

Environmental
Restoration
Program

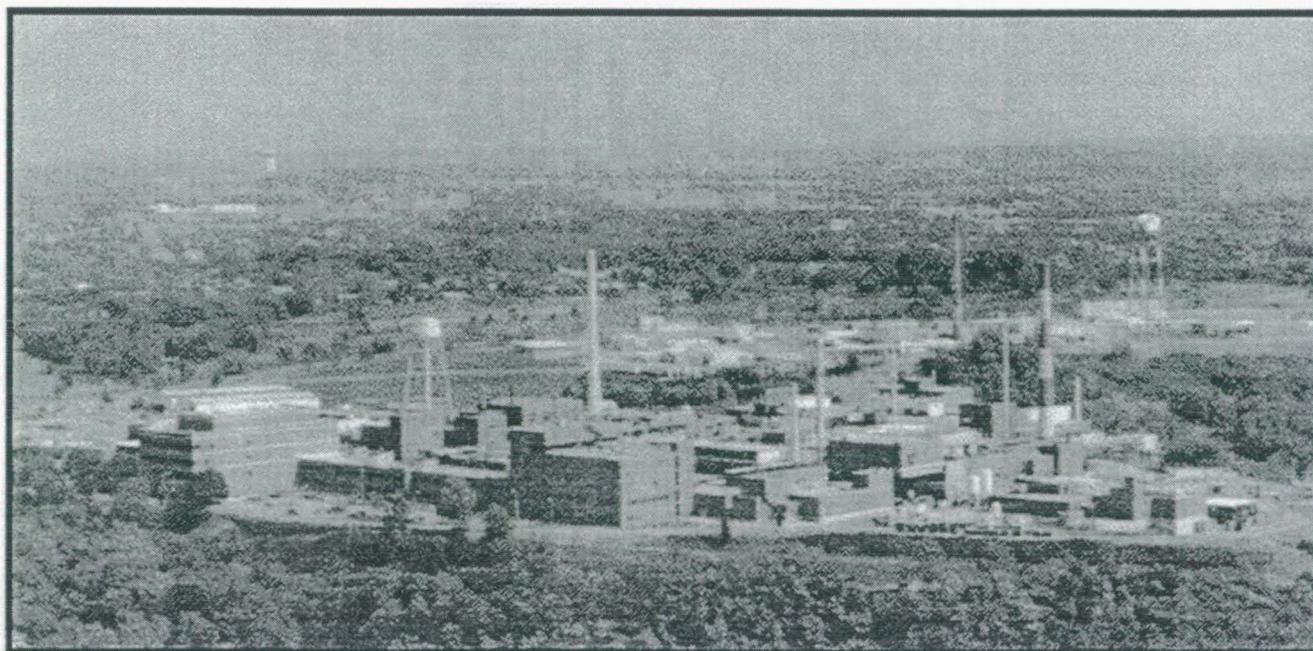


OhioEPA

Miamisburg Closure Project CLOSEOUT REPORT Building 95 and Glycol Lines

(Demolition)

~~Working Draft~~ FINAL
April 2003



3006

0406160004



CH2MHILL

CH2M HILL

Mound, Inc.

1 Mound Road

P.O. Box 3030

Miamisburg, OH

45343-3030

SM-022/03

April 23, 2003

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

ATTENTION: Robert S. Rothman

SUBJECT: Contract No. DE-AC24-03OH20152
VARIOUS DOCUMENTS

REFERENCE: Statement of Work Requirement 055 - Regulator Reports

Dear Mr. Provencher:

Rob Rothman from your office has approved the release of the following final documents:

- Building 94, Closeout Report, Final
- Building 95, Closeout Report, 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 extension 4220.

Sincerely,

K. L. Kehler
SMPP/TFV Project Manager

KLKVKD

Enclosures

Approved: _____

Robert S. Rothman / Date 4/22/03
CERCLA Program Manager

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

From: Val Darnell
To: brian.nickel@epa.state.oh.us; INTERNET:Celeste_Lipp@GW.ODH.STATE.OH.US;
Rothman, Robert; seely.david@epamail.epa.gov
Date: 5/6/03 8:55AM
Subject: Buildings 94 and 95 Closeout Reports

Good morning all -

On 4/23/03 I sent out the Final Closeout Reports for Buildings 94 and 95.

Regretably, I neglected to update the cover and footers from "Working Draft" to "Final" prior to having the document printed. In lieu of reprinting and reshipping these documents, we ask that you please correct your copy by striking out "Working Draft" and writing in "Final." I apologize for the inconvenience.

Thank you,
Val Darnell
937-865-3655

CC: Arthur, Karen; Gunckle, Kathy; kathy.fox@epa.state.oh.us; Lewis, Becky;
Ransbottom, Robert; Schmaltz, Frank

Closeout Report
Building 95 and Glycol Lines

Prepared for:

**United States Department of Energy
Miamisburg Closure Project
P.O. Box 3020
Miamisburg, Ohio 45343-3020**

Prepared by:

CH2M Hill Mound, Inc.

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1.0 PURPOSE

This is the final report documenting completion of the demolition of Buildings 95, 95A, and 95B and draining of the associated glycol lines located at the DOE Miamisburg Closure Project (MCP) Site, as shown in the figures provided in Appendix A. The building demolition, including its slabs and footers, and draining of the glycol lines were accomplished per the Work Package for Building 95 Demolition #SMPP/TFV-32003-01 (February 3, 2003), which is provided in Appendix B. The scope of work relating to this building and its associated glycol piping is considered complete.

2.0 BACKGROUND

2.1 Building 95

Building 95 was constructed in 1984 as a Chiller Plant for the SM/PP area (Figures 1 and 4). Later, the Chiller Plant's service area was expanded to also include the Test Fire Valley area. Because buildings serviced by the Chiller Plant are either being demolished or have had stand alone HVAC systems installed, the Chiller Plant was no longer required.

The Building 95 complex consisted of three buildings: (1) Building 95 was a 2,000 square-foot building, which housed two Trane chillers (one 800 ton and one 500 ton); (2) Building 95A was a 430 square-foot building, which housed booster pumps for the chilled water system; and (3) Building 95B was a 430 square-foot building, which housed the steam to hot water converter system to heat Buildings 102 and 105. Each of these buildings was a one-story Butler metal pre-fabricated structure built slab-on-grade.

Also included in this demolition project were the associated 1500 KVA 12.5kv/480v substation and two water-cooling towers. To allow for demolition of the Building 95 substation, electrical reroutes were accomplished to provide continued electrical service to Buildings 38 and 102, and the SM/PP water tower.

2.2 Glycol Lines

Originally the Building 95 chillers supplied glycol to cool eleven buildings, including Buildings 38, 102, and 105 on the SM/PP Hill and Buildings 2, 3, 35, 49, 59, 63E, 63W, and 87 in the Test Fire Valley (Figure 2). The lines to 38, 102, and 105 were previously drained and disconnected. The approximately 2,100-foot long underground supply and return lines to Test Fire Valley, along with above and below grade piping in the Building 95 complex, held approximately 16,000 gallons of glycol for the system. All glycol was removed and disposed of through a licensed waste disposal company. The lines have been capped at each end.

2.3 Potential Release Sites

Adjacent PRSs are listed on the following table, and their locations shown in Figure 2. None of these are associated with the Building 95 complex. All have been binned No Further Assessment (NFA).

Table 1 - PRSs in Proximity to Building 95

PRS	CERCLA or Bldg. Related	Binning Status	Comments
277	CERCLA	NFA	Area J, Hillside Disposal Area (AKA Dredged Material Disposal Area 11a).
310	CERCLA	NFA	Site Survey Project Potential Hot Spot Location S0647.
382	CERCLA	NFA	Elevated Soil Gas Location.
384	CERCLA	NFA	Elevated Soil Gas Location.

3.0 ACTIONS TAKEN

The Building 95 Building Data Package (BDP) was submitted for simultaneous Core Team and public review on 4 September 2002, and the 30-day public review period concluded on 4 October 2002.

This Closeout Report documents the completion of the demolition and removal of Buildings 95, 95A, and 95B, including equipment, cooling towers, and substation. Also completed was removal of slabs, sump, and foundations to three-feet below grade, as well as draining and capping of underground glycol lines. All preparation and demolition activities were performed in accordance with the detailed Work Plan (Appendix B). (Note: The pipe stanchion from Building 95 to Building 102 runs through the subcontract trailer installation, which supports the Building 38 demolition. The stanchion will be demolished after Building 38 has been demolished and the trailers have been removed.)

Radiological surveys were conducted according to the Generic Process for Disposition of Buildings. Results from all radiological surveys were below surface release criteria; there were no elevated readings. Water sample results showed no detectable alpha and a very low-level of tritium, well below applicable drinking water standards. Copies of the pre-demolition surveys were provided in the Building Data Package. The post-demolition debris surveys are included in Appendix C.

Building debris was loaded into thirty-five 30 cubic yard rolloffs and taken to a local sanitary landfill. Slab and foundation material was taken to the onsite rock crusher for reuse onsite. Three thousand (3,000) pounds of R-11 refrigerant were removed by Trane Corp. for recycling. Sixteen thousand (16,000) gallons of glycol were drained and disposed of

The demolition of Building 95 commenced on 5 February 2003 and was completed on 5 March 2003. Site restoration was completed on 10 March 2003. Photographs taken before and after demolition are provided in Appendix A. Demolition debris was dispositioned as noted in Table 2.

Table 2 - Materials Disposition

Building 27 Material	Quantity	Method	Location
Glycol	16,000 gal.	Disposal	Clean Harbors
R-11 Refrigerant	3,000 lbs.	Recycle	Trane Corp.
Construction Debris (metals)	990 cubic yards	Landfill	Stoney Hill
Clean Hard Fill Debris (concrete)	741 cubic yards	Reused Onsite	Spoils Area/ Concrete Crusher

4.0 PROBLEMS ENCOUNTERED

The Building 95 complex was successfully demolished per the Work Package, with the only variance being that the stanchion line to Building 102 will be demolished at a later date.

5.0 RESOURCES COMMITTED

5.1 Personnel Organization

Table 3 lists the personnel organization for the demolition.

Table 3 - Personnel Organization for the Demolition

Agency or Party Involved	Contact	Description of Participation
US EPA (SR-6J) 77 W. Jackson Chicago, IL 60604 312-886-7058	David Seely	Federal agency responsible for MCP oversight.
Ohio EPA 410 E. Fifth Street Dayton, OH 45402-2911 937-285-6468	Brian Nickel	State agency responsible for MCP oversight.

