69-83

RESTORATION ADVISORY BOARD
JANUARY 21, 1997 MINUTES

1. Attendance:

Government RAB Members Present:

Stephen M. Absolom, BRAC Environmental Coordinator, SEDA/Army Co-chair
Carla Struble, U.S. Environmental Protection Agency
Dan Geraghty, NYS Department of Health

Government RAB Members Not Present:

Kamal Gupta, NYS Department of Environmental Conservation

Community RAB Members Present:

Anne Herman, Frank Ives, Mary Anne Krupsak, Harold Kugelmass, Al Legasse, Russell Miller, Richard R. Sisson, David Wagner

Community RAB Members Not Present:

Dick Durst/Community Co-chair, Estelle Coleman, Brian Dombrowski, Richard M. Lewis, Jr., Lucinda Sangree, Carmen Serrett, Henry Van Ness

Government and Technical Support Personnel Present:

Thomas Enroth, SEDA Environmental Engineer
Janet Fallo, SEDA Environmental Engineer
Joanne Ogden, SEDA Legal Office Representative/Acting Public Affairs Officer
Jerry Whitaker, SEDA Base Transition Coordinator
Randy Battaglia, U.S. Army Corps of Engineers, NY District, SEDA Resident Office
Kevin Healy, U.S. Army Corps of Engineers, Huntsville Division
Jeff Waugh, U.S. Army Environmental Center
Captain Richard Murphy, Industrial Operations Command
Major David Sheets, Industrial Operations Command
Michael Duchesneau, Parsons Engineering Science, Inc. (Boston, MA Office)
Julia Schulten, Parsons Engineering Science, Inc. (Tampa, FL Office)
Jim Ridenour, NYS Department of Health

Others Present (from sign-in sheet):

Neil Chaffie, Ovid Newspaper
Heather Clark, Community Member
Peter W. Coutts, Rochester
Gerald DeCuollo, Yardley, PA
Joanne Howard, Community Member (Willard)
William Hudson, Community Member (Romulus)
Patricia Jones, Local Redevelopment Authority
Nellie Legasse, Community Member (Romulus)
Marguerite Wilson, Community Member (Romulus)

2. At 7:08 p.m., the meeting was called to order. Stephen Absolom gave the opening remarks and emphasized that RAB members input on the Ash Landfill proposed cleanup alternatives is an important part of the process. He then asked everyone in the room to introduce themselves.

3. After introductions, Mr. Absolom asked if there were comments on the November 19, 1996 meeting minutes. There were none so the minutes will be final when Dr. Durst, Community Co-chair, signs them at the next meeting.

4. Julia Schulten gave a presentation on ecological risk assessment as part of the Superfund cleanup process. It is the process that evaluates potential adverse effects on plant and animal species as a result of exposure to hazardous substances on the site. Adverse effects may include a lower reproductive rate and other factors that are not obvious. The process involves identifying chemicals of concern, evaluating how the receptors are exposed, evaluating the toxicity of the chemicals, and comparing this information with a dose that is considered "safe". Risk management involves taking the results of a risk assessment and involving social, legal, political, and economical factors to make a decision on action for a site. Stephen Absolom mentioned that we just received the document for this study. Several questions were asked at the end of the presentation. Julia Schulten made the following points to respond to those questions:

a. Certain species are considered more ecologically significant, such as the loss of a member of an endangered species. For others, over a 20% loss may be required to take action unless they are an important part of the food chain.

b. To determine the impact on a particular species, they would compare results from a contaminated site versus an uncontaminated site. For a species like earthworms, an area (such as one square meter) would be excavated and the number of earthworms would be counted. Then they would do the same on an uncontaminated site and compare the two results.

c. At site SEAD-17, there was no concern. At SEAD-16, there is a potential concern due to mercury found on the site. However, the mercury went through an incinerator and is most likely in its inorganic form but more tests may have to be done before a decision is made.

d. The creek chub, a small fish, gets its exposure primarily from direct contact from the water, not from being a part of the food chain.

5. Mike Duchesneau presented alternatives for cleanup at the Ash Landfill site as discussed in the Feasibility Study. He described the 5 sites that were combined and investigated as an operable unit for this project. Trash generated from the depot was burned in refuse burning pits (SEAD-14) from 1941 to 1974. From 1974 to 1979, a trash incinerator operated on this site until it was destroyed by fire on May 8, 1979. Ash was temporarily stored in cooling pits (SEAD-3) and disposed of in the Ash Landfill (SEAD-6). Anything that could not be burned was buried in the Non-Combustible Fill Landfill (SEAD-8).

Field tasks for the Remedial Investigation and the components sampled for were discussed. After the investigation, a soil treatment project took place between September 1994 and June 1995. Low Temperature Thermal Desorption (LTTD) was used to treat 35,000 tons of soil in the Ash Landfill. Mr. Duchesneau then discussed the different options for treating the groundwater and the soil. The RAB members said they need more time to review the options and it was agreed that we would send them summary tables in the next mailing. Some issues that were discussed as a result of the RAB members comments and questions include:

a. During the soil treatment project, 900,000 gallons of groundwater, run-on, and run-off were treated in an air stripper on site. After testing results verified the water met groundwater standards, it was discharged back onto the ground in a field. Air emissions from the air stripper were sent through a carbon unit and the used carbon was sent back to the company for recycling.

b. Only municipal trash from the depot was burned on the Ash Landfill site. There is no history of industrial operations.

c. For the Funnel and Gate System/Iron Filings clean up option: iron is a catalyst for the reductive dechlorination of the contaminants at the Ash Landfill site. The process is still in the pilot study stage. At this time, it appears that the iron will be oxidized over time and needs to be replaced approximately every 10 years.

d. Regarding the Natural Attenuation clean up option: a contingency plan is developed in case the contamination does not degrade as expected. Monitoring will continue for approximately 30 years and the site will be re-evaluated every 5 years.

e. The source of contamination at the Ash Landfill site was removed during the soil treatment project completed in June 1995.

6. During general discussion, the following issues were raised:

a. Mr. Absolom mentioned that Seneca Army Depot is required to have a public meeting to discuss the Proposed Plan at the Open Burning Grounds. It was agreed that it could be held in place of the March RAB meeting (March 18, 1997) so the members could attend.

b. RAB members would like better publicity for the Open Burning Grounds public meeting such as flyers handed out or more radio announcements.

c. More discussion on the Ash Landfill options will take place at the next meeting on February 18, 1997.

7. The meeting was adjourned at approximately 9:35 p.m.

Respectfully submitted,

JANET FALLO
Environmental Engineer

APPROVED AS SUBMITTED:

STEPHEN M. ABSOLOM
U.S. Army Co-Chair

RICHARD A. DURST
Community Co-Chair

Ecological Risk Assessment

January 21,1997

Julia Schulten, Ph. D.

Tonight's Topics

- Why Do We Do Risk Assessment
- What is Ecological Risk Assessment
- How Do We Do Ecological Risk Assessment
- What is the Relationship Between Risk Assessment and Site Cleanup

WHY DO WE DO RISK ASSESSMENT

- Part of the "*Superfund*" process and the Army's Remedial Investigation process
  - Must determine site's current effects
  - Must be used in cleanup planning

What is Ecological Risk Assessment

- It is a process that evaluates the likelihood that adverse ecological effects may occur or are occurring as a result of exposure to hazardous substances

- Risk management involves selection of a course of action in response to a risk. It may involve factors, such as social, legal, political, or economic ones, in addition to risk assessment results.

HUMAN HEALTH RISK ASSESSMENT

ECOLOGICAL RISK ASSESSMENT

How Do We Do Risk Assessment

- Identification of Chemicals of potential concern
- Exposure assessment
- Toxicity assessment
- Risk characterization

Identification of Chemicals of Potential Concern

- Sample collection from soil, groundwater, surface water, sediment
- Lab analysis
- Data review
- Calculate reasonable maximum exposure concentration

Chemicals at SEAD-16 and SEAD-17

- Fuel-related compounds
- Solvent-type compounds
- Metals
- Ammunition constituents
- Pesticides and Herbicides

Exposure

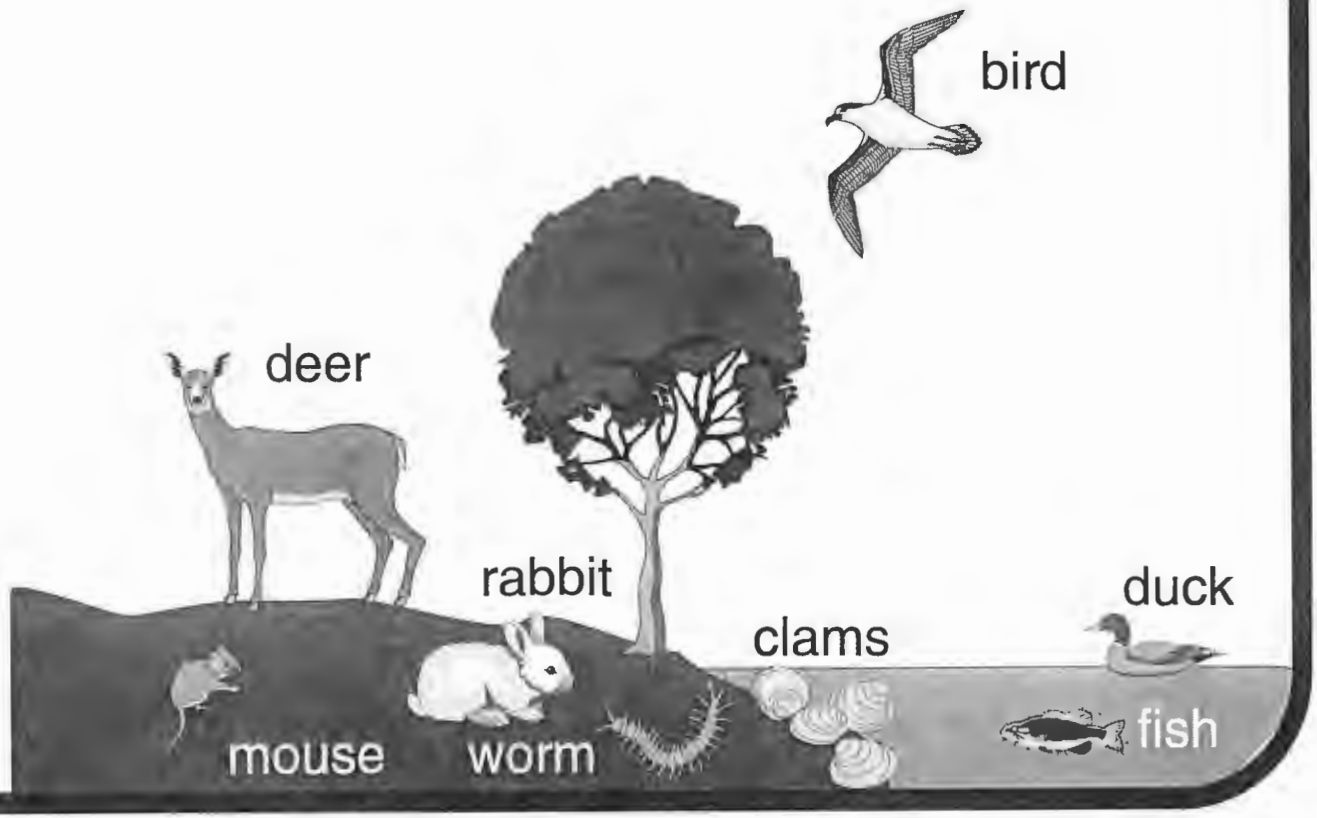
- *Chemical is present and can be contacted*
- *Receptor is or may be at point of contact*

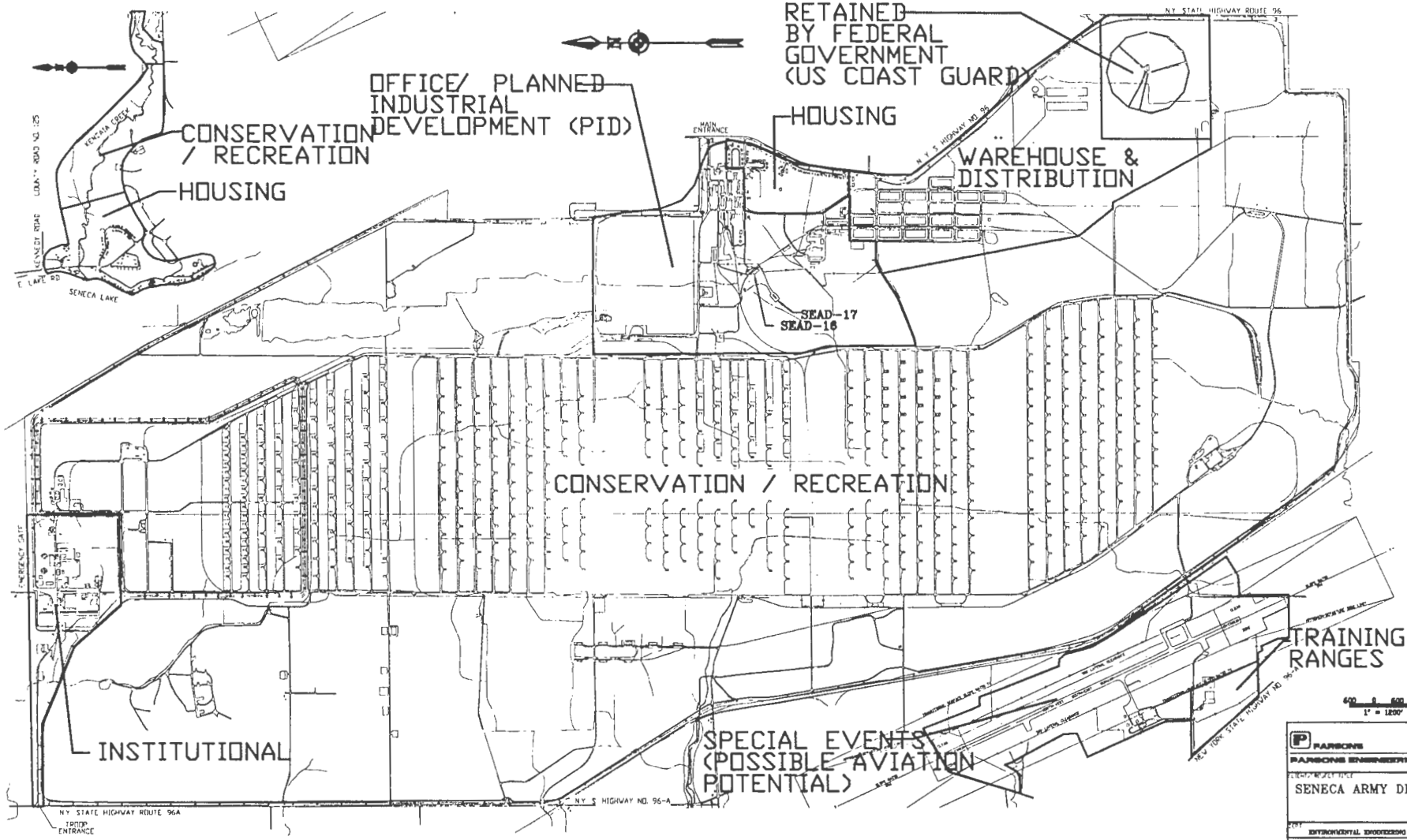
EXPOSURE ASSESSMENT

HUMAN HEALTH ASSESSMENT

ECOLOGICAL ASSESSMENT

Homo sapiens





PARSONS

PARSONS ENGINEERING SCIENCE, INC.

SENECA ARMY DEPOT ACTIVITY

ENVIRONMENTAL ENGINEERING | No. 786688-01000

SEAD-16 AND SEAD-17
SITE LOCATION AND
LAND USE

SCALE 1" = 1800' | DATE JANUARY 1997 | A

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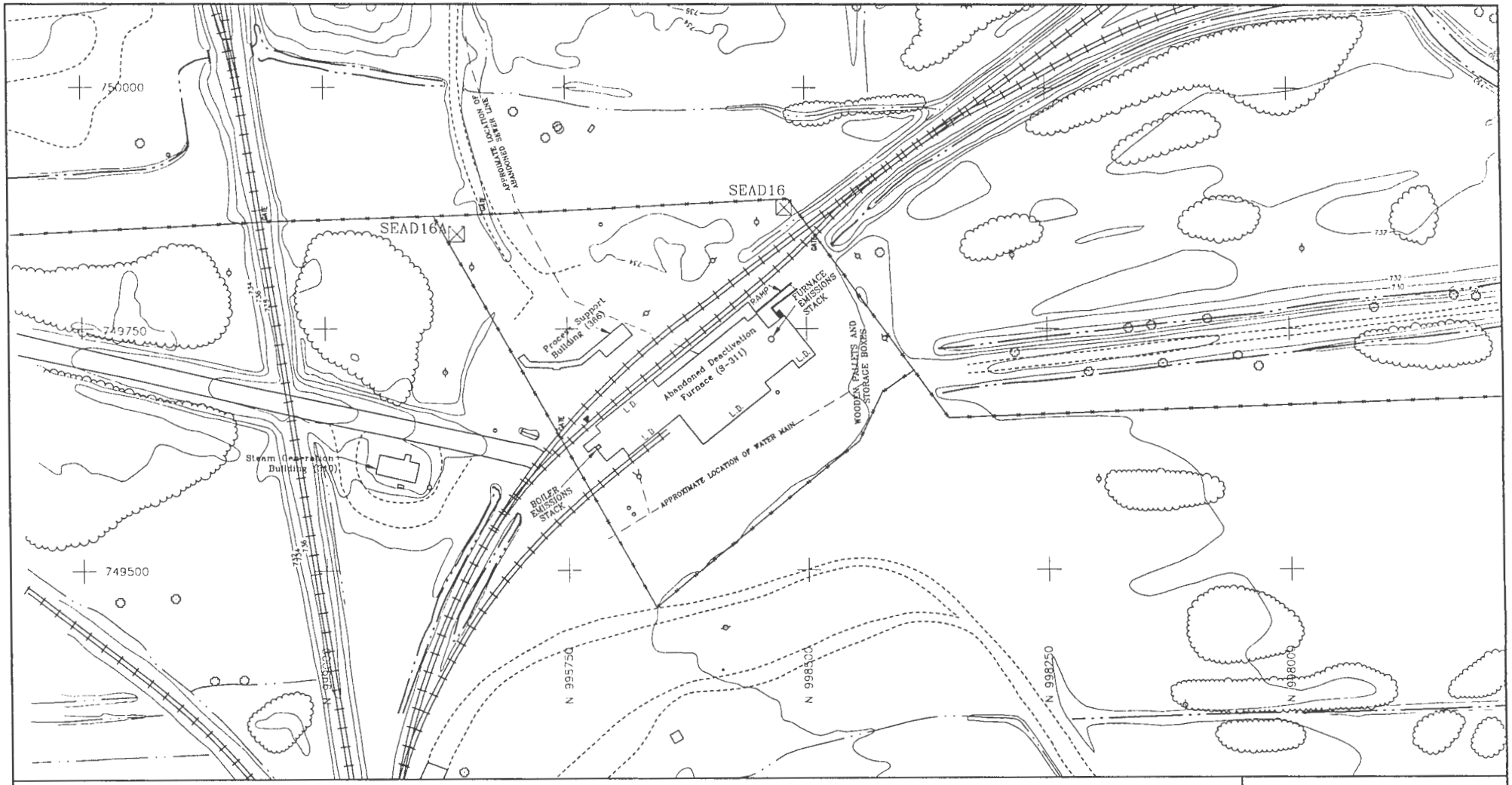

LEGEND

- MINOR WATERWAY
- MAJOR WATERWAY
- FENCE
- UNPAVED ROAD
- BRUSH LINE
- LANDFILL EXTENTS
- RAILROAD
- 760 GROUND SURFACE ELEVATION CONTOUR
- SURVEY MONUMENT
- L.D. LOADING DOCK
- ROAD SIGN
- DECIDOUS TREE
- FIRE HYDRANT
- MANHOLE
- GUIDE POST
- POLE
- UTILITY BOX
- CORDINATE GRID (250' GRID)
- OVERHEAD UTILITY POLE
- MAILBOX/RR SIGNAL

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1" = 100'

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PARSONS ENGINEERING SCIENCE, INC.

CLIENT/PROJECT TITLE
SENECA ARMY DEPOT ACTIVITY
RI/FS
SEAD-16 ABANDONED DEACTIVATION FURNACE

DEPT: ENVIRONMENTAL ENGINEERING
Dwg No: 729896-01001

FIGURE 1-3
SEAD -16 SITE PLAN

SCALE: 1" = 100'
DATE: DECEMBER 1996
REV: A

LEGEND

- MINOR WATERWAY
- MAJOR WATERWAY
- FENCE
- UNPAVED ROAD
- BRUSH LINE
- LANDFILL EXTENTS
- RAILROAD
- 760 — GROUND SURFACE ELEVATION CONTOUR
- SURVEY MONUMENT
- ROAD SIGN
- DECIDOUS TREE
- FIRE HYDRANT
- MANHOLE
- GUIDE POST
- POLE
- UTILITY BOX
- CORDINATE GRID (250' GRID)
- OVERHEAD UTILITY POLE
- MAILBOX/RR SIGNAL

50 0 50 100
1" = 100'

PARSONS
PARSONS ENGINEERING SCIENCE, INC.

CLIENT/PROJECT TITLE
SENECA ARMY DEPOT ACTIVITY
RI/FS
SEAD-17 ACTIVE DEACTIVATION FURNACE

DEPT: ENVIRONMENTAL ENGINEERING
Dwg No: 729896-01001

FIGURE 1-4
SEAD 17 SITE PLAN

SCALE: 1" = 100'
DATE: DECEMBER 1996
REV: A

ACAD\SENECA\16-17RIF\SD17S1.DWG

Representative Ecological Receptors at SEAD-16 and SEAD-17

Receptor	Represents
Deer mouse	Small mammals
Creek Chub	Fish

Measuring Exposure

- How is the receptor exposed?
- How much of the chemical in the soil, water, or sediment gets into the receptor?
- How much of the chemical gets to the receptor through its food?
- How much time does the receptor spend at the site?

Ecological Exposure Scenarios

	Deer mouse	Creek chub
Ingestion of soil	X	--
Skin contact with soil	O	--
Ingestion of food	X	--
Inhalation of dust and vapors	O	--
Contact with surface water	--	X

X = evaluated quantitatively

O = evaluated qualitatively

-- = not a pathway

TOXICITY ASSESSMENT

DOSE

EFFECT

Liver

Kidney

Cancer

Nervous System

Skin

Blood

Lungs

Risk Characterization

$$RISK = \frac{\textit{Exposure Level}}{\text{“Safe” Dose}}$$

Target is less than 1

? ? ? ? ? ? ? ? ? ?

Uncertainty

- *Were all contaminated locations sampled?*
- *Do sample results exactly represent exposure concentrations?*
- *How sensitive are the lab instruments?*
- *Are there chemicals that were not analyzed for?*
- *What will future land uses be?*
- *How will future receptors contact contaminants?*
- *Do the deer mouse and creek chub adequately represent all biota?*
- *What are the toxic effects of contaminants at this site?*
- *What is the true ecological effect?*

Risk Summary

- *Conclusions based on risk numbers as well as uncertainty*
- *Focus on ecological significance*

Restoration Advisory Board
Meeting Agenda

February 18, 1997

7:00	**Welcome** Mr. Stephen M. Absolom Army Co-chair
7:05	**Acceptance of Minutes** Mr. Stephen M. Absolom/Dr. Dick Durst Army Co-chair/Community Co-chair
7:15	**Ash Landfill Remedial Alternatives Discussion** Mr. Stephen M. Absolom Army Co-chair
7:45	**Break**
8:00	**Open Burning Grounds Proposed Plan** Mr. Michael Duchesneau, P.E. Project Manager, Parsons Engineering Science, Inc.
8:20	**Open Burning Grounds Public Meeting Information** Mr. Stephen M. Absolom Army Co-chair
8:30	**Open Discussion**
9:00	**Adjourn**

MINUTES
RESTORATION ADVISORY BOARD
FEBRUARY 18, 1997 MEETING

1. Attendance:

Government RAB Members Present:

Stephen M. Absolom, BRAC Environmental Coordinator, SEDA/Army Co-Chair
Dan Geraghty, NYS Department of Health

Government RAB Members Not Present:

Kamal Gupta, NYS Department of Environmental Conservation
Carla Struble, U.S. Environmental Protection Agency

Community RAB Members Present:

Dick Durst/Community Co-Chair, Anne Herman, Richard Sisson, Henry Van Ness, Pat Jones, Brian Dombrowski, Harold Kugelmass

Community RAB Members Not Present:

Russell Miller, Richard Lewis, Carmen Serrett, Lucinda Sangree, Mary Ann Krupsak, Al Legasse, Estelle Coleman, Frank Ives, David Wagner

Government and Technical Support Personnel Present:

Thomas Enroth, SEDA Engineering and Environmental Division
Janet Fallo, SEDA Engineering and Environmental Division
Susan Cooper, SEDA Secretary
Randy Battaglia, U.S. Army Corps of Engineers, NY District, SEDA Resident Office
Joanne Ogden, SEDA Legal Rep/Public Affairs Officer
Jerry Whitaker, SEDA Base Transition Coordinator
Mike Duchesneau, Parsons Engineering Science, Inc.
Robert Scott, NYS Department of Environmental Conservation
Dorothy Richards, U.S. Army Corps of Engineers, Huntsville Division
Jeff Waugh, U.S. Army Environmental Center

Others Present (from sign-in sheet):

Heather Clark, Community Member
Joanne Howard, Community Member
Neil Chaffie, Community Member
Sandra Tersegno, Community Member
Gerry DeCuollo, Community Member

2. Stephen Absolom welcomed members and support staff to the February Restoration Advisory Board in the NCO Club, outlined the evening's agenda, and asked for introductions.

3. Minutes from January's RAB meeting were approved, signed, and accepted into record.

4. A presentation on the Ash Landfill Remedial Alternatives was given by Stephen Absolom. A discussion was held on the Tables showing the preferred alternatives for remediation.

a. Table 1, Source Control, Option 5--Removal to an Off-Site Landfill: A concern was raised as to adequate recordkeeping at off-site landfills to know what materials are contained therein. It was explained that landfills can only take certain types of debris--you must prove the material you are landfilling before they can accept it. Landfills monitor and maintain records as required by State regulations.

b. Table 2, Migration Control, options were discussed: Option MC2--Alternate Water Source with Natural Attenuation of Plume and MC3a--Funnel-and-G with Zero Valance Iron are being considered as the preferred alternatives and are cost effective. The element of time was discussed as a consideration for remedial action. It is a variable that must be considered when discussing alternatives. When asked if there was any indication that the plume was still moving, Mr. Duchesneau stated that the plume is basically staying the same. RAB members were largely undecided in choosing one or the other alternative. Time for completion of remediation needs to be considered with, but not a critical consideration, in determining the preferred alternative.

5. Michael Duchesneau gave a briefing on the Open Burning Grounds Proposed Plan. His briefing included the background of the site, summary of the remedial investigation, remedial action objectives, and the remedial alternatives. The preferred alternative is off-site disposal of the 18,000 cubic yards of soils and sediments after excavation and solidification of materials above the toxicity levels. This alternative has good implementability as excavation and disposal is proven technology and readily available as well as the most cost effective.

a. A request was made to explain how soil volume is determined. It was explained that using the lead criteria of no more than 500 parts per million for presence of lead, material over the limits would be excavated and removed. After removal, 6 to 9" of material is placed over the area, graded, etc.

b. A discussion regarding the presence of small amounts of unexploded ordnance at the OB Grounds indicated that any UXO would be removed by a contractor by hand sorting and sifting, a highly specialized process.

c. The subject of landfills and available space showed that Seneca Meadows, Ontario County Landfill, and High Acres have an abundance of space due to extensive recycling

efforts in the area. Seneca Meadows has possible use for the excavated material as daily cover. The type of material the depot needs to landfill off-site is good, solid material which Seneca Meadows will accept.

6. A date for the Open Burning Grounds Public Meeting was unable to be scheduled as the regulators are still reviewing the documents.

7. Open discussion followed with two :

a. A suggestions for a future meeting topic was Money--how we receive it, including the timeframe and how we program and receive funds.

b. Due to a high incidence of absenteeism at recent RAB meetings, RAB membership needs to be addressed. The Charter will be reviewed with action following.

