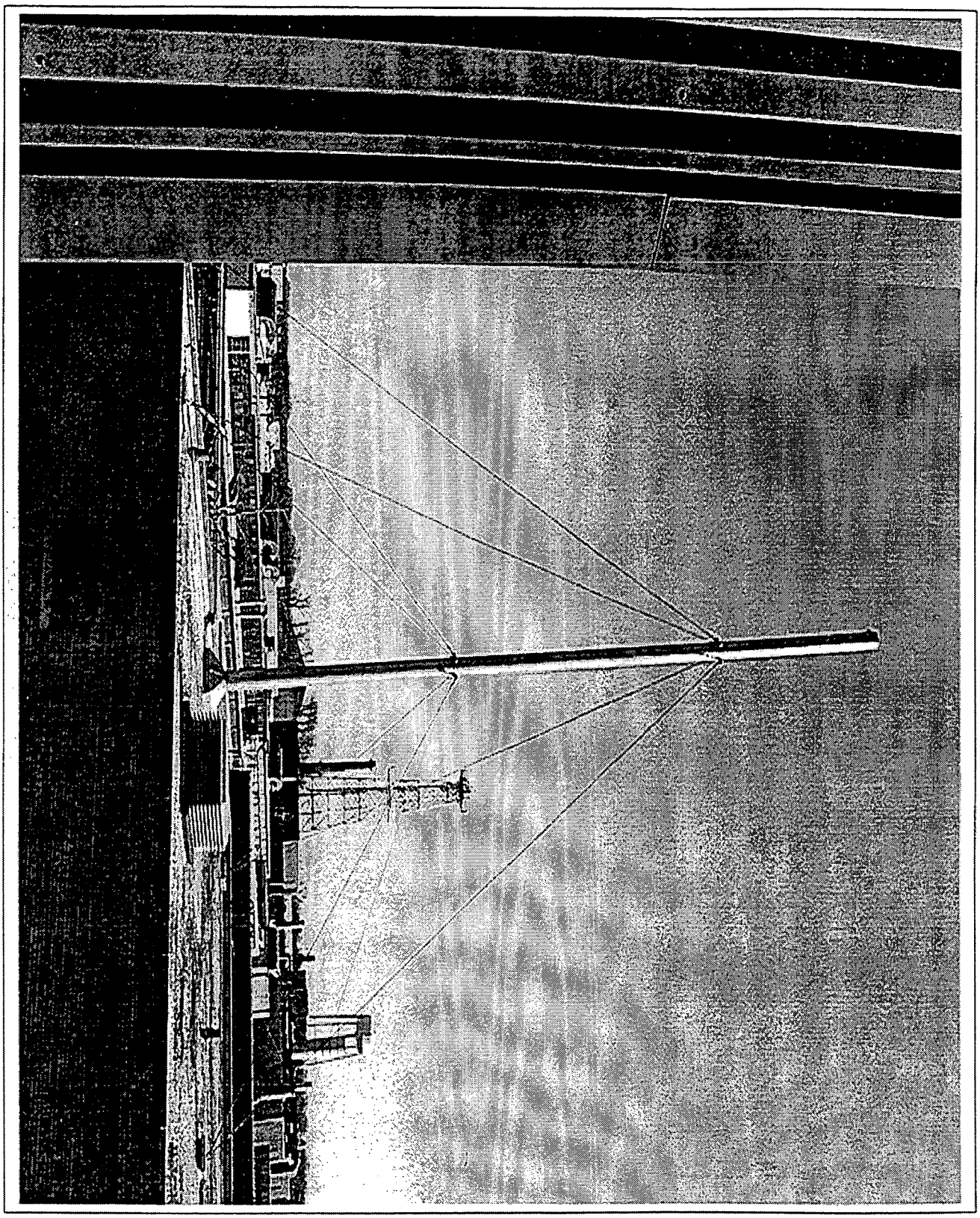
Activity	Cost
Work Planning	$39,918
Safe Shutdown	$56,808
Characterization/ Decontamination	$352,742
Demolition	$267,919
Disposal	$189,445
OSC Report	$4,117
TOTAL	$910,949