Table 3 - Personnel Organization for the Demolition

Agency or Party Involved	Contact	Description of Participation
DOE/ MCP P.O. Box 66 1 Mound Road Miamisburg, OH 45343-0066 937-865-3620	Frank Schmaltz	DOE/ MCP, Project Manager responsible for project oversight and success.
CH2M Hill Mound, Inc. SMPP-TFV Project P.O. Box 3030 1 Mound Road Miamisburg, OH 45343-3030 937-865-4169	Kurt Kehler	Provided the DOE/ MCP, Project Manager with technical assistance, administrative support, sampling, decontamination, photo and site documentation, site safety, and report preparation.
CH2M Hill Mound, Inc. General Superintendent and Equipment Manager P.O. Box 3030 1 Mound Road Miamisburg, OH 45343-3030 937-865-4278	Max Edington	Provided the equipment necessary for the demolition.

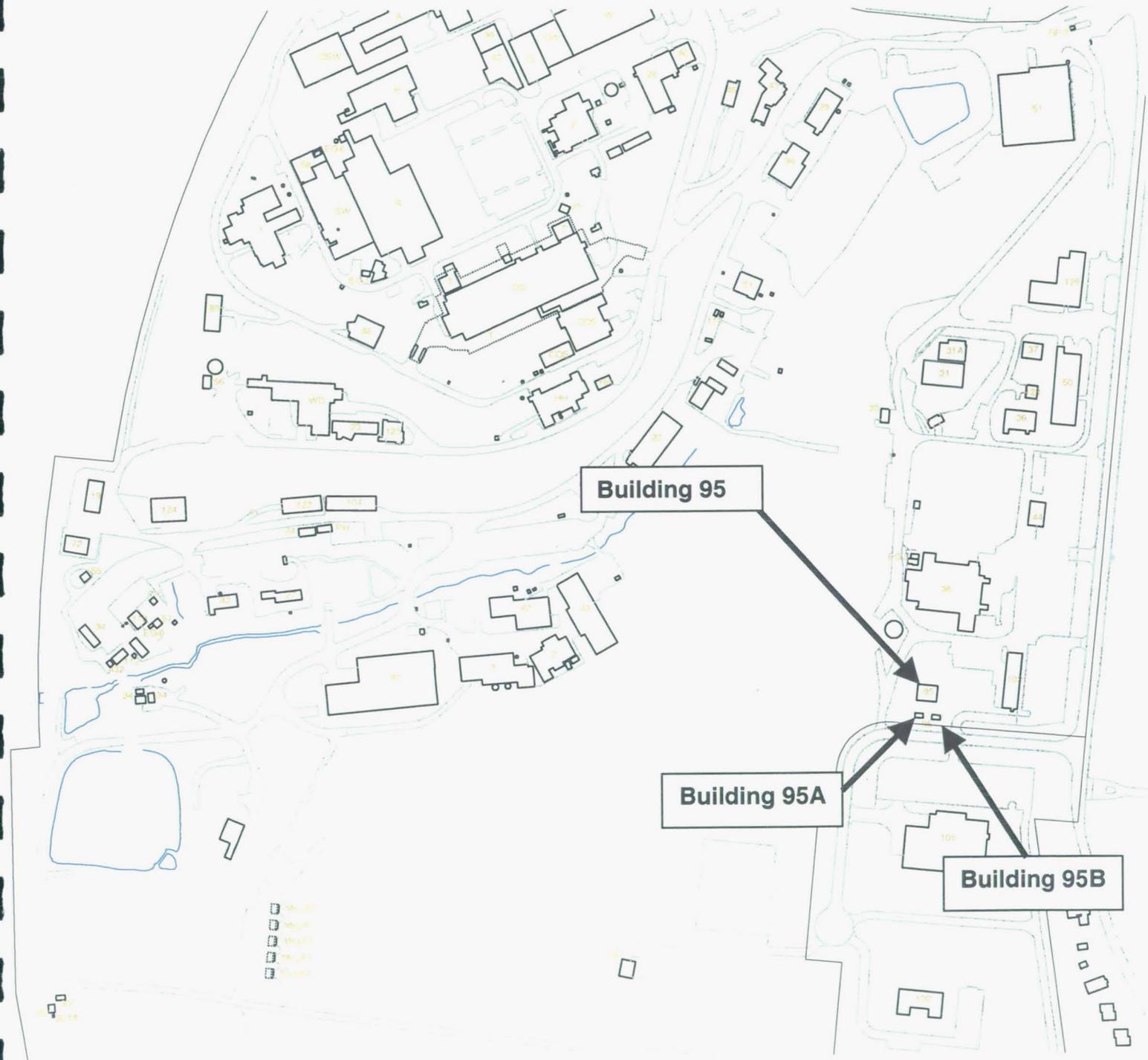
5.2 Demolition Cost

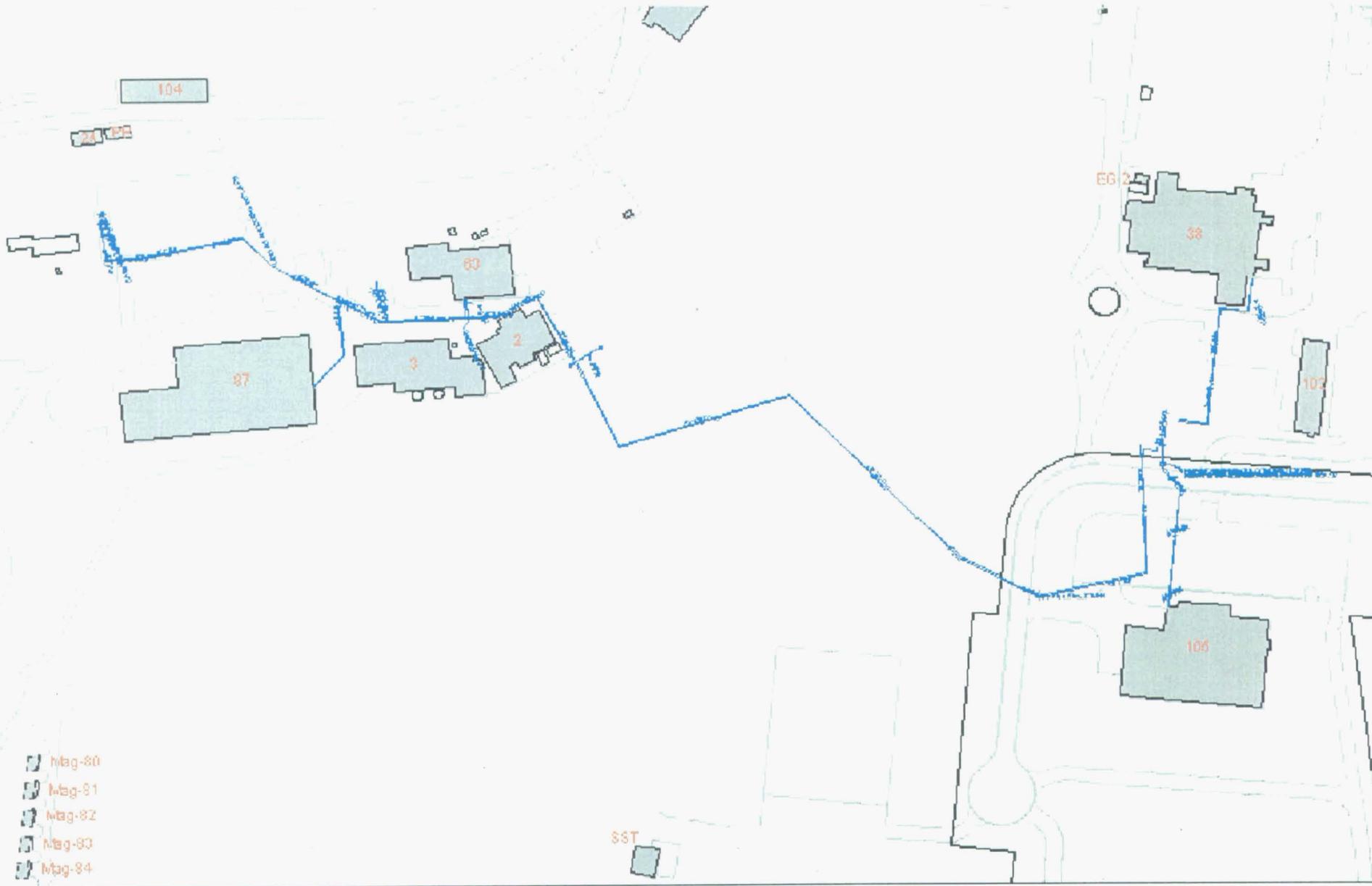
Under the new site contract, CH2M Hill, Inc. has elected to cluster financial data for multiple buildings together. For Building 95, the cluster includes buildings 49, 94, and 95. As a result, costs for individual building demolitions are not available. When the cluster is completed, the total cost for the cluster will be reported in the Closeout Report for Building 49.

APPENDIX A

Figures

Figure 1 - Location of Building 95





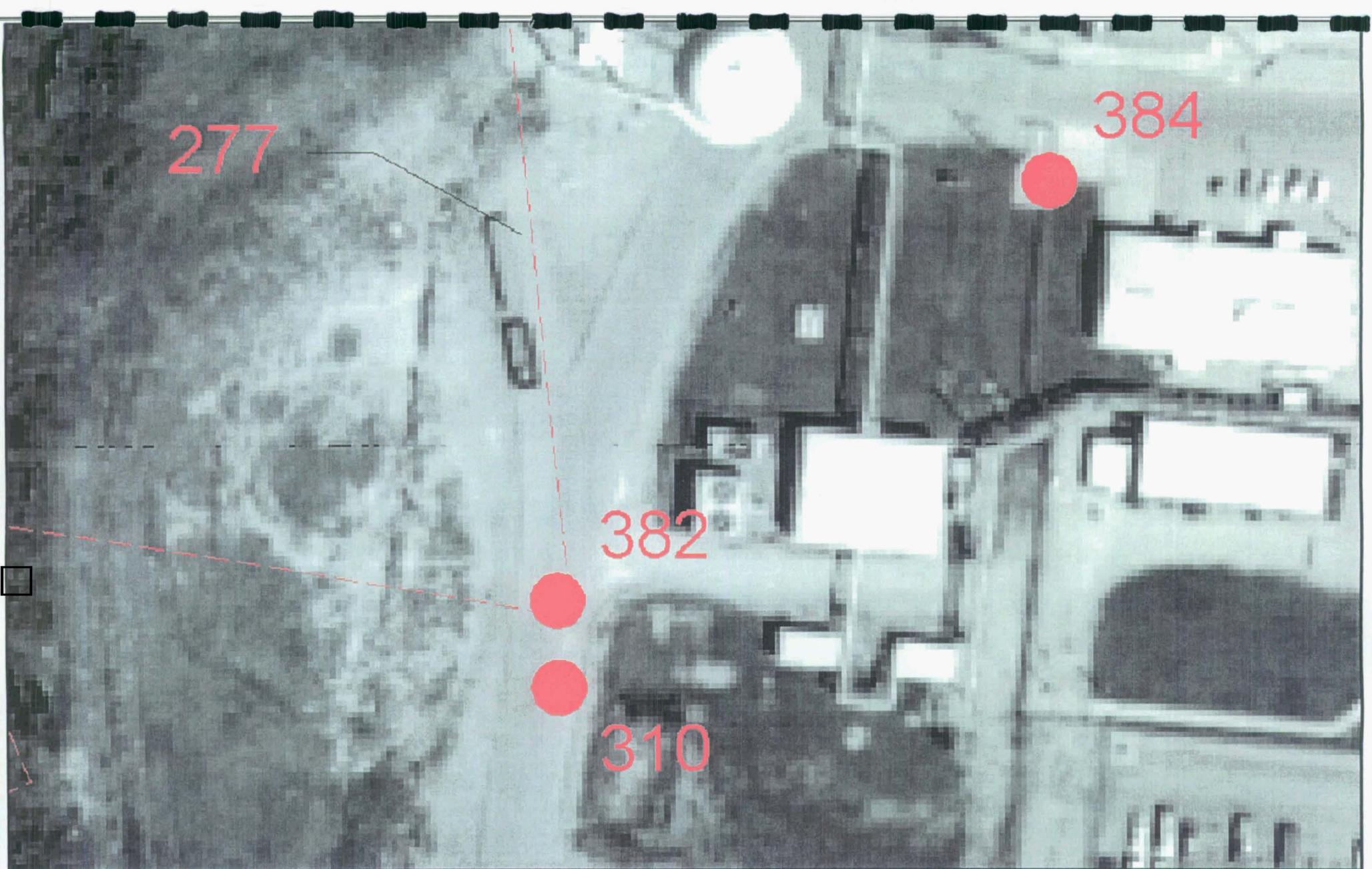
GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