8. The next Restoration Advisory Board meeting will be held on March 18, 1997 at 7:00 p.m. in the SEDA NCO Club.

9. The meeting was adjourned at 9:30 p.m.

Respectfully submitted,

Susan R. Cooper

SUSAN R. COOPER
Secretary

APPROVED AS SUBMITTED:

Stephen M. Absolom

STEPHEN M. ABSOLOM
U.S. Army Co-Chair

RICHARD A. DURST
Community Co-Chair

Presentation to the Restoration Advisory Board

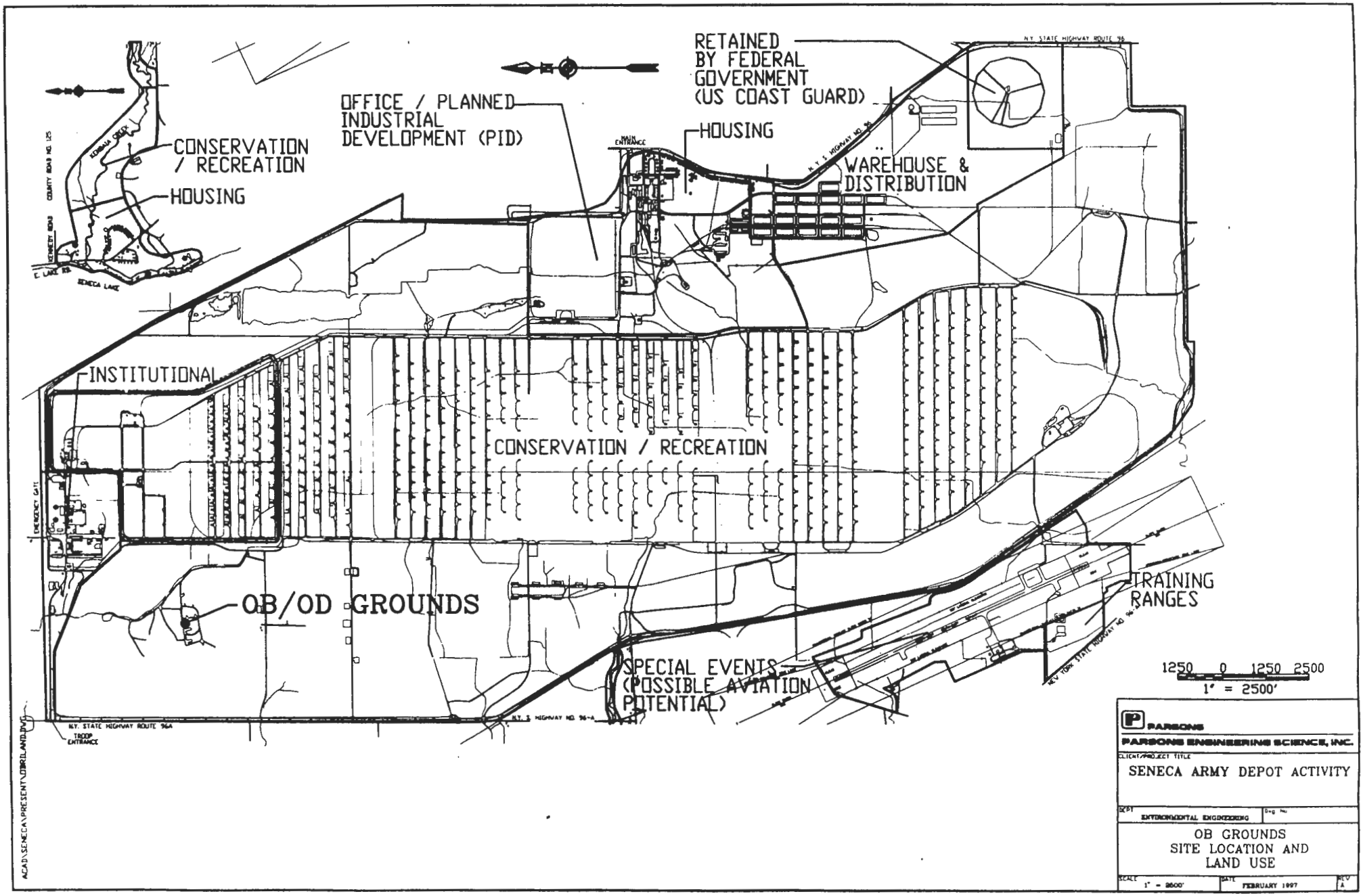
February 18,1997

Proposed Remedial Action Plan (PRAP) for the OB Grounds

Topics for Tonight's Presentations

- Background of the OB Grounds Site
- Remedial Investigation (RI) Summary
- Remedial Action Objectives
- Remedial Alternatives
- Preferred Alternative

Background of the OB Grounds


RETAINED BY FEDERAL GOVERNMENT (US COAST GUARD)
OFFICE / PLANNED INDUSTRIAL DEVELOPMENT (PID)
HOUSING
WAREHOUSE & DISTRIBUTION
CONSERVATION / RECREATION
HOUSING
INSTITUTIONAL
CONSERVATION / RECREATION
OB/OD GROUNDS
SPECIAL EVENTS (POSSIBLE AVIATION POTENTIAL)
TRAINING RANGES
N.Y. STATE HIGHWAY ROUTE 96
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TROOP ENTRANCE
MAIN ENTRANCE
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1250 0 1250 2500
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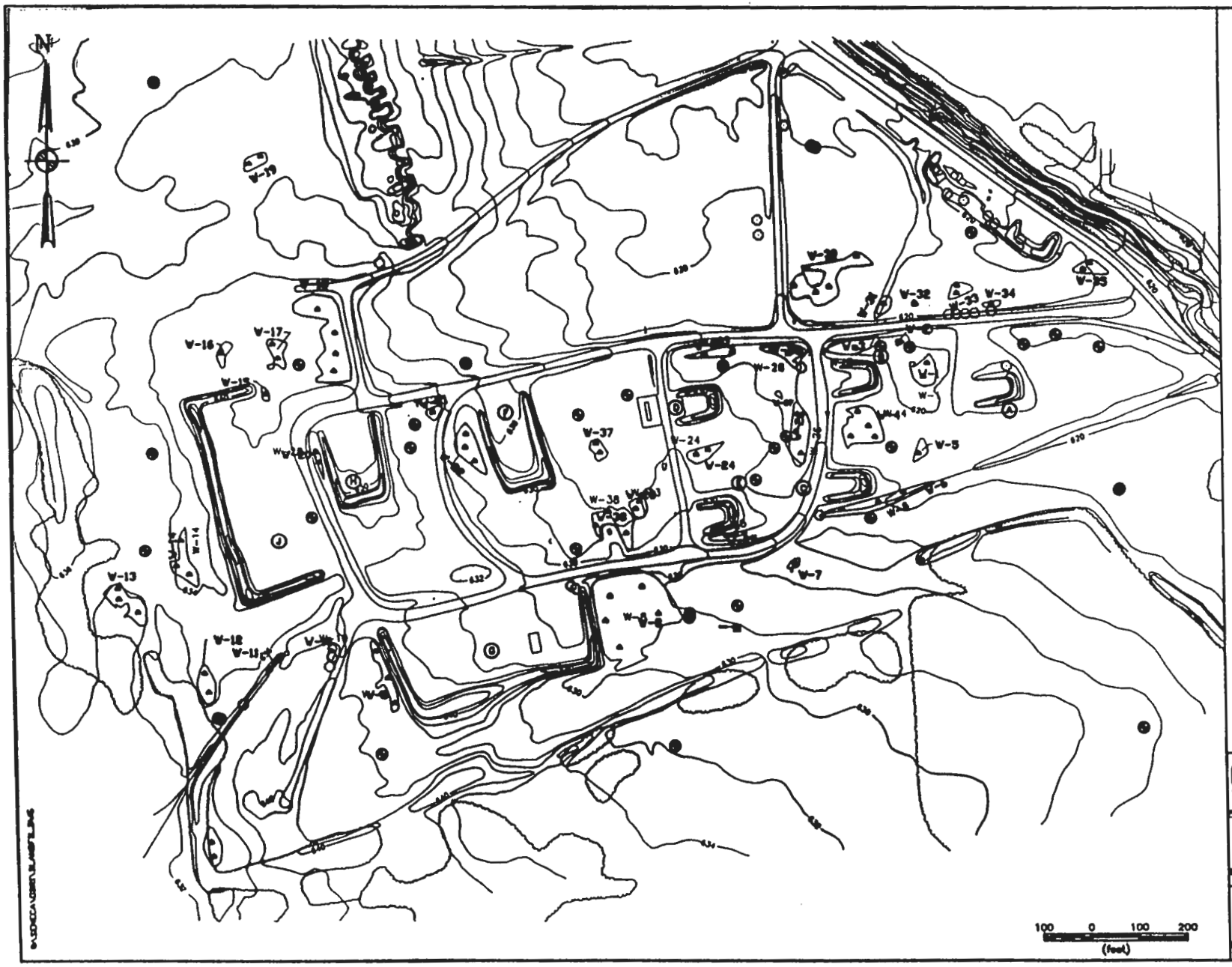
PARSONS
PARSONS ENGINEERING SCIENCE, INC.
CLIENT/PROJECT TITLE
SENECA ARMY DEPOT ACTIVITY
DEPT
ENVIRONMENTAL ENGINEERING
Dwg No.
OB GROUNDS
SITE LOCATION AND
LAND USE
SCALE
1" = 2500'
DATE
FEBRUARY 1997
REV
A

Open Burning (OB) Grounds Site Background

- Operated as Munitions Destruction Area, under Interim Status Provisions of RCRA
- Munitions were burned on 9 Pads
- Preliminary investigations identified burning residues in mid-1980's
- From 1987, burning was performed in 40 Ft. Aboveground Steel Tray
- Identified as a SWMU, SEAD-23
- One of the first RIs performed under CERCLA



PAD C-NO SCALE

LEGEND:

- BURNING PAD DESIGNATION
- SOIL EXCAVATION & DESIGNATION
- PAD SB GRID BORING DESIGNATION
- GEOPHYSICAL ANOMALY EXCAVATION & DESIGNATION
- GROUND CONTOUR AND ELEVATION
- V-1 WETLAND & DESIGNATION
- MW-17 MONITORING WELL & DESIGNATION
- UTILITY POLE
- TREE
- BRUSH
- SW-230 SURFACE WATER/SEDIMENT SAMPLE & DESIGNATION

PARSONS

PARSONS ENGINEERING SCIENCE, INC.

CLIENT/PROJECT TITLE

SENECA ARMY DEPOT ACTIVITY

REMEDIAL INVESTIGATION/FEASIBILITY STUDY

OPEN BURNING GROUNDS

DEPT. ENVIRONMENTAL ENGINEERING

Dwg. No.

SITE PLAN

SCALE 1" = 200'

DATE MARCH 1990

REV. A

Summary of the Remedial Investigation (RI) at the OB Grounds

Milestones of the RI/FS Process

- Initiated Fieldwork December, 1991
- Completed Fieldwork June, 1994
- Remedial Investigation (RI) Report
  - Final on September 9, 1994
- Feasibility Study (FS) Report
  - Final on December 12, 1996
- Project Remedial Action Plan (PRAP)
  - Draft-final on January 15, 1997

Remedial Investigation Field Tasks Summary

88 Soil Borings & 106 Soil Excavations

35 Groundwater Monitoring Wells

- 2 Rounds of Groundwater Sampling

- 29 Surface Water and Sediment Samples
- Ecological Survey
  - Aquatic Sampling in Reeder Creek
  - Terrestrial Study

HUMAN HEALTH RISK ASSESSMENT
OPEN BURNING GROUNDS
EXPOSED POPULATIONS

- Current Land Use Scenarios
  - Off-Site Residential
  - On-Site Worker
- Future Land Use Scenario
  - On-Site Residential

Remedial Action Objectives (RAO)

Remedial Action Objectives
OB Grounds

- Prevent Hazards from Unexploded Ordnance
- Eliminate Exposure from Lead in Soils > 500 mg/kg
- Protect Ecological Exposure from Lead in Soils > 60 mg/kg
- Eliminate Aquatic Exposure from Sediment >16 mg/kg for Copper & 31 mg/kg for Lead in Reeder Creek
- Prevent Surface Water Runoff
- Monitor Effectiveness and Compliance with ARARs in Groundwater and Sediments in Reeder Creek

Summary of Remedial Alternatives

Threshold Criteria

- *Protectiveness of Human Health and the Environment*
- *Compliance with Applicable, Relevant and Appropriate Requirements (ARARs)*

Primary Balancing Criteria

- *Long Term Effectiveness and Permanence*
- *Reduction of Toxicity, Mobility and Volume through Treatment*
- *Short Term Effectiveness*
- *Implementability*
- *Cost*

Modifying Criteria

- *Acceptance with State and Local Community*

Summary of Remedial Alternatives

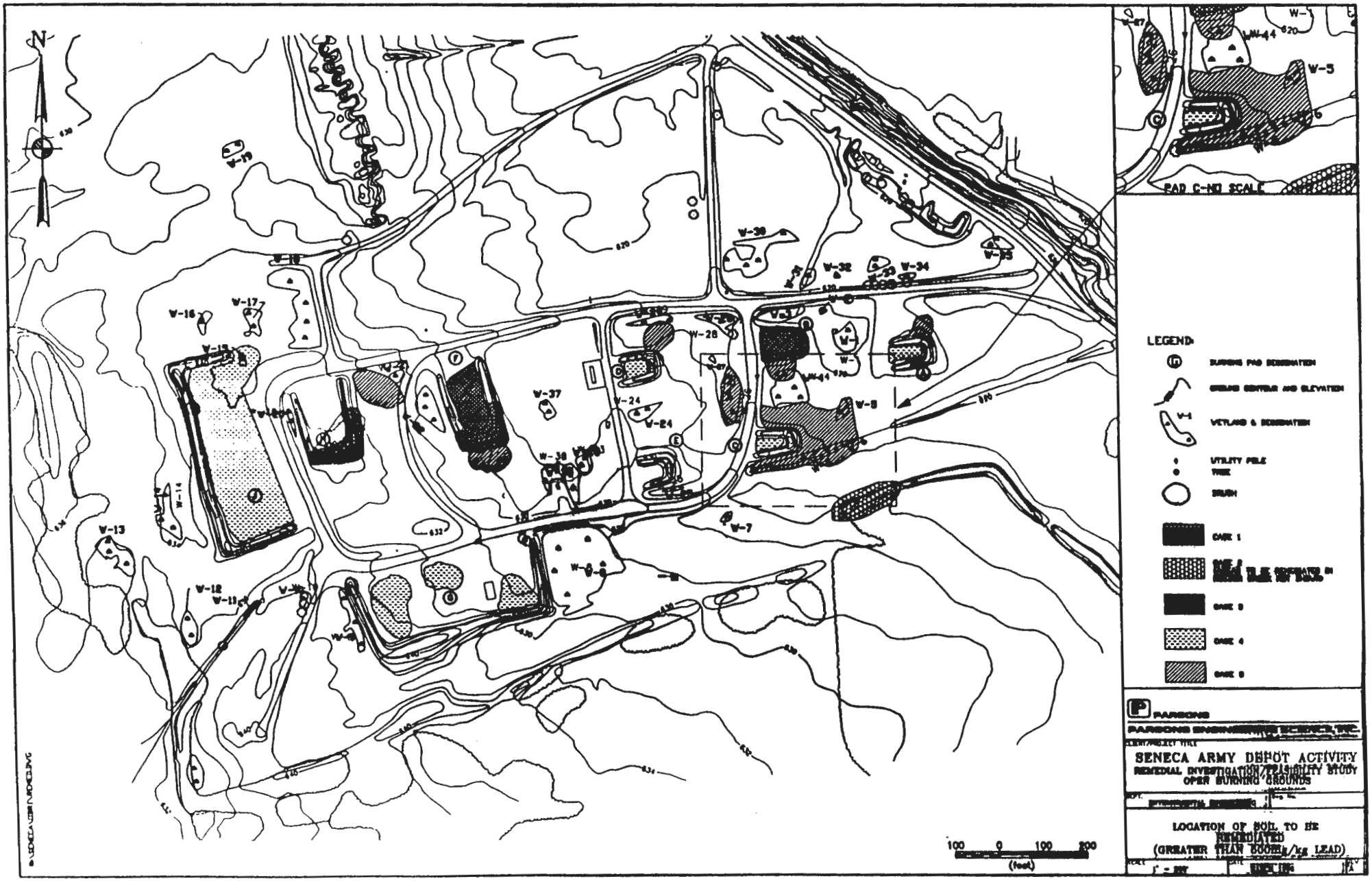
- ***Alternative 1:*** *No Action*
- ***Alternative 4:*** *Excavation and Disposal, Off-site, in Licensed Landfill*
- ***Alternative 5:*** *Excavation, Disposal, On-site, in a constructed On-site Landfill*
- ***Alternative 6:*** *Excavation, Soil Washing and Backfill*

Alternative 1
No-Action Alternative

- *Nothing is Implemented*
- *Risks Remain as Presented*
- *No Monitoring is Involved*
- *Costs are Zero*
- *Retained as a Baseline Comparison to Other Alternatives*

Common Aspects of Each Alternative

- *UXO Clearance and Disposal*
- *Excavation of Soils with Lead above 500 mg/kg*
- *Excavation of Sediments in Reeder Creek above 31 mg/kg Lead and 16 mg/kg Copper*
- *Vegetative Cover of Soils above 60 mg/kg*
- *Groundwater and Sediment Monitoring Program*
- *Surface Water Runoff Control*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W-6
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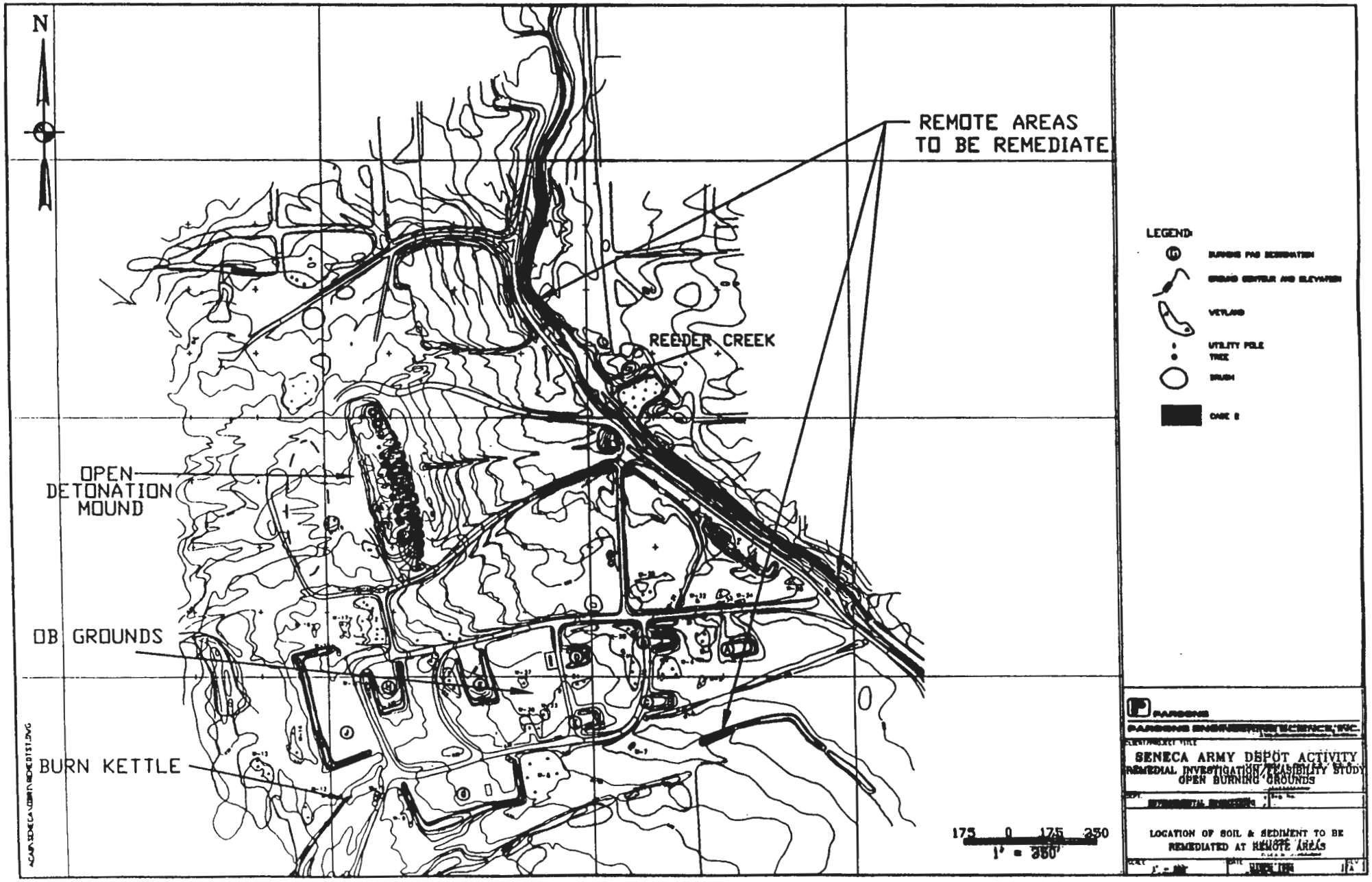
W-5
W-27
PAD C-NO SCALE
LEGEND
BURNING PAD DESIGNATION
GROUND CONTOUR AND ELEVATION
VETLAND & DESIGNATION
UTILITY POLE
TREE
BRUSH
CASE 1
CASE 3
CASE 4
CASE 5
100 0 100 200
(feet)
PARSONS
SENECA ARMY DEPOT ACTIVITY
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OPEN BURNING GROUNDS
LOCATION OF SOIL TO BE
REMEDIATED
(GREATER THAN 500mg/kg LEAD)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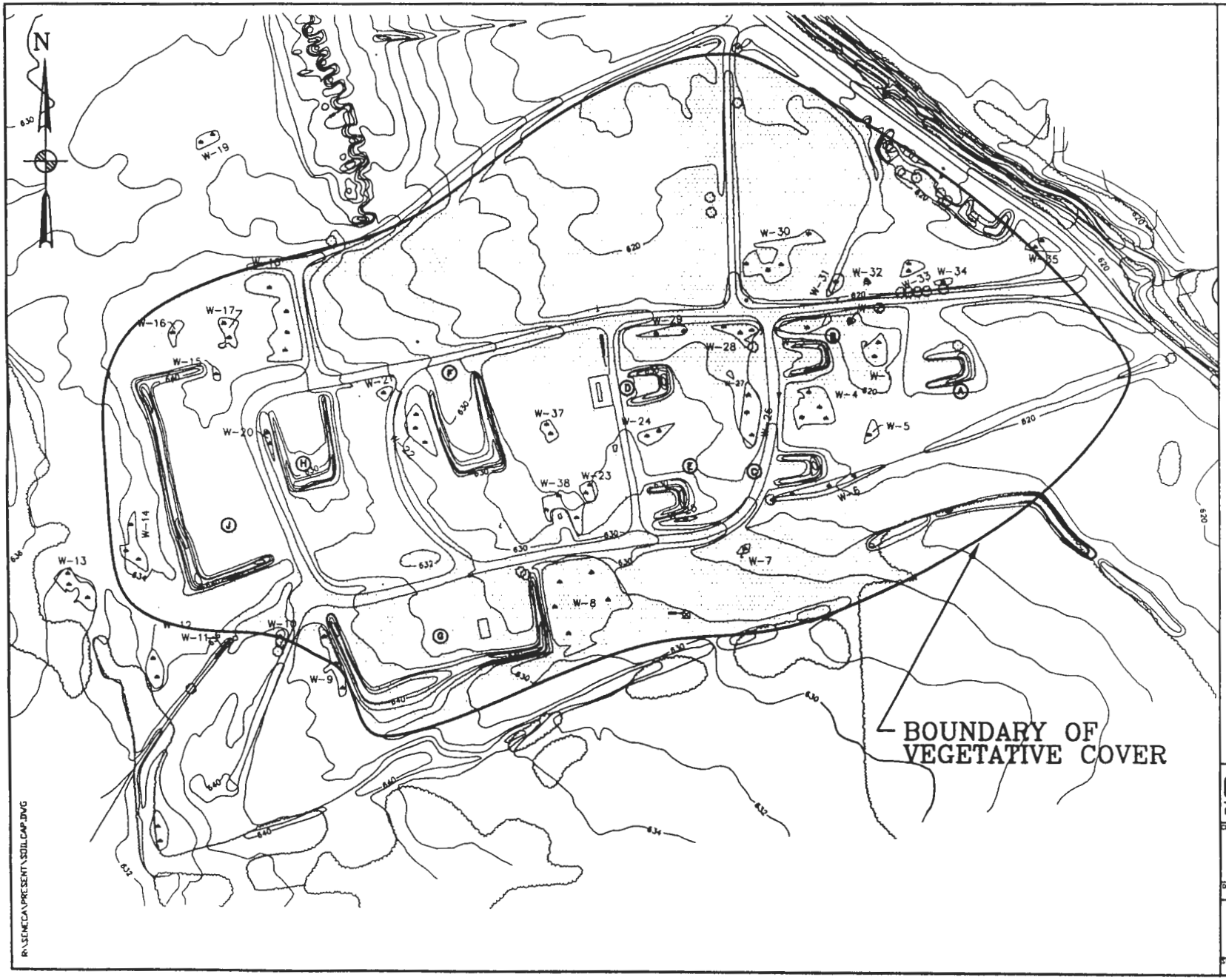
REMOTE AREAS
TO BE REMEDIATE
REEDER CREEK
OPEN
DETONATION
MOUND
OB GROUNDS
BURN KETTLE
175 0 175 350
1" = 350'
LEGEND:
WETLAND
UTILITY POLE
TREE
BRUSH
PARSONS
PARSONS ENGINEERING SCIENCE, INC.
SENECA ARMY DEPOT ACTIVITY
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OPEN BURNING GROUNDS
LOCATION OF SOIL & SEDIMENT TO BE
REMEDIATED AT REMOTE AREAS



LEGEND:

- BURNING PAD DESIGNATION
- PAD OR GRID BORING
- GROUND CONTOUR AND ELEVATION
- W-1 WETLAND & DESIGNATION
- UTILITY POLE
- TREE
- BRUSH

PARSONS

PARSONS ENGINEERING SCIENCE, INC.

CLIENT/PROJECT TITLE

SENECA ARMY DEPOT ACTIVITY

DEPT. ENVIRONMENTAL ENGINEERING

Dwg No.

AREA OF VEGETATIVE COVER

SCALE 1" = 800'

DATE FEBRUARY 1997

REV A

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Alternative 4 : Off-Site Disposal

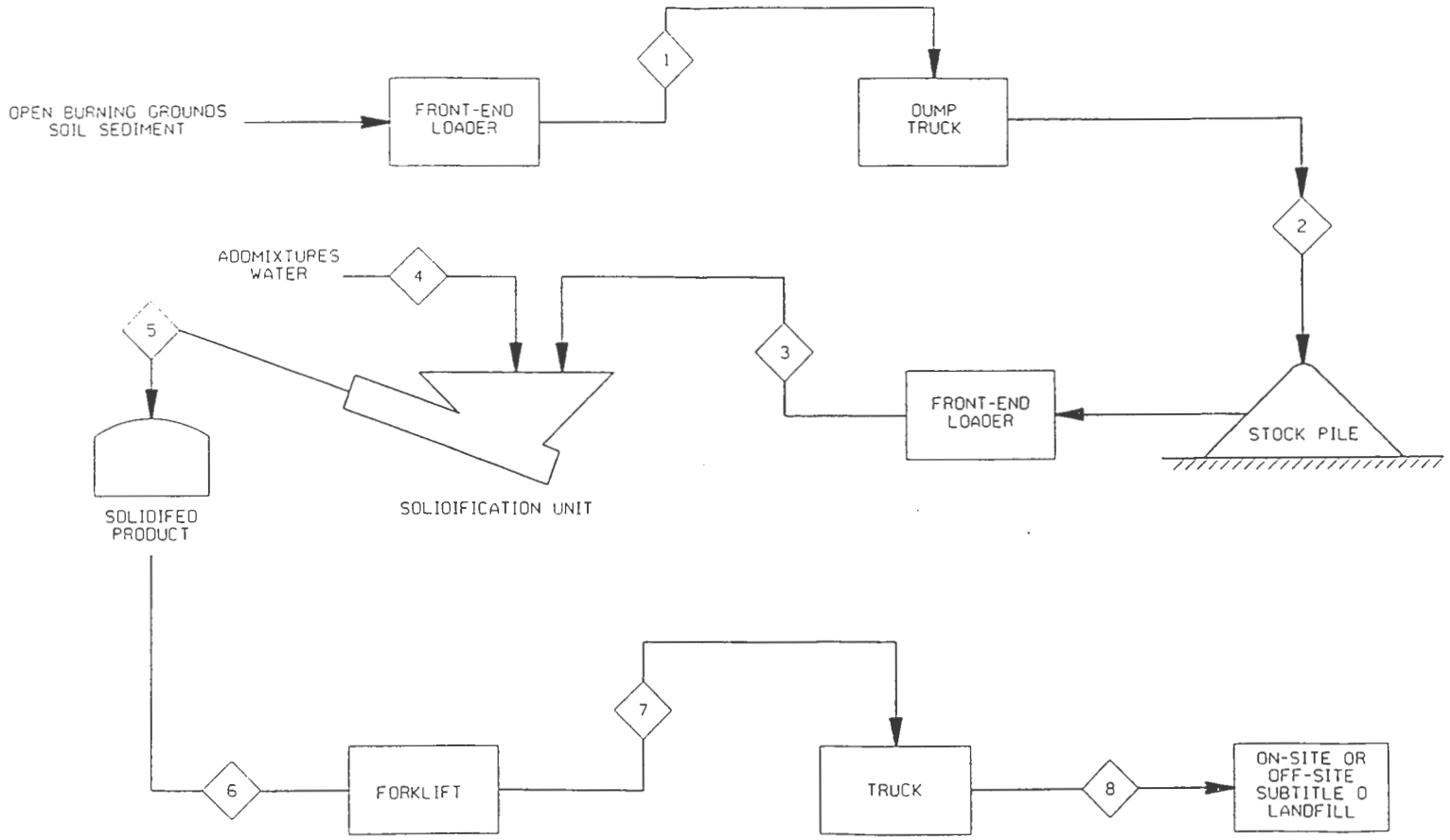
- *All Soils & Sediments Disposed of in Off-site Landfill*
- *Excavate and Solidify Soils Above TCLP Limits*
- *Long Term Effectiveness and Permanence*
  - *Effective & Permanent , ranked lower than Alternative 6*
- *Reduction of Toxicity, Mobility and Volume*
  - *Reduction achieved, ranked lower than Alternative 6*
- *Most Short Term Impacts due traffic, dust & noise*
- *Ranked Highest for Implementability*
  - *Excavation and disposal is proved and readily available*
- *Most Cost Effective Alternative*

Alternative 5 : On-Site Disposal

- *On-site Landfill Constructed to Accept Soils*
- *Excavate and Solidify Soils Above TCLP Limits*
- *Long Term Effectiveness and Permanence*
  - *Effective & Permanent , ranked lower than Alt. 6*
- *Reduction of Toxicity, Mobility and Volume*
  - *Reduction achieved, ranked lower than Alt. 6*
- *Least Short Term Impacts due traffic, dust & noise*
- *Ranked Lower than Alt. 4 for Implementability*
  - *Landfill permitting process is involved*
- *More Costly than Alternative 4*

Alternative 6 : Soil Washing

- *Techniques developed from mining industry*
- *Innovative technology will require treatability study*
- *Long Term Effectiveness and Permanence*
  - *Most Effective & Permanent Alternative*
  - *Residues are disposed off-site*
- *Reduction of Toxicity, Mobility and Volume*
  - *Ranked highest, most treatment*
- *Some Short Term Impacts*
  - *Ranked higher than Alt. 4, lower than Alt. 5*
- *Most difficult to implement*
  - *Technology is affected by unknown site conditions and only available from few vendors*
- *Most Costly Alternative*



TYPICAL FLOW RATES

MATERIAL	STREAM NO.													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SOIL/SEDIMENT (CY/HR)	50	50	40											
SOLIDIFIED PRODUCT (CY/HR)					60	60	60	60						
ADMIXTURES / WATER (CY/HR)				20										

PARSONS

PARSONS ENGINEERING SCIENCE, INC.