Appendix C

Photographs

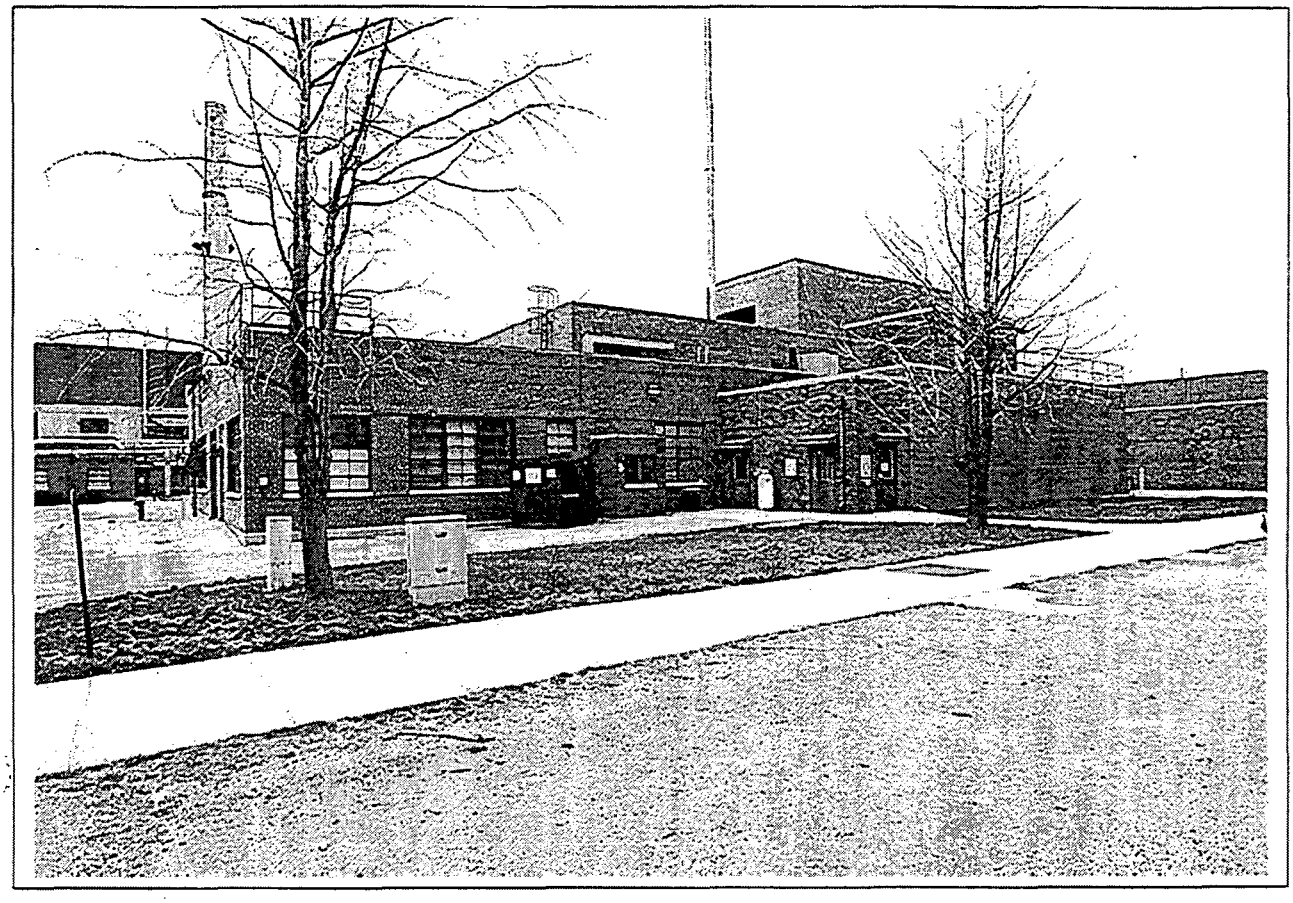


H Building - north and west sides



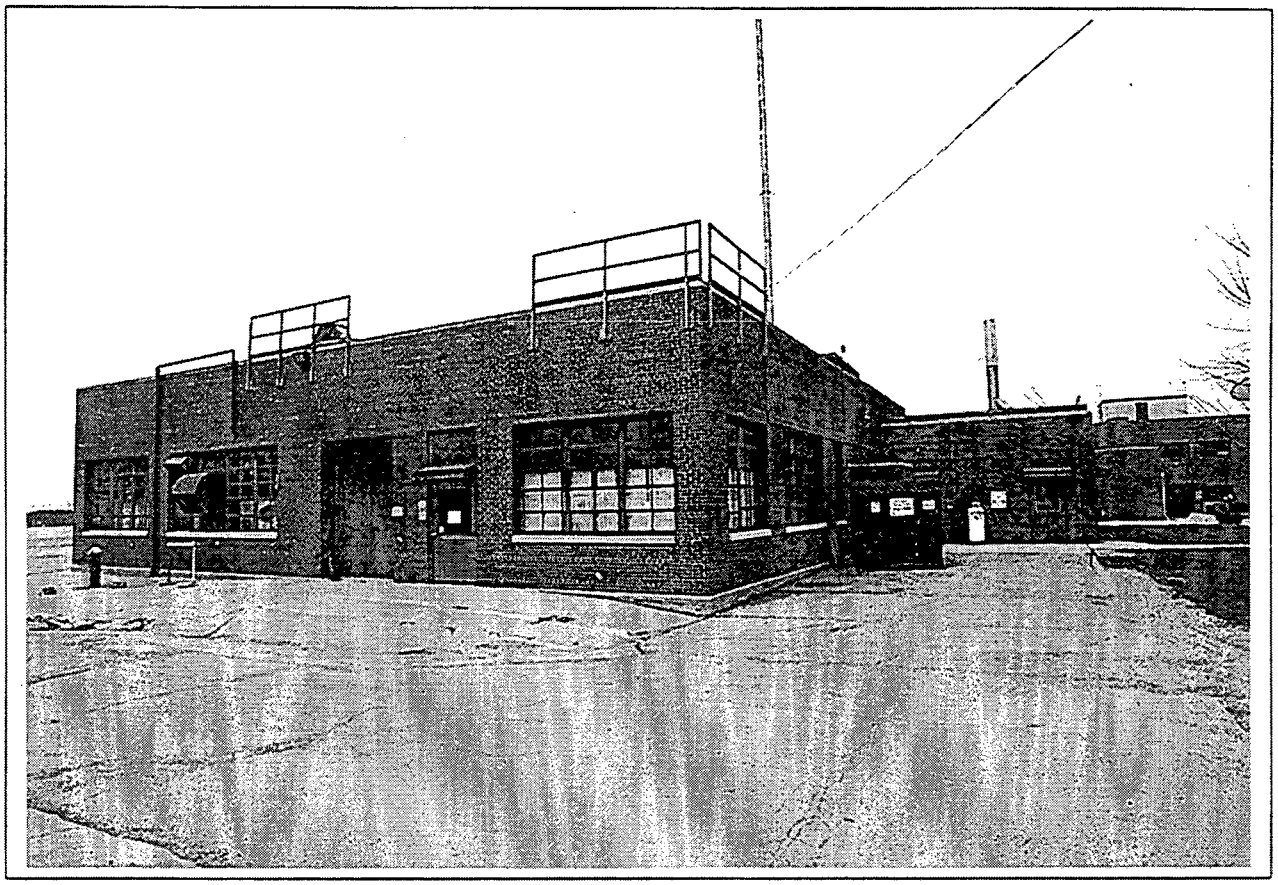
H Building - stack

C 2064



H Building - south and east sides

C3064



H Building - south side

C4064

Appendix D

PRS Information

Recommendation sheets for PRS 129/130 and PRS 423 are attached. Recommendation sheets for PRSs 255, 210, and 337 are not available because those PRSs have not been binned by the Core Team. PRS 255 will be addressed in a separate document. PRSs 210 and 337 are included in this removal action.

MOUND PLANT
PRS 129/130
Former Solvent Storage Sites

RECOMMENDATION:

PRS 129/130 was the B Building solvent storage shed and its adjacent drum storage pad. They were identified as PRSs during the *1993, Soil Gas Survey and Geophysical Investigation* when volatile organic compounds (VOCs) were detected in the soils around PRS129/130. The shed was dismantled in February 1994. An action memorandum was prepared in February 1994 to proceed with the removal of VOCs. The selected remedial method was soil vapor extraction (SVE). The SVE system was implemented in June 1994 and operated through September 1994. Verification soil samples were taken in October 1994. The removal objectives were met and are documented in the On-Scene Coordinator Report.

Therefore, NO FURTHER ASSESSMENT is recommended for PRS 129/130.