REV	DATE	REVISION	BY	CHKD	END	LP&EC	APVD	M

SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE	1	2	3	4	5	6	<p align="center">Figure 2 Building 95 Underground Glycol Lines</p>														
DWG TYPE	UNCLASSIFIED											SIZE	DRAWING NUMBER		JOB NUMBER						
DWG TYPE	SITE		PRIMER-QS		CAGEC		SCALE		SHEET 1 OF												
STATUS	MD-REL-000/000											ORION AUTOCAD									



GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

ISS	DATE	REVISION	BY	CHKR	ENGLR	REC	APVD	M



SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE																					
SHEET	1	2	3	4	5	6	Figure 3														
ISSUE							Building 95 PRS														
PART CLASSIFICATION																					
DRAWING CLASSIFICATION							SIZE							DRAWING NUMBER			JOB NUMBER				
UNCLASSIFIED																					
DWG TYPE			SITE			PRNGR-QS			CAGEC			SCALE			SHEET 1 OF						
STATUS			MO-REL-*/*/**			ORIG			AUTOCAD												

Figure 4 - Building Photos

Bldg. 95 and Cooling Towers



Bldg. 95A



Bldg. 95B



95 Substation



Bldg. 95 Area After Demolition

APPENDIX B

Work Package

WORK PACKAGE / PRELIMINARY HAZARD ANALYSIS

- Office Master Copy - Field Working Copy - Review Copy - Other Copy
 (Original Approval Signatures) (Original Field Sign -Offs) [Note: Mark this section in color]

The Project Engineer is responsible for completing Sections 1 through 10. On subcontractor projects, the subcontractor shall complete sections 6, 9, and 10.

1. WORK PACKAGE TITLE: **Building 95, 95A, and 95B Demolition**

2. WORK PACKAGE NUMBER. **SMPP/TFV- 32003-01** REQUESTOR: **L. Koehmstedt**

1. WORK PACKAGE SCOPE:

The purpose of this effort is to demolish Buildings 95, 95A, 95B, and 95 Substation see Figure 1.0. Using heavy-duty equipment to demolish the facility including ground slabs and foundations, remove and dispose of the debris, remove utility pipe rack and stanchions and grade area to match surrounding contours and provide drainage and erosion protection with seeding and mulch. Asbestos abatement and safe shutdown activities will have already been completed prior to demolition.

4. WORK PACKAGE PHASES:

1. Establish Work Zone.
2. Remove utility pipe rack and stanchions.
3. Dismantle/Demolish above grade structure.
4. Demolish 95 substation.
5. Demolish slab and foundation.
6. Grade area to match surrounding contours and provide drainage and erosion protection.

5. WORK LOCATION:

Building #: **95**
 Room #: **N/A**
 Other: **Spoils Area**

6. SPECIAL MATERIALS AND EQUIPMENT:

1. Tracked excavator with shear, grapple, hoe ram, concrete cracker/ pulverizer, or bucket attachment.
2. Rubber tired and tracked front-end loaders.
3. Transport equipment for debris as required.
4. Rock crusher

Insert the proper sequence of Work Package phases for the job. A phase is a separately definable portion of the project.

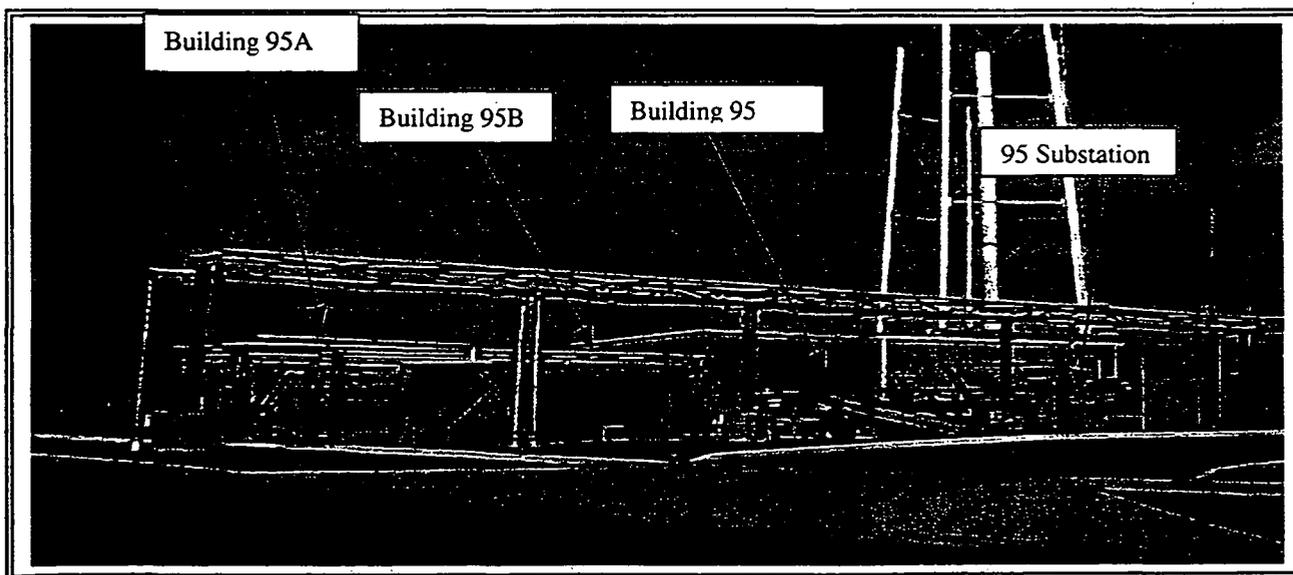


Figure 1.0 Building 95, 95A, 95B

7. DETAILED WORK STEPS: See the attached Job Specific Work Plan (JSWP)

Insert the activities to be performed during the job. Describe the specific methods of accomplishing these activities. Activities listed must be grouped under the Work Package phases listed in item 4.

8. Note: Comments, to identify activities/hazards that are common to multiple phases of the project. Identification of these items will facilitate the option of addressing the items once in the pre-job briefing, as opposed to redundantly listing them in the JSHAs for different phases.

COMMENTS:

Enter any review comment or issues in this section and/or information generated as a result of completing detailed work steps.

9. REVIEW SIGNATURES:

Written by: <u>[Signature]</u>	Date: <u>2/3/03</u>	Phone: <u>3657</u>
Job Foreman: _____	Date: ___/___/___	Phone: _____
Superintendent/Constr. Mgr: _____	Date: ___/___/___	Phone: _____
Project Eng. Mgr: _____	Date: ___/___/___	Phone: _____
Industrial Safety & Hygiene: _____	Date: ___/___/___	Phone: _____
Rad. Controls: _____	Date: ___/___/___	Phone: _____
ES&C: _____	Date: ___/___/___	Phone: _____
Waste Mgmt: _____	Date: ___/___/___	Phone: _____
Bldg. Mgr: _____	Date: ___/___/___	Phone: _____
Craft Review: _____ Trade _____	Date: ___/___/___	Phone: _____
Craft Review: _____ Trade _____	Date: ___/___/___	Phone: _____
Craft Review: _____ Trade _____	Date: ___/___/___	Phone: _____
Craft Review: _____ Trade _____	Date: ___/___/___	Phone: _____

SUBMISSION OFF
REVISIONAL
SIGNED OFF

10. USQ SCREEN / DETERMINATION REQUIRED? YES NO

Brief Explanation _____

USQ Trained Person: _____ Date: ___/___/___ Phone: _____

10. AUTHORIZATION SIGNATURE:

Project Manager: _____ Date: ___/___/___ Phone: _____

11. WORK PACKAGE CLOSURE:

Job Supervisor: _____ Date: ___/___/___ Phone: _____

Project Manager: _____ Date: ___/___/___ Phone: _____

RETURN PHA TO IS&H AT JOB COMPLETION.

Jan. 14, 2003
MODIFIED: Feb. 3, 2003

JSA 03-048

**JSA
IN PREPARATION
TO ISOLATE ELECTRICAL FROM BUILDING 95
AND D&D THE 95 SUBSTATION**

PURPOSE : To inform appropriate personnel of and to isolate Building 95 and D&D the 95 Substation.

CONDITIONS : Obtain Firehouse, Frank Raker, Building 102 & Building 95 managers' approval to proceed. Building 102 & water tower will experience a total power outage. ***** Energized 480 volt switching to be done while wearing cotton clothing and certified class 0 rubber gloves. The safety observer must stand at least 20 feet to the side of the switching area and have a pair of class 0 certified rubber gloves available. Due to available fault current on the exiting overhead is less than 10,000 amperes, the 31cal/cm² flame-retardant suits and face shields are not necessary *****

Use a known operating glow stick & CAT III 600 volt rated voltmeter to verify de-energized (e.g. test on known energized source, verify areas of interest are de-energized; re-test on known energized source).