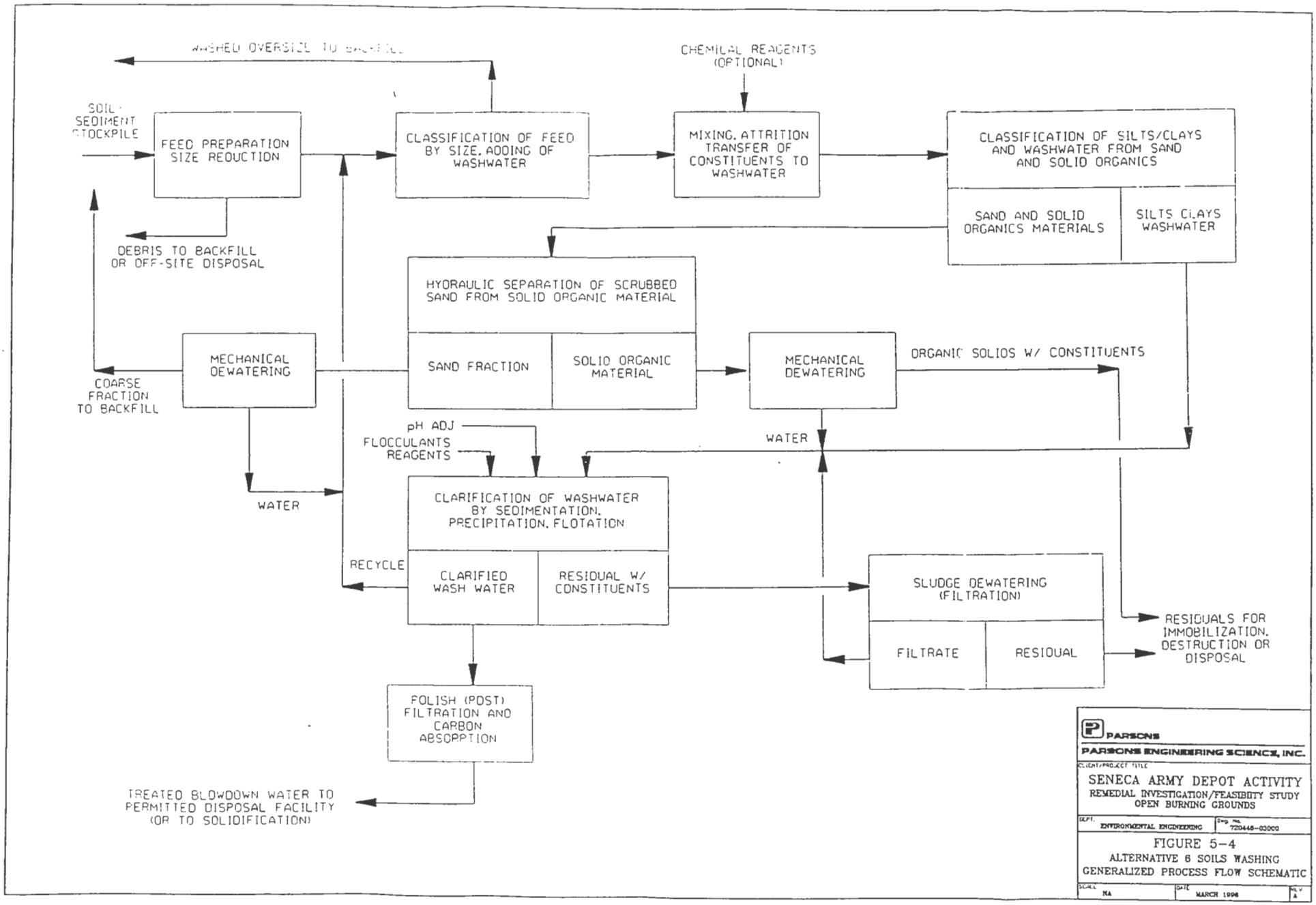
CLIENT/PROJECT TITLE

SENECA ARMY DEPOT ACTIVITY
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OPEN BURNING GROUNDS

DEPT. ENVIRONMENTAL ENGINEERING | DWG NO. 720446-03000

FIGURE 5-1
ALTERNATIVE 4 AND 5
SOLIDIFICATION/SUBTITLE D LANDFILL

SCALE NA | DATE MARCH 1996 | REV A


WASHED OVERSIZE TO BACKFILL
CHEMICAL REAGENTS (OPTIONAL)
SOIL/SEDIMENT STOCKPILE
FEED PREPARATION SIZE REDUCTION
CLASSIFICATION OF FEED BY SIZE, ADDING OF WASHWATER
MIXING, ATTRITION TRANSFER OF CONSTITUENTS TO WASHWATER
CLASSIFICATION OF SILTS/CLAYS AND WASHWATER FROM SAND AND SOLID ORGANICS
SAND AND SOLID ORGANICS MATERIALS
SILTS CLAYS WASHWATER
DEBRIS TO BACKFILL OR OFF-SITE DISPOSAL
HYDRAULIC SEPARATION OF SCRUBBED SAND FROM SOLID ORGANIC MATERIAL
MECHANICAL DEWATERING
SAND FRACTION
SOLID ORGANIC MATERIAL
MECHANICAL DEWATERING
ORGANIC SOLIDS W/ CONSTITUENTS
COARSE FRACTION TO BACKFILL
pH ADJ
FLOCCULANTS REAGENTS
WATER
WATER
CLARIFICATION OF WASHWATER BY SEDIMENTATION, PRECIPITATION, FLOTATION
RECYCLE
CLARIFIED WASH WATER
RESIDUAL W/ CONSTITUENTS
SLUDGE DEWATERING (FILTRATION)
FILTRATE
RESIDUAL
RESIDUALS FOR IMMOBILIZATION, DESTRUCTION OR DISPOSAL
POLISH (POST) FILTRATION AND CARBON ABSORPTION
TREATED BLOWDOWN WATER TO PERMITTED DISPOSAL FACILITY (OR TO SOLIDIFICATION)
PARSONS
PARSONS ENGINEERING SCIENCE, INC.
CLIENT/PROJECT TITLE
SENECA ARMY DEPOT ACTIVITY
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OPEN BURNING GROUNDS
DEPT. ENVIRONMENTAL ENGINEERING
Dwg. No. 720446-03000
FIGURE 5-4
ALTERNATIVE 6 SOILS WASHING
GENERALIZED PROCESS FLOW SCHEMATIC
SCALE NA
DATE MARCH 1996
REV A

COST ESTIMATES FOR ALTERNATIVES

Alternative	Total Present Worth Cost ($ Millions)	Capital Cost ($ Millions)	Present Worth O&M Costs ($ Millions)
4 Off-site Disposal	$4.1 to $5.7	$3.6 to $5.2	$0.503
5 On-site Disposal	$5.7	$5.2	$0.544
6 Soil Washing	$11.1	$10.6	$0.503

The Preferred Remedial Alternative

Preferred Remedial Alternative
Alternative 4 : Off-Site Disposal

- *Solidification of soils with TCLP exceedances*
- *Excavation and off-site disposal of soils and sediment*
- *Vegetative soil cover for remaining soils*
- *Construction Time:*
  - *Treatability Testing for Solidification : 3 months*
  - *Remedial Action : 12 to 18 months*
- *Present Worth Cost: $4.1 to $5.7 million*

SEDA ASH LANDFILL FEASIBILITY STUDY
PRELIMINARY COST ESTIMATES

Alternative: **MC-2**

Description: **Natural Attenuation**

Unit Operation	Capital Cost	Annual O&M Cost
Groundwater monitoring*	$43,000	$83,200
Alternative Water Supply	$66,095	$200
Subtotal	$109,095	$83,400
Contingency (20%)	$21,819	$16,680
Engineering/Oversight (20%)	$21,819	$16,680
Total	$152,733	$116,760
Present worth O&M cost		$1,100,687
Interest =	10%	
Years of Operation =	30	
Total present worth cost	$1,253,419	

lation of 10 MWs and sampling for 13 MWs, biannually.

Annual Cost of Town Water
(from Town of Romulus Water District)

	Quarterly Costs	
Operation and Maint. Fee	$20.00	
	$30.00	/up to 8000 gallons
	$0.18	/100 gallons above 8000 gallons
Minimum quarterly fee	$50.00	
Annual fee	$200.00	

Cost of Connecting to Existing Service

	Unit Cost		Volume		Total
Mobilization/Demob	$1,000	Lump Sum			$1,000
Excavation (4'-6' deep)	$4.21	/LF	2400	LF	$10,104
Bedding (6")	$10.00	/CY	133	CY	$1,330
Backfill	$1.45	LF	2400	LF	$3,480
Install 6" DI Push-on Joint Pipe (includes labor and materials)	$13.00	/LF	2400	LF	$31,200
Horizontal boring under railroad	$495.00	/LF	20	LF	$9,900
Excavate bedrock	$62.00	CY	267	CY	$16,554
Total Cost					$57,014
Escalating - 1992 to 1997 at 3%/yr					$66,095

Notes:

1. Unit Cost from Means Building Construction Cost Data (1992)
   Final cost escalated over 5 years from 1992 to 1997 at 3% inflation per year
2. Connecting to existing 6" DI Water Main on Ash Landfill
   Pipe must be at least 4' below ground surface.
   Length of connection approximately 2100 LF + 300 LF = 2400 LF
   Excavation = 2400 LF
   Bedding (6") = (2400' * 3' * .5')/27 = 133 CY
   Assumed for 1200 LF removing 2 feet of bedrock/weathered shale: (1200' * 2' * 3')/27 = 267 CY
3. Nonhazardous work conditions.

SEDA ASH LANDFILL FEASIBILITY STUDY
PRELIMINARY COST ESTIMATES

Alternative: MC-3

Description: Air sparging

Unit Operation	Capital Cost	Annual O&M Cost
Groundwater monitoring	$17,200	$44,800
Site preparation	26,000	5,000
Surface water diversion	38,000	2,100
Interceptor Trenches	120,000	1,000
Air sparging equipment	100,000	10,000
Vapor-phase carbon	210,000	130,000
Subtotal	$511,200	$192,900
Contingency (20%)	$102,240	$38,580
Engineering/Oversight (20%)	$102,240	$38,580
Total	$715,680	$270,060
Present worth O&M cost		$2,299,173
Interest =	10%	
Years of Operation =	20	
Total present worth cost	$3,014,853	

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SEDA ASH LANDFILL FEASIBILITY STUDY
PRELIMINARY COST ESTIMATES

Alternative: MC-3a

Description: Funnel and Gate/Iron Filings

Unit Operation	Capital Cost	Annual O&M Cost
Treatability Study	$75,000	
Groundwater monitoring*	$17,200	$44,800
Site preparation	26,000	5,000
Surface water diversion	38,000	2,100
Two (2) Interceptor Trenches	120,000	1,000
Sheet Piling @ 15'depth(1,500lf)	112,000	-
Iron Aggregate :	23,000	2,000
70 Tons @ $325/Ton)		
(35 Tons per reactive zone)		
(Iron is replaced every 10 yrs.)		
Subtotal	$411,200	$54,900
Contingency (20%)	$82,240	$10,980
Engineering/Oversight (20%)	$82,240	$10,980
Total	$575,680	$76,860
Present worth O&M cost		$654,353
Interest =	10%	
Years of Operation =	20	
Total present worth cost	$1,230,033	

* includes installation of 4 MWs and sampling for 7 MWs, biannually.
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SEDA ASH LANDFILL FEASIBILITY STUDY
PRELIMINARY COST ESTIMATES

Alternative: MC-5

Description: Air stripping

Unit Operation	Capital Cost	Annual O&M Cost
Groundwater monitoring*	$17,200	$44,800
Site preparation	26,000	5,000
Surface water diversion	38,000	2,100
Interceptor trenches**	200,000	1,000
Equalization tank/piping	30,000	1,000
In-line filter	15,000	2,000
Water softener	15,000	11,000
Air stripper	41,000	3,500
Liquid-phase carbon	20,000	6,000
Surface water discharge	100,000	1,000
Vapor-phase carbon	210,000	130,000
Subtotal	$712,200	$207,400
Contingency (20%)	142440	41480
Engineering/Oversight (20%)	142440	41480
Total	$997,080	$290,360
Present worth O&M cost		$1,784,137
Interest =	10%	
Years of Operation =	10	

Total present worth cost $2,781;217

*includes installation of 4 MWs and sampling of 7 MWs, biannually.
** includes installation of an additional trench to decrease treatment time.

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SEDA ASH LANDFILL FEASIBILITY STUDY
PRELIMINARY COST ESTIMATES

Alternative: MC-6

Description: UV oxidation

Unit Operation	Capital Cost	Annual O&M Cost
Groundwater monitoring*	$17,200	$44,800
Site preparation	26,000	5,000
Surface water diversion	38,000	2,100
Interceptor trenches**	200,000	1,000
Equalization tank/piping	30,000	1,000
In-line filter	15,000	2,000
Water softener	15,000	11,000
UV oxidation	50,000	10,000
Liquid-phase carbon (Polisher)	20,000	6,000
Surface water discharge	100,000	1,000
Subtotal	$511,200	$83,900
Contingency (20%)	102240	16780
Engineering/Oversight (20%)	102240	16780
Total	$715,680	$117,460
Present worth O&M cost		$721,741
Interest =	10%	
Years of Operation =	10	
Total present worth cost	$1,437,421	

*includes installation of 4 MWs and sampling of 7 MWs, biannually.
** includes installation of an additional trench to decrease treatment time.

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Seneca Army Depot
Ash Landfill
Proposed Remedial Action Plan

Table 2
Summary of Detailed Evaluation of Migration Control Options

Criteria	Alternative MC-1 No Action	Alternative MC-2 Alternate Water Source with Natural Attenuation of Plume	Alternative MC-3/MC-3a Sparging of Plume/Funnel-and-G with Zero Valence Iron	Alternative MC-5 Collection/Filtration/Air Stripping/Discharge	Alternative MC-6 Collection/Filtration/ UV Oxidation/Discharge
PROTECTIVENESS OF HUMAN HEALTH AND THE ENVIRONMENT Human Health Protection (EPA target range is 1 x 10E-4 to 1 x 10E-6 for carcinogenic risk and an HI < 1.0 for noncarcinogenic risk)	Sum of risks to current off-site resident, future on-site hunter and future on-site construction worker 2.9E-05 HI = 0.22	Sum of risks remaining to off-site resident, hunter & construction worker following elimination of groundwater exposure 2.9E-05 - 5.6E-06 = 2.34E-05 HI = (0.22 - 0.14 = 0.08)	Sum of risks remaining to off-site resident, hunter & construction worker following elimination of groundwater exposure 2.9E-05 - 5.6E-06 = 2.34E-05 HI = (0.22 - 0.14 = 0.08)	Sum of risks remaining following elimination of groundwater as an exposure pathway 2.9E-05 - 5.6E-06 = 2.34E-05 HI = (0.22 - 0.14 = 0.08)	Sum of risks remaining following elimination of groundwater as an exposure pathway 2.9E-05 - 5.6E-06 = 2.34E-05 HI = (0.22 - 0.14 = 0.08)
Exposure Pathways Include : Ingestion of Groundwater Dermal Contact Inhalation of Volatile Organics Ingestion of Soils (Future On-site hunter and construction worker only)	Not Protective; Ingestion of groundwater at site boundary could result in exposure	Protective; Alternative water supply eliminates exposure to groundwater.	Protective; Groundwater exposure is eliminated.	Protective; Groundwater exposure is eliminated.	Protective; Groundwater exposure is eliminated.
Protection of Ecological Receptors	Protective; Depth to groundwater prevents ecological expsoure; Natural mechanisms reduces conc.	Protective; Depth to groundwater prevents ecological expsoure; Natural mechanisms reduces conc.	Protective; No Exposure from groundwater	Protective; Conc. of groundwater is reduced prior to discharge	Protective; Conc. of groundwater is reduced prior to discharge
COMPLIANCE WITH ARARs	Not Compliant with ARARs	Compliance with ARARs will be attained but will require a longer period of time	Will comply with all ARARs	Will comply with all ARARs	Will comply with all ARARs
LONG-TERM EFFECTIVENESS AND PERMANENCE					
Magnitude of Residual Risk	Source of VOCs have been removed.Residual risk is within EPA Target Range	Source of VOCs have been removed.Residual risk is within EPA Target Range	No residual risk will exist , groundwater will be treated until it meets treatment criteria.	No residual risk will exist , groundwater will be treated until it meets treatment criteria.	No residual risk will exist , groundwater will be treated until it meets treatment criteria.
Permanence	Will be permanent once natural mechanisms reduce conc.	Will be permanent once natural mechanisms reduce conc.	Once treatment criteria of <5 ug/L is attained the action is permanent.	Once treatment criteria of <5 ug/L is attained the action is permanent.	Once treatment criteria of <5 ug/L is attained the action is permanent.

Seneca Army Depot
Ash Landfill
Proposed Remedial Action Plan

Table 2
Summary of Detailed Evaluation of Migration Control Options

Criteria	Alternative MC-1 No Action	Alternative MC-2 Alternate Water Source with Natural Attenuation of Plume	Alternative MC-3/MC-3a Sparging of Plume/Funnel-and-G with Zero Valence Iron	Alternative MC-5 Collection/Filtration/Air Stripping/Discharge	Alternative MC-6 Collection/Filtration/ UV Oxidation/Discharge
REDUCTION OF TOXICITY, MOBILITY, OR VOLUME THROUGH TREATMENT					
Reduction of Toxicity, Mobility, or Volume	Any reduction will not be documented	Reduction is documented from attenuation and degradation of pollutants via natural mechanisms.	Effective; Constituents are removed or destroyed	Effective; Constituents are removed, trenches will eliminate mobility.	Effective; Constituents are destroyed, trenches will eliminate mobility.
SHORT-TERM EFFECTIVENESS					
Community Protection	Protective under current conditions as current risk is within acceptable ranges.	Protective under current conditions as current risk is within acceptable ranges.	Protective of community; air emissions from sparging eliminated via carbon, will comply with air quality standards.	Protective of community; air emissions from stripping eliminated via carbon, will comply with air quality standards.	Protective of community; No air emissions produced, will comply with air quality standards.
Worker Protection	Protective under current conditions as current risk is within acceptable ranges.	Protective under current conditions as current risk is within acceptable ranges.	Dust produced during construction will be eliminated via personnel protective equipment.	Dust produced during construction will be eliminated via personnel protective equipment.	Dust produced during construction will be eliminated via personnel protective equipment.
Environmental Impacts	Current, short-term, conditions are protective of the environment.	Current, short-term, conditions are protective of the environment.	Protective; Any soil excavated will not contain hazardous constituents.	Protective; Any soil excavated will not contain hazardous constituents.	Protective; Any soil excavated will not contain hazardous constituents.
Time Until Action is Complete	Not Applicable; No action is performed	Estimated to be 30 years with a degradation rate of 0.0003/day	Estimated to be 20 years with two trenches	Estimated to be 10 years with three trenches	Estimated to be 10 years with three trenches

Seneca Army Depot
Ash Landfill
Proposed Remedial Action Plan

Table 2
Summary of Detailed Evaluation of Migration Control Options

Criteria	Alternative MC-1 No Action	Alternative MC-2 Alternate Water Source with Natural Attenuation of Plume	Alternative MC-3/MC-3a Sparging of Plume/Funnel-and-G with Zero Valence Iron	Alternative MC-5 Collection/Filtration/Air Stripping/Discharge	Alternative MC-6 Collection/Filtration/ UV Oxidation/Discharge
IMPLEMENTABILITY					
Technical Feasibility	Feasible, Nothing is implemented	Feasible, Reductions from natural mechanisms are occuring and will continue to occur	Feasible; Some uncertainty as zero valence iron is innovative; will require treatability/pilot testing	Feasible; Air stripping is a proven technology for VOC removal in groundwater.	Feasible; UV oxidation is a proven tech. for chlorinated VOCs in groundwater.
Ease of Doing More Action if Needed	Not Applicable; as nothing would be performed in the future	Least interference, as nothing would be done to prevent required future action.	This technology will not interfere with any other remedial activities.	Will not interfere with other remedial activities.	Will not interfere with other remedial activities.
Ability to Obtain Approvals and Coordinates with Other Agencies	No Action will be unacceptable to regulatory agencies due to potential for off-site migration	Will require approval for waterline construction from town and the Dept. of Health.	NYSDEC and EPA input required prior to final remedy selection. Regulatory issues will be addressed.	Construction permits are readibly attainable. EPA and NYSDEC will provide input.	Construction permits are readibly attainable. EPA and NYSDEC will provide input.
Availability of Services and Materials	No services required	All services required to install waterline and monitor the plume are readily available.	Material and Services are available. All equipment required is standard	Materials and Services are readily available. All equipment is standard.	Materials and Services are specialized; not as available UV equipment is specialized.
COST					
Capital Cost	$0	$153,000 includes installation of 10 MWs and 4800 l.f. of 6" water main	MC-3 $716,000 MC-3a $576,000	$997,000	$716,000
Annual O&M Cost	$0	$117,000	MC-3 $270,000 MC-3a $77,000	$290,000	$117,000
Total Present Worth Cost (Assumes 10% Interest)	$0	30 year Cost $1,253,000	20 year Cost MC-3 $3,015,000 20 year Cost MC-3a $1,230,000	10 year Cost $2,781,000	10 year Cost $1,437,000

Restoration Advisory Board
Meeting Agenda

May 20, 1997

7:00	**Welcome** Dr. Dick Durst Community Co-chair
7:05	**Acceptance of Minutes** Dr. Dick Durst Community Co-chair
7:10	**RAB Charter: Attendance, Meeting Frequency, Resignation** Dr. Dick Durst Community Co-chair
7:30	**Break**
7:40	**Breast Cancer Incidence in Seneca County** Ms. Betsy Lewis-Michl, Ph.D. New York State Department of Health
8:15	**Open Discussion**
8:45	**Adjourn**

MINUTES
RESTORATION ADVISORY BOARD
MAY 20, 1997 MEETING

1. Attendance:

Government RAB Members Present:

Carla Struble, U.S. Environmental Protection Agency
Dan Geraghty, NYS Department of Health

Government RAB Members Not Present:

Stephen M. Absolom, BRAC Environmental Coordinator, SEDA/Army Co-Chair
Kamal Gupta, NYS Department of Environmental Conservation

Community RAB Members Present:

Dick Durst/Community Co-Chair, Anne Herman, Richard Sisson, Henry Van Ness, Pat Jones, Brian Dombrowski, Mary Ann Krupsak, Lucinda Sangree, Ken Reimer

Community RAB Members Not Present:

Harold Kugelmass, Russell Miller, Richard Lewis, Carmen Serrett, Estelle Coleman, Frank Ives, David Wagner

Environmental Support Personnel Present:

Thomas Enroth, U.S. Army Corps of Engineers, NY District, SEDA Resident Office
Janet Fallo, U.S. Army Corps of Engineers, NY District, SEDA Resident Office
Susan Cooper, SEDA Secretary
Joanne Ogden, SEDA Legal Rep/Public Affairs Officer
Keith Hoddinott, U.S. Army Center for Health Promotion & Preventive Medicine
Robert Scott, NYS Department of Environmental Conservation
Betsy Lewis-Michl, NYS Department of Health

Community Support (from sign-in sheet):

Brooke Brewer, Community Member
Faye Jensen, Community Member
Heather Clark, Community Member
Eileen Alexander, Community Member
Yolande Goltry, Community Member
June Allen, Community Member

Sandra Bartlett, Community Member
Betty Serven, Community Member
Barbara Messur, Community Member
Gail Serven, Community Member
Diane Reimer, Community Member
Mary LeClair, Finger Lakes Times

2. Dick Durst, the Community Co-Chair, welcomed members and support staff to the May Restoration Advisory Board at the Officers' Club, outlined the evening's agenda, and asked for introductions.

3. Minutes from March's RAB meeting were approved, signed, and accepted into record.

4. The first item for discussion was the high rate of absenteeism at the RAB meetings. Several members have missed numerous meetings. Dick Durst asked the members present what constitutes acceptable attendance. Several suggestions were presented:

a. Generate a periodic form to be sent to members who have had excessive absences requesting their intentions to remain on the RAB.

b. Extend an invitation to community members who regularly attend the RAB meetings to participate and apply for membership.

c. Have an open enrollment period to solicit new members.

d. Develop a quarterly newsletter for individuals interested in being on a mailing list.

The frequency of meetings was deemed acceptable and will remain on a monthly basis.

5. Betsy Lewis-Michl from the New York State Department of Health, Bureau of Environmental and Occupational Epidemiology, gave a presentation on Breast Cancer Incidence in Seneca County. The available data from the New York State Cancer Registry was collected from 1940 to 1992. Information for 1993 to 1997 is currently being entered into the State's computerized database. Although rates of breast cancer have increased in all counties in New York State, the charts indicate the incidence rate of breast cancer to be elevated in Seneca County when compared to the New York State average. It is believed this higher rate is

due to the excellent screening programs in Seneca County. The mortality rates are equal to the state average. Early diagnosis and treatment contribute to this stabilized mortality rate.

a. Questions arose as to inclusion of specific groups in the available data. The former Willard Psychiatric Center was not included in the findings, although it should have been since they were considered a long-term institution. The Amish community was not considered a contributing factor in the data.

b. Breast cancer risk factors were discussed. These risk factors include smoking, endocrine disruptions, diet, air pollution, environmental factors, disruption of hormonal activity, births over age 30, and the use of pesticides. The effect of pesticides on the female population in or around farms is being further studied with the assistance of the New York State Farm Bureau.

6. Open discussion followed with solicitation of future topics. A request was made for clarification of which sites are being monitored for environmental purposes and what is the monitoring showing.