CONCURRENCE:

DOE/MEMP: Arthur W. Kleinrath 5/13/97
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fisher 5/13/97
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel 5/14/97
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 6/17/97 to 7/18/97

☐ No comments were received during the comment period.

☒ Comment responses can be found on page 1-2b of this package.

MOUND PLANT
PRS #423, 424, 425, 426, 427, 428
MAIN HILL UNDERGROUND LINES
H Building to WD Building

RECOMMENDATION:

PRS 423, 424, 425, 426, 427, and 428 were identified because the underground line segments carried radioactively contaminated effluent from H Building operations to the Waste Disposal building (WD).

Therefore, a RESPONSE ACTION is recommended for PRS 423, 424, 425, 426, 427, and 428.

CONCURRENCE:

DOE/MEMP: _____ 7/18/01
Robert S. Rothman, Remedial Project Manager (date)

USEPA: _____ 7/18/01
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: _____ 7/18/01
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from _____ to _____

☐ No comments were received during the comment period.

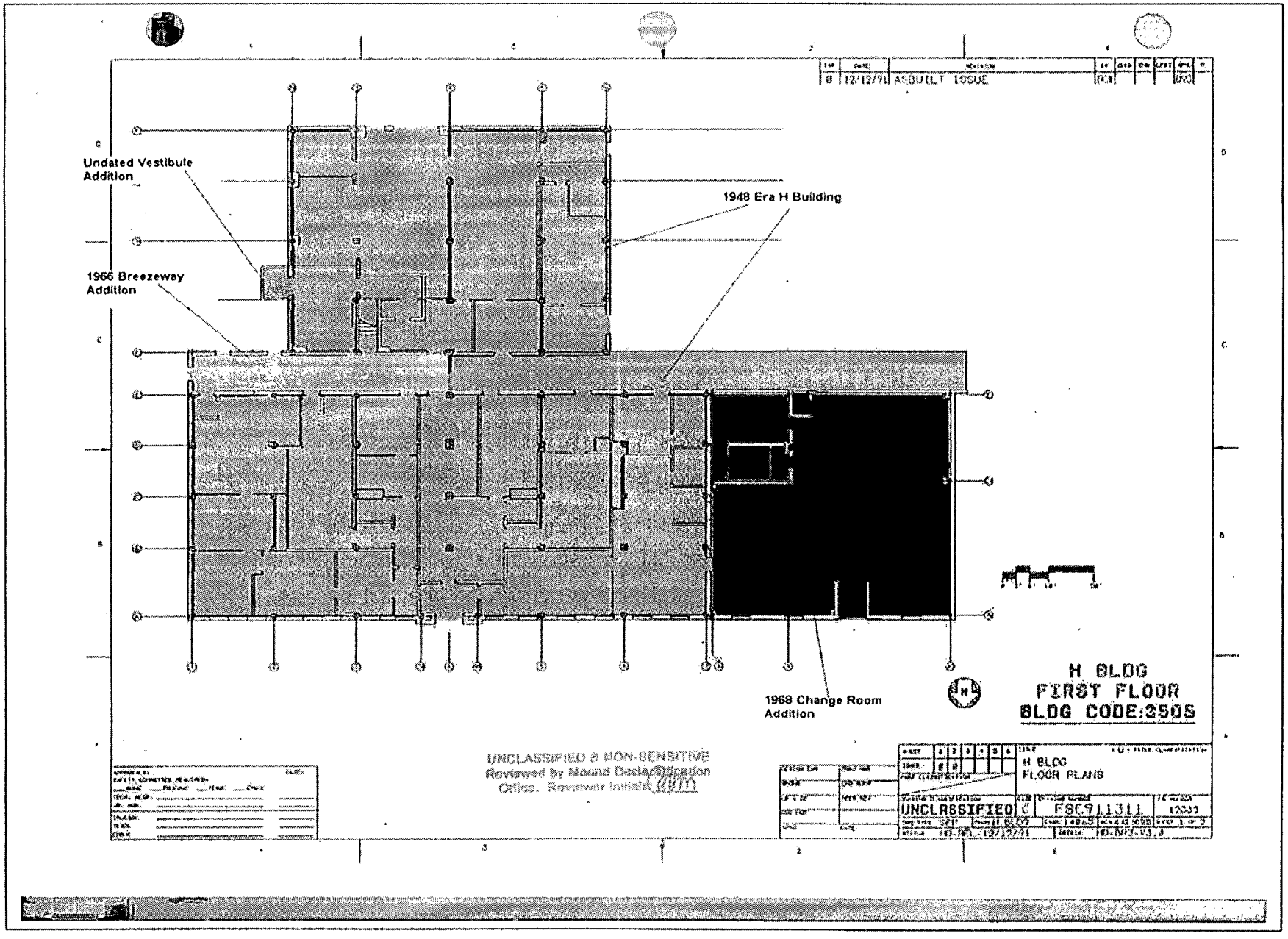
☐ Comment responses can be found on page _____ of this package.