*** Perform LOTO's on all opened switches.**

******* LABEL ALL ELECTRICAL CONDUCTORS CUT IN THIS JSA WITH YELLOW TAGS STATING "DATE CUT;; PAST USE;; THE PERSON'S SIGNATURE DOING THE CUTTING" *******

SEQUENCE OF ACTIVITIES :

___ 1. Inform the above mentioned personnel that work is to start.

___ 1A. *INFORM BLDG 38 MGMT OF PENDING FAS SHUT DOWN*

___ 2. Mount rigid weatherhead/mast next to Bldg. 102 power pull box located on pipe stanchion leading to Building 102.

___ 3. Open 100 ampere safety switch, labeled "95 Substation", mounted on pole next to air monitor station & lockout/tagout (LOTO). This should de-energize substation 480 volt bus, power to water tower & monitor and connected Building 102.

LOTO# _____

___ 4. Using a CAT III 600 volt rated voltmeter, test on known energized source, verify overhead & 95 Substation 480 volt bus are de-energized; re-test on known energized source.

B 3 of 30

____ 5. Verify Bldg. 102 feeder conductors located in pull box on stanchion are de-energized then sever. Connect weatherhead/mast to pull box, and pull 3-#3 cu; 1-#8 cu through weatherhead/mast and connect to "Building 102" 500 Kcmil conductors using split bolts. Tape split bolts with 600 volt rated tape. Building 102 has a parallel 500 Kcmil feeder, therefore, the second conductor of each phase must be disconnected at Building 102 main distribution panel.

____ 6. Redirect 100 amp. overhead quadroplex to this new 102 weatherhead/mast and connect to conductors installed in step above. Building 102 service requires 3 phase power.

____ 7. Tap off of 100 ampere overhead, using #2 al triplex (single phase for water tower) to weatherhead at pole next to 95 Substation. Disconnect existing overhead and connect new #2 al triplex to down wiring. This connects the 100 amp. overhead to the water tower.

____ 8. Verify feed to the PP-95 panel attached to substation has been removed.

____ 9. Remove LOTO and close 100 ampere safety switch, labeled "95 Substation", mounted on pole next to air monitor station. This should re-energize power to water tower, monitor and Building 102. Using a known operating CAT III 600 volt rated voltmeter and visual check verify water tower, monitor and Building 102 are energized.

____ 10. Using a known operating glow stick, verify no 12,470 volts are present on either 95 Substation primary switch. (This step requires: **31cal/cm² flame-retardant suits, face shields, hearing protection, cotton clothing and certified class 2 rubber gloves. The safety observer shall stand at least 20 feet to the side of the switching area and have a pair of class 2 certified rubber gloves available.**)

____ 11. Have Industrial Hygiene IH verify 95 Substation is safe to enter, and have personnel enter vault to receive conductors as they are lowered into vault.

____ 12. Disconnect the three lugs from load stabs, cut off lugs and lower conductors into 95 Substation vault for the following substation primary switches & breakers: **primary ILE; ILW, 95-A3, 95-B1, 95-B2, 95-B3, 95-C1 & 95-C3.**

____ 13. In 95 Substation vault, sever all above mentioned disconnected conductors at conduit entrances.

____ 14. Remove LOTO & any tools remaining in substation.

___15. Inform the appropriate personnel that work is completed .

APPROVED BY :

TERRY CANTRELL Terry Cantrell DATE 2/3/03

BRUCE ANDERSON Bruce Anderson DATE 2/3/03

WORK PERFORMED BY:

ELECTRICIAN #1 _____ DATE _____

ELECTRICIAN #2 _____ DATE _____

JOB SAFETY & HEALTH ANALYSIS

JSHA MASTER DOCUMENT CONTROL NO:
JSHA#117-03

SIGNATURES

DATE: 2/3/03	<input type="checkbox"/> NEW <input checked="" type="checkbox"/> REV	BUILDING: 95 & 95 Substation	JOB: Isolate Building 95 & D&D 95 Substation
DEPARTMENT: Project Engineering		SECTION:	
OCCUPATIONS: Electricians			

ORIGINATOR: <i>Bruce Anderson</i>
REVIEW/REV: <i>John Conhill</i>
REVIEW/REV: <i>John Conhill</i>
APPROVED: <i>[Signature]</i>
APPROVED: <i>[Signature]</i>

REQUIRED PERSONAL PROTECTIVE EQUIPMENT: safety glasses, safety shoes, cotton clothing for remainder refer to JSA 03-048	MSDS(s)/CHEMICALS ASSOCIATED WITH THE JOB:
---	--

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
<p>Break the job down into basic steps that tell what is done first, what is done next, and so on.</p> <p>Record the job steps in their normal order of occurrence. Describe what is done, not the details of how it is done. Usually, three or four words are sufficient to describe each job step. For example, the job of "replacing a light bulb" may break down into basic steps as follows:</p> <p>1. Bring and set up ladder 2. Ascend ladder 3. Remove light globe & bulb 4. Replace light bulb</p> <p>5. Replace light globe 6. Descend ladder 7. Remove and store ladder</p>	<p>Ask yourself for each job what accidents/illnesses could occur to the employee doing the job.</p> <p>Record potential accidents/illnesses by combining one of the abbreviations below with the agent of contact. For example, "struck by a crane hook" is recorded "SB-crane hook." Number each potential accident.</p> <p>SB - Struck by CB - Contacted by SA - Struck against CW - Contact with CI - Caught in</p> <p>CO - Caught on 1B - Caught between F - Fall SO - Strain-overexertion* E - Exposure (occ. illness)</p> <p>*Show ergonomic stresses as SO (repetitive trauma, single event strain, or awkward position)</p>	<p>For each potential accident/illness, ask yourself exactly what the employee should do or not do to avoid the accident/illness.</p> <p>Describe specific precautions in detail. Give each precaution the same number given in the potential accident (center column) to which it applies. Avoid generalities such as "Be alert," "Be careful," and "Take caution." Use simple do or don't statements; e.g., "Lock out main power switch," "Stand clear of lift before signaling," or "Check wrench grip before exerting full force." If necessary, explain how, as well as what, to do. Amount of detail is a matter of judgment.</p> <p>Describe ergonomic solutions (job redesign, new tools, worker lift assistance, etc.)</p>
Refer to JSA 03-048 for sequence of activities		
Hazards in JSA are as follows:		
(Use safety glasses & shoes/ cotton clothing for all steps.)		
1. Step 10 of JSA 03-048	1. Electric blast	1. 1. Use 31 cal/cm ² flame-retardant suits/face shields, hearing protection, cotton clothing and certified Class 0 rubber gloves. All panels secured.
2. Step 3, 4, 5 & 9 of JSA 03-048	2. Shock hazard	2. Use LOTO & known operating 600V _{RMS} Fluke voltmeter. LOTO# _____
3. Step 2 thru 14 of JSA 03-048	3. Pinch Points	3. Avoid pinch point locations.
4. Open 95 Substation vault	4. back strain	4. Use proper lifting techniques & equipment.
5. Have vault tested for safe atmosphere	5. Hazardous atmosphere	5. Confined Space Permit required.

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6. Enter 95 Substation vault	6. Slips/falls	6. Use 3 point climbing technique.
7. Work in 95 Substation vault	7. pinch points & cuts	7. Avoid pinch points & use cutting tools properly.
8. Close 95 Substation vault.	8. back strain	8. Use proper lifting techniques & equipment.
9. Install weatherhead/mast & overhead feed.	9. fall hazard	9. Tether to bucket truck

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**PRELIMINARY HAZARD ANALYSIS (PHA)
FOR WORK PACKAGE ACTIVITIES**

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE INDUSTRIAL SAFETY AND HEALTH REPRESENTATIVE
Identify engineering administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.). Including any notations for future Hazard Analyses. Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards, that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Blockage of exits or means of egress	NO	N/A	[EGRESS]
Blockages/obstructions (Identify)	NO	N/A	
Burning, welding, hot-work (Fire Watch)	YES	Demolition	[BURN] Possible use of cutting torch during demolition. Administrative Controls. Permit required. Keep fire extinguisher nearby during cutting.
Chemical compatibility of corrosives/flammables	NO	N/A	
Chemical process safety	NO	N/A	
Compressed gas cylinders	YES	Demolition	Project work controls (use of cutting torches).
Confined space entry	NO	N/A	[CONFINE]
Crane operations, overhead or mobile	NO	N/A	
Critical lifts (heavy or high value loads)	NO	N/A	[CLIFT]
Electrical hazards	NO	N/A	[LIVEL] Electrical Isolation of facility was accomplished during safe shutdown activities.
Elevated work/fall protection	YES	Isolation of pipe rack	[ELEV] Manlift, trained personnel and PPE.
Emergency eyewash/shower available	NO	N/A	[EWASH]
Emergency alarms or evacuation plans required	YES	All	[EMERG] Plant Public Address system will be used to announce any plant emergency over the plant radio channel; cell phones will be used also; no specific added hazards exist in the demolition of this building.
Explosive/flammable atmosphere	NO	N/A	
Explosives	NO	N/A	
Fire protection system/equipment outage	YES	Structural Demolition	[FIRE/EFIRE] Fire Alarm System isolation prior to start of structural demolition.
Fire Hazards Analysis Required of Demolition	YES	Structural Demolition	[FHA/ADJA]
Flammable liquids/gases	YES	Structural Demolition	[FLAM] Possible use of cutting torch during demolition. Administrative Controls. Permit required. Keep fire extinguisher nearby during cutting.
Forklifts, aerial lifts or material handling equipment	YES	Pipe rack Isolation	Note: Roof will not support body weight. Any elevated work on the roof will require manlift. Isolation of piping and electrical systems on the pipe rack will require manlift.
Grounding of electrical equipment	YES	Structural Demolition	Temp. power to portable equipment. All hand-held electrical tools must be equipped with GFCI.
Hazards due to condition of facility or terrain (Identify)	NO	N/A	
Hoisting and rigging	NO	N/A	[HOIST]
Lighting/illumination/adequacy	NO	N/A	[MLITE]
Excavation and Soil disturbance	YES	Demolition of slabs and foundations	Slab or Foundation demolition for this package will require permit. U/G disconnects done by Safe-shutdown crews.