7. The next Restoration Advisory Board meeting will be held on July 15, 1997 at 7:00 p.m. in the SEDA NCO Club.

8. The meeting was adjourned at 8:40 p.m.

Respectfully submitted,

Susan R. Cooper

SUSAN R. COOPER
Secretary

APPROVED AS SUBMITTED:

Stephen M. Absolom

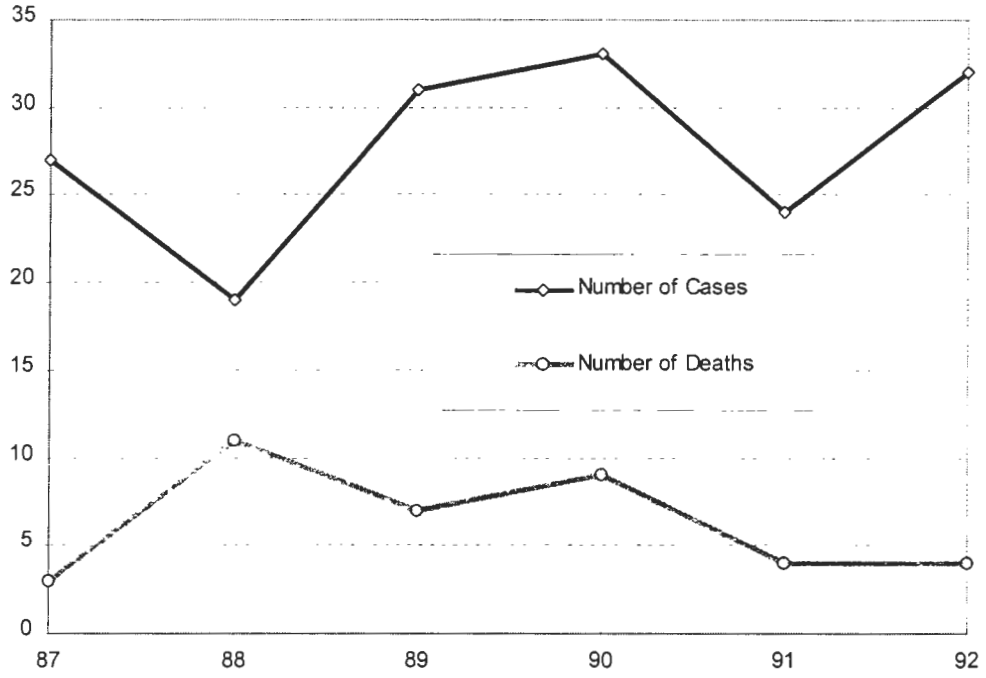
STEPHEN M. ABSOLOM
U.S. Army Co-Chair

RICHARD A. DURST
Community Co-Chair

Seneca County Breast Cancer Incidence, Breast Cancer Mortality, and Stage of Diagnosis 1987-1992

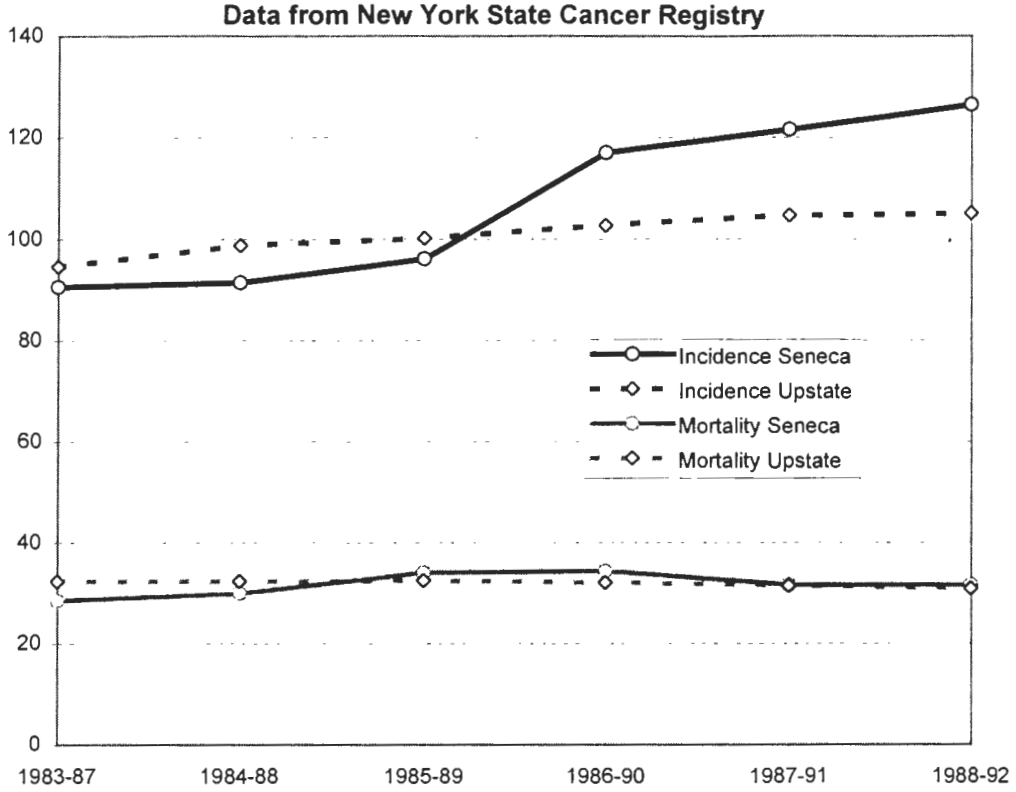
Presentation to Restoration Advisory Board
Seneca Army Depot
May 21,1997

Chart 1
Breast Cancer Incident Cases and Breast Cancer Deaths
Seneca County 1987-1992
Data from New York State Cancer Registry



Year	Number of Cases	Number of Deaths
87	27	3
88	19	11
89	31	7
90	33	9
91	24	4
92	32	4

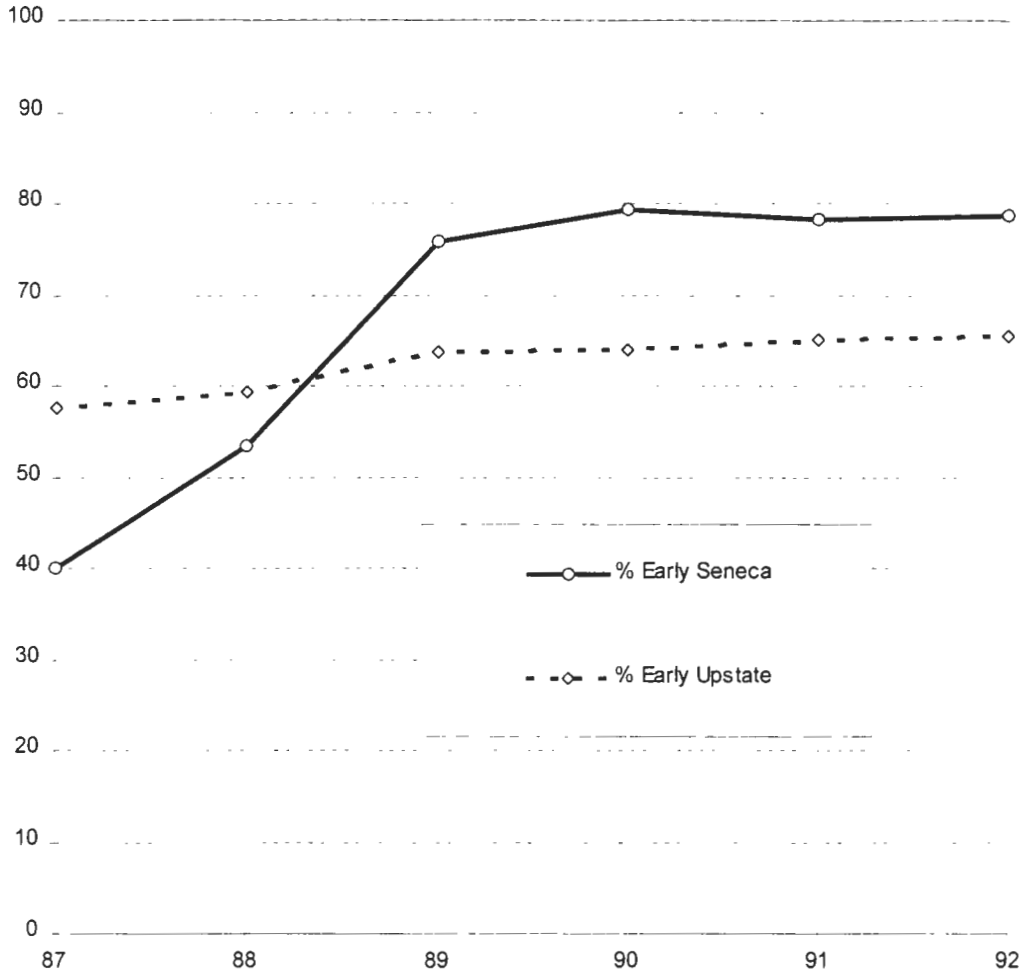
Chart 2
Breast Cancer Incidence and Mortality Rates*
Seneca County and Upstate New York
Rolling Five-year Averages, 1983-1992
Data from New York State Cancer Registry



*Rates are per 100,000 female population, age-adjusted to the 1970 United States population. Age-specific rates for Seneca County during 1987 to 1992 were calculated using the 1990 United States Census. The age-specific rates were then weighted according to the age distribution of the United States population in 1970 to calculate the age-adjusted rate. Age-adjustment, using the 1970 United States population, is standard practice. Since age is the most important risk factor for cancer, age-adjustment allows more valid comparisons to be made among geographic regions and over time.

Year	Incidence Seneca	Incidence Upstate	Mortality Seneca	Mortality Upstate
1983-87	90.6	94.6	28.6	32.3
1984-88	91.5	98.8	30	32.4
1985-89	96.1	100.2	34.1	32.5
1986-90	117.1	102.8	34.4	32.1
1987-91	121.6	104.7	31.7	31.5
1988-92	126.5	105.1	31.6	30.9

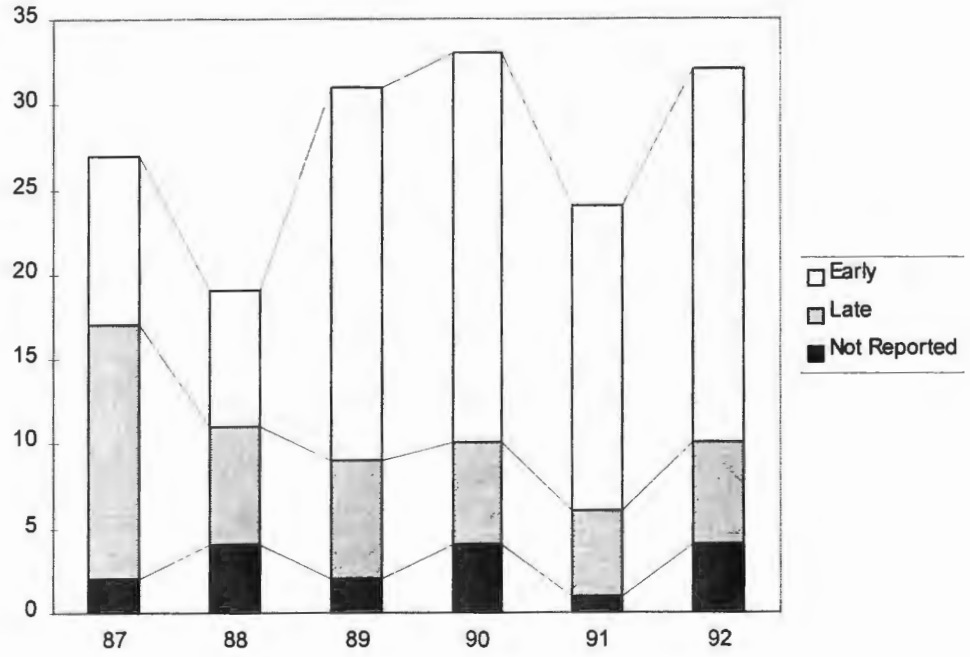
Chart 3
Percent of Breast Cancer Cases* which are Localized at Diagnosis
(% Early Diagnoses)
Seneca County and Upstate New York
1987-1992
Data from the New York State Cancer Registry



Year	% Early Seneca	% Early Upstate
87	40	57.5
88	53.3	59.4
89	75.9	63.8
90	79.3	64
91	78.3	65.1
92	78.6	65.5

*Percent of Cases for which stage of diagnosis is reported.

Chart 4
Incident Breast Cancers by
Stage of Diagnosis
Seneca County, 1987-1992
Data from New York State Cancer Registry



PUBLIC NOTICE

Seneca Army Depot Activity, NY
Formation of Restoration Advisory Board
Membership Solicitation Extension

The Department of Defense recognizes the importance of stakeholder participation for Installation Restoration Programs (IRP). Therefore, Seneca Army Depot Activity is announcing the establishment of a Restoration Advisory Board (RAB). The RAB is intended to improve public participation by involving the community in the restoration decision-making process.

The existing Technical Review Committee (TRC) will be modified to become a RAB. The RAB will include community members who reflect the diverse interests of the local community. RAB members will be asked to review and comment on plans and activities relating to the ongoing environmental studies and restoration activities at Seneca Army Depot Activity. RAB members will have the opportunity to provide input on activities that will accelerate the restoration. Members will also be expected to serve as a voluntary liaison between the community and the RAB and be available to meet with community members and/or groups. RAB meetings will be open to the public.

Members will be expected to attend RAB meetings quarterly and serve a term which will be determined by the RAB once it is established. Membership Applications will be reviewed and approved by a selection panel. The selection panel members will be representatives from the Seneca Army Depot Activity, U.S. Environmental Protection Agency, New York State Department of Environmental Conservation, Technical Review Committee members, and the community, as appropriate.

RAB formation will be discussed at the next Technical Review Committee (TRC) meeting on January 24, 1996 at 12:30 pm. The TRC meeting will take place at Seneca Army Depot Activity, Building 142. RAB Membership Applications will be available at the meeting.

RAB Membership Applications can also be obtained at the Romulus Town Hall in Willard, NY or by contacting Susan Cooper at Seneca Army Depot Activity, (607)869-1272. All RAB Membership Applications must be returned by February 7, 1996.

PUBLIC NOTICE

FOR MORE INFORMATION, PLEASE CONTACT: Mr. Jerry Whitaker, Seneca Army Depot Activity Public Affairs Office, (607) 869-1235.

SENECA ARMY DEPOT ACTIVITY
DEPARTMENT OF THE ARMY
INVITES PUBLIC COMMENT ON
THE ASH LANDFILL REMOVAL ACTION
DRAFT DECISION DOCUMENT AND FINAL ACTION MEMORANDUM
SENECA ARMY DEPOT ACTIVITY
ROMULUS, NY

The Army is soliciting public comment on the removal action to excavate and treat contaminated soil, followed by backfilling the treated soil at the Ash Landfill site, Seneca Army Depot Activity (SEDA), NY. The Ash Landfill Removal Action Decision Document and Action Memorandum will be available at the SEDA Information Repository located at:

Romulus Town Hall
1435 Prospect Street
Willard, NY 14588
Phone: (607) 869-9326
Hours: Monday-Friday, 8am-4:30pm

This public comment period will be held from 8 Aug 94 to 8 Sep 94. Written comments from the public during this time should be directed to:

Mr. Jerry Whitaker
Public Affairs Officer
Building 116
Seneca Army Depot Activity
Romulus, NY 14541

The Army will be holding a public availability session/public meeting to discuss the source cleanup being considered on August 17, 1994 from 6pm to 9pm at the Romulus Central school. At 7pm a brief presentation will be given on the removal action. This "open house" will allow people to visit the "stations" of interest to them and to speak one-on-one with representatives working on the SEDA environmental program.

Public Affairs Office

Seneca Army Depot Activity
Romulus, N.Y.
14541-5001
Beverly Lombardo
(607) 869-1353
DSN: 489-5353
DSN FAX: 489-5296
Commercial FAX: 607-869-1296

FACT SHEET

For Release: Mar 26, 1996 **Release No. 96-01**

This fact sheet provides basic information and statistics – facts and figures on Seneca Army Depot Activity.

Primary Mission:

1. Closure. Seneca Army Depot Activity was recommended for closure on February 28, 1995, by the Department of Defense as part of the Base Realignment and Closure (BRAC) process. Seneca was approved for closure by an independent BRAC Commission, the President, and finally Congress on September 28, 1995. The law requires Seneca to close by July 13, 2001.

Other Missions:

1. Storage, issue, maintenance, and demilitarization of conventional munitions.
2. Storage, and issue of general supplies including hazardous materials.
3. Continental U.S. Care of Materials In Storage for U.S. Army Reserve Command.
4. Strategic and critical materials storage.
5. Logistics support and training assistance to the Army Reserve and National Guard units.

Tenant Organizations:

1. U.S. Coast Guard LORAN-C Transmitting Station.
2. Defense Finance & Accounting Service.
3. U.S. Army Test, Measurement, and Diagnostic Equipment Support Operations.
4. Defense Reutilization and Marketing Office-Romulus Branch.
5. U.S. Army Health Clinic.
6. Civilian Personnel Office.

Budget for fiscal year 1996:

1. Payroll	$11,604,000
2. Local Procurement:	$10,704,000
3. Utilities:	$1,045,000
4. Total:	$23,353,000

Number of Employees (As of February 29, 1996)

	Civilian	Military
Seneca:	230	2
Tenants:	14	18
Non-Appropriated Fund Personnel:	13	
Family Members on Post:	108	
Total Population:	385	

Infrastructure:

1. Acres: 10,634.
2. 180 sets of family quarters and 450 person barracks complex.
3. 139 miles of road.
4. 42 miles of railroad track.
5. A 7,000 foot runway on post, contiguous with ammo and general supply storage, allowing aircraft up to and including the C5A to make direct flights to Europe and the Persian Gulf. Seneca is the only Army depot activity in the eastern half of the U.S. with this asset and capability.
6. Demilitarization facilities on post.
7. 927 structures, including 35 maintenance shops and a machine shop.
8. Ammunition storage facilities:

Conventional ammunition:	
519 igloos:	896,996 Gross Sq. Ft.
8 Standard Magazines:	83,000 Gross Sq. Ft.
2 Inert Warehouses:	176,400 Gross Sq. Ft.
2 Small Arms Warehouses:	176,400 Gross Sq. Ft.
Total Ammo Storage:	1,332,796 Gross Sq. Ft.

9. General Supply/Industrial Plant Equipment (IPE) storage:

19 general purpose warehouses:	1,466,569 Gross Sq. Ft.
6 outside sites:	1,047,000 Gross Sq. Ft.
2 sheds:	716 Gross Sq. Ft.
6 humidity controlled warehouses:	534,570 Gross Sq. Ft.
Total General Supply/IPE storage:	3,048,855 Gross Sq. Ft.

(NOTE: Seneca stores about 1,500 IPE machines in support of mobilization plans.)

Community Impact:

1. Seneca Army Depot Activity is the third largest employer in Seneca County.
2. The depot supplies water and sewage treatment to the nearby towns of Romulus and Varick.

Environmental:

On July 13, 1989, Seneca was named to the EPA's National Priorities List (NPL). As a result of being named to the NPL. Seneca identified 72 sites that had environmental concerns. Subsequently, the Army and the regulators have agreed that 25 sites require no further action as they are regulated under different programs. The remainder are currently being reviewed to determine the extent of remediation required.

Public Affairs Office

Seneca Army Depot
Romulus, N.Y.
14541-5001
(607) 869-1235

FACT SHEET

For immediate release: March 16, 1992 **Release no.: 92-02**

The Information Repository

Seneca Army Depot recently established an Information Repository at the Romulus Town Hall in Willard, N.Y. The Information Repository is being developed for all areas of potential environmental contamination at the depot.

The Information Repository includes a diverse group of documents that relate to the clean-up of hazardous waste sites at the depot and to the clean-up of hazardous waste sites in general. Under Subpart E of the National Contingency Plan (NCP), Title 40 Code of Federal Regulations (CFR), Section 300.430, the Army is required to establish an Information Repository at or near the location of the hazardous waste site.

The Information Repository will be updated periodically and will include guides to the waste clean-up process, background information, press releases, and information to aid the public in understanding response actions being taken by the Army at Seneca Army Depot.

Unlike an Administrative Record File, the Information Repository is not a legal file and may contain materials that have no bearing on the eventual response selection for a site.

The Information Repository will be housed at the Romulus Town Hall until further notice. Questions regarding maintenance of the Information Repository should be directed to the Seneca Army Depot Public Affairs Officer.

The Army welcomes comments at any time on documents contained in the Information Repository.

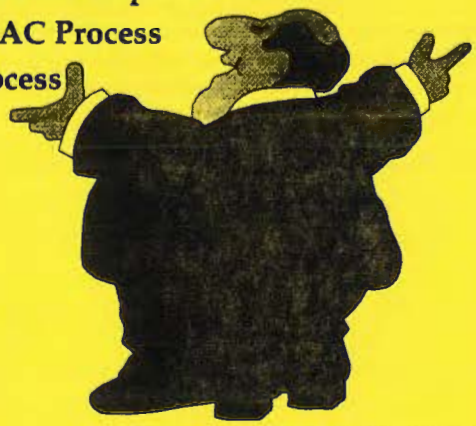
Questions, comments, and requests for further information concerning the Information Repository, should be forwarded to: Jerry Whitaker, Seneca Army Depot, Public Affairs Office, Romulus, New York, 14541-5001, or call (607) 869-1235

Property Disposal & Reuse Overview

Jerry Whitaker
Seneca Army Depot Activity
Base Transition Coordinator

Areas of Discussion

- The President's Base Reinvestment Plan
- Overview of Base Redevelopment Process
- Seneca and the BRAC Process
- Environmental Process



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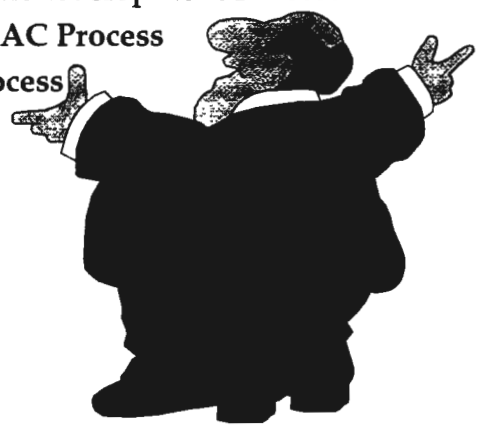
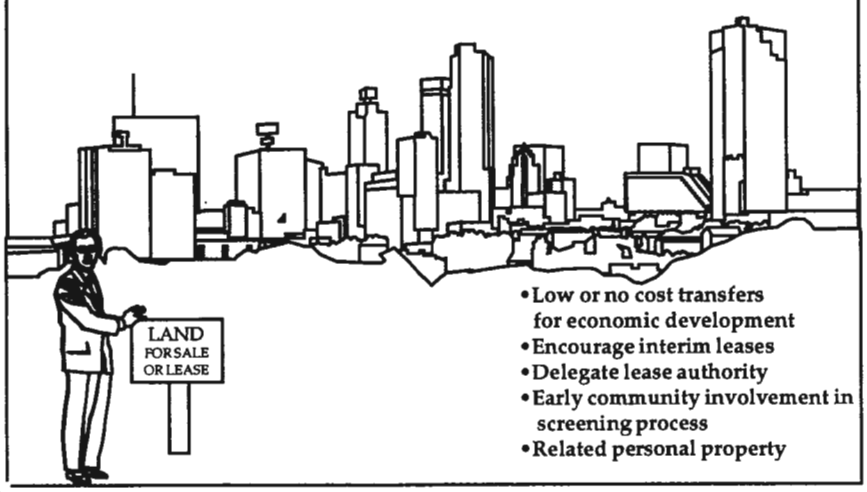


President's Base Reinvestment Plan

- Jobs Centered Property Transfer
- Environmental Cleanup
- Larger Planning Grants
- Transition and Redevelopment Help
- Base Transition Coordinator

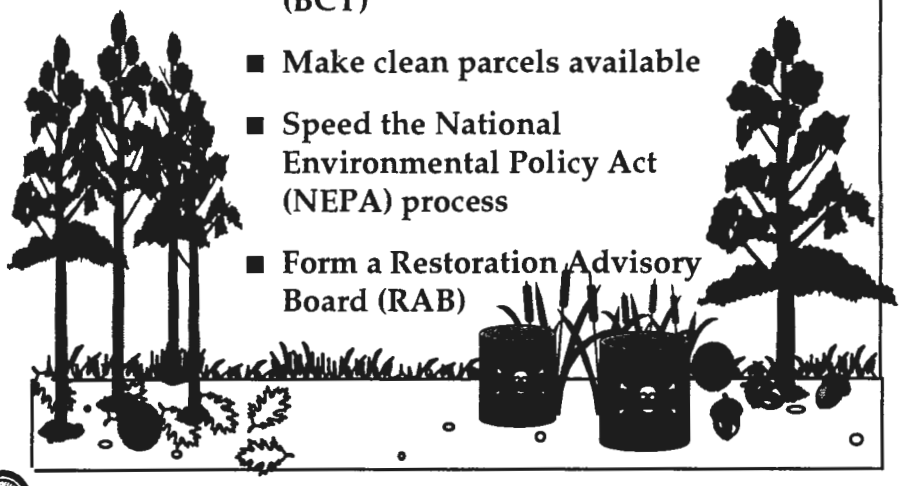
Jobs Centered Property Transfer



- Low or no cost transfers for economic development
- Encourage interim leases
- Delegate lease authority
- Early community involvement in screening process
- Related personal property

Fast-Track Cleanup

- Form a BRAC Cleanup Team (BCT)
- Make clean parcels available
- Speed the National Environmental Policy Act (NEPA) process
- Form a Restoration Advisory Board (RAB)

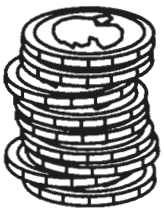


Larger Economic Adjustment Planning Grants

- Jump start the process
- Approve grants within 7 days
- Larger planning grants
- Average $1 million per community over 5 years
- Beyond planning

BEFORE

AFTER

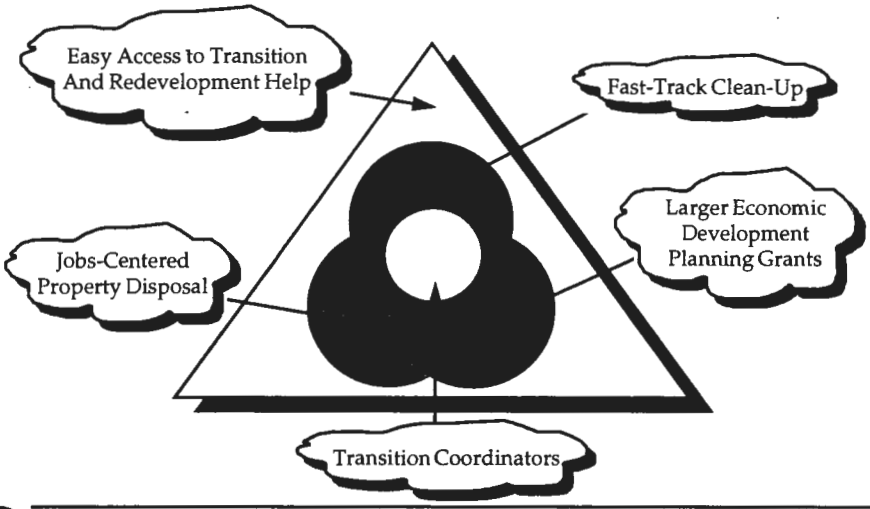


Easy Access to Transition and Development Help

- Coordinate worker transition assistance
- Give communities easier access to federal assistance

Base Transition Coordinator

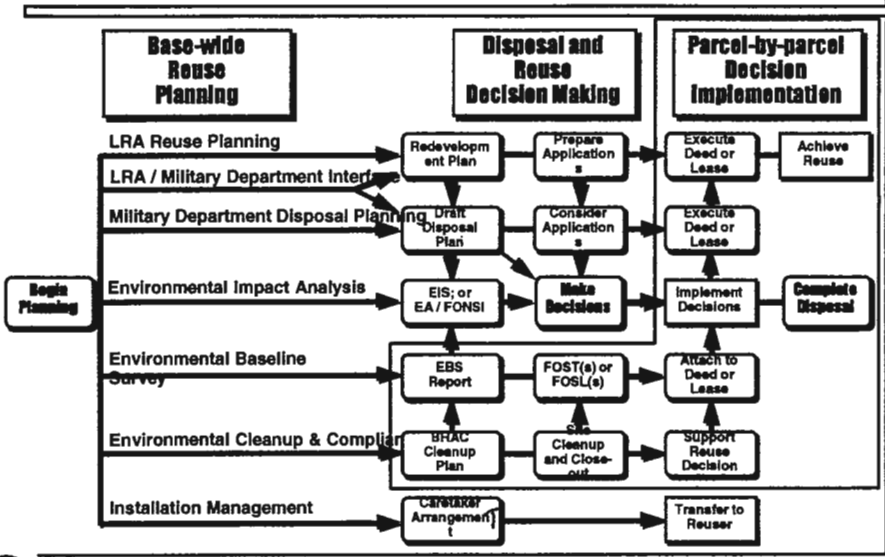
President's Five-Part Community Reinvestment Plan



The Base Redevelopment Process

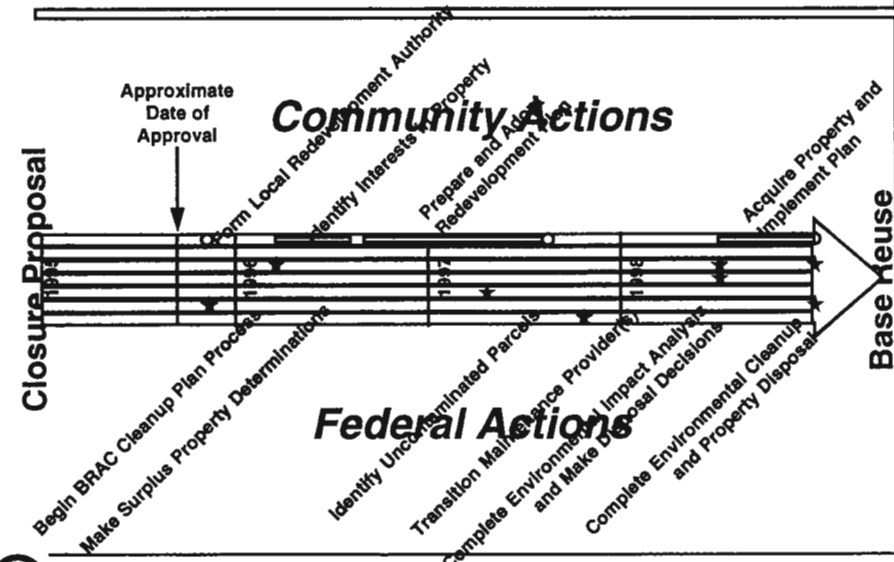
- Reuse Planning
- Reuse Decision Making
- Reuse Decision Implementation