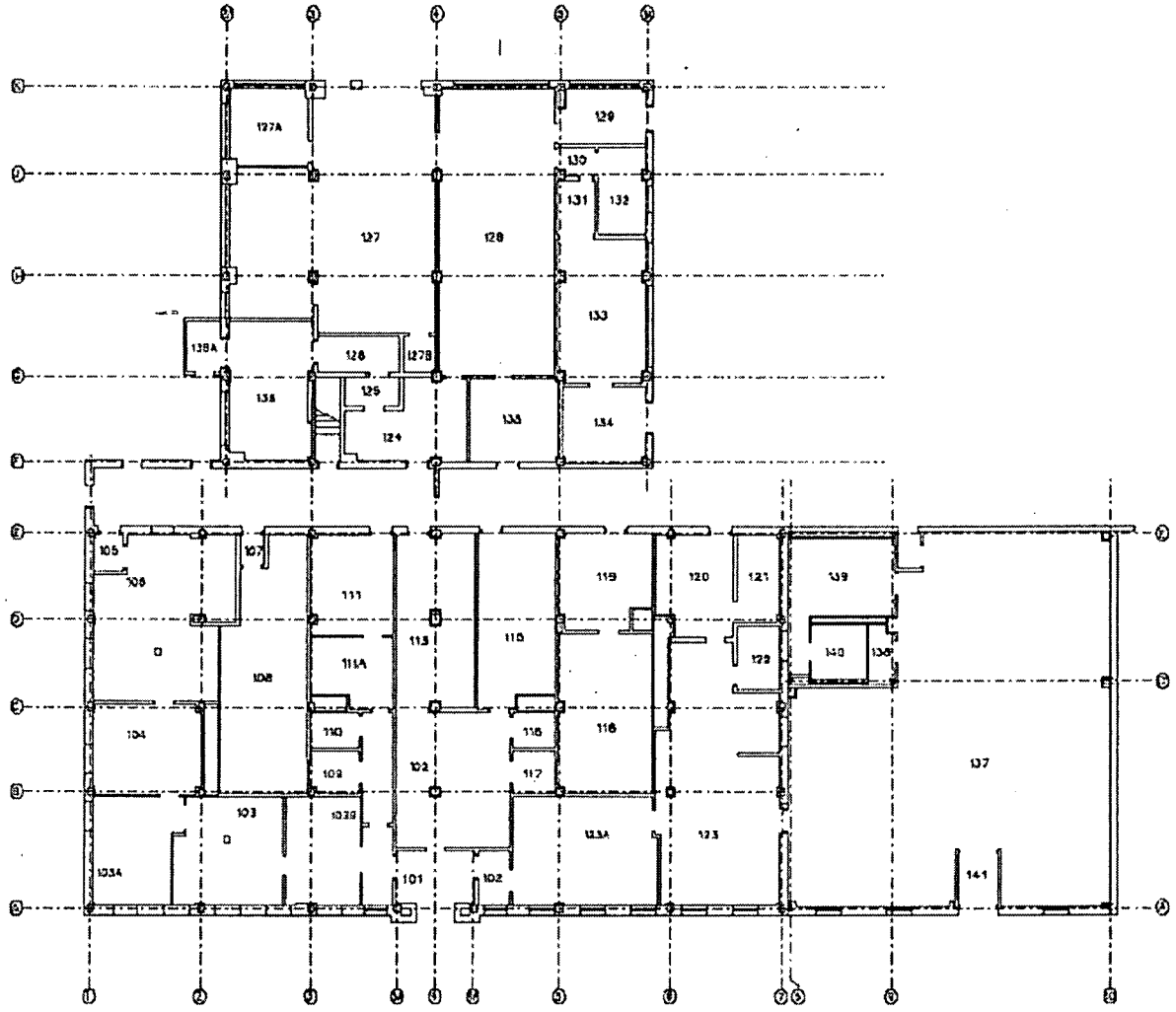
R

Appendix E

Floor Plans

E 1 of 2


Undated Vestibule Addition
1948 Era H Building
1966 Breezeway Addition
1968 Change Room Addition
H BLDG
FIRST FLOOR
BLDG CODE:3505
UNCLASSIFIED & NON-SENSITIVE
Reviewed by Mound Declassification Office. Reviewer Initials:
H BLDG
FLOOR PLANS
UNCLASSIFIED
FSC911311



H - BUILDING 1ST FLOOR
SCALE: 1/8"=1'-0"

E 262

Appendix F

Application of ARARs to wastes expected from H Building Removal Action

Building H Evaluation:

CERCLA is the regulatory authority that governs the cleanup of the MCP site. The CERCLA umbrella uses other environmental regulations to ensure that the cleanup of the site is done in a manner that is protective of human health and the environment. The regulations that are applied to the management of hazardous waste generated at a CERCLA remediation site are RCRA. The following ARAR (Applicable or Relevant and Appropriate Requirements) table is the regulatory analysis of how RCRA will be applied to the management of hazardous waste during the maintenance, decommissioning, and demolition of H Building.

Demolition of a nuclear facility takes time and planning to accomplish, and during that time the facility must be maintained in a safe condition. Hazardous waste that may be stored in H Building during the maintenance time period is anticipated to be lead acid batteries, tritium exit signs, vacuum pump oil, glycol and PCB containing light ballast. Decommissioning activities will be performed in preparation for the building demolition. Hazardous waste that could be generated from this activity includes lead pipe joints, lead bricks, lead-lined source storage box, circuit boards containing lead and asbestos insulation.

Waste from maintenance and decommissioning activities will be managed in accordance with the ARAR table until sufficient amounts are generated to transfer to an onsite hazardous waste facility. These amounts are typically 55 gallons for liquids and a 4-foot by 3-foot wooden skid for solids. Once the building has been decommissioned, the actual deconstruction and demolition of the building occurs. This activity involves the removal of the structure and the foundation. The waste will be managed at the job site and then transferred to an onsite hazardous waste storage facility.

The current schedule has all work associated with H Building demolition completed by August 2003.