SECTION A. INDUSTRIAL SAFETY - TO BE COMPLETED BY THE SAFETY AND HEALTH REPRESENTATIVE

Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.). Including any notations for future Job Safety and Health Analysis (JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Lockout/tagout of hazardous sources:	YES	Safe shutdown of pipe rack	[LOTO/ISO] Electrical/Mechanical Isolation of pipe rack will be accomplished during safe shutdown activities.
• Electrical	YES	Substation demo	See Above
• Mechanical (steam, hydraulic, pneumatic)	YES	Safe shutdown of pipe rack	See Above
• Interlocks	NO	N/A	[HLOCK]
• Chemical	NO	N/A	
• Radiological	NO	N/A	
Machine guards	NO	N/A	
Modification to Fire Wall/Door	NO	N/A	[FIREWAL]
Obstruction of fire protection equipment (pull boxes, hydrants, fire department connections, control panels, fire extinguishers, etc.)	NO	N/A	
Off-shift work	NO	N/A	
Outages of the plant public announcement (PA) system or the emergency notification system	YES	Demolition	[OUTAGE] The plant radio system transmits public announcements, which will be use to monitor for emergencies.
Overhead or underground utilities (Identify)	YES	Substation demo	[UITL] Electrical/Mechanical Isolation of pipe rack will be accomplished during safe shutdown activities.
Penetrations into walls, floors, etc.	NO	N/A	[PENETR]
Plastic sheeting or wood framing/enclosures	NO	N/A	
Powder-actuated tools	NO	N/A	
Plant utilities (Identify)	YES	Safe shutdown of pipe rack	[UITL] Electrical/Mechanical Isolation of pipe rack will be accomplished during safe shutdown activities.
Repetitive work	NO	N/A	[ERGO]
Structural Modification	YES	Demolition	[STRUCT] Building is being demolished.
Special Fire Protection Equipment Required	NO	N/A	[FIREQU]
Trenching/Shoring	NO	N/A	[DIG]
Temporary heating facilities	NO	N/A	
Temporary/portable buildings or structures	NO	N/A	[FACIL]
Temporary service hook-ups (Identify)	YES	Structural Demolition	Water service (for dust control). BFP required.
Traffic control/flagman	NO	N/A	[TRAFFIC]
Work in attics, ceilings, chases, or crawlspaces	NO	N/A	
Work impacting adjacent normally occupied areas	NO	N/A	[ADJAC/BMAPP/SIGNS/NOTIF]
Work Requiring Scaffolding, construction and inspection	NO	N/A	[SCAFF]
Other (Specify)	N/A	N/A	

SECTION B. INDUSTRIAL HYGIENE - TO BE COMPLETED BY INDUSTRIAL HYGIENE REPRESENTATIVE

Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), including any notations for future Job Safety and Health Analysis (JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Abrasive blast (MSDS available)*	NO	N/A	
Asbestos	NO	N/A	[ASBEST] Asbestos Abatement completed.
Beryllium	NO	N/A	
Blood-borne pathogens*	NO	N/A	
Cadmium	NO	N/A	
Carcinogens (MSDS available)*	NO	N/A	[CARC]
Chemicals/solvents (MSDS available)*	NO	N/A	[CHEM/MSDS]
Chlorofluorocarbon (CFC)	NO	N/A	[CFC] Removed during safe shutdown activities.
Coal, tar or asphalt products	NO	N/A	
Coating/painting (MSDS available)*	NO	N/A	
Corrosives/acids/caustics (MSDS available)*	NO	N/A	
Dusty operations	YES	demolition	[POWDER] Potential dust generation controlled via water misting.
Hazardous Waste Operations (HAZWOPER)*	NO	N/A	
High Pressure systems	NO	N/A	[HIPRES]
Insulation/man-made mineral fibers (MSDS available)*	NO	N/A	
Lasers	NO	N/A	
Lead	YES	demolition	Paint may contain lead, do not torch-cut painted surfaces.
Foam in Place Operations	NO	N/A	
Mercury	NO	N/A	
Noise in excess of 85 dBA	Yes	demolition	[NOISE] Hearing protection will be used, as appropriate.
Polychlorinated biphenyls (PCBs)	NO	N/A	
Removal of ceiling tiles*	NO	N/A	
Spraying/generation of mists*	YES	demolition	Demolition dust control via water mist.
Temperature extremes (heat or cold stress)	Yes	ALL	[CRYRO/COLD/HEAT] Provide heating or cooling for personnel.
Ventilation or Air Monitoring requirements	Yes	demolition	[VENTIL/IH] Air monitoring for potential silica during demolition activities will be performed.
Welding, brazing, or thermal cutting operations	Yes	demolition	[BURN] Cutting of rebar and etc. will require a permit.
Other (specify)	N/A	N/A	

*NOTE: Requires a description of the materials involved which present a hazard. Identify the physical location of the MSDS.

SECTION C, RADIOLOGICAL PROTECTION - TO BE COMPLETED BY RADIOLOGICAL CONTROLS REPRESENTATIVE

Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. RWP, ALARA Plan, etc.). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
<i>Location:</i> Controlled Area	NO	N/A	
Contamination Area	NO	N/A	[STP]
High Contamination Area	NO	N/A	[STP]
Radioactive Materials Storage Area	NO	N/A	
Airborne Radioactivity Area (STP or OBT)	NO	N/A	
Radiation Area	NO	N/A	
High Radiation Area	NO	N/A	
Very High Radiation Area	NO	N/A	
Other (Specify)	NO	N/A	
<i>Activities:</i> Criticality Safety Concerns	NO	N/A	
Digging/Soil Removal	YES	Slab and Foundation Removals	[DIG] Slab and foundation removal.
Surface destruction of radioactively contaminated materials or equipment?	NO	N/A	[SURFAC]
Welding, burning, or grinding?	NO	N/A	[SURFAC]
Hammering, chipping or scraping?	NO	N/A	[SURFAC]
Abrasive blasting?	NO	N/A	[SURFAC]
Dust-collecting equipment or systems?	NO	N/A	
Decontamination and clean-up?	NO	N/A	
Rad Waste Storage and Disposal Required	NO	N/A	[RWSTOR/WASTE CHAR]
Other (Specify)	N/A	N/A	
<i>Sources:</i> X-Ray machine/generator	NO	N/A	[XRAY]
Sealed radioactive sources	NO	N/A	
Unsealed radioactive sources	NO	N/A	
<i>Controls:</i> Radiological Work Permit	NO	N/A	[RWP/RWP=JS/RWP=N/R/RPGEN]
ALARA Plan	NO	N/A	[ALARA]
Air Flow Studies	NO	N/A	[AIRFLOW/CAM]
Urinalysis program	NO	N/A	
Preliminary or in-process characterization	NO	N/A	[SURVPS/SURVIP]
Anti-contamination clothing	NO	N/A	
Respiratory protection	NO	N/A	[RESP]
Needs Analysis Evaluation	NO	N/A	
Hazards Analysis	NO	N/A	
Engineering Controls	YES	ALL	Dust control via misting / substation protection
Administrative Controls	YES	N/A	Barricading of construction zone.
Supplemental dosimetry	NO	N/A	
Shielding	NO	N/A	
Personnel monitoring (frisking)	NO	N/A	

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SECTION D - OTHER CONDITIONS, CONCERNS, OR SUPPLEMENTAL INFORMATION FROM SECTIONS A THROUGH C

Identify Assembly Points: ***Be aware of threatening weather and take shelter when life-threatening storms are imminent.*** Assembly area west of Building 95. Take shelter area is in basement of Building 38 -See Appendix E

Work Package Revision Form

Work Package Revision Form			
Work Package No. SMPP/TFV-32003-01	Revision No. 01		
Revision Description: (attach page revisions to form)			
DEMO OF 95 SUBSTATION			
	Name	Signature	Date
PREPARED BY:			
Revision Preparer:	LEE KOEHNSTEDT	<i>[Signature]</i>	2/4/03
REVIEWED BY:			
Project Foreman:	Bill Wahler	<i>[Signature]</i>	2/4/03
Project Superintendent/ Constr. Mgr.:	Michael M. Stromberg	<i>[Signature]</i>	2/4/03
Industrial Safety & Hygiene P o C:	JAMES WILSON CHRIS AHLGREN	<i>[Signature]</i>	2/4/03
Radiological Point of Contact:	DANNY K. RILEY	<i>[Signature]</i>	02/04/03
Environmental Safeguards & Compliance P o C:	RONALD PAULICK	<i>[Signature]</i>	2/4/03
Waste Management PoC:			
Building Manager:	Gary Wendenbach	<i>[Signature]</i>	02/04/03
Other: ENG. MGR	RC ANDERSON	<i>[Signature]</i>	2/4/03
Other: CRAFT	A. BURWINKEL	<i>[Signature]</i>	2/4/03
USQ Trained Person: CRAFT	Danny Varney	<i>[Signature]</i>	2/4/03
USQ SCREEN / DETERMINATION REQUIRED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
Brief Explanation			
this work has no effect on a Nuclear Building			
APPROVED BY: <i>[Signature]</i>			
Project Manager:			

Job Specific Work Plan
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Job Specific Work Plan

1. WORK SCOPE

1.1. Introduction

This Job Specific Work Package (JSWP) follows the outline of PP-1059A. Integrated Work Control Program at the Mound Site, Miamisburg, Ohio. Included are a Preliminary Hazard Analysis (PHA) and a Job Safety & Hazard Analysis (JSHA). A Pre-Job Briefing Form (ML-9657) and the Project Manager's Authorization to Commence Work signature will be completed to document that the workers were briefed on the activities covered in this JSWP before work begins.

1.2. Work package scope

The purpose of this effort is to demolish Buildings 95, 95A and 95B superstructures, 95 substation, pipe racks, slabs and foundations. Salvageable interior equipment is to be disposed of by surplus equipment sale, if possible, other wise demolished with building. Demolition to include (the isolation during safe shutdown activities) of all utilities including the utilities located on the pipe rack stanchions leading to and from Buildings 38 and 102, slab and foundations (down to 3 foot below exist grade) and the demolition debris removal. This will be accomplished by confirming that all utilities have been isolated during safe shutdown activities, establishing a safe work zone, and the demolition of the buildings using heavy-duty equipment, and removing of debris as directed by Waste Management. Following the demolition, provide seeding and mulching of the area to prevent erosion.

1.3. Site Information

Building 95 was constructed in 1984 as a Chiller Plant for the SM/PP area. Later, the Chiller Plant's service area was expanded to also include the Test Fire Valley area. The Plant continues to serve the same purpose. Building 95 includes one main and two smaller ancillary buildings (Buildings 95A and 95B). The main building is approximately 2,000 square feet, and each of the two smaller buildings is approximately 450 square feet. All three buildings are single-room, single-story, prefabricated metal structures with metal roofs and built slab-on-grade. The main building contains two large (500-ton and 800-ton) glycol chiller systems; Building 95B contains cooling towers, chilled water pumps, and condenser water pumps; and Building 95A contains chemical treatment equipment.

1.4. Building Utilities

Potable and service water are supplied to Building 95. The building does not have sanitary services; the floor drain discharges directly to the storm sewer. The building has a dedicated fire water line for the fire sprinkler system. Service water is used to support the plant processes. Electric service is 480 volts provided by the substation located on the east side of building 95.