Phases of Base Reuse Implementation



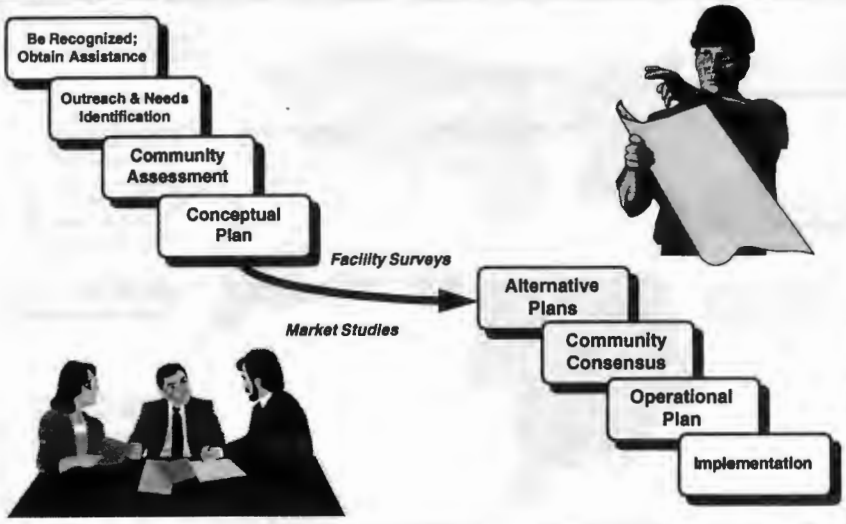
DoD Base Transition Field Office -- Seneca, August 1995

General Timeline for Base Reuse Implementation (BRAC 95)

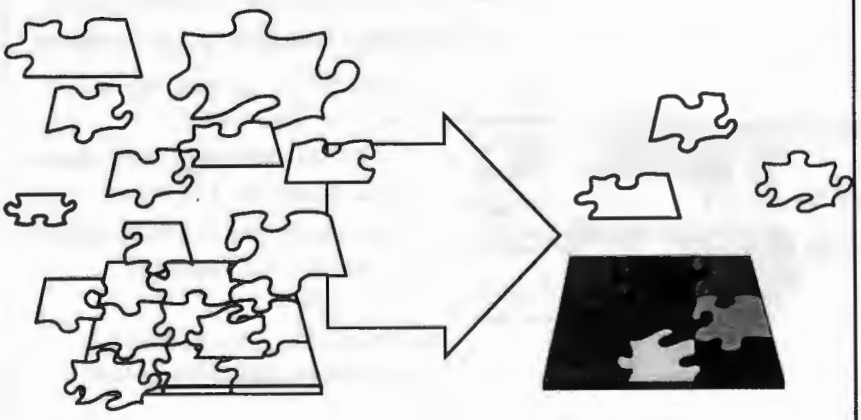


DoD Base Transition Field Office -- Seneca, August 1995

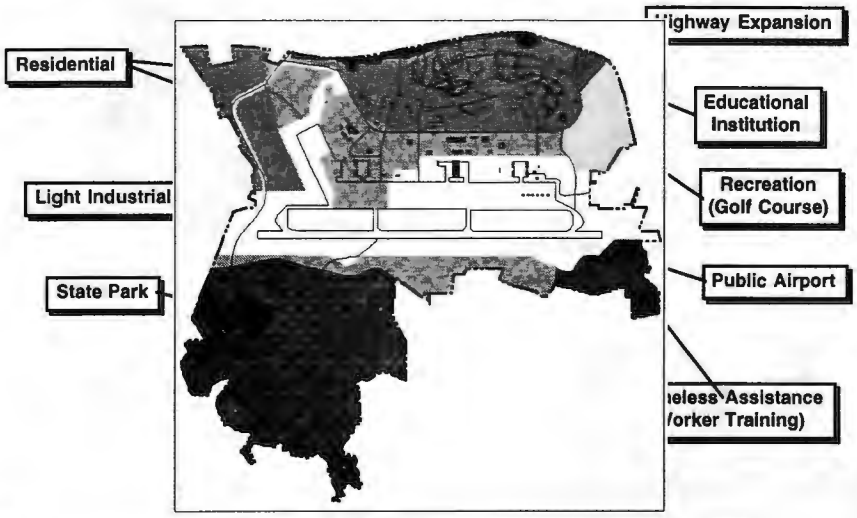
Phase One: LRA Reuse Planning



Phase One: LRA Reuse Planning— Reconcile Notices of Interest



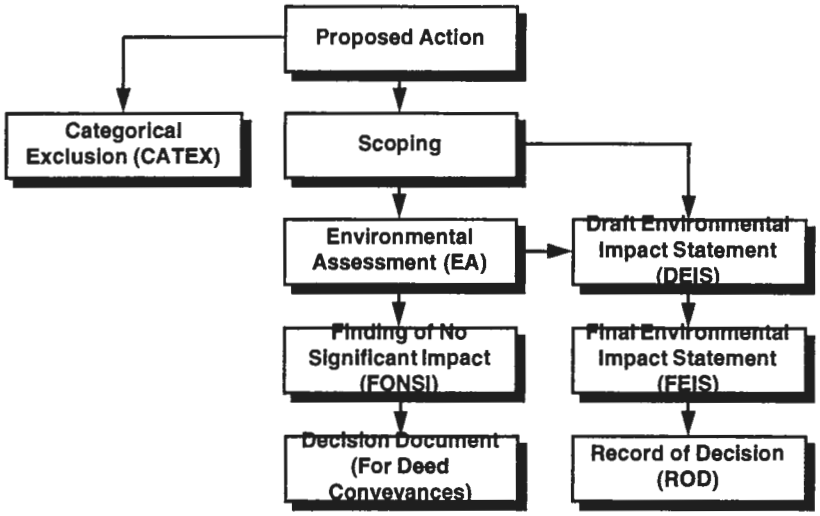
Phase One: LRA Reuse Planning—Prepare Redevelopment Plan, Including Land Use



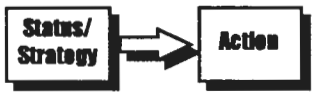
Phase One: Identify Conveyance Methods Compatible With Land-use Plan

- Within Federal Government
- Outside Federal Government
  - Approved or sponsored public-purpose conveyances
  - Homeless assistance conveyances
  - Sales (negotiated and public bid)
  - Depository institution facilities
  - Economic Development Conveyances
  - Conveyance for cost of environmental remediation

Phase One: Complete NEPA Analysis

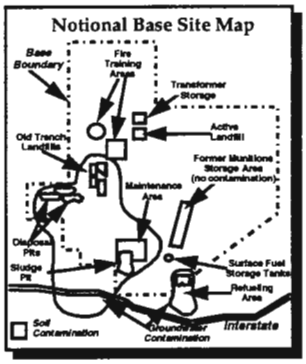


Phase One: Prepare and Implement "Reuse Roadmap" Version of the BCP



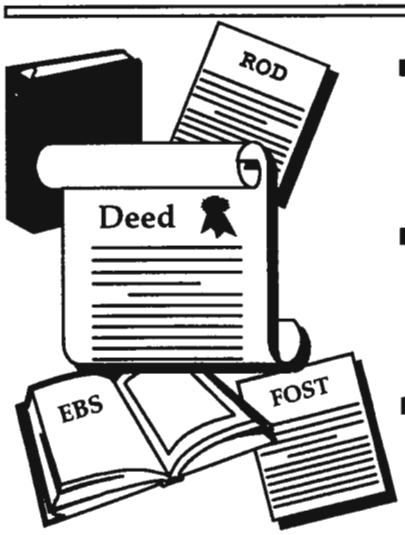
- A tool used by BCT to:
  - Agree on future land use (as identified in redevelopment plan) in order to focus cleanup efforts
  - Acknowledge reuse priorities
  - Agree on environmental risk
  - Reconcile reuse priorities with environmental risk
  - Develop comprehensive strategies and action plan for completion of all environmental activities
  - Agree on projects and schedules

Phase One: Conduct Environmental Baseline Survey to support decisions



- Survey Activities Include:
  - Records Search and Review, including Chain-of-title documents
  - Aerial Photography Analysis
  - Interviews
  - Visual Inspections
  - Contamination Source Identification
  - Ongoing Response Actions
  - Adjacent Facility Records Search and Review
  - Visual/Physical Inspection of Adjacent Property
- EBS Report Documents Findings

Phases Two and Three: Make and Implement Disposal Decisions



- EIS and Record of Decision or EA/FONSI and NEPA decision document
- Environmental Baseline Survey and Finding of Suitability to Transfer
- Deed Instrument (with CERCLA covenant and notifications, as applicable)

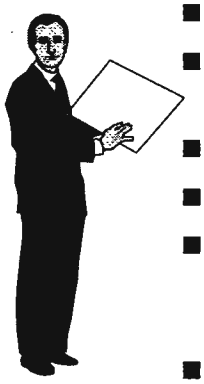
Phase One: Prepare Homeless Assistance Application

- LRA applies to HUD for certification of homeless assistance elements of redevelopment plan
- LRA's application to HUD must contain:
  - Redevelopment plan and summary of public comments
  - Information about homelessness in vicinity
  - Description of proposed activities
  - Homeless expressions of interest and how addressed
  - Impact of plan on community
  - Copies of proposed agreements with homeless providers
  - Description of property to be used
  - LRA's assessment of balance of needs for homeless and economic development
  - Summary of LRA homeless outreach

Phases One & Two: Apply for Public-Purpose Conveyances

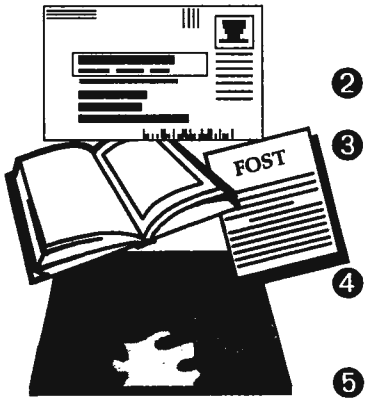
- Notices sent to Federal sponsoring/approving agencies
- Agencies solicit requests
- Eligible public/non-profit requesters apply to Federal agencies
- Federal agencies review applications and:
  - Recommend suitability of proposed use; or
  - Recommend conveyance
- Army has final disposal authority

Phases One and Two: Apply for EDC, if applicable



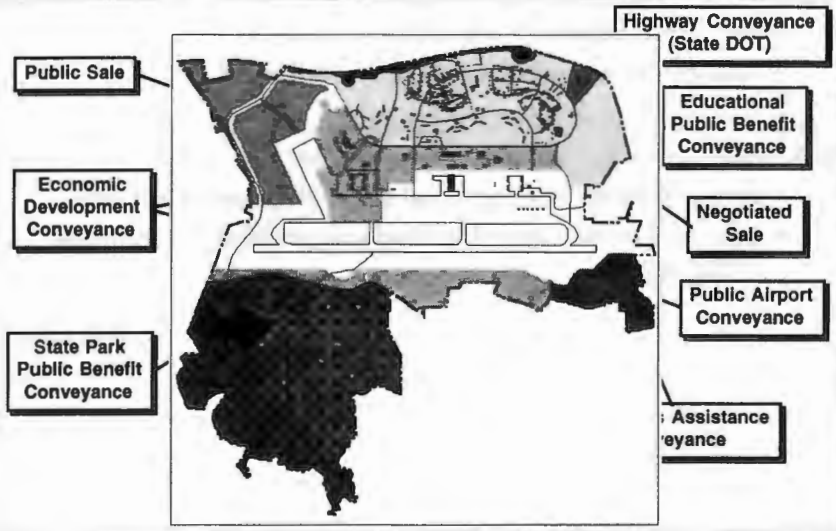
- Include adopted redevelopment plan
- Parcel size and intended uses
- Impact of closure on community and financial conditions
- Job creation strategy
- Market analysis and business plan
- Statement of why conveyance is needed and why other disposal authorities cannot be used
- Justification for discount, if appropriate
- Statement of authority to acquire property

Phase Three: Complete FOST Process For Each Parcel



1. Notify State and Federal regulators
2. Evaluate the property for transfer
3. Determine property's suitability for transfer and prepare draft FOST
4. Notify regulators of intent to sign FOST
5. Complete and sign FOST
6. Notify public

Phase Three: Decision Implementation; Convey Property



Seneca and the BRAC Process

Where we are now

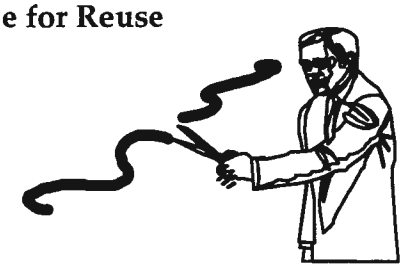
- DoD recommended closure, Feb. 28, 1995
- BRAC Commission accepted DoD recommendation, June 23, 1995
- President signed recommendations, July 13, 1995
- Congress must accept or reject list within 45 legislative days

Where we are headed

- "Fast Track" closure directed
  - Plan closes out military mission in two years
  - Environmental cleanup in six years
- Community to develop "Reuse Plan"
  - Seneca County forming Local Redevelopment Authority
  - LRA will be the recognized body responsible for the reuse of the depot

What is Fast Track Cleanup?

- Eliminate Needless Delays
- Protect Human Health & the Environment
- Make Property Available for Reuse



What Fast Track is NOT

- Do Everything Faster
- Ignore Environment to Get on with Reuse
- Endless Pot of Money

Summary

- The President's Base Reinvestment Plan
  - Assists, empowers the community
- The Base Redevelopment Process
  - Do it faster, smarter, better
- Seneca Closure on "Fast Track"
- Environmental Process
  - Eliminate Needless Delays
  - Protect Human Health & the Environment
  - Make Property Available for Reuse

RESTORATION ADVISORY BOARD (RAB)
FACT SHEET
Seneca Army Depot Activity, NY

Background

The U.S. Army is conducting environmental investigations and cleanup actions at Seneca Army Depot Activity (SEDA) as part of the Department of Defense Installation Restoration Program (IRP). To keep the public informed about its cleanup activities and provide more opportunities for public involvement in its environmental restoration program, SEDA is expanding its Technical Review Committee into a Restoration Advisory Board (RAB).

What is a RAB?

The RAB is an advisory body designed to act as a focal point for the exchange of information between Seneca Army Depot Activity and the local community regarding restoration activities. It is intended to bring together community members who reflect the diverse interests within the local community, enabling the early and continued two-way flow of information, concerns, values, and needs between the affected community and the installation.

RAB members will include Army, U.S. Environmental Protection Agency, and New York State regulatory representatives as well as members of the local community. RAB members will review and comment on technical documents and plans related to environmental cleanup. Technical support staff will be available to provide informational support and explanation to RAB members.

Membership terms will be decided by the RAB members. All RAB meetings will be publicly announced and open to the public at convenient times and locations. Community members will be expected to serve as a voluntary liaison between the community and the RAB.

How to Become a RAB Member

Community members interested in finding out more about the RAB are invited and encouraged to attend a Technical Review Committee meeting Seneca Army Depot Activity will conduct at 12:30 p.m. on January 24, 1996. At the meeting, you will learn about the purpose of the RAB, membership opportunities and responsibilities, and hear an update on the status of installation restoration activities and future plans.

RAB Membership Applications will be reviewed and approved by the selection panel. The selection panel members are representatives from the installation, EPA, state, and the community, as appropriate. RAB Membership Applications will be available at the meeting and are available at the Romulus Town Hall in Willard, NY. They may also be obtained by calling Susan Cooper at Seneca Army Depot Activity, (607) 869-1272. All RAB Membership Applications must be received by February 7, 1996.

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RAB members will include Army, U.S. Environmental Protection Agency, and New York State regulatory representatives as well as members of the local community. RAB members will review and comment on technical documents and plans related to environmental cleanup. Technical support staff will be available to provide informational support and explanation to RAB members.

Membership terms will be decided by the RAB members. All RAB meetings will be publicly announced and open to the public at convenient times and locations. Community members will be expected to serve as a voluntary liaison between the community and the RAB.

How to Become a RAB Member

Community members interested in finding out more about the RAB are invited and encouraged to attend a Technical Review Committee meeting Seneca Army Depot Activity will conduct at 12:30 p.m. on January 24, 1996. At the meeting, you will learn about the purpose of the RAB, membership opportunities and responsibilities, and hear an update on the status of installation restoration activities and future plans.

RAB Membership Applications will be reviewed and approved by the selection panel. The selection panel members are representatives from the installation, EPA, state, and the community, as appropriate. RAB Membership Applications will be available at the meeting and are available at the Romulus Town Hall in Willard, NY. They may also be obtained by calling Susan Cooper at Seneca Army Depot Activity, (607) 869-1272. All RAB Membership Applications must be received by February 7, 1996.

Expanding a TRC to

Restoration Advisory Board (RAB)

Janet Fallo

Expand the TRC

- Add a community co-chair
- Recruit additional community representatives
- Publish meeting minutes as a concise summary

Increase Community Involvement

- Mail surveys to poll interest
- Interview community members
- Advertise notices in local newspapers

RAB Responsibilities

- Review and evaluate documents
- Recommend priorities among sites or projects
- Conduct meetings at convenient times and locations

For more information

- Janet Fallo
  Environmental Section
  (607) 869-1450

- Jerry Whitaker
  Public Affairs Office
  (607) 869-1235

Restoration Advisory Board
Meeting Agenda

July 15, 1997

7:00	**Welcome/Introduction of LTC Donald C. Olson** Mr. Stephen M. Absolom Army Co-chair
7:15	**Acceptance of Minutes** Mr. Stephen M. Absolom/Dr. Dick Durst Army Co-chair/Community Co-chair
7:20	**Peer Review Process** Mr. Thomas R. Enroth Project Engineer, U.S. Army Corps of Engineers, New York District
7:35	**Open Burning Grounds Public Meeting** Mr. Stephen M. Absolom Army Co-chair
7:55	**Break**
8:05	**Soil Cleanup Technologies** Mr. Michael Duchesneau, P.E. Project Manager, Parsons Engineering Science, Inc.
8:30	**Open Discussion**
9:00	**Adjourn**

Peer Review

Thomas R. Enroth
July 15, 1997

Peer Review Presentation

- Purpose
- Background
- Pilot Study at Seneca
- Peer Review Recommendations
- Implementation of Recommendations
- Summary

Purpose

- Review of Restoration projects to ensure efficient and effective use of funds
- Army Environmental Center was tasked by the BRAC Office to organize a team of experts from government and non-government agencies to perform the review

Background

- Draft concept plan developed Feb 1997
- Two levels of pilot studies: Level I is more detailed, Level II is less detailed
- Four pilot studies performed- two at Level I and two at Level II
- Performed first Level I pilot review at Seneca April 1-4, 1997

Pilot Study at Seneca

- Prior to the review, Seneca filled out detailed questionnaires and prepared narratives on each project to give the team background before the visit
- April 1-4, 1997, Seneca presented projects to the team with support from the Corps of Engineers and Parsons Engineering Science

Pilot Study at Seneca (cont.)

- The Peer Review team included professionals in various fields:
  - Hydrogeologist
  - Toxicologist
  - Health Physicist
  - Decision Analyst
  - Risk Management Specialist
  - Technology Demonstration Specialist

Pilot Study at Seneca (cont.)

- BRAC Cleanup Team members were present at Peer Review to support Seneca's projects
- Peer Review team provided a report of recommendations to Seneca
- Seneca is in the process of addressing the recommendations

Peer Review Recommendations

- Reduce laboratory costs by incorporating more field screening techniques
- Develop installation-wide background concentrations for contaminants in soils and groundwater

Peer Review Recommendations (cont.)

- Change decision making process to accelerate site cleanup by identifying and conducting removal actions before completion of Feasibility Study phase
- Strongly consider intrinsic bioremediation for cleanup of petroleum contaminated sites

Implementation of Recommendations

- Seneca needs to modify existing contracts and the overall process to address the recommendations
- Coordination with regulators is required before changes are implemented

Summary

- Peer Review may be performed on an annual basis at all Army installations as a result of pilot studies
- Peer Review was designed to ensure efficient and effective use of environmental funds

Presentation to the RAB
July 15, 1997

Remedial Action Technologies

Michael Duchesneau, P. E.

Technologies to be Discussed

- *Soil Washing*
- *Solidification/Stabilization*
- *Bioventing*

Soil Washing

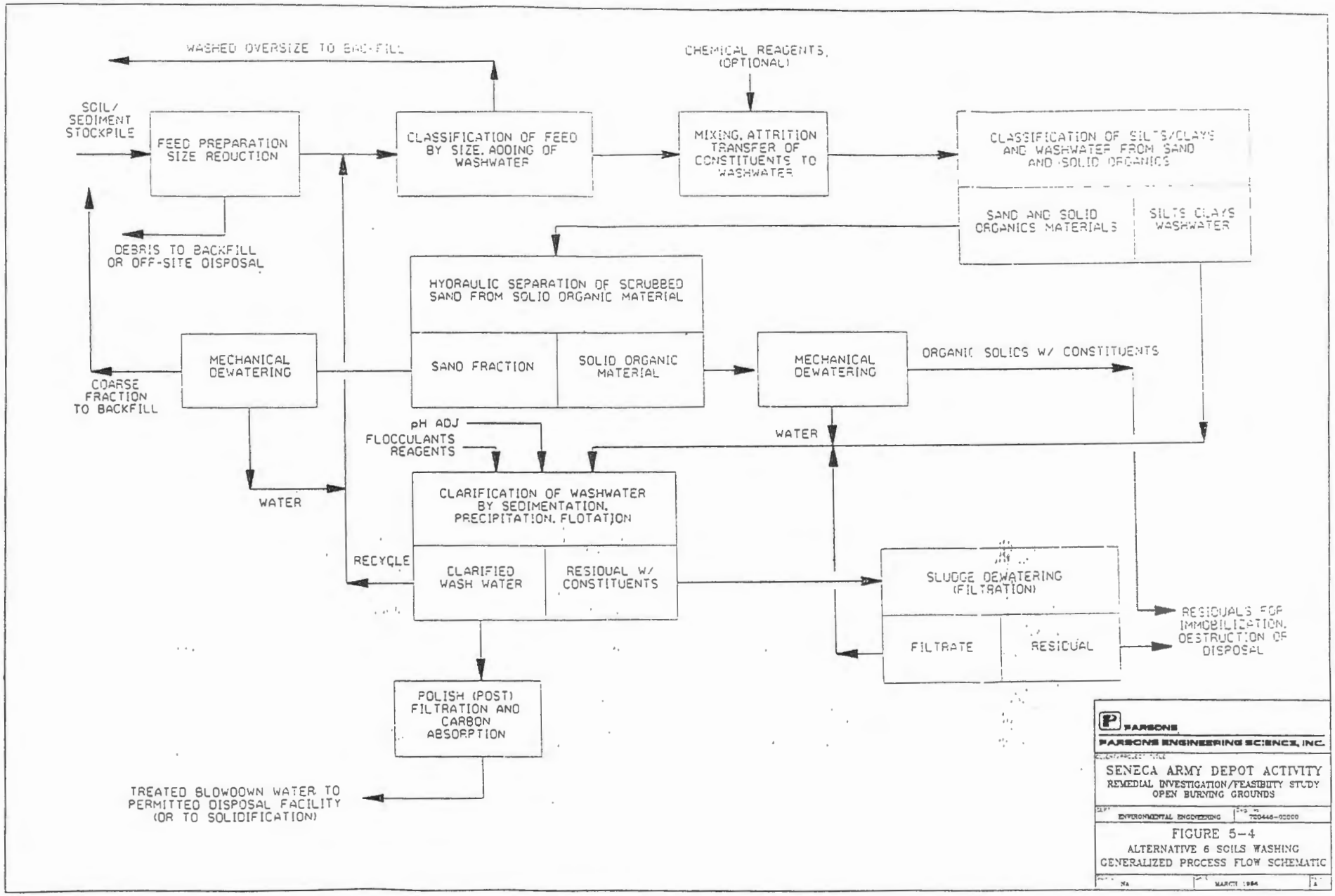
PARSONS ENGINEERING SCIENCE

Soil Washing

- *Technology Developed from Mining Operations*
- *Goal is Volume Reduction*
- *Excavation, Separation, Replace Clean Soil, Acid Leaching/Metals Recovery, Landfill*
- *Particle Size Separation Achieved using:*
  - *Vibrating Screens*
  - *Rotary Attrition Scrubbers*
  - *Hydrocyclones*
  - *Froth Flotation*

Soil Washing
Principal Process Steps

- *Feed Preparation*
  - *Crushing, Removal of Debris*
- *Mixing, Attrition Scrubbing, Surficial Extraction*
  - *Clay/Silts are Seperated from Sands*
- *Separation of Clay/Silt & Wash Water from Scrubbed Granular Materials*
  - *Dewatered Solids and Wash Water with Clay/Silt*
- *Removal of Clay/Silt from Wash Water*
  - *Chem. Precipitation used to Removal Clay and Metals*
- *Management of Residuals*

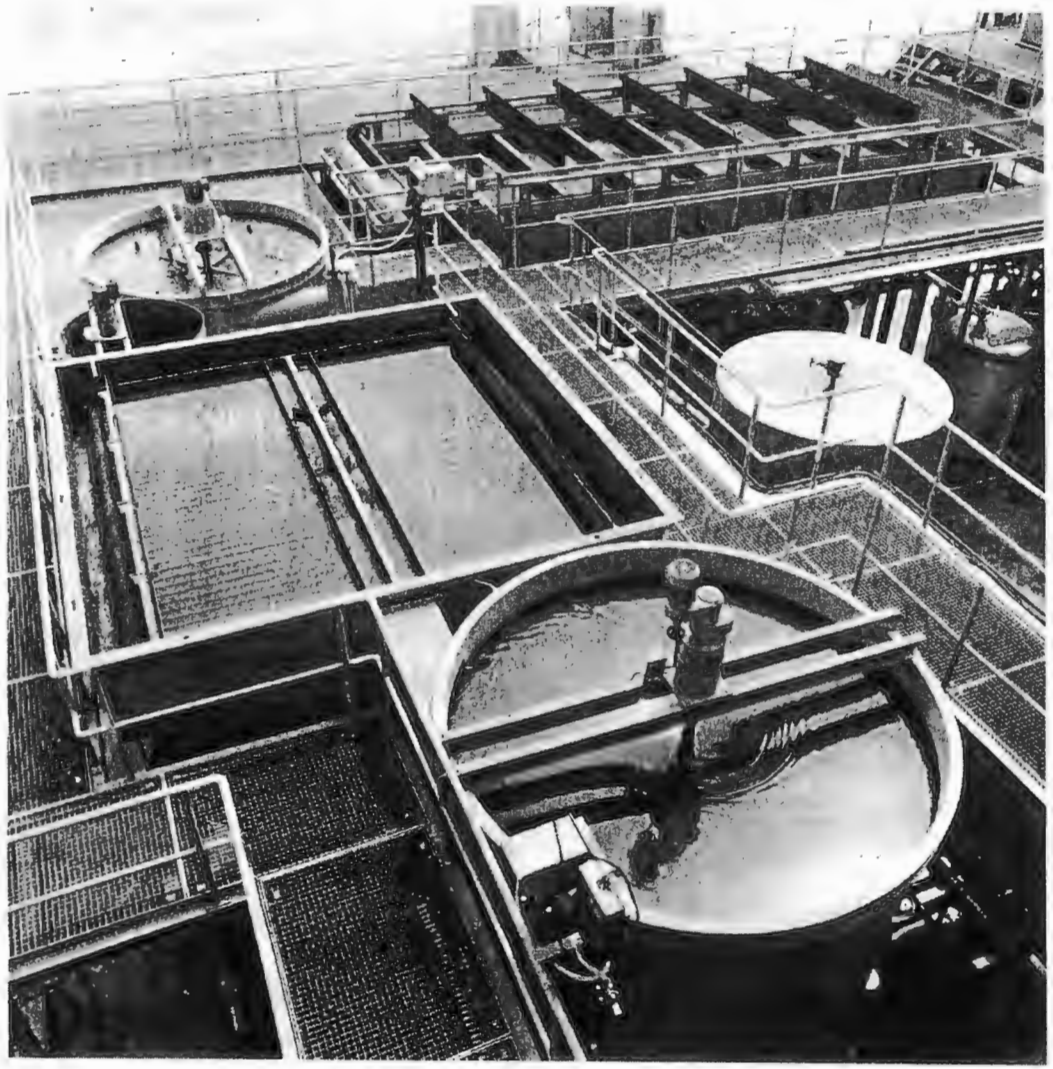

WASHED OVERSIZE TO BACKFILL
CHEMICAL REAGENTS, (OPTIONAL)
SOIL/ SEDIMENT STOCKPILE
FEED PREPARATION SIZE REDUCTION
CLASSIFICATION OF FEED BY SIZE, ADDING OF WASHWATER
MIXING, ATTRITION TRANSFER OF CONSTITUENTS TO WASHWATER
CLASSIFICATION OF SILTS/CLAYS AND WASHWATER FROM SAND AND SOLID ORGANICS
SAND AND SOLID ORGANICS MATERIALS
SILTS CLAYS WASHWATER
DEBRIS TO BACKFILL OR OFF-SITE DISPOSAL
HYDRAULIC SEPARATION OF SCRUBBED SAND FROM SOLID ORGANIC MATERIAL
MECHANICAL DEWATERING
SAND FRACTION
SOLID ORGANIC MATERIAL
MECHANICAL DEWATERING
ORGANIC SOLIDS W/ CONSTITUENTS
COARSE FRACTION TO BACKFILL
pH ADJ
FLOCCULANTS REAGENTS
WATER
WATER
CLARIFICATION OF WASHWATER BY SEDIMENTATION, PRECIPITATION, FLOTATION
RECYCLE
CLARIFIED WASH WATER
RESIDUAL W/ CONSTITUENTS
SLUDGE DEWATERING (FILTRATION)
FILTRATE
RESIDUAL
RESIDUALS FOR IMMOBILIZATION, DESTRUCTION OR DISPOSAL
POLISH (POST) FILTRATION AND CARBON ABSORPTION
TREATED BLOWDOWN WATER TO PERMITTED DISPOSAL FACILITY (OR TO SOLIDIFICATION)
PARSONS
PARSONS ENGINEERING SCIENCE, INC.
SENECA ARMY DEPOT ACTIVITY
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OPEN BURNING GROUNDS
ENVIRONMENTAL ENGINEERING
FIGURE 5-4
ALTERNATIVE 6 SOILS WASHING
GENERALIZED PROCESS FLOW SCHEMATIC
MARCH 1984