Proposed actions involving waste	Specific actions	ARARs	Implementation of ARARs
Solids Includes: - Lead pipe joints (approx. 150) - Lead acid batteries (approx. 15) - Lead shapes and lead lined tanks (approx. 600 pounds) - Circuit boards - Asbestos - Additional solid waste materials not previously considered			
1. Following generation, solid hazardous wastes will be stored in drums, on pallets, or in other appropriate containers pending characterization and disposition.	1. Storage of solids will comply with the following RCRA requirements:	1. Hazardous waste storage ARARs:	1. Checklist element based on physical form and types of waste stored. This checklist will be documented either in the building manager's' logbook or designated project files.
	a. Condition of containers	a. 40 CFR 265.171; OAC 3745-55-71	a. Checklist element - containers are in good condition, no evidence of leaks or spillage.
	b. Compatibility of waste with container	b. 40 CFR 265.172; OAC 3745-55-72	b. Container incompatibility will be rare for solids.
	c. Management of containers	c. 40 CFR 265.173; OAC 3745-55-73	c. Checklist element - containers closed except when adding or removing waste.

Proposed actions involving waste	Specific actions	ARARs	Implementation of ARARs
	d. Inspections	d. 40 CFR 264.15(a) and (c); OAC 3745-54-15 (A) and (C)	d. Document inspections quarterly in Building Manager's log or designated project files. Visual inspections done periodically by personnel in the area.
	e. Requirements for incompatible wastes	e. 40 CFR 265.177; OAC 3745-55-77	e. Checklist element – incompatible wastes will have adequate segregation if present in the same storage area.
	f. Marking requirements	f. 40 CFR 262.34(a)(3), (c)(1)(ii); OAC 3745-52-34(A)(3), (C)(1)(b)	f. Checklist element - containers marked with words to indicate contents, or as "hazardous waste."
	g. Required equipment	g. 40 CFR 265.32 (a), (b), (c), (d); OAC 3745-54-32 (A), (B), (C), (D)	g. Checklist element - verify that appropriate equipment is available on plant site or in building.
	h. Communication or alarm system	h. 40 CFR 265.34 (a), (b); OAC 3745-54-34 (A), (B)	h. Checklist element - verify that communication devices in the building are operable or that other means of communication are available.
	i. Training	i. 40 CFR 265.16 (a), (b), (c); OAC 3745-54-16 (A), (B), (C)	i. Personnel will be trained to perform inspections.
	j. Treatment	j. Treatment specific ARARs will be determined and submitted	