2. DRAWINGS AND REFERENCES

PP-1059A, Issue 8, "Integrated Work Control Program"
MD-50000, Issue 11, "Maintenance Work Order and Material Processing"

3. INITIAL CONDITIONS AND PREREQUISITES

3.1 Lessons Learned

A search of the Lessons Learned Database found the following relevant item:

- Glycol Spill Occurs During Draining of Closed Loop System
- Driver has near miss with electrocution when overhead wires catch on truck.

See Appendix F for the full report.

3.2 Industrial Safety and Health Requirements

- 3.2.1 A Job Specific Hazards Analysis (JSHA) is required. The general demolition area and site location, as shown in Appendix E, identifies the demolition area approximate boundaries, the take shelter area, and the assembly area. Debris will be cleared from the immediate construction zone as required to promote safe equipment activity.
- 3.2.2 Underground electrical utilities ductbank will be identified and field located by scanning the area prior to beginning any field activities to prevent damage. Lock-out/tag-out procedures will be followed and electrical energy detection will be performed prior to any electrical demolition activities that are associated with the building or pipe rack stanchion demolitions.
- 3.2.3 Monitoring for silica dust will be performed periodically as determined by previous monitoring results and site Safety and Health. Site Safety and Health will be notified before the demolition of concrete begins.
- 3.2.4 Whole body vibration will be administratively controlled and the topic will be reviewed at pre-job meeting.
- 3.2.5 A Hot Work Permit will be required if a torch is used for cutting. Coordinate with site Safety and Health.
- 3.2.6 Monitoring of noise levels will be performed as determined by previous monitoring results and site Safety and Health. Earplugs (or other hearing protection) will be worn, as appropriate.

4. RADIATION PROTECTION REQUIREMENTS

An assessment of Building 95 and its two associated structures (Buildings 95A and 95B) was performed to review operational history and radiological survey information.

Operational history indicates the building was constructed and operated to supply chilled glycol for the SM/PP Hill and the Test Fire Valley for comfort cooling. The building and structures remain in use for this purpose. There were no radiological process systems in the building or structures and no radioactive materials are known to have been used or stored in the building or structures. *Mound Facility Physical Characterization* report and other site assessments have asserted that Building 95 was not contaminated with any radiological or energetic materials.

Annual surveys have been performed in the building and no radiological contamination has been found. Additional confirmatory surveys, using large area gas proportional detectors and following guidance in "Generic Process for the Disposition of Buildings That Have Potential or Actual Radiological Contamination", were also performed, with all readings being below applicable screening limits.

Building 38, a former plutonium processing facility, is serviced by this chiller system. A review of system prints indicates it is highly unlikely that chilled water system fluids could come into contact with radioactive materials due to system design. However, because the fluids pass through Building 38, confirmatory samples of system fluids were obtained and analyzed for gross alpha and tritium activity. The fluid in both the condensate water and the glycol portions of the system(s) were within applicable screening limits. Building 95 is considered non-impacted based on the guidance in the Multi-Agency Radiological Survey and Site Investigation Manual (MARSSIM). The review team concluded that no further radiological surveys are warranted in Building 95.

5. ENVIRONMENTAL PROTECTION REQUIREMENTS

5.1. CERCLA

As a result of the investigations and documentation accomplished to comply with the CERCLA cleanup process via the Federal Facilities Agreement (FFA)/DOE Environmental Restoration (ER) Program, DOE and BWXTO have tabulated all the PRSs identified under the various regulatory programs in effect at the site. Of these 440 PRSs, four are at or near Building 95. PRSs in the vicinity of Building 95 are identified in Table 3.

Table 3: PRSs in Proximity to Building 95

PRS	CERCLA or Bldg. Related	Binning Status	Comments
277	CERCLA	Removal Action (RA)	Area J, Hillside Disposal Area (AKA Dredged Material Disposal Area 11a).
310	CERCLA	No Further Assessment (NFA)	Site Survey Project Potential Hot Spot Location S0647.
382	CERCLA	NFA	Elevated Soil Gas Location.
384	CERCLA	NFA	Elevated Soil Gas Location.

5.2 National Emissions Standards for Hazardous Air Pollutants (NESHAPs)

Per Environmental Practice 2.2, if buildings to be demolished have a surface area less than 72 million square feet, direct readings below MDA, and wipe results below applicable action levels, additional dose calculations are not necessary. Building 95 meets those criteria and therefore USEPA approval is not required.

5.3 Notification

A Notification of Demolition and Renovation form must be filed with the Regional Air Pollution Control Agency (RAPCA) at least 10 business days before planned building demolition.

5.4 Restriction of emission of fugitive dust (OAC 3745-17-08)

Reasonably available control measures must be employed to prevent fugitive dust from becoming airborne. Visual particulate emissions from any fugitive dust source shall not exceed 20% opacity as a three-minute average. Appropriate activities would include:

- 5.4.1 Water misting, or other suitable dust suppression, will be used to minimize fugitive dust resulting from demolition activities.
- 5.4.2 Periodic application of water, or other suitable dust suppression, to adjacent roadways and parking lots will be used to prevent dust from becoming airborne.
- 5.4.3 Trucks hauling debris to the onsite spoils area should be covered while in transit.

5.5 Clean Water Act & Storm Water Pollution Prevention

- 5.5.1 All inlets to the sanitary and storm systems will be plugged to prevent accidental discharges to the wastewater treatment plant or the environment, including areas where the utility piping rack is to be severed.
- 5.5.2 The site's National Pollutant Discharge Elimination System (NPDES) Permit No. 11000005*HD requires the use of control measures to ensure the quality of storm water leaving the site. These control measures and practices are outlined in the site's Storm Water Pollution Prevention Plan OPA980099. Appropriate activities would include; redirect flow patterns around the project site to prevent stormwater run-on. Provide inlet protection to the storm sewer system by covering catch basins immediately adjacent to the project site and plugging roof drains at ground level until which time the underground pipes can be appropriately abandoned. Exercise good housekeeping techniques by segregating materials in a timely manner, including the prompt disposal of wastes, and sweeping debris from the streets to prevent stormwater pollution. Water that has collected in an open excavation or in sumps, must be monitored prior to discharging to the sanitary or storm sewer systems. Contact Environmental Monitoring at extension 4188 for monitoring and review of these non-routine discharges.

5.6 National Historic Preservation Act (NHPA)

Building 95 is not listed as a historic structure with the Ohio Historic Preservation Office (OHPO). No mitigative documentation package is required. However, if any items or artifacts are discovered as this project progresses, the Cultural Resource Representative will be notified at extension 3691. Work will be temporarily suspended until which time the items or artifacts have been recovered.

5.7 Safe Drinking Water Act

The Building 95 potable water supply was turned off and capped to protect the integrity of the water supply to that portion of the plant site. The line was capped below grade and testing performed for total chloroform after the work is complete.

5.8 Emergency Spill Response

Building 95 will be disconnected from all utility services and the lines drained, including Glycol lines. There should be no regulated component that will be encountered. In the event of a major spill of any regulated substances, or the rupture of a non-isolated utility line (fire, domestic water, ethylene glycol) call 911 if using an onsite phone or 937-865-4040 if using a cell or other outside phone to report it; also see Emergency Preparedness section. All spills must be contained onsite and should be prevented from entering the storm drains if possible. If spills enter the storm drains, all effluent must be retained onsite at the overflow pond.

6. CHEMICAL AND WASTE MANAGEMENT

All wastes will be managed in accordance with the Waste Management Plan for the Mound Exit Project, MD-10499. The Waste Coordinator requirements will ensure that this is accomplished and summarized in a Job Specific Waste Management Plan, see Appendix G.

Non-PCB containing fluorescent tubes and ballasts will be left in place, and will be demolished with the building. PCB containing ballasts will they have been removed during Safe Shutdown activities. Note: The fluorescent tubes have been removed.

7. EMERGENCY PREPAREDNESS

7.1 Site Notification Procedures

- 7.1.1 Use **911** for all emergency services onsite. This is the first response for any emergency, spill, or release. If using a cell phone, dial **865-4040**. This number will ring into the plant 911 system.
- 7.1.2 Any injury, no matter how minor, shall be reported immediately to the Medical Department for evaluation and treatment. The injured employee shall report any injury to the supervisor in charge or designee.

7.1.3 Employees will be notified of emergency or abnormal conditions by the plant paging system or project two-way radios. Additionally, unique sheltering and evacuation signals are available should site-wide protective actions be necessary.

7.2 Evacuation Route/Assembly Areas

The assembly area is to the west of Building 95. See map per Appendix E.

7.3 Take Shelter Area

CAUTION

Be aware of threatening weather and take shelter when life-threatening storms are imminent.

Take shelter area is in Building 38 basement. -See Appendix E

8. PRE-DEMOLITION SEQUENCE OF WORK

8.1 Site Characterization

8.1.1 Physical Characterization

A structural engineering survey was performed and documented for Building 95 to meet the requirements of OSHA 29 CFR 1926.850(a). A walkdown of the structure was used to identify potential hazards as listed in 29 CFR 1926.850(e) through (i). It has been determined the building does not meet the criteria that cause the structure to be historically significant.

8.1.2 Radiological Characterization

All radiological survey results for Building 95 were within applicable limits.

8.1.3 Chemical and Metals Characterization

Building 95 is a chiller plant; chemicals for treating water are currently stored in the building, but will be removed prior to demolition activities. The most recent (March 2002) annual chemical inventory report found no "emergency and hazardous" chemicals located in the building.

8.1.4 Asbestos Characterization

On June 13, 2002, Mr. Christopher A. Ahlquist, an Industrial Hygienist with BWXT of Ohio, Inc. (BWXTO), conducted a survey of Building 95 (three separate structures) at the Mound site in Miamisburg, Ohio for purpose of identifying asbestos-containing materials contained therein. Mr. Ahlquist is an Ohio Department of Health Certified Asbestos Hazard Evaluation Specialist as required by Ohio Department of Health regulations. During the course of the

survey, Mr. Ahlquist conducted a records review for previous survey reports and sampling data and collected bulk samples of materials found within Building 95 as necessary in order to determine the asbestos content of said materials. A room-by-room inspection of all accessible spaces was then conducted in order to prepare an inventory of the location and approximate quantities of identified asbestos-containing materials. Only one material was suspect for containing asbestos (drywall system), and sampling and analysis indicated that it did not contain asbestos in accordance with EPA and OSHA regulations. This material was located on some of the walls of the largest structure.

8.2 Site Preparation

8.2.1 Site Access Control

The demolition area will be identified utilizing the existing fence around the building, or at the discretion of the project construction manager/foreman, marked off with barricade tape/fencing.

8.2.2 Clearing and Grubbing

The area around the buildings will be mowed and insecticide will be sprayed *if appropriate*. Coordinate with site Safety and Health and Environmental Compliance.