Soil Washing

- *Advantages :*
  - *Volume Reduction*
  - *Metals Leaching/Extraction can be Added*
  - *Proven Technology*
  - *Resource Recovery is Possible*
- *Disadvantages:*
  - *Water Intense Operation*
  - *Heavy, Specialized, Equipment Required*
  - *Costly*
  - *Landfilling is Required as Final Disposal*

Plant Layout
Soil Washing

Soil Washing Unit Operations

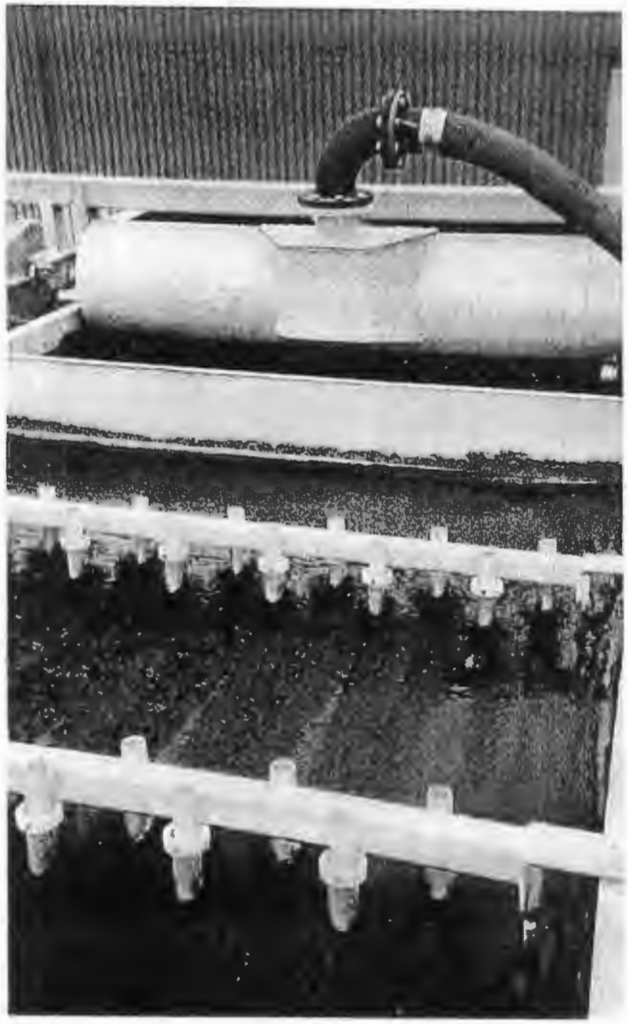


Disolved Air Floation

Lamella Plate Clarifier

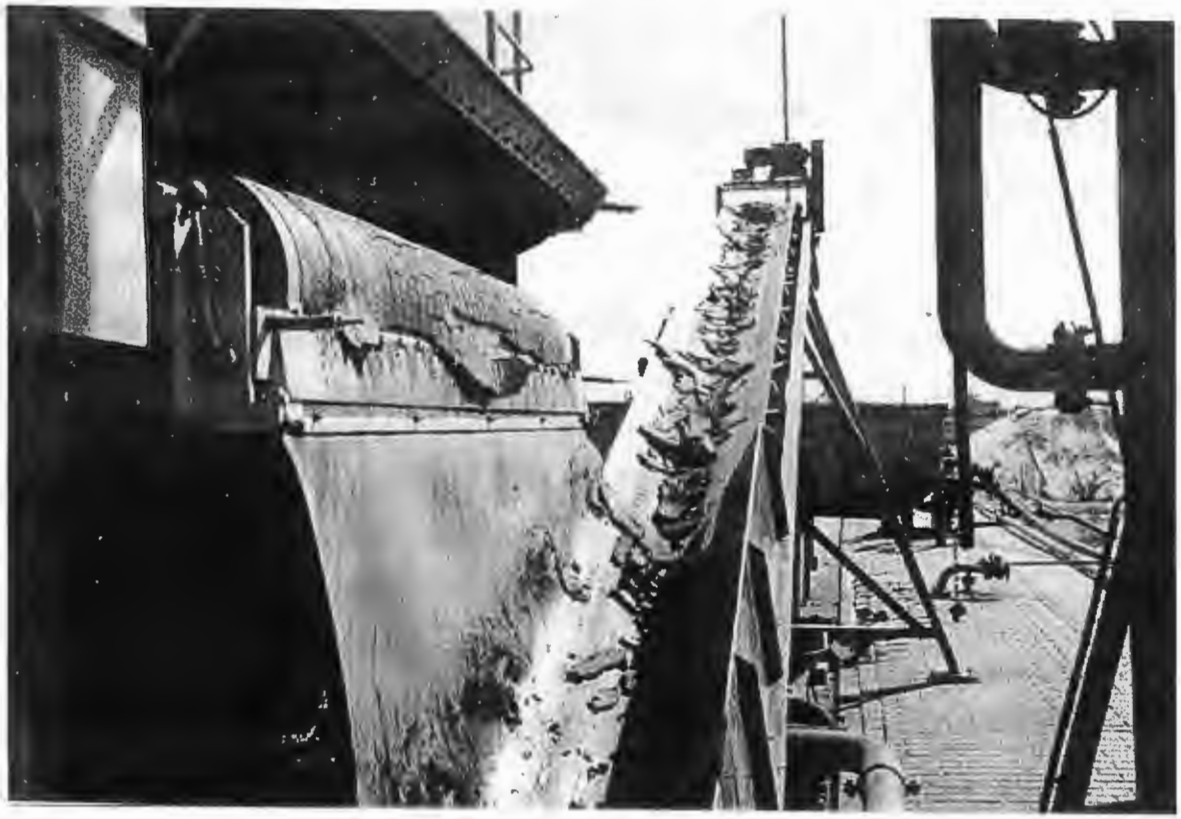
Mixing Tank

Soil Washing Unit Operations



Residuals including Precipitated Heavy Metals and Organics prior to Dewatering in Belt Filter Press

Soil Washing Unit Operations



Filter Cake Produced Following Dewatering in Belt Filter Press

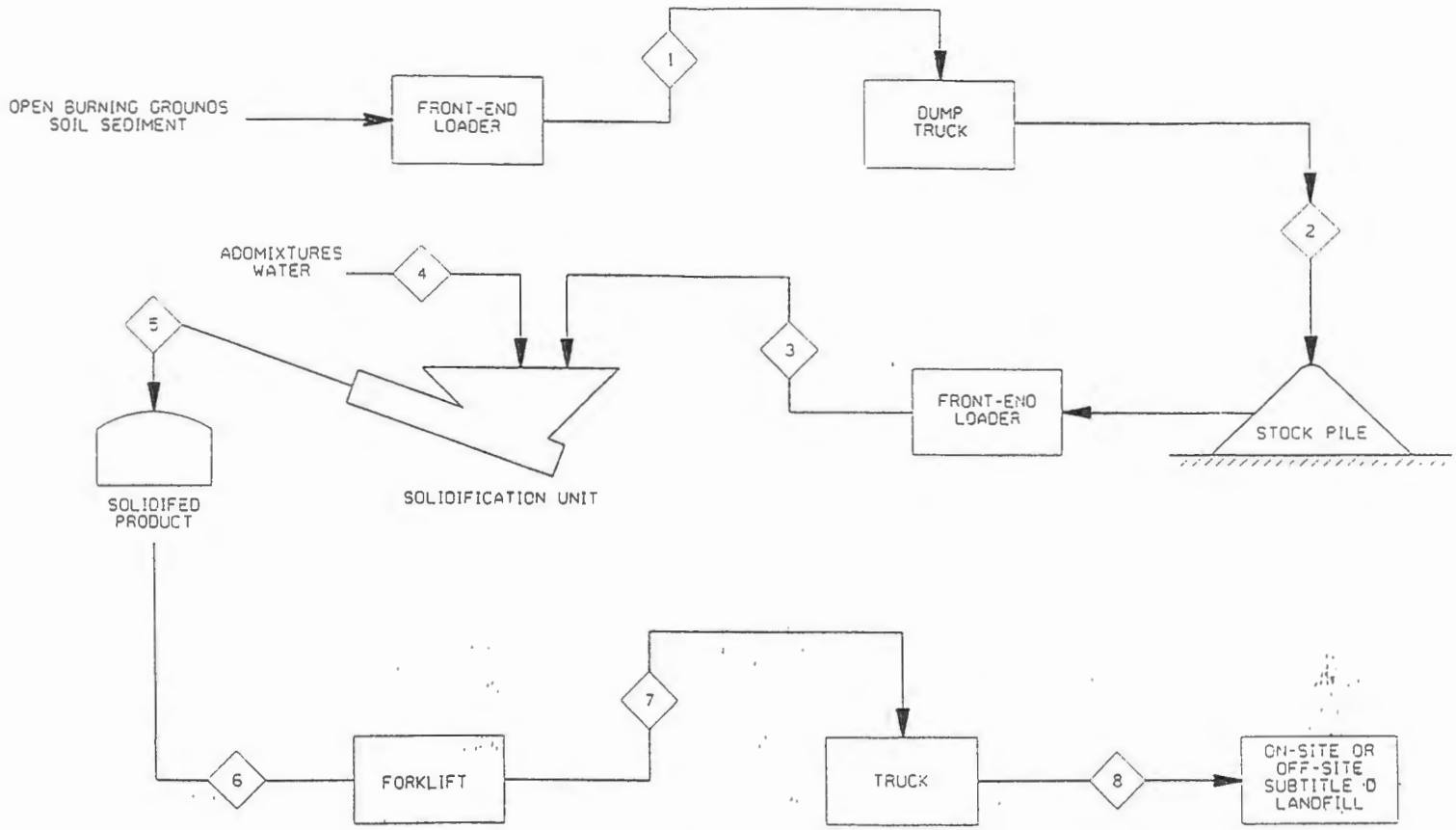
Soil Washing Unit Operations

Solidification/Stabilization

PARSONS ENGINEERING SCIENCE

Solidification/Stabilization

- *Immobilization Technology*
- *Constituents of Concern are "bound" within a Solidified Matrix*
- *Solidifying Agents Include:*
  - *Sorbents (lime, fly ash, clay, kiln dust, zeolites)*
  - *Lime/Fly Ash Pozzolan (Silica)*
  - *Pozzolan-Portland Cement*
  - *Asphaltic Materials (Cold Patch or Hot Mix)*



TYPICAL FLOW RATES

MATERIAL	STREAM NO. 1	2	3	4	5	6	7	8	9	10	11	12	13	14
SOIL/SEDIMENT (CY/HR)	50	50	40											
SOLIDIFIED PRODUCT (CY/HR)					60	60	60	60						
ADMIXTURES / WATER (CY/HR)				20										

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PARSONS ENGINEERING SCIENCE, INC.

SENECA ARMY DEPOT ACTIVITY
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OPEN BURNING GROUNDS

ENVIRONMENTAL ENGINEERING

FIGURE 5-1
ALTERNATIVE 4 AND 5
SOLIDIFICATION/SUBTITLE D LANDFILL

NA

MARCH 1996

Solidification/Stabilization

- *Advantages :*
  - *Proven Technology (BDAT for metals)*
  - *Simple*
  - *Generally Less Costly than Washing*
- *Disadvantages:*
  - *Effectiveness is Matrix Dependent*
    - *High Clay Soils cause Clumping*
    - *High Oil Content Decrease Effectiveness*
  - *Volume of Material is Increased*

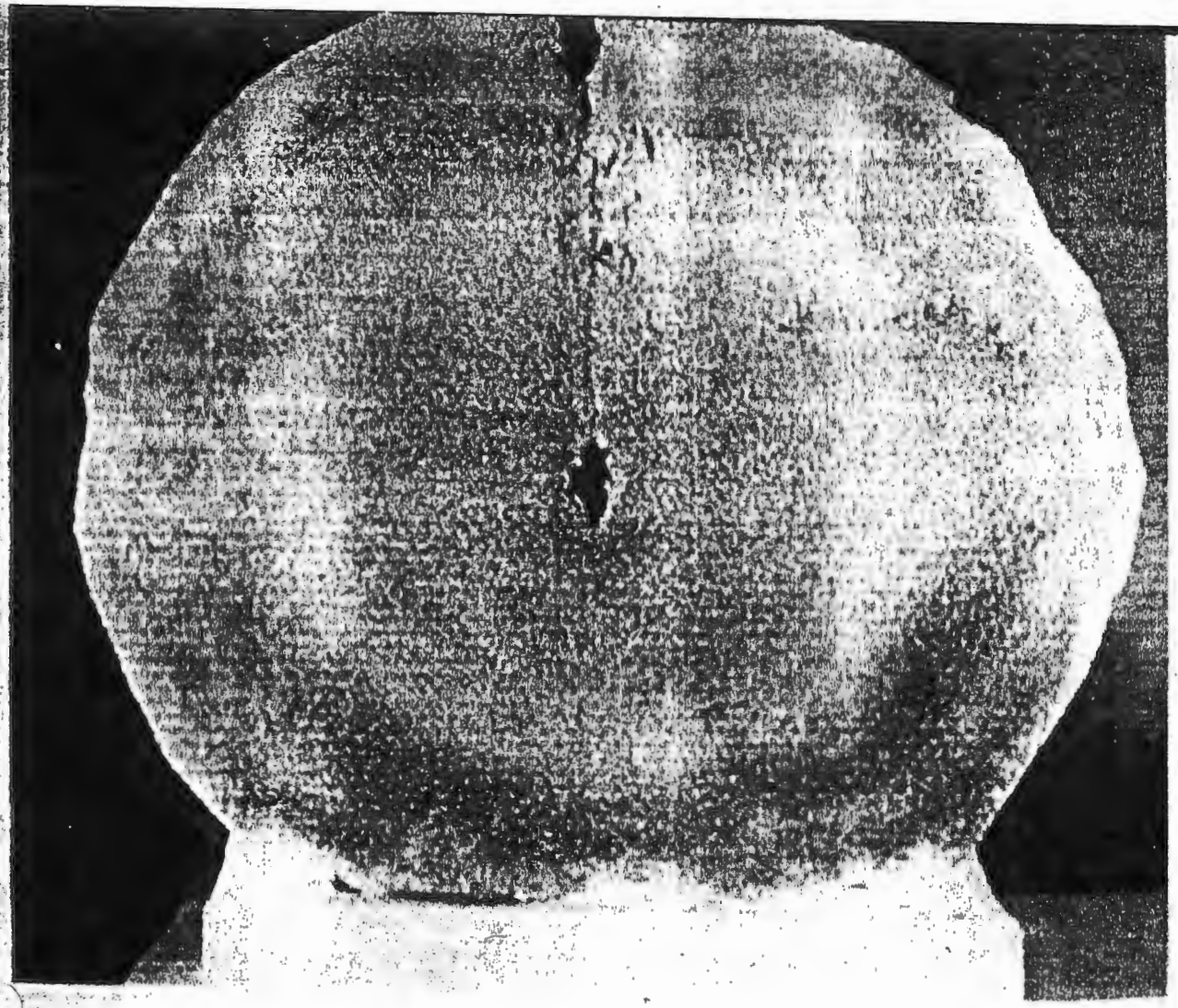


FIG. 1.—CONCENTRIC RINGS SHOW UNIFORM RADIAL SPREAD OF GROUT IN SATURATED ISOTROPIC SAND UNDER STATIC GROUND WATER

Bioventing

PARSONS ENGINEERING SCIENCE

Bioventing

- *In-situ (below ground) Degradation of Hydrocarbons*
- *Air (21% O_2) is Injected into the Ground*
- *Natural Occurring Microbial Colonies (Aerobic) Utilize O_2 and Consume Hydrocarbons*
- *Respiration Rate is Use to Monitor Progress of Degradation Rate*
- *Can be Converted from a Vapor Extraction System once High Concentrations of VOCs are Extracted*

Aerobic Biodegradation – Respiration

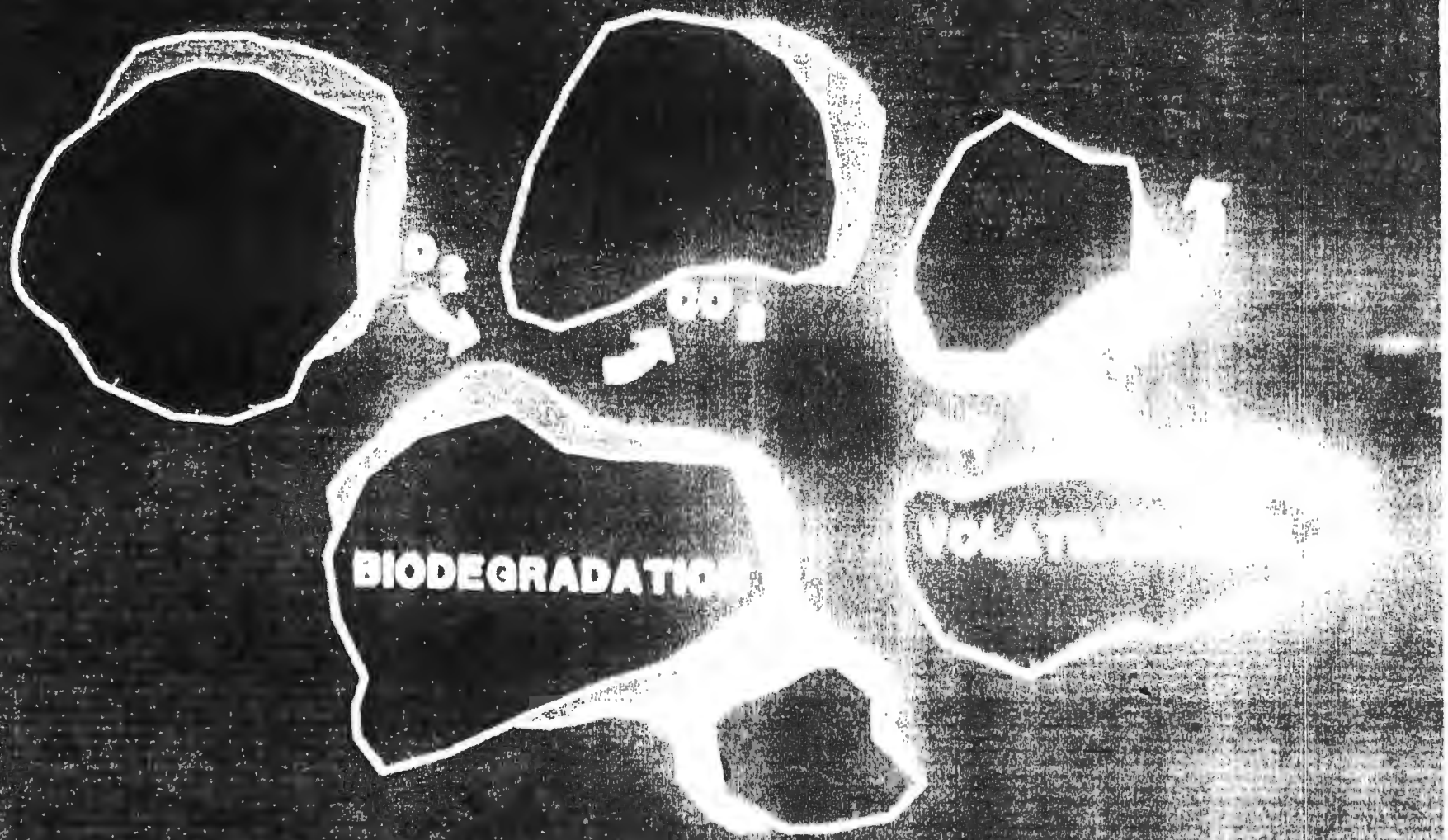
$$C_6H_6 + 7\tfrac{1}{2}O_2 \longrightarrow 6\,CO_2 + 3\,H_2O$$

3.1 lb O_2/lb C_6H_6

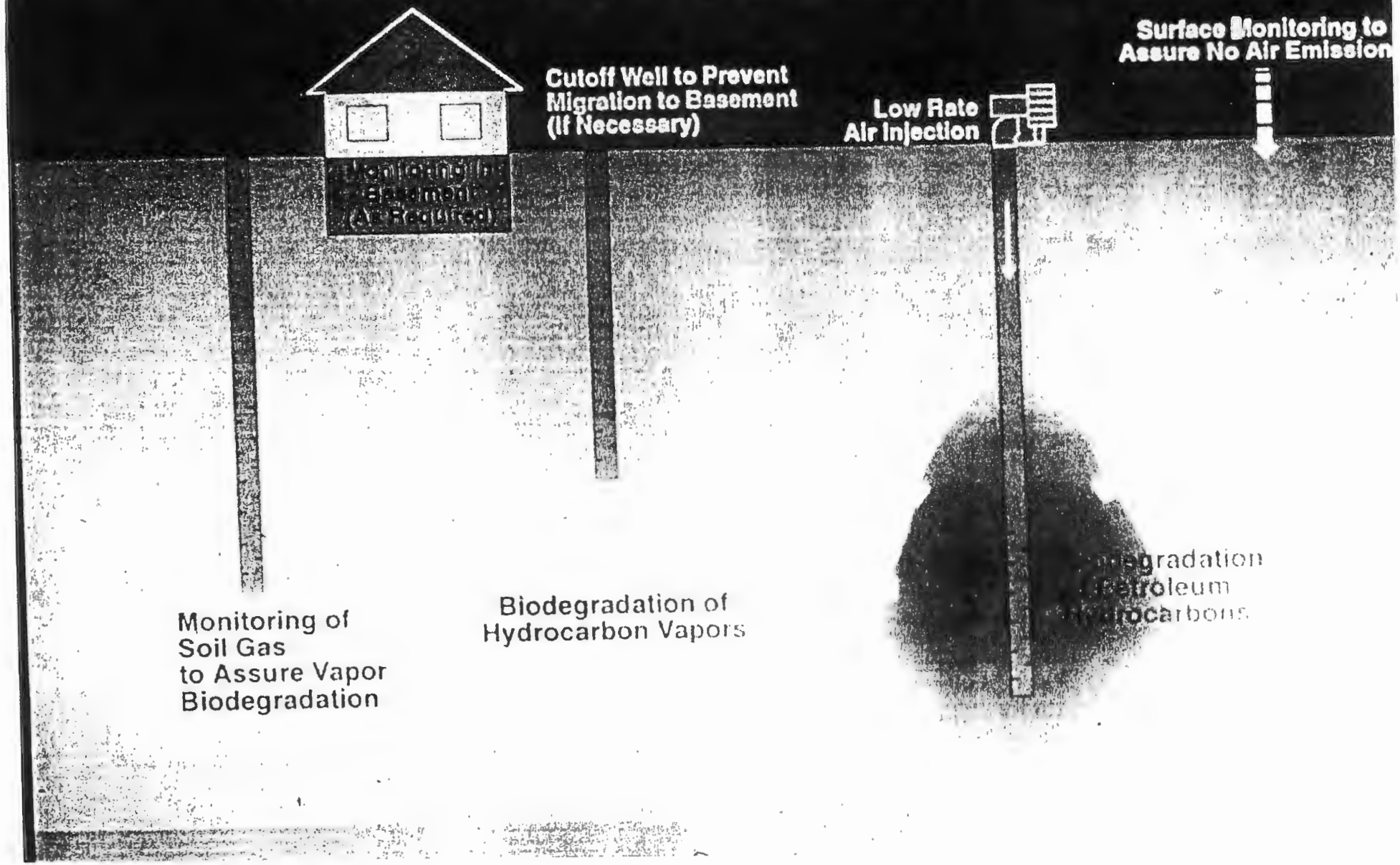
$$C_6H_{14} + 9\tfrac{1}{2}O_2 \longrightarrow 6\,CO_2 + 7\,H_2O$$

3.5_2 lb O_2/lb C_6H_{14}

VENTING ENHANCED BIODEGRADATION

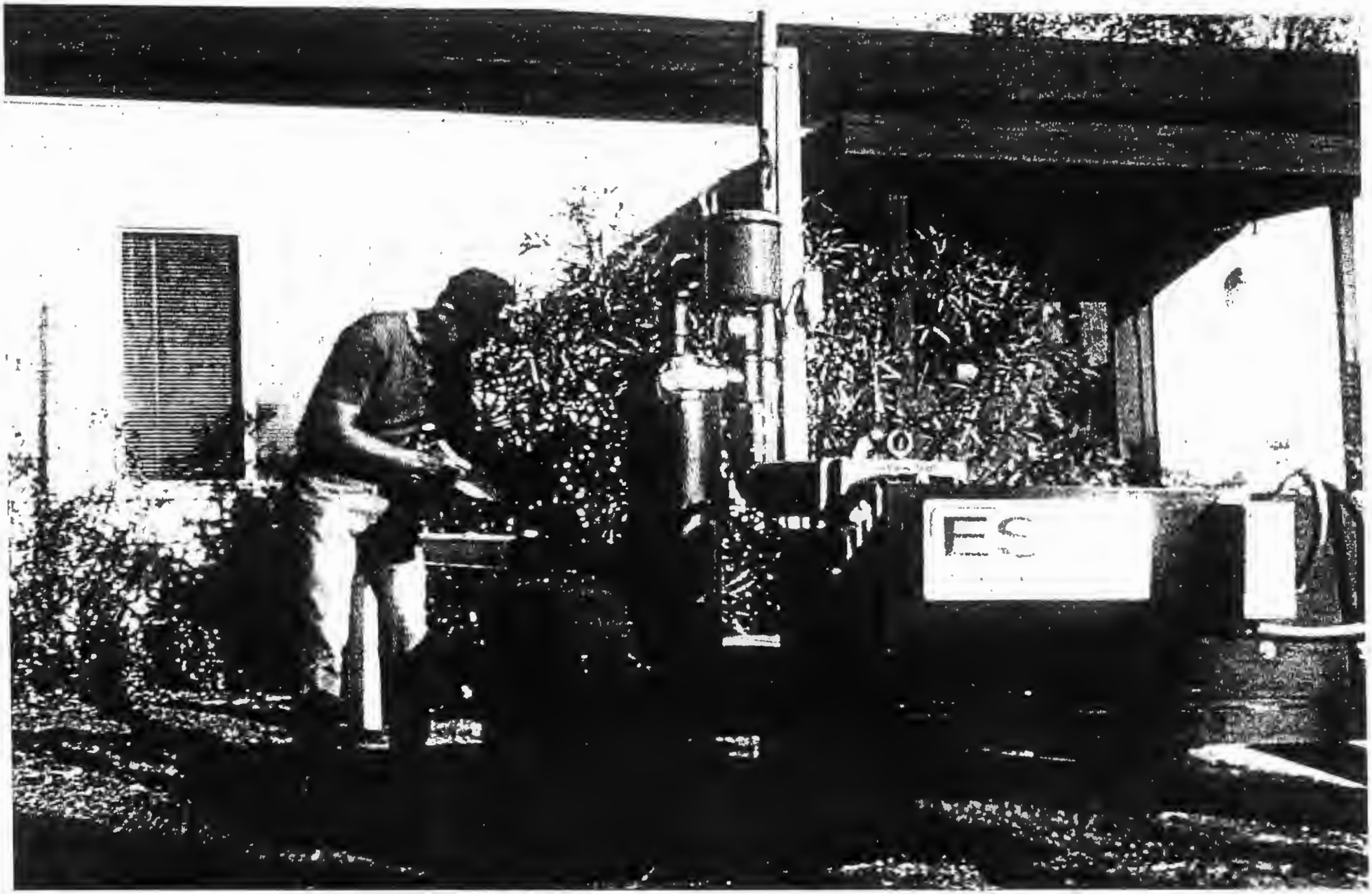


Conceptual Layout of *In Situ* Bioventing



Bioventing

- *Advantages :*
  - *No Excavation Required*
  - *Studies have Shown Effectiveness*
  - *Simple, Low Capital Costs*
  - *Usually the Least Costly Option*
- *Disadvantages:*
  - *Problematic in Low Permeable Soils*
  - *Requires Longer Clean-up Times*
  - *Resistant Compounds are Not Degraded*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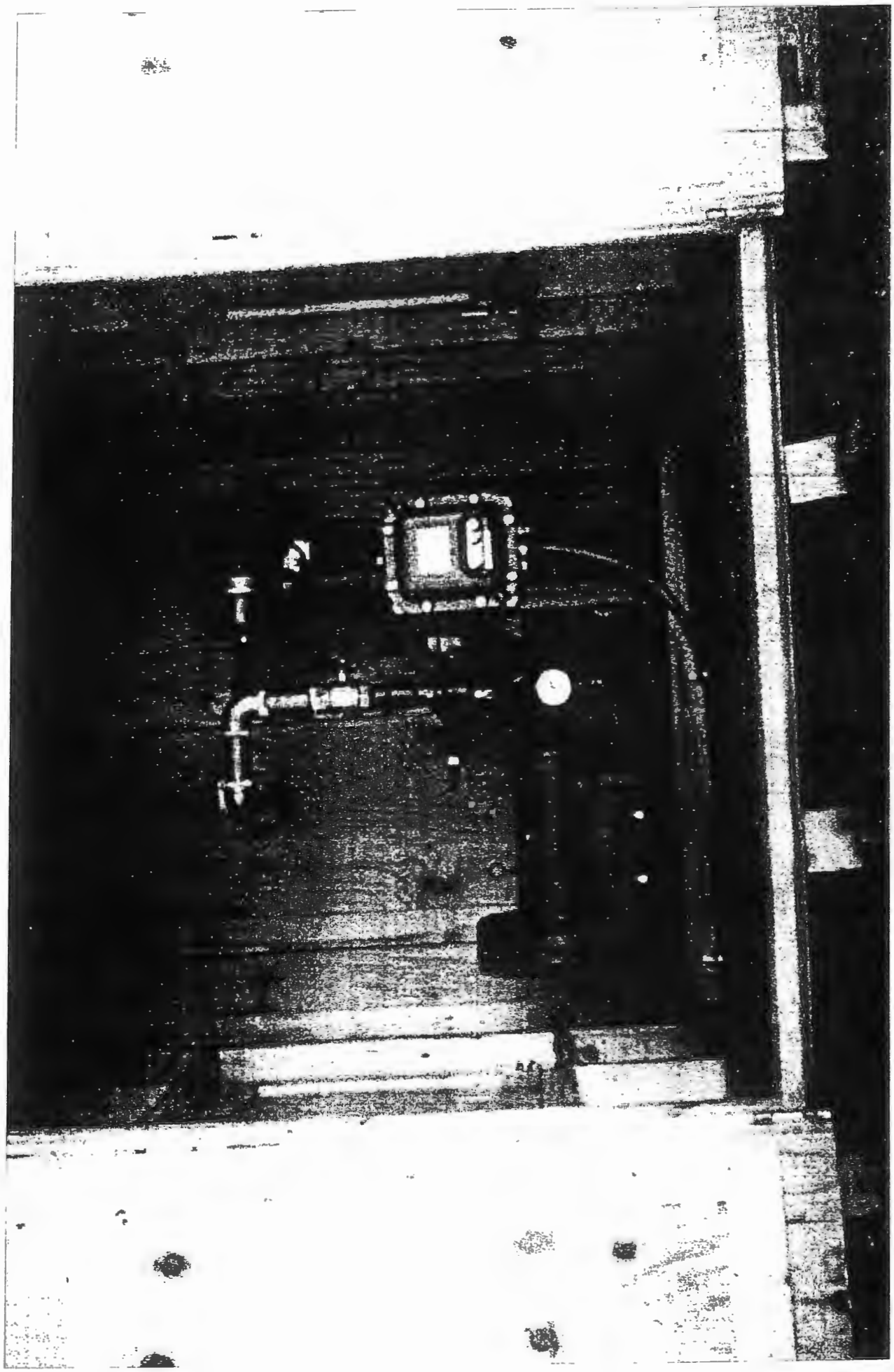