F 3076

Proposed actions involving waste	Specific actions	ARARs	Implementation of ARARs
2. Solids will be characterized to determine RCRA and radiological status.	2. Wastes must be characterized following generation.	2. Characterization ARARs:	2.
	a. RCRA characterization – by sampling or process knowledge.	a. 40 CFR 262.11, OAC 3745-52-11	a. If sampling is done, a copy of the analytical results will be kept in the project file
	b. Radiological characterization.	b. No RCRA ARARs apply.	
Liquids **Including:** -Vacuum Pump Oil (approximately 2 gallons) -Gear box oil (approximately 5 gallons) -Glycol (approximately 500 gallons) -PCB Containing Light Ballast -Tritium exit signs (12) -Freon **Additional liquid waste materials not previously considered**			
1. Potentially hazardous liquids will remain in place until decontamination activities access the materials and generate the waste.	1. Pumps are part of systems that may still be required for decontamination. Systems are inspected and maintained to ensure that materials are contained within systems.	1. RCRA ARARs do not apply to the systems.	
2. Liquids will be characterized to determine RCRA and radiological status.	2. Liquids must be characterized following generation.	2. Characterization ARARs:	

Proposed actions involving waste	Specific actions	ARARs	Implementation of ARARs
	a. RCRA characterization – by sampling or process knowledge.	a. 40 CFR 262.11, OAC 3745-52-11	a. If sampling is done, a copy of the analytical results will be kept in the project file.
	b. Radiological characterization.	b. No RCRA ARARs apply.	
3. When generated, liquids will be bulked and stored pending treatment (if necessary), and disposition.	3. Storage of the hazardous waste liquids will comply with the following RCRA requirements:	3. Hazardous waste storage ARARs:	3. Checklist element based on physical form and types of waste stored. This checklist will be documented either in the building manager's logbook or designated project files.
	a. Condition of containers	a. 40 CFR 265.171; OAC 3745-55-71	a. Checklist element - containers are in good condition, no evidence of leaks or spillage.
	b. Compatibility of waste with container	b. 40 CFR 265.172; OAC 3745-55-72	b. Checklist element - appropriate container used for storage of liquids (typically metal or poly container).
	c. Management of containers	c. 40 CFR 265.173; OAC 3745-55-73	c. Checklist element - containers closed except when adding or removing waste.

Proposed actions involving waste	Specific actions	ARARs	Implementation of ARARs
	d. Inspections	d. 40 CFR 264.15(a) and (c); OAC 3745-54-15 (A) and (C)	d. Document inspections monthly in Building Manager's log or designated project files; visual inspections done periodically by personnel in the area.
	e. Requirements for incompatible wastes	e. 40 CFR 265.177; OAC 3745-55-77	e. Checklist element – incompatible wastes will have adequate segregation if present in the same storage area.
	f. Marking requirements	f. 40 CFR 262.34(a)(3), (c)(1)(ii); OAC 3745-52-34(A)(3), (C)(1)(b)	f. Checklist element - containers marked with words to indicate contents, or as "hazardous waste."
	g. Required equipment	g. 40 CFR 265.32 (a), (b), (c), (d); OAC 3745-54-32 (A), (B), (C), (D)	g. Checklist element - verify that appropriate equipment is available on plant site or in building.
	h. Communication or alarm system	h. 40 CFR 265.34 (a), (b); OAC 3745-54-34 (A), (B)	h. Checklist element - verify that communication devices in the building are operable or that other means of communication are available.
	i. Training	i. 40 CFR 265.16 (a), (b), (c); OAC 3745-54-16 (A), (B), (C)	i. Person will be trained to perform inspections.
	j. Treatment	j. Treatment specific ARARs will be determined and submitted.	