HAZARD	MITIGATION
Insect bites	Mow area around building. Wear long pants and long sleeve shirt. Tape arm and leg openings, if desired.
Exposure to insecticide	Follow requirements of MD-10286 D2. Use licensed personnel. Follow label directions and MSDS.

8.2.3 Temporary Utilities

The only temporary utility that may be required is water. Coordinate with site Safety and Health. Water will be used to control dust emissions.

8.2.4 Temporary Facilities

This project will use the SMPP/TFV project trailer in the new trailer complex located in the existing Mound "C" parking lot. Also, a portable toilet has been located at the job site.

8.2.5 Temporary Communications

Temporary communications are required (cell phone, radios) due to the difficulty of hearing plant announcements and emergency notifications. At the job site, plant announcements and emergency notifications can be heard on the Plant radio channel.

8.2.6 Staging Areas

The project site is of sufficient size to also be used as a staging area.

8.3 Preliminary Activities

- 8.3.1 Domestic water, fire water, glycol, plant air, steam, electrical, fire alarm system and communications lines have been disconnected under separate safe shutdown, MSR 30048. Verify all mercury-containing switches have been removed. If found, dispose through Waste Management.
- 8.3.2 Protect the existing power transformer from damage from demolition activities.
- 8.3.3 Confirm all Freon has been previously removed and recycled from HVAC units inside and outside of the building.
- 8.3.4 Fluorescent tubes, ballasts, and explosion-proof lights will remain in place. If PCB-containing ballasts are encountered, remove and dispose through Waste Management. Note: Contact site Safety and Health with any concerns about fluorescent tubes, ballast, or explosion proof fixture seals.

HAZARD	MITIGATION
Fall hazard	Follow requirements of MD-10286 M-14

9. BUILDING DEMOLITION SEQUENCE OF WORK

9.1. Establish Work Zone

Establish work zone boundary using the existing fence and/or with barricade tape and /or temporary fencing as directed by the Project Foreman. Proper signage will be placed at all access points to the site. This zone is not to be entered by anyone not directly involved with the demolition unless they have contacted the Project Superintendent/Foreman first. Do not begin any demolition activities until the following items are completed.

All new workers assigned to this project have received a pre-job briefing prior to performing work and a walk down of the project area. The following must be completed prior to starting work.

Review of the *Preliminary Hazard Analysis* for work package activities must be complete.

- 9.1.1. The *Pre-Job Briefing Record* must be completed and signed.
- 9.1.2. The *Job Specific Hazards Analysis (JSHA)* must be reviewed.

NOTE: All workers have Stop Work Authority. Situations where stop work authority is to be exercised are:

- **To stop unsafe work.**
- **To stop unauthorized work, for example, work outside the scope of this work package.**

- 9.1.3 Perform Safe Shutdown activities in order to isolate all the connections to the stanchion rack piping and the electrical components systems. including the following systems: electric/communication/fire alarm systems, steam, condensate and glycol, plant air, street lighting, and Molan systems.
- 9.1.4 Verify Safe Shutdown activities have isolated all the connections to Buildings 95, 95A, 95B and 95 Substation including the following systems: electric/communication/fire alarm systems, steam and glycol, sewage and potable water systems.
- 9.1.4. Verify that all pre-demolition notifications have been made and permits are in place.
- 9.1.5. Install sediment/storm water control fence around designated construction area as necessary.
- 9.1.6. Prepare water distribution system for the control of dust. Verify that traffic control is ready, as necessary.

9.2. Demolition

9.2.1 Safe shutdown pipe rack stanchions and underground utilities

The utilities operations group will isolate the mechanical and electrical utilities on the pipe rack system. The utilities operations group will drain the system and along with capture of excess glycol for reuse or disposal. Glycol lines should be checked for low "holding points" these points need to be drilled and drained prior to demolition. Remaining abandoned open ends of pipes will be capped.



The electrical substation on the east side of building 95 in a energized high voltage source that needs to be protected from damage and the appropriate caution and LOTO procedures taken while working around.

9.2.2 Demolition pipe rack stanchions and utilities

The SM/PP-TFV crews will demolished the pipe rack/stanchions system

including the top of the concrete pedestal foundations. The materials will be sized and placed into appropriate hauling containers or trucks.

9.2.3 Structure Dismantlement or Demolition

The current strategy calls for the buildings super structures to be sold and/or dismantled in order to gain access to the equipment housed inside the structures. The equipment is also to be sold as surplus equipment and removed by the purchaser. However if the equipment can not be sold, then the facility will be demolished using current demolition processes. Demolish the structural steel roof trusses and walls and metal roofing panels using heavy-duty equipment. Use the existing slab for load out surface for loading debris and placing into appropriate hauling containers or trucks.

HAZARD	MITIGATION
Contact overhead power lines with heavy-duty equipment.	If an part of heavy-duty equipment has the potential to come within 10' of overhead powers, perform LOTO.
Struck by flying debris Struck by moving equipment	Establish construction boundary. Temporary closure of the roadway to be coordinated with site wide safety, emergency and other necessary entities. Wear hard hat, safety glasses, safety shoes, and reflective vest inside construction area. Maintain the following distances from operating equipment: Shear - 75 feet Hoc Ram - 50 feet Other heavy duty equipment - 30 feet Bobcat - 15 feet
Noise Hazard	Wear hearing protection while running heavy-duty equipment. Follow the requirements of MD-10286 D9.
Burns from torch cutting	Obtain and follow Hot Work permit per MD-10286 O2.
Heat/Cold Stress	Follow the requirements of MD-10286 D13/D16.

Exact sequence of demolition will be left up to the skill of the craft.

Note: The progressions of the building demolition will ultimately be determined in the field.

9.2.4 Slab and Foundation

Using heavy equipment, break apart the concrete slab, foundation, and footers to 3' below grade, torch cut the rebar as required (Hot Work Permit is required if used) to support demolition and downsizing. During the concrete demolition, use heavy equipment to assist radiological control personnel to perform radiological screening of all concrete surfaces. Based on radiological screening results, transport to Mound's spoils area, or offsite disposal, as directed by Waste Management. Note there is a condenser water sump approximately 10 foot deep in slab.

HAZARD	MITIGATION
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Burns/fire	Burn permit, fire protection, and PPE.
Strike underground utilities	Obtain Excavation permit and follow its requirements per MD-10286 05

9.2.5 Organize area for future soil remediation

The last step will be to restore the area by grading and seeding. Remove any unnecessary remaining sediment/storm water control fences. Scan equipment for radiological contamination and decontaminate prior to leaving area. Remove dust control water distribution system, temporary power fencing and any traffic control.

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Appendix A
JSHA/HASP

Project/Activity: Buildings 95, 95A, 95B Demolition
 Name: Lee Koehmstedt

JSHA CRITERIA CHECKLIST	YES	NO	N/A
1. Work performed with a 6 ft. or greater fall hazard, excluding portable ladders. See Item 14 for further requirements.		X	
2. Roof work requiring the use of fall protection (within 6 ft of an unprotected edge) or special fall protection procedures.		X	
3. Potential hazardous chemical exposure above action levels or permissible exposure limits (PELs), or ACGIH Threshold Limit Values (TLVs).		X	
4. Work activity in an immediately dangerous to life or health (IDLH) breathing hazard environment.		X	
5. Fire or explosion hazards. Are fire hazards beyond a Hot Work Permit? (Reference O2, MD-10286)		X	
6. Work within close proximity of live electrical than 50 volts, conductors, and/or work that requires multiple locks, multiple hazard sources, or complicated lockout/tagout circumstances. (Reference MD-10444, <i>Lockout/Tagout Procedure Manual</i> , for multiple energy lockout/tagout.)	X		
7. Any maintenance or repair of equipment under pressure where the pressure cannot be shut off and de-energized.		X	
8. Work with high or extreme exposure to ionizing or nonionizing radiation (reference MD-80036, Op 10002), noise, or heat or cold stress (reference D9, D13 & D16, MD-10286).	X		
9. Determined by an appropriate core team, building manager, member of general or executive management, or the IS&H manager to require a JSHA.	X		
10. Any onsite construction or service project directed to have JSAs based on this procedure and/or instruction from project personnel or IS&H staff.	X		
11. Near-miss event with the potential for loss of life or limb or disabling injury/illness if repeated.		X	
12. Excessive trauma/motion/vibration work situations or manual lifting involving heavy, large, and/or awkward-to-handle objects (reference MD-10407, <i>Ergonomics Program</i>).		X	
13. Unguarded, unmarked close clearance, pinch point, exposed moving machinery parts.		X	
14. Known potential falling object hazards (e.g., employees working above other employees, potential for dropping tools, falling equipment or material) or working in areas with the potential for flying objects (flying chips, sandblasting, etc.), exposure to sharp or protruding objects (e.g., working inside plenums, air mover ducts, etc.).	X		

MANDATORY JSHA REQUIRED TO ADDRESS ANY/ALL (YES) RESPONSES

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JOB SAFETY & HEALTH ANALYSIS

JSHA MASTER DOCUMENT CONTROL NO:
SMPP/TFV - 32003-1

SIGNATURES

DATE: 2/3/2003	<input type="checkbox"/> NEW <input checked="" type="checkbox"/> REV	BUILDING: 95	JOB: Demolish Buildings 95, 95A, 95B, 95 substation
DEPARTMENT/COMPANY: SMPP/TFV		SECTION: N/A	
OCCUPATIONS: Heavy Duty, Demo Tech, Construction Craft, Pipefitter/Welder, Electrical Control, Fab Mechanic, RCT, III			

ORIGINATOR: Loe Koehms
REVIEW/REV: Jazed, Willis, Chris, Ahlquist
REVIEW/REV: Bill Wahler
REVIEW/REV: Gary Weidenbach / Alan Upshaw
APPROVED: Kurt Kehler