Beale AFB, California

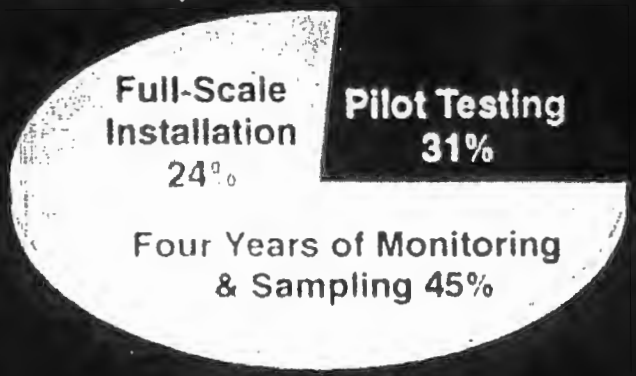
Site 22-A20

Heating Oil

Biodegradation Rate= 750-900 mg/kg/yr

Cost Summary for Four-Year Bioventing Demonstration

Total Cost to Date - $147,000

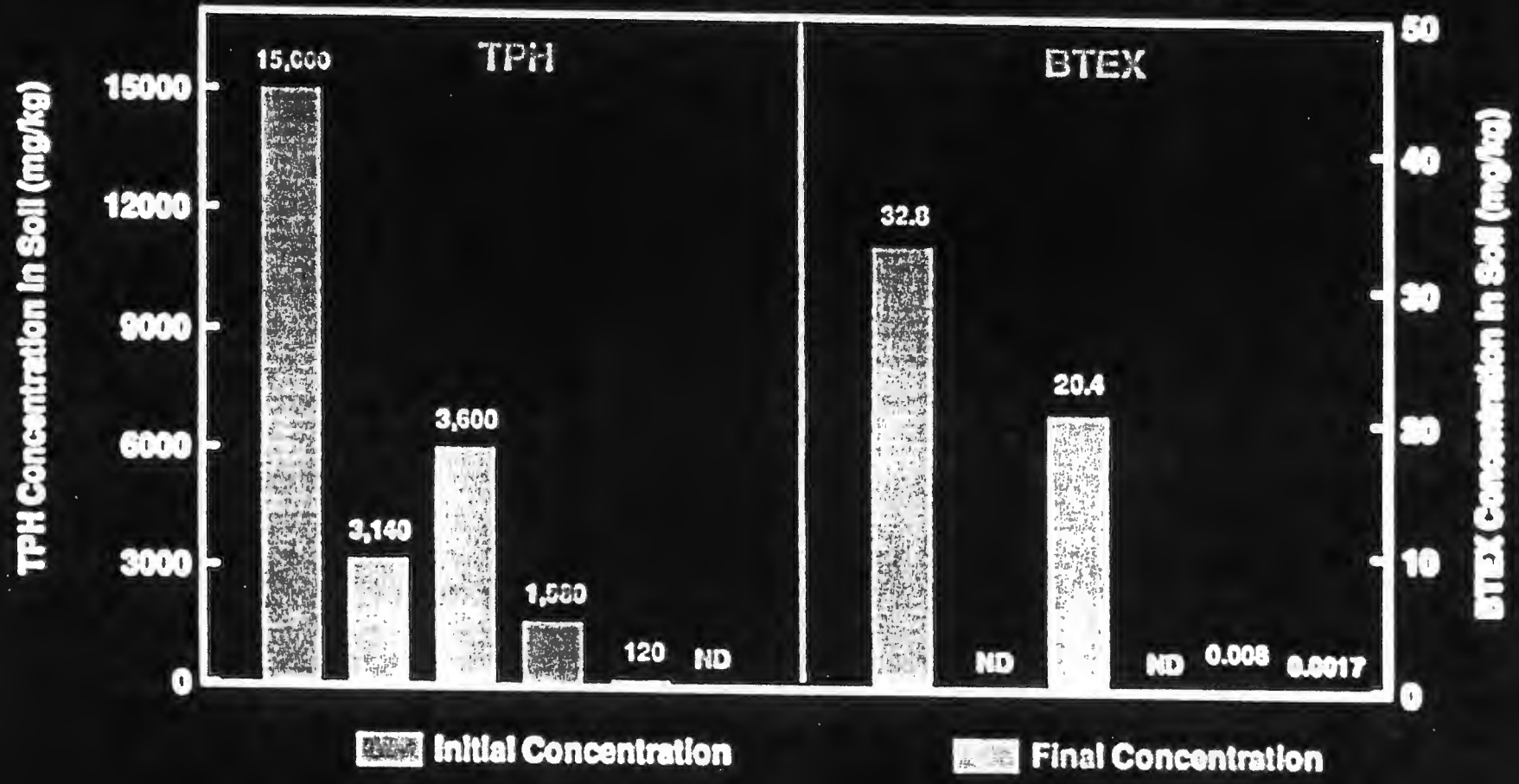


Total Cost Per Cubic Yard - $9.80*

***Based on Estimated 15,000 Cubic Yards**

PARSONS ENGINEERING SCIENCE, INC.

Battle Creek ANGB (Site 3)
1-Year Bioventing Results - Soil (mg/kg)



TWO-YEAR TPH REDUCTION

Full-Scale Bioventing Demonstration Pumphouse Spill Site
Alliance, Nebraska

Depth in Feet

30
35
40
45
50
55
60
65

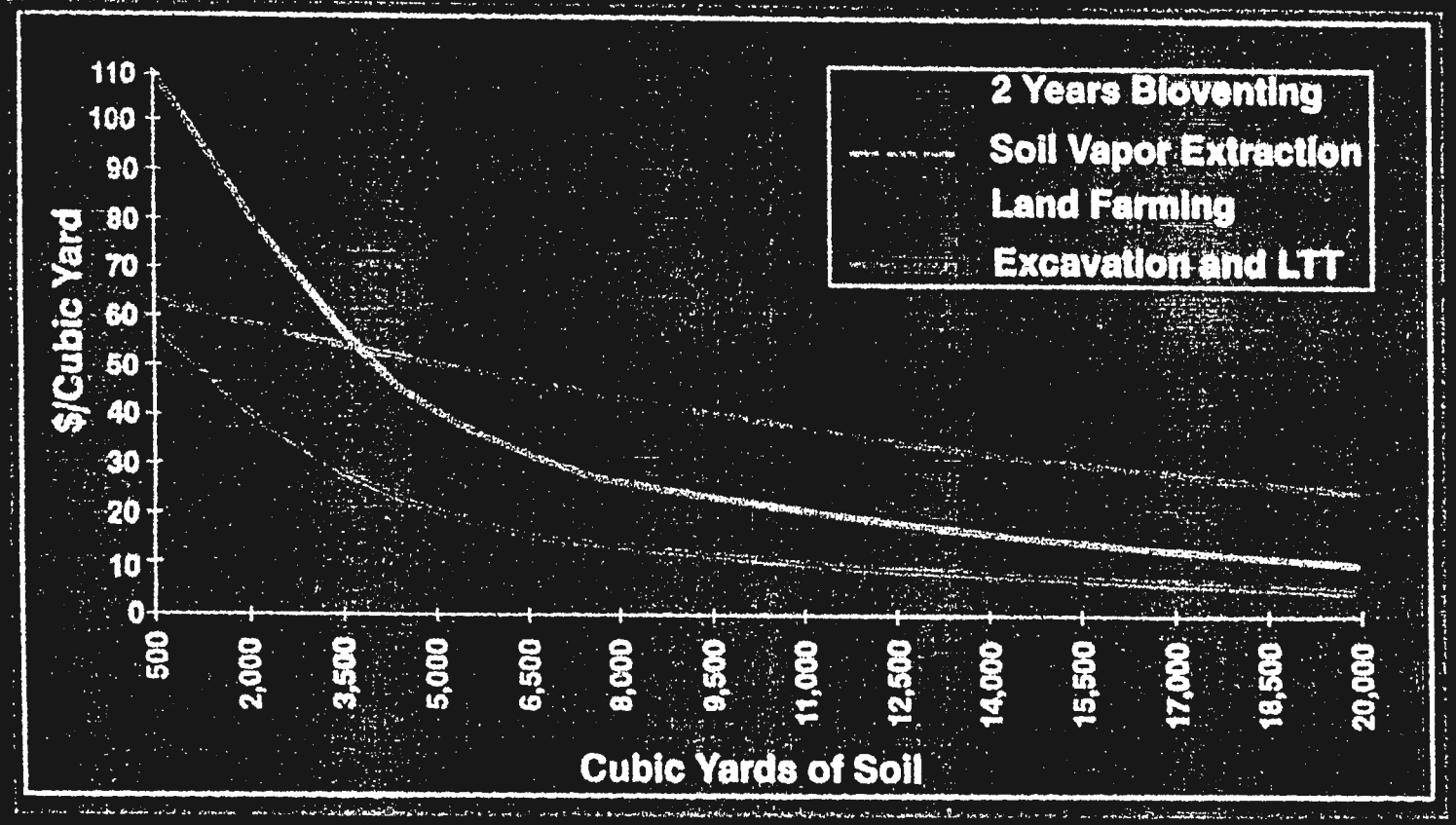
0 10000 20000 30000 40000 50000 60000

Total Recoverable Petroleum Hydrocarbons (TRPH) (mg/kg)

Initial

Two-Year

Comparison of Unit Costs



PARSONS ENGINEERING SCIENCE, INC.

Restoration Advisory Board
Meeting Agenda

March 18, 1997

7:00	**Welcome** Mr. Stephen M. Absolom Army Co-chair
7:05	**Acceptance of Minutes** Mr. Stephen M. Absolom/Dr. Dick Durst Army Co-chair/Community Co-chair
7:15	**The Funding Process** Mr. Jeff Waugh Program Manager, Army Environmental Center
7:45	**Break**
8:00	**Deactivation Furnaces Remedial Investigation** Mr. Michael Duchesneau, P.E. Project Manager, Parsons Engineering Science, Inc.
8:30	**Open Discussion**
9:00	**Adjourn**

MINUTES
RESTORATION ADVISORY BOARD
JULY 15, 1997 MEETING

1. Attendance:

Government RAB Members Present:

Carla Struble, U.S. Environmental Protection Agency
Dan Geraghty, NYS Department of Health
Stephen M. Absolom, BRAC Environmental Coordinator, SEDA/Army Co-Chair

Government RAB Members Not Present:

Marsden Chen, NYS Department of Environmental Conservation

Community RAB Members Present:

Harold Kugelmass, Anne Herman, Frank Ives, Ken Reimer

Community RAB Members Not Present:

Dick Durst/Community Co-Chair, Russell Miller, Richard Lewis, Carmen Serrett, Estelle Coleman, Richard Sisson, Pat Jones, Brian Dombrowski, Mary Ann Krupsak, Lucinda Sangree, David Wagner, Henry Van Ness

Environmental Support Personnel Present:

LTC Donald Olson, SEDA Commander
Thomas Enroth, U.S. Army Corps of Engineers, NY District, SEDA Resident Office
Janet Fallo, U.S. Army Corps of Engineers, NY District, SEDA Resident Office
Randy Battaglia, U.S. Army Corps of Engineers, NY District, SEDA Resident Office
Susan Cooper, SEDA Secretary
Joanne Ogden, SEDA Legal Rep/Public Affairs Officer
Keith Hoddinott, U.S. Army Center for Health Promotion & Preventive Medicine
Jeff Waugh, Army Environmental Center
Bob Radkiewicz, HQ IOC
Ed Agy, HQ IOC
Dorothy Richards, U.S. Army Corps of Engineers, Huntsville Division
Kevin Healy, U.S. Army Corps of Engineers, Huntsville Div

Community Support (from sign-in sheet):

Heather Clark, Community Member
Gerry DeCuollo, OHM Corp, Trenton, NJ

2. Stephen Absolom, the Army Co-Chair, welcomed members and support staff to the July Restoration Advisory Board at the NCO Club and outlined the evening's agenda. He then introduced Seneca's new Commander, LTC Donald Olson, who provided opening remarks for his participation in the RAB and asked for introductions of all attending the evening's meeting.

3. Minutes from May's RAB meeting were discussed with changes to be made for approval and signature at the next meeting.

4. Tom Enroth from Seneca's Resident Office, U.S. Army Corps of Engineers, gave a presentation covering the Peer Review Process held April 1-4, 1997. The purpose of the Peer Review was to conduct a review of restoration projects by a team of experts from government and nongovernment agencies to ensure efficient and effective use of funds. This review is a pilot study which may be performed on an annual basis at all Army installations. Seneca was one of four installations that hosted a Peer Review. The recommendations and Seneca's implementation of those recommendations were discussed with the following questions being generated.

a. **Question:** Will there be a slowdown of projects due to this review?

Answer: A temporary slowdown may be seen, but an eventual acceleration of projects will be realized. As time is freed up from performing lengthy studies, a proactive, aggressive approach would be used to accelerate remediation.

b. **Question:** How can the Peer Review team ensure effectiveness?

Answer: The Peer Review personnel from the Army Environmental Center are monitoring the process. Instituted recommendations will be looked at to determine if the Peer Review was successful.

c. **Question:** How many sites were looked at during the Peer Review?

Answer: 15 projects were reviewed—some of these included multiple sites. The qualifier was a dollar threshold.

Over $2 million associated with a project dictated which were reviewed.

d. **Question:** Once the cleanup is accomplished, what is the public's assurance that the site is actually clean?

Answer: The government must have concurrence by the regulators from New York State and the Environmental Protection Agency before cleanup at a site has been deemed completed. All documents pertaining to each site are available for review in the Administrative Record located at the Seneca Army Depot Activity. The RAB is the liaison with the community.

5. Stephen Absolom reported on the upcoming Open Burning Grounds Public Meeting. A date for the public meeting needs to be set. There was an agreement that the RAB convene before the public meeting in order to review the plan for the Open Burning Grounds. The RAB members would be helpful in explaining the process and recommended technology to the public as their liaison between the community and the Army.

6. A briefing on a few Remedial Action Technologies was given by Michael Duchesneau of Parsons Engineering Science. The technologies included soil washing, solidification/ stabilization, and bioventing. The goal of soil washing is to reduce volume, concentrate contaminated material, and landfill the end residuals. Solidification/stabilization "binds" contaminated material into a solidified matrix for landfilling. Bioventing enhances the natural degradation of hydrocarbons by injecting air into the ground, increasing available oxygen for microbes in the soil.

a. **Question:** When residuals from solidification/ stabilization are mixed with asphalt and used for road surface, doesn't the material eventually break down, repeating the concern for contamination to the environment?

Answer: The solidified material is combined with a base material used for paving which remains in place for a long period of time. This material is no more hazardous than the material used because the solidified material is chemically bound.

b. **Question:** Does climate affect the bioventing process?

Answer: Although the ground's top layers may be frozen in the winter months, there is degradation of hydrocarbons below the frost line. Air pumps at the surface would be subject to the winter climate which may cause problems mechanically and with site access.

c. **Question:** Is there a liability to the original owner of solidified material if dug up years later?

Answer: The property transfer would require a disclosure identifying the solidified material present.

d. **Question:** When landfilling solidified material, would we use up all the available space for household garbage in the future years?

Answer: The popularity of recycling has made a significant impact to where the price is driven down and there is a considerable amount of space available. We will be occupying some landfill space, but won't use it up.

e. **Question:** Was there air monitoring done at the Open Burning Grounds?

Answer: Downwind locations were tested with nothing of concern found.

7. Open discussion generated more dialogue regarding attendance at the RAB meetings. Survey responses forwarded last month have been low. Contact by phone will be made to those members who did not respond to see if they are interested in continuing their membership in the RAB. It was also agreed that additional members would be solicited if at least two people resigned. Future topics proposed included review of the RAB charter to address attendance as well as review of the FY98 programs and the future list of projects we would like to accomplish.

8. The next Restoration Advisory Board meeting will be held on August 19, 1997 at 7:00 p.m. in the SEDA NCO Club.

9. The meeting was adjourned at 9:15 p.m.

Respectfully submitted,

Susan R. Cooper

SUSAN R. COOPER
Secretary

APPROVED AS SUBMITTED:

Stephen M. Absolom

STEPHEN M. ABSOLOM
U.S. Army Co-Chair

RICHARD A. DURST
Community Co-Chair

Department of Army
BRAC Budget Process

Briefing to Seneca Army Depot Activity
Restoration Advisory Board, March 18, 1997
by Jeff Waugh, Army Environmental Center (AEC)

Environmental Program Requirements

- Installation develops Environmental Program Requirements (EPR)
  - BRAC-Environmental Requirements (BRAC-ER)
    - Studies, Cleanup, RAB support, Program Management
    - BRAC Compliance (Asbestos, LBP, USTs, UXO, Radiation, PCBs)
  - Operations & Maintenance, Army (OMA)
    - Cultural & Natural Resources, cleanup of current operations, NEPA, other compliance requirements

Environmental Program Requirements (cont.)

- EPR similar to the Cost to Complete (CTC: cost estimating model)
- should include future work (outyears)
- funding requirements should be consistent with execution, (can't fund cleanup before design, contract limitations)

BRAC Budget Process

- Installation submits EPR to major command (MACOM)
- MACOM submits requirements to AEC
- AEC submits workplan to Department of Army BRAC Office (DAIM-BO)
- DAIM-BO submits environmental budget as part of Budget Estimate Submittal (BES)
- Army budget submission

BRAC Budget Process (cont.)

- Department of Defense budget
- Congress passes budget (authorizes and appropriates)
- President signs Defense Appropriations Bill
- Army Budget in place

Army BRAC Budget Priorities

- Military Construction
- Personnel Actions
- Information Management/Infrastructure
- Environmental

Budget Allocations

- Budget for entire BRAC-ER Program is developed from the CTC
- DAIM-BO/AEC uses EPR to apportion requirements among installations/ MACOMs at the beginning of the BRAC Program
- budget is adjusted as requirements change

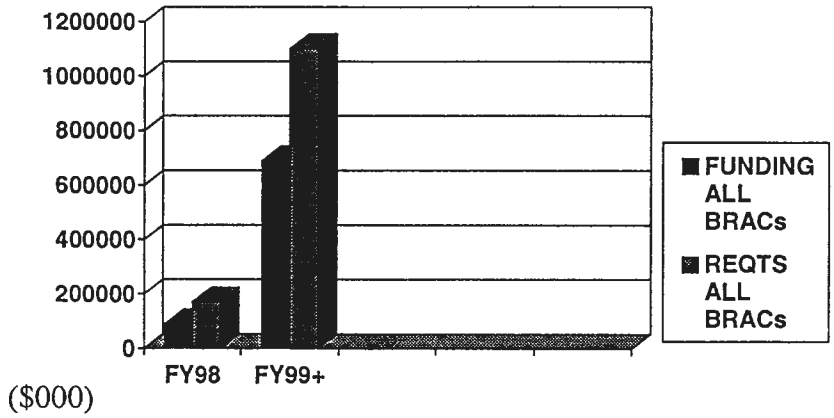
BRAC Work Plan Cutlines

- DAIM-BO provides AEC the budgeted amount by installation for the year
- AEC then identifies the cutline position for each installation for all BRACs based on the DAIM-BO budgeted amount or MACOM adjusted amount

Funding Allocation

- Relative Risk Evaluation - threat to human health and the environment
- Stakeholder concerns
- Economic considerations (reuse)
- Program execution considerations

BUDGET VS REQTS ALL BRACs



BUDGET VS REQTS ALL BRACs

FY98 TO COMPLETION ($M)

BRAC ROUND	REQTS	BUDGET	SHORTFALL
BRAC I	213	0	213
BRAC 91	225	0	225
BRAC 93	28	19	9
BRAC 95	806	761	45
TOTALS	1,272	781	491

BRAC Funding Process

- Installation sends request to MACOM
- MACOM forwards request to DAIM-BO
- DAIM-BO reviews request based on current workplan and forwards funds release to Assistant Secretary of the Army for Financial Management ASA(FM)
- ASA(FM) forwards funds release request to DFAS (Defense Finance & Accounting Service

BRAC Funding Process (cont.)

- DFAS sends FAD (Funds Authorization Document) to Headquarters Corps of Engineers (HQUSACE)
- HQUSACE sends WAD (Work Authorization Directive) to appropriate Corps of Engineers district
- Funds released to district

Key Issues

- Available funds will likely decline
- BRAC I/91 will be funded out of BRAC 95 after FY97, BRAC 93 after FY99
- use RAB, Reuse Committee, & regulator input to help set cleanup priorities
- **NEED TO OPTIMIZE CLEANUP RESOURCES**

MINUTES
RESTORATION ADVISORY BOARD
MARCH 18, 1997 MEETING

1. Attendance:

Government RAB Members Present:

Stephen M. Absolom, BRAC Environmental Coordinator, SEDA/Army Co-Chair
Kamal Gupta, NYS Department of Environmental Conservation
Carla Struble, U.S. Environmental Protection Agency

Government RAB Members Not Present:

Dan Geraghty, NYS Department of Health

Community RAB Members Present:

Anne Herman, Richard Sisson, Frank Ives, Pat Jones, Brian Dombrowski,
Harold Kugelmass, David Wagner, Russell Miller

Community RAB Members Not Present:

Dick Durst/Community Co-Chair, Richard Lewis, Carmen Serrett, Henry Van Ness
Lucinda Sangree, Mary Ann Krupsak, Al Legasse, Estelle Coleman

Government and Technical Support Personnel Present:

LTC Stephen Brooks, SEDA Commander
Thomas Enroth, SEDA Engineering and Environmental Division
Janet Fallo, SEDA Engineering and Environmental Division
Susan Cooper, SEDA Secretary
Randy Battaglia, U.S. Army Corps of Engineers, NY District, SEDA Resident Office
Joanne Ogden, SEDA Legal Rep/Public Affairs Officer
Mike Duchesneau, Parsons Engineering Science, Inc.
Keith Hoddinott, USA Center for Health Promotion and Preventive Medicine
Jeff Waugh, U.S. Army Environmental Center

Others Present (from sign-in sheet):

Heather Clark, Community Member
Joanne Howard, Community Member
Neil Chaffie, Community Member

2. Stephen Absolom welcomed members and support staff to the March Restoration Advisory Board in the NCO Club, outlined the evening's agenda, and asked for introductions.

3. Minutes from February's RAB meeting were approved, signed, and accepted into record.

4. Jeff Waugh presented a briefing on the Funding Process and the lengthy course it must follow.

a. The BRAC environmental program requirements first need to be identified by the installation after which the BRAC budget process (currently for FY99) begins and follows the chain of command until money is appropriated. Army BRAC budget priorities are established with the budgets allocated and money is apportioned to installations. Installations prioritize their projects and move the money into place for accomplishment of those projects. After the installation sends their request back through the chain, funds are finally released. It was noted that available funds will likely decline and confirmed the importance the RAB, Reuse Committee, and regulator input has in helping set cleanup priorities to optimize cleanup resources.

b. A concern was raised regarding funds for unplanned projects should something be found which poses a hazard. In that case, money would be appropriated protect human health and the environment.

5. Michael Duchesneau's presentation covered the Former and Existing Deactivation Furnace Sites. These sites rendered munitions inactive from 1945 to 1989. The Former site used from 1945 to the mid 1960s did not use an emission control system since there was none available at that time. The upgraded site was utilized from 1962 to 1989 and inactive since then, requires a permit to operate. Both units were classified as SWMUs and, therefore, combined as one unit. Summaries of the Remedial Investigations follow:

a. Former Deactivation Furnace - Field tasks summary shows detection of metals in surface soil sampling. Significantly elevated levels of copper and lead were found as well as detection of nitroaromatics. Groundwater sampling indicated low levels of nitroaromatics and metals. Surface water showed some metals detected above surface water standards.

b. Existing Deactivation Furnace - Surface soil sampling detected metals, but not the levels found at the former deactivation site due to the installation of air pollution control equipment that was operational. The PAHs detected (compounds found widespread and are a manmade occurrence) were associated with combustion. Groundwater sampling showed two metals above standards, but no nitroaromatics. Surface water results detected four metals above standards.

c. A discussion regarding the size of the area with ground contamination indicated that it was approximately one acre in size, not near the road or living areas, and confined to the depot. Regarding wind current and how far the contamination was carried, it appears the contaminated material was not carried as it dropped quickly to the ground and was dispersed within 200 feet. It was also noted that most of the work was seasonal and when funds were available. The furnaces were rarely used in the winter as there was no heat in the building.

6. During the open discussion, it was noted that the April meeting will take place during the schools' Easter break. To facilitate those being out of town, it was voted to hold the next RAB meeting in May. Steve Absolom also mentioned to the RAB that there would be a Peer Review held April 1-4, 1997 which will entail technical experts reviewing 15 projects at Seneca.

7. The next Restoration Advisory Board meeting will be held on May 20, 1997 at 7:00 p.m. in the SEDA Officers' Club.

8. The meeting was adjourned at 9:00 p.m.

Respectfully submitted,

Susan R. Cooper

SUSAN R. COOPER
Secretary

APPROVED AS SUBMITTED:

STEPHEN M. ABSOLOM
U.S. Army Co-Chair

RICHARD A. DURST
Community Co-Chair

Restoration Advisory Board
Meeting Agenda

August 19, 1997

7:00	**Welcome** LTC Donald C. Olson Commander, Seneca Army Depot Activity
7:05	**Acceptance of Minutes** Mr. Stephen M. Absolom/Dr. Dick Durst Army Co-chair/Community Co-chair
7:10	**Fiscal Year 1998 Environmental Program** Mr. Thomas R. Enroth Project Engineer, U.S. Army Corps of Engineers, New York District
7:40	**Break**
7:50	**Open Burning Grounds Proposed Remedial Action Plan** Mr. Randy W. Battaglia Project Engineer, U.S. Army Corps of Engineers, New York District
8:15	**RAB Charter Issues: Attendance, Resignation** Mr. Stephen M. Absolom/Dr. Dick Durst Army Co-chair/Community Co-chair
8:30	**Open Discussion**
9:00	**Adjourn**

FY 98 Environmental Program RAB Presentation

Presented by Thomas Enroth
Project Engineer
U. S Army Corps of Engineers

TONIGHT'S PRESENTATION

- FY 98 Environmental Project List
- Restoration Projects
- Summary

FY 98 Project List

Restoration Program

- Open Burning Grounds
- Ash Landfill
- Fire Training Areas (2)
- Deactivation Furnaces (2)
- Munitions Washout Facility
- IRFNA Disposal Pits

FY 98 Project List (cont.)

- Old Construction Debris Landfill
- Sewage Sludge Piles

- Metals Removal Sites:
  - Abandon Powder Burning Pit
  - Tank Farm
  - Asbestos Storage
  - Dump Site East of STP #4

FY98 Project List (cont.)

- BTEX/VOC's Removal Sites:
  Boiler Plant Blowdown Pits Located at Buildings 121, 319, 718, and 2079
- Environmental Baseline Study Site Investigations (29 sites)
- Installation Groundwater Monitoring Program

FY 98 Project List (cont.)

- Update Generic Workplan for RI/FS
- BRAC Cleanup Plan
- BEC Salary
- BEC/BRAC Support
- Restoration Advisory Board Support
- Site Access (security and fieldwork)

FY 98 Project List (cont.)

Compliance Projects

- Hazardous Waste Disposal
- Environmental Training Requirements
- Cultural Resource Management
- Radiation Surveys
- Installation Archive Search, UXO

FY 98 Project List (cont.)

Compliance Projects (cont.)

- Asbestos Abatement
- Lead Based Paint Abatement
- Environmental Testing Contract
- PCP Treated Wood Disposal

Remedial Action

- Open Burning Grounds

Proposed Remedial Action Plan - FY 97 (Plan)
Remedial Design- FY97/FY98 (Project Design)
Remedial Action - FY98 (Cleanup)

Remedial Design

- Ash Landfill
- Deactivation Furnaces (active and abandoned furnaces)
- Fire Training Areas (fire training pit and fire demonstration pad)

Ash Landfill

- Interim Removal Action completed in June, 1995 (soil treatment)
- Groundwater contamination plume still requires remediation
- PRAP currently under review/revision
- Following public review/comment period, a Record of Decision (ROD) will be prepared for final selected remedy

Ash Landfill (cont.)

- The public will be notified announcing the availability of the ROD
- The ROD will been signed by the Army, the EPA, and the NYSDEC for the selected remedy
- The Remedial Design will then be prepared for the site in FY98

Deactivation Furnaces

- Two sites: abandoned and upgraded deactivation furnaces
- PRAP and ROD is scheduled for submission in FY98
- After public review and comment period, ROD will be prepared
- The Remedial Design will then be prepared for the site.

FY 98 Environmental Program, Seneca Army Depot

Fire Training Areas

- Two locations: fire training pit and the fire demonstration pad
- PRAP and ROD will be submitted in FY98
- After public review and comment period, ROD will be prepared
- The Remedial Design will then be prepared for the site

FY 98 Environmental Program, Seneca Army Depot

Remedial Investigation/Feasibility Study

- Munitions Washout Facility
- Inhibited Red Fuming Nitric Acid Neutralization Pits (IRFNA Site)
- Old Construction Debris Landfill (to include two garbage disposal sites)

Munitions Washout Facility

- Munitions Washout Facility was part of the Ammunition Renovation Workshop
- Workshop area is about 30 acres in size
- Washout Facility active between 1948 to 1963
- Purpose was dismantling of munitions and removing explosives by steam cleaning or hot water flushing

Munitions Washout Facility (cont.)

- A lack of information exists about this site and the corresponding operations
- Investigation plan includes: building investigation, soil sampling (surface and subsurface), surface water and sediment sampling, groundwater sampling, ecological investigation, and risk assessment

Munitions Washout Facility (cont.)

- The Expanded Site Investigation (ESI) revealed :
  - Metals-antimony, chrome, copper, zinc
  - Semi-volatile organic compounds
  - Pesticides
  - PCB's

IRFNA Disposal Pits

IRFNA- Inhibited Red Fuming Nitric Acid

Background: IRFNA is an oxidizer used in missile liquid propellant systems. During the early 1960's, unserviceable quantities were disposed. This involved the use of a shallow trench 30 'l X 8'w X 4'd partially filled with limestone and covered with water. IRFNA was injected into the pit (trench) under the water. This allowed the IRFNA to mix with the limestone in the pit and be neutralized. There are a total of 6 pits.

IRFNA Disposal Pits (cont.)

- Investigation plan includes: soil sampling (surface soils, test pits, soil borings), surface water and sediment sampling, groundwater and ecological investigations

IRFNA Disposal Pits (cont.)

The ESI revealed :

metals: aluminum, arsenic, chromium, copper, iron , and nickel

VOC's and SVOC's

nitrate/nitrite nitrogen in groundwater

Old Construction Debris Landfill and Garbage Disposal

Background: The Old Construction Debris Landfill is about 4 acres in size and was used from 1946 to 1949. Site is covered with grasses and weeds, and looks higher than surrounding areas. The operating practices used are unknown.

Old Construction Debris Landfill and Garbage Disposal (cont.)

Background: The Garbage Disposal Areas (2) were in use from 1974 to 1979 when the solid waste incinerator was not in operation. At both sites, primarily household garbage was disposed of, but other industrial items were also landfilled.

Old Construction Debris Landfill and Garbage Disposal (cont.)

- Investigation plan includes: geophysical investigations, soil sampling (surface soils, soil gas, soil borings), surface water and sediment sampling, groundwater and ecological investigations

Old Construction Debris Landfill and Garbage Disposal (cont.)

The ESI revealed :

metals: copper, lead, and zinc
VOC's
SVOC's

Removal Actions

- Sewage Sludge Piles
- Metals Removal Sites:
  - Abandon Powder Burning Pit
  - Tank Farm
  - Asbestos Storage
  - Dump Site East of STP #4

Removal Actions

- BTEX/VOC's Removal Sites:
  Boiler Plant Blowdown Pit Bld. 2079
  Boiler Plant Blowdown Pit Bld. 121
  Boiler Plant Blowdown Pit Bld. 319
  Boiler Plant Blowdown Pit Bld. 718

BTEX/VOC's Removal (cont.)

- Background- From 1942 to 1979, liquids from the boiler blowdown was discharged through a pipe onto the ground or into a ditch. Later, the pipe was connected to the sanitary sewer
- The boiler blowdown contained tannins, caustic soda, and sodium phosphate (boiler cleaning chemicals)
- Cleanup alternatives are being evaluated

Sewage Sludge Piles

Background: During the 1980's, sewage sludge from the drying beds of the two on-site sewage treatment plants were stockpiled. One sludge pile, about 560 tons, was removed in 1992 and sent to a secure landfill. Currently, six more sludge piles are on site.

Sewage Sludge Piles (cont.)

- Piles were tested, results found SVOC's and also metals (antimony, copper, magnesium, mercury, silver, and zinc
- Disposal - the total volume and weight of the piles will be calculated. Various disposal options can then be evaluated.

Metals Removal Sites

- Metals Removal Sites:
  - Abandon Powder Burning Pit
  - Tank Farm
  - Asbestos Storage
  - Dump Site East of STP #4

Metals Removal Sites (cont.)

- Abandoned Powder Burning Pit is a U shaped shale lined berm 325′ X 150′ in size used during 1940′s and 1950′s. Probably used to burn black powder and some solid propellants.
- Expanded Site Investigations (ESI) show the site has been impacted by heavy metals.

Metals Removal Sites (cont.)

- Tank Farm and Asbestos Storage Site - a site where 160 above ground storage tanks were located, only 4 tanks remain (one is the Asbestos Storage Site). Tanks were used to store dry ore and minerals.
- Expanded Site Investigations (ESI) revealed metals, suspected to have been spilled during filling and removal operations.

Metals Removal Sites (cont.)

- Dump Site East of STP #4 is an area where waste piles and berms are located in a heavily vegetated area. The contents of the piles and the time period when placed is unknown.
- Expanded Site Investigations (ESI) revealed heavy metals.

Metals Removal Sites (cont.)

Currently, the cost effective cleanup action for these sites is a removal action. This would involve the excavation, hauling, and disposal at a permitted landfill. This would also eliminate the need to do long term monitoring at the sites.

Summary

- FY 98 will be a very busy year
- FY 98 budget submission is for $16.8 Million
- Site cleanup work begins
- Continue on-going studies
- New sites will be investigated
- Examine better, faster, and cheaper ways of cleaning up the Depot

Open Burning Grounds Proposed Remedial Action Plan

Presented By:
Randy Battaglia
Project Engineer, New York District
U.S. Army Corps of Engineers

Previous Presentations

- February 18, 1997
  - -Discussed Background, Studies, Objectives, Alternatives, and the Preferred Alternative
- July 15, 1997
  - -Discussed various Technologies that can be used

Site History

- Destroyed Ammunition for Safe Disposal
- Open Burning on 9 Pads
- Investigations Identified Residues in 1980's
- 40-ft. Steel Tray used since 1988

Historical Operations

- Open Burning of propellant, and pyrotechnics
- Burning of propellant and explosive - containing materials
- Burning on the Ground
- Burning in the Tray
- Past Operations - Burn Kettle
- Stability and Safety for Disposal

What was Found

- Polycyclic Aromatic Hydrocarbons
- Metals: Barium, Copper, Lead, Mercury, and Zinc
- Explosives and Propellants

Clean Up Objectives

- Clean On-site Soils for Lead over 500 mg/kg
- Clean Sediments in Reeder Creek to below 31 mg/kg for Lead and 16 mg/kg for Copper
- Remove Unexploded Ordnance
- Nine-inch Cover to Protect Wildlife from Remaining Soils Over 60 mg/kg for Lead

Clean Up Objectives, Continued

- Prevent Erosion with Vegetation, and Rainwater washing into Reeder Creek
- Continue groundwater Well Testing
- Periodic Testing of Sediments

Alternatives Evaluated and Costs

No Action	No Cost
Off-Site Disposal	$4.1-5.7 Million
On-Site Disposal	$5.7 Million
Soil Washing	$11.1 Million

Preferred Alternative: Off-Site Disposal

- Excavate and Solidify Soil To Be Non-Hazardous [over 5,000 mg/kg]
- Off-Site Disposal of Soil and Sediment
- Grass Cover Over Remaining Soil
- Solidification - 3 Months
- Overall Clean Up - 12-18 Months
- Cost: $4.1-5.7 Million

MINUTES
RESTORATION ADVISORY BOARD
AUGUST 19, 1997 MEETING

1. Attendance:

Government RAB Members Present:

Stephen M. Absolom, BRAC Environmental Coordinator, SEDA/Army Co-Chair
Dan Geraghty, NYS Department of Health
Carla Struble, U.S. Environmental Protection Agency

Government RAB Members Not Present:

Marsden Chen, NYS Department of Environmental Conservation

Community RAB Members Present:

Dick Durst/Community Co-Chair, Anne Herman, Frank Ives, Pat Jones, Harold Kugelmass, Mary Ann Krupsak, Russell Miller, Ken Reimer, Richard Sisson, Henry Van Ness, David Wagner

Community RAB Members Not Present:

Brian Dombrowski, Richard Lewis, Lucinda Sangree, Carmen Serrett

Environmental Support Personnel Present:

Thomas Enroth, U.S. Army Corps of Engineers, NY District, SEDA Resident Office
Randy Battaglia, U.S. Army Corps of Engineers, NY District, SEDA Resident Office
Kevin Healy, U.S. Army Corps of Engineers, Huntsville Div
Joanne Ogden, SEDA Legal Rep/Public Affairs Officer
Andrew Schwartz, Parsons Engineering Science, Inc.
Laura Sposato, SEDA Secretary

Community Support (from sign-in sheet):

Artje Banmer, Cornell
Neil Chaffie, Ovid Gazette
Carol Marthaller, Community Member
Emilie Sisson, Community Member

2. Stephen Absolom, the Army Co-Chair, welcomed members and support staff to the August Restoration Advisory Board at the NCO Club and outlined the evening's agenda. Steve provided the opening remarks for the meeting and asked for introductions of all attending.

3. Minutes from May and July's RAB meetings were signed and entered into the record.

4. Thomas Enroth from Seneca's Resident Office, U.S. Army Corps of Engineers, gave a presentation on the FY98 Environmental Program. The presentation gave an overview of the 27 FY98 BRAC environmental projects planned and a brief summary of the restoration projects. The following questions were generated:

a. **Question:** What does BTEX stand for?
Answer: It is the acronym for Benzene, Toluene, Ethylbenzene, and Xylenes, the characteristics of gasoline.

b. **Question:** Who will support site access, security, and fieldwork for contractors working on weekends?
Answer: Seneca will continue to support these areas as long as there is an ammunition requirement and manpower. The security is driven by ammunition. When the supplies and ammo are gone, the contractor will have to do it.

c. **Question:** Why are we doing radiation surveys?
Answer: Tied to the BRAC effort for license termination. The policy is if there was some radioactive element, structures need to be surveyed for residuals. We still have depleted uranium ammunition stored here.

d. **Question:** Is there any radiation?
Answer: We still have to do a closeout survey even though the annual surveys do not show any release. It is mandated by Nuclear Regulatory Commission (NRC).

e. **Question:** What is UXO?
Answer: UXO is an acronym for unexploded ordnance.

f. **Question:** What is the Installation Archive Search.
Answer: A record review of the history of ammunition use at the installation will show areas where unexploded ordinance has the potential to exist.

g. **Question:** Has it been done yet?
Answer: No. It will be done installation-wide. It is a separate effort from previous reviews.

h. **Question:** Training requirements - i.e. HAZMAT, hazardous materials … shouldn't it be responsibility of contractor.

Answer: Training provided at Seneca is only for Seneca personnel. O'Brien and Gere, Inc., has been contracted to perform much of the training.

i. **Question:** What areas are included in asbestos abatement and lead-based abatement?

Answer: Asbestos in Bldgs 208, 209. Pipe insulation in these houses require removal. There is some lead-based paint in other housing units. They have to be tested. Before they can be transferred, may need to have abatement.

j. **Question:** Will they do remedial work on Fire Training Areas even though reuse in the future may be for a fire related function?

Answer: Reuse plan does not call for that as a future use.

k. **Question:** In reference to Ash Landfill, is there and to what extent is there ground water contamination?

Answer: The plume, some of which is off post, contains contaminants at levels below drinking water standards. The site is on the west side of the base, midway down. Hope to have something in place soon as a pilot study. Refer to map "ASH LF". It is located near Sampson State Park if you were driving up 96A. The remedial design will be prepared in FY98.

l. **Question:** On deactivation furnaces, what is PRAP?

Answer: It is the acronym for Proposed Remedial Action Plan for the clean up of a site.

m. **Question:** Is a deactivation furnace used for ordnance?

Answer: Yes, i.e., also known as the popping plant - explodes bullets and separates brass casings out for recycling.

n. **Question:** What is in IRFNA site?

Answer: It is a liquid propellant in the form of an acid with a corrosion inhibitor. We do not have the chemical composition yet. We will investigate this in the proposed FY 98 effort.

o. **Question:** What was done with waste from munitions washout facility?

Answer: A lack of information exists about this site and the corresponding operations. This is some of the problems that we face. We will be checking with other depots to find out what happened to water, etc., at their site.

p. **Question:** Every three months I receive correspondence in the mail about the water. Does this have anything to do with it?

Answer: Not at all. The correspondence has to do with surface water treatment rules. We are in violation because our water doesn't go through a filtering process. The current status on the water project, to connect to the Waterloo treatment plant, is ahead of schedule. We expect to be tied in by early September. Then you won't receive those letters anymore because we will be in compliance with regulations.

q. **Question:** Where did the debris of the old construction debris landfill come from - community or military?

Answer: Military

r. **Question:** Are the raw metals that are stockpiled going to be a problem?

Answer: We are reviewing this issue with the regulators. We don't believe it to be a problem.

s. **Question:** Will they be removing these below the ground level?

Answer: Yes

t. **Question:** Are the sludge piles more hazardous than fertilizer?

Answer: No, it is municipal sewage with no industrial waste included.

u. **Question:** Does it very greatly from other municipal sewage plants?

Answer: Not really. Some tests show larger amounts of some metals than other plants do. We didn't find anything unusual.

v. **Question:** How many piles are there and where are they located?

Answer: Six of them and they are located in the South Depot, identified as SEAD 5.

w. **Question:** Do the asbestos storage tank look like a regular tank from the outside?

Answer: Yes it does, an aboveground dry storage tank.

x. **Question:** Since FY 98 will be a busy year, who or how is it decided when we get the funding for which project?

Answer: Usually it is money driven. The schedule is part of the Federal Facilities Agreement. It depends on what has reuse potential, relative risk, i.e., worse first.

y. **Question:** Does this come out of the army budget?

Answer: Yes it competes with same money for army bases and the active army payroll.

z. **Question:** Why are they investigating the site at 119A?

Answer: Site 119A was sewage spill overflow. We don't expect to find anything. Investigation will do limited sampling on this. Only five houses on the hill could have impacted this site. In the mid 80's it was a new pump station. The pumps failed and it overflowed.

aa. **Question:** Conveyance is expected for institutional housing areas, airfield for FY 98. Are sites in the 97 budget, completed now or being scheduled in 98?

Answer: Institutional area has site identified with prefix number 123 and in FY98 will be investigated i.e., pile of dirt, buried drums, etc. We don't expect to find much.

bb. **Question:** Can we issue a FOSL report before cleanup?

Answer: FOSL is Finding of Suitability to Lease. We can, but we have to work through the issues.

cc. **Question:** What is being removed from the dirt mound near RTE 96 and where is it going?

Answer: Ferrochrome ore - a stockpile, and it's being shipped to North Carolina

dd. **Question:** Will you be looking at housing in Elliot Acres?

Answer: Yes, but asbestos abatement effort is required in building 208 & 209 before transfer.

ee. **Question:** What about the airfield?

Answer: At site 122 we will do some testing in FY98. Things of concern include 122E where deicing of plane may have occurred. We have no records on this. Air force used this airfield prior to Seneca. We will do some sampling to see if deicing occurred. Other areas that are being looked at: 122A -

skeet range for lead contamination, 122C - storage building for possible oil spills, 122B -small arms range. This may not require anything. We will do some testing for contamination. Site 122D had a fuel spill. The site was cleaned up but not closed out.

ff. **Question:** Wouldn't it be beneficial to attach the location numbers to the specific areas to be cleaned up in the next presentation?

Answer: Yes, the maps were an addition to this presentation. We will provide a key for the maps and keep everyone posted on the projects being funded.

5. Randy Battaglia from the U.S. Army Corps of Engineers, N.Y. District, gave a presentation on the Open Burning Grounds Proposed Remedial Action Plan. Since 1988, Seneca was the first facility to use a steel tray for open burning. He showed a movie of a crew setting up and performing an open burning ground operation. Once it is set up, they ignite it electronically from a remote location. The residual is vacuumed and disposed of as waste. Randy also showed some slides showing the demilling of 105mm artillery rounds. They are disassembled and the propellant vacuumed out. The leftover brass shell is collected, flashed and sent off as recyclable brass. Some questions generated from presentation:

a. **Question:** How often do you perform open burning operations?

Answer: Some years we did it more than others. It is based on what other work there is to do and availability of money.

b. **Question:** Was the ammunition stored here?

Answer: Yes.

c. **Question:** Where is the Burn Kettle on the map?

Answer: Locate Pad J on the west side of the open burning grounds, it was southwest of Pad J.

d. **Question:** Do you need a permit for this burning?

Answer: Yes, and it is renewed annually.

e. **Question:** Did we meet the pollution standard?

Answer: Back then we did. We are still in compliance with open burning rules.

f. **Question:** Has the money been requested for this project?

Answer: Yes.

g. **Question:** When is this being done?
Answer: Optimistically March. The plan will get approved in September, budget approved the end of September-October. Then we develop a remedial action design. We will develop a design for the clean up and then contract the effort.

h. **Question:** When will you begin working on the plan?
Answer: Not until next spring - 2-3 months for UXO survey, 12-18 months to complete the entire effort.

i. **Question:** Do you use open contracts with contractors?
Answer: Yes, we use some that are preplaced.

j. **Question:** Are they renewed?
Answer: Yes, some have option years but all are eventually renewed.

k. **Question:** Are there any nuclear weapons stored at Seneca?
Answer: We can neither confirm or deny the presence of such.

7. During open discussion Steve Absolom brought up the question raised earlier in meeting regarding an article in the newspaper on reuse of Seneca's North End by Youth Services. Pat Jones of the LRA stated that they do have a proposal on the table and it is being considered by the LRA.

8. Steve also addressed the attendance at meetings. As a result of a survey conducted, one member resigned, and one is considering whether or not to continue. He raised the question of whether we want to go out and solicit the community for additional members, i.e., advertise in the newspaper. RAB agreed we should proceed with solicitation of new members. We currently have 16 members including the LRA. If someone can't make meeting, can still receive handout information. It was suggested that after a member misses two meetings unexcused, send a reminder. If they miss a third, then they would be removed. Also agreed that the charter be revised to reflect this. It will be reviewed at the next meeting.

9. Steve also solicited topics for future meetings. Suggestions were reuse and impact of clean up effort, more information on solidification process, status of clean up funding and a priorities listing for clean up projects.

10. The next Restoration Advisory Board, or a public meeting on the cleanup plan for the Open Burning (OB) Grounds, to be held at Seneca County Office Building on September 16, 1997 at 7:00 p.m. If there isn't a public meeting, then the RAB will be held at the SEDA NCO Club. More about this will be known in the next couple of weeks. Notification on the next meeting will be announced.

11. The meeting was adjourned at 9:45 p.m.

Respectfully submitted,

LAURA J. SPOSATO
Secretary

APPROVED AS SUBMITTED:

STEPHEN M. ABSOLOM
U.S. Army Co-Chair

RICHARD A. DURST
Community Co-Chair

Restoration Advisory Board
Meeting Agenda

September 16, 1997

7:00	**Welcome** LTC Donald C. Olson Commander, Seneca Army Depot Activity
7:05	**Acceptance of Minutes/ RAB Charter Change: Attendance** Mr. Stephen M. Absolom/Dr. Dick Durst Army Co-chair/Community Co-chair
7:15	**Solidification of Contaminated Soil** Mr. Michael Duchesneau Project Manager, Parsons-Engineering Science, Inc.
7:35	**Changes to Fiscal Year 1998 Program** Mr. Thomas R. Enroth Project Engineer, U.S. Army Corps of Engineers, NY District
7:50	**Break**
8:00	**Clearance of Unexploded Ordinance (UXO)** To Be Determined
8:30	**Open Discussion**
9:00	**Adjourn**

FY 98 Environmental Program Update

Presented by Thomas Enroth
Project Engineer
U. S. Army Corps of Engineers

TONIGHT'S DISCUSSION

- Projects that have changed
- What are the changes
- How will the program be effected
- Summary

Projects That Changed

- Installation Groundwater Monitoring Program
- Ash Landfill
- Open Burning Grounds
- Fire Training Areas

Projects That Changed

- Munitions Washout Facility
- IRFNA Disposal Site
- Old Construction Debris Landfills

Projects That Changed

- Deactivation Furnaces
- Removal-BTEX /VOC's

Projects That Changed

- Sludge Piles
- Radiation Survey

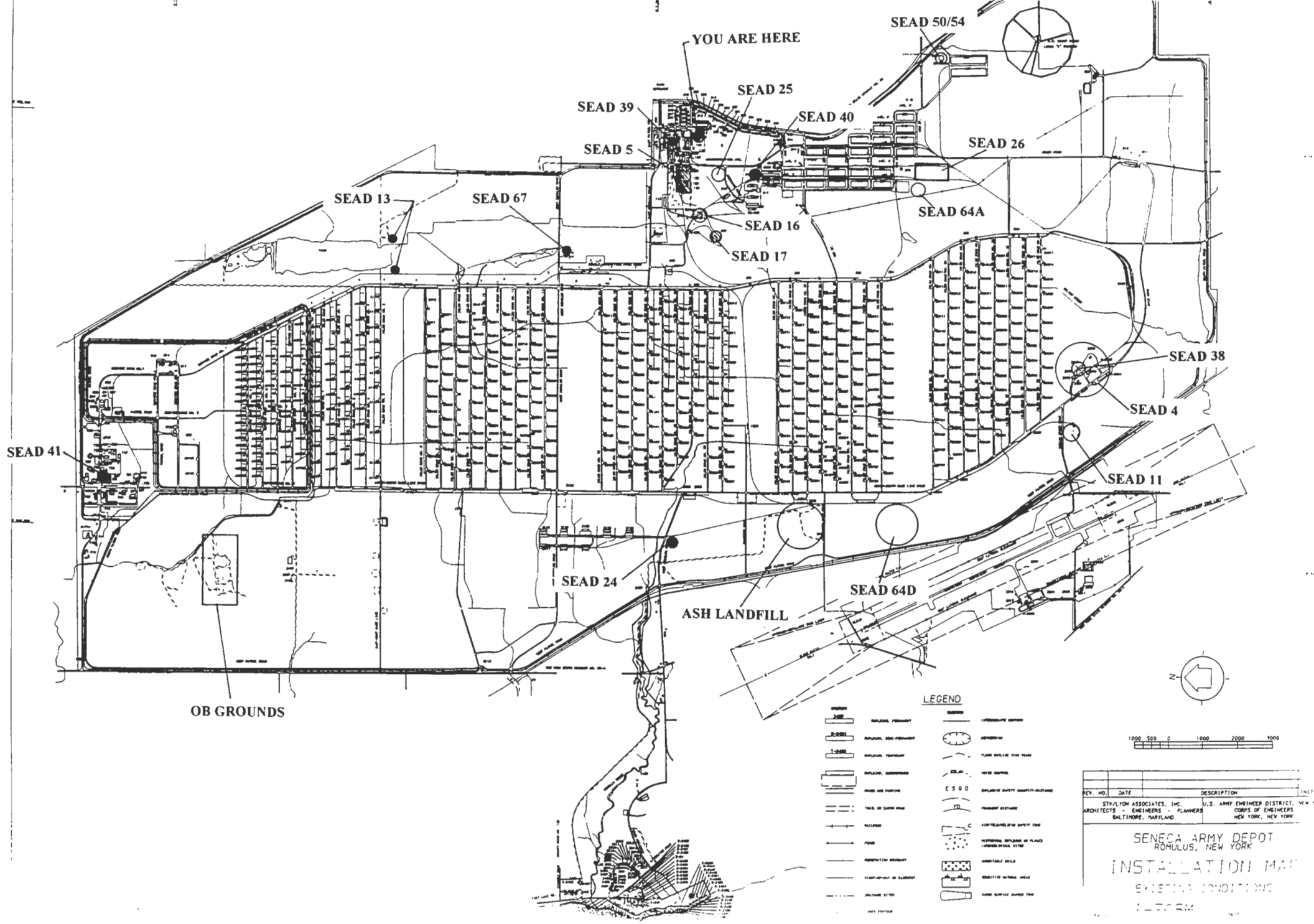
FY 98 Environmental Program, Seneca Army Depot

Summary

- FY 98 will still be a very busy year
- FY 98 budget submission is for $12.5 Million (was $16.8 Million last month)
- All of the projects that were planned are still in the schedule
- A phased approached will be used
- Cleanup projects may be accelerated

MAP KEY FOR SITES IN FY98 PROGRAM

SITE NO.	SITE NAME
SEAD 4	MUNITION WASHOUT FACILITY
SEAD 5	SLUDGE PILES
SEAD 11	OLD CONSTRUCTION DEBRIS LANDFILL
SEAD 13	INHIBITED RED FUMING NITRIC ACID
SEAD 16	ABANDONED DEACTIVATION FURNACE
SEAD 17	DEACTIVATION FURNACE
SEAD 24	ABANDONED POWDER BURNING PIT
SEAD 25	FIRE DEMONSTRATION PAD
SEAD 26	FIRE TRAINING AREA
SEAD 38	BLDG 2079 BOILER BLOWDOWN PIT
SEAD 39	BLDG 121 BOILER BLOWDOWN PIT
SEAD 40	BLDG 319 BOILER BLOWDOWN PIT
SEAD 41	BLDG 718 BOILER BLOWDOWN PIT
SEAD 50/54	METAL REMOVAL SITE
SEAD 64A	LANDFILL
SEAD 64D	MUNICIPLE WASTE LANDFILL
SEAD 67	DUMPSITE SEWAGE TREATMENT PLANT #4


YOU ARE HERE
SEAD 50/54
SEAD 25
SEAD 39
SEAD 40
SEAD 5
SEAD 26
SEAD 13
SEAD 67
SEAD 64A
SEAD 16
SEAD 17
SEAD 38
SEAD 4
SEAD 41
SEAD 11
SEAD 24
SEAD 64D
ASH LANDFILL