REQUIRED PERSONAL PROTECTIVE EQUIPMENT: Hard Hat, Safety Glasses with side shields, safety shoes, safety vest, hearing protection		MSDS(s)/CHEMICALS ASSOCIATED WITH THE JOB: Insecticide
BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
<p>Break the job down into basic steps that tell what is done first, what is done next, and so on.</p> <p>Record the job steps in their normal order of occurrence. Describe what is done, not the details of how it is done. Usually, three or four words are sufficient to describe each job step. For example, the job of "replacing a light bulb" may break down into basic steps as follows.</p> <p>1. Bring and set up ladder 2. Ascend ladder 3. Remove light globe & bulb 4. Replace light bulb</p> <p>5. Replace light globe 6. Descend ladder 7. Remove and store ladder</p>	<p>Ask yourself for each job what accidents/illnesses could occur to the employee doing the job.</p> <p>Record potential accidents/illnesses by combining one of the abbreviations below with the agent of contact. For example, "struck by a crane hook" is recorded "SB-crane hook". Number each potential accident.</p> <p>SB - Struck by CB - Contacted by SA - Struck against CW - Contact with CI - Caught in</p> <p>CO - Caught on IB - Caught between F - Fall SO - Strain-overexertion* E - Exposure (occ. illness)</p> <p>*Show ergonomic stresses as SO (repetitive trauma, single event strain, or awkward position)</p>	<p>For each potential accident/illness, ask yourself exactly what the employee should do or not do to avoid the accident/illness.</p> <p>Describe specific precautions in detail. Give each precaution the same number given in the potential accident (center column) to which it applies. Avoid generalities such as "Be alert," "Be careful," and "Take caution." Use simple do or don't statements, e.g., "Lock out main power switch," "Stand clear of lift before signaling," or "Check wrench grip before exerting full force." If necessary, explain how, as well as what, to do. Amount of detail is a matter of judgment.</p> <p>Describe ergonomic solutions (job redesign, new tools, worker lift assistance, etc.)</p>
General Safety Note	A wide variety of incidents occur on a regular basis that potentially could result in injury or illness	<p>1) Be cognizant of your own safe work practices as well as those of your co-workers.</p> <p>2) Review any related safety procedures of which you are unsure.</p> <p>3) Utilize STOP WORK Authority as necessary.</p>
Pre-job meeting with involved personnel to discuss the work plan and safety requirements.	NA	This project engages in Enhanced Work Planning (EWP), an ISM process that evaluates and improves the approach by which work is identified, planned, approved, controlled, and executed.
Operation of heavy equipment near electric overhead lines	Electrocution	LOTO all electrical overhead lines.

Handwritten initials and date: *2908*

**JOB SAFETY AND HEALTH ANALYSIS FORM
(CONTINUATION SHEET)**

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
Demolish buildings, substation and pipe rack and stanchions by skilled craft using excavator mounted shear, hoe ram, grapple, loader, and bobcat Demolition/dismantlement of Buildings	Struck by flying debris Struck by moving equipment Noise Hazard Elevated surfaces, ladders	Establish construction boundary. Wear hard hat safety glasses, safety shoes, and reflective vest inside construction area. Make eye contact with operator when working around equipment. Use hand signals to communicate intent. Maintain the following distances from operating equipment: Shear – 75 feet Hoe Ram – 50 feet Other heavy duty equipment – 30 feet Bobcat – 15 feet Make sure equipment is in safe working order. Use spotter if vision is obstructed. Install traffic control. Wear hearing protection while running heavy-duty equipment. Follow the requirements of MD-10286 D9. Maintain fall protection
Torch cut rebar or to weaken structural members	Bums, fire Potential lead paint	Obtain and follow Hot Work permit per MD-10286 O2. Wear proper PPE; have fire extinguishers in the construction zone. Test for lead paint; do not torch cut lead paint.
Working in excessive heat/cold	Heat Stress/Cold Stress	Follow the requirements of MD-10286 D13/D16.
Slab removal	Strike underground utilities Silica exposure	Obtain Excavation permit and follow its requirements per MD-10286 O5. Monitor for silica; keep area wet for fugitive dust suppression.
Working outside.	Adverse weather conditions	Be aware of adverse weather conditions, and use assembly and take shelter areas as appropriate.
Working with Glycol	Potential chemical exposure	Glycol MSDS.

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APPENDIX C

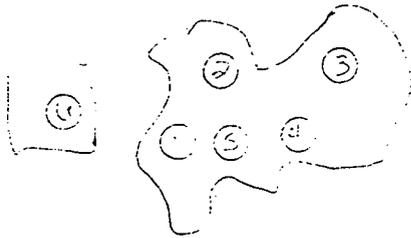
Post-Demolition Radiological Surveys

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG. / ROOM / AREA) <u>Bldg 9S Debris</u>	SURVEY NO. <u>03-TT-0002</u>
PURPOSE: <u>Release To Spills Area</u>	RWP NO. <u>N/A</u>
	DATE: <u>2/26/03</u>
	TIME: <u>1300</u>

MAP / DRAWING

COPY



FENCE

DIRECT MEASUREMENTS TAKEN AT SMEAR LOCATIONS:

$\alpha < 100 \text{ dpm} / 100 \text{ cm}^2$ $\beta^- < 5000 \text{ dpm} / 100 \text{ cm}^2$

BICRON FIDLER MEASUREMENTS TAKEN FOR INFORMATION ONLY.

ALL READINGS AT BACKGROUND (200 cpm)

LEGEND: # = mrem/hr (γ) whole body # = mrem/hr neutron # = swipe number
 #E = mrem/hr ($\beta + \gamma$) extremity on contact # = air sample number #/ α or β = direct contamination measurement in dpm/100 cm²
 K = factor of 1000
 - - - - = radiological boundary

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
<u>LD 23100</u>	<u>5778/5730</u>	<u>1-23-04</u>
<u>BICRON FIDLER</u>	<u>3815/3840</u>	<u>1-22-04</u>
 	 	

Completed by: (Signature) <u>[Signature]</u>	HP# <u> </u>	Date: <u>3-3-03</u>
Completed by: (Print Name) <u>MICHAEL J RUBADUE</u>		
Counted by: (Signature) <u>SEE</u>	HP# <u> </u>	Date: <u> </u>
Counted by: (Print Name) <u>ATTACHED</u>		
Reviewed/Approved by: (Signature) <u>[Signature]</u>	HP# <u> </u>	Date: <u>03/05/03</u>
Reviewed/Approved by: (Print Name) <u>R.M. Coblenz</u>		

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm ²)				
Sample #	Beta	Alpha	Tritium	Comments
1	SEE ATTACHED			CONCRETE DEBRIS
2				
3				
4				
5				
6				
7	↓	↓	↓	↓
8	SEE ATTACHED			CONCRETE DEBRIS
A				
N				

Removable Contamination				
Swipes (dpm/100cm ²)				
Sample #	Beta	Alpha	Tritium	Comments
A				
N				

COMMENTS: SMears FIELD SCREENED 41,000 dpm/100cm²
N/A

- NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
 2. To request RO Count Room analysis for beta, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
 3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If needed, mark N/A.

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Red
Data file name: SMEAR011
Batch Ended: 2/27/03 10:09

Crosstalk correction performed.

Batch ID: RUBADUE 03-TF-0052 (8)/BKS

Recalibration Date: 6/7/04
Serial Number: 26966-2

Detector ID	Sample ID
B1	1
B2	2
B3	3
B4	4
C1	5
C2	6
C3	7
C4	8

Alpha Activity		
DPM	σ	Flags
1.5	2.0	
0.0	2.0	
0.0	1.9	
0.0	1.9	
0.0	2.0	
0.0	2.0	
0.0	1.9	
0.0	1.9	

Beta Activity		
DPM	σ	Flags
0.0	1.5	
0.1	2.0	
0.0	1.7	
0.0	1.3	
0.0	1.3	
1.1	1.9	
0.0	1.2	
0.0	1.2	

1/15/02

M&R

Shonda Strong

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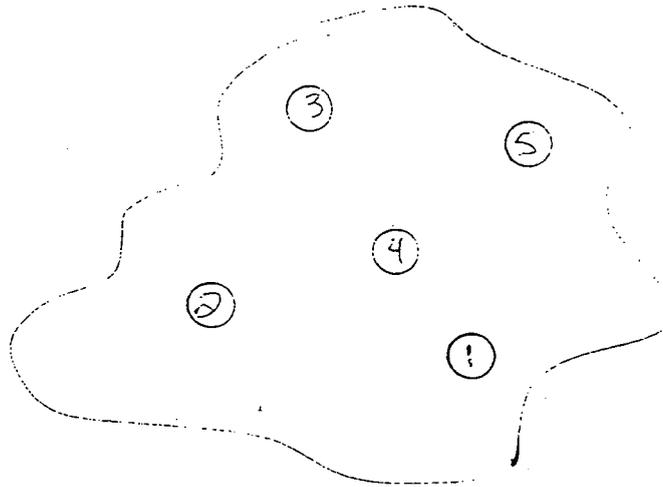
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RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG. / ROOM / AREA) <u>Bldg 95</u>	SURVEY NO. <u>C3-TF-C053</u>
PURPOSE: <u>RELEASE TO Sports AREA</u>	RWP NO. <u>N/A</u>
	DATE: <u>2-27-03</u>
	TIME: <u>0815</u>

MAP / DRAWING

COPY



FENCE

DIRECT MEASUREMENTS TAKEN AT SMEAR LOCATIONS:

$\alpha < 100 \text{ dpm}/100 \text{ cm}^2$ $\beta < 5000 \text{ dpm}/100 \text{ cm}^2$

BICRON FIDDLER READINGS TAKEN FOR INFORMATION ONLY. ALL READINGS AT BACKGROUND ($< 200 \text{ cpm}$)

LEGEND: # = mrem/hr (γ) whole body Δ # = mrem/hr neutron # = swipe number
 #E = mrem/hr ($\beta + \gamma$) extremity on contact # = air sample number or β = direct contamination measurement in $\text{dpm}/100 \text{ cm}^2$
 K = factor of 1000
 - - - - = radiological boundary #/α

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
LUD <u>2360</u>	<u>5778/5730</u>	<u>1/23/04</u>
BICRON FIDDLER	<u>3815/3846</u>	<u>1-22-04</u>
N		A

Completed by: (Signature) <u>[Signature]</u>	HP# <u>[Redacted]</u>	Date: <u>3-3-03</u>
Completed by: (Print Name) <u>MICHAEL J RUBADUE</u>		
Counted by: (Signature) <u>SEE</u>	HP# <u>[Redacted]</u>	Date:
Counted by: (Print Name) <u>ATTACHED</u>		
Reviewed/Approved by: (Signature) <u>[Signature]</u>	HP# <u>[Redacted]</u>	Date: <u>03/05/03</u>
Reviewed/Approved by: (Print Name) <u>Ru Coblenz</u>		

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Red
Data file name: SMEAR010
Batch Ended: 2/27/03 10:06

Crosstalk correction performed.

Batch ID: RUBADUE 03-TF-0053 (S)/BKS

Recalibration Date: 6/7/04
Serial Number: 26966-2

Detector ID	Sample ID
B1	1
B2	2
B3	3
B4	4
C1	5

Alpha Activity		
DPM	σ	flags
0.0	2.0	
0.0	2.0	
0.0	1.9	
0.0	1.9	
0.0	2.0	

MA

Beta Activity		
DPM	σ	flags
1.1	2.7	
0.1	2.0	
0.0	1.7	
5.1	2.9	
0.0	1.3	

MA

Brenda Stringer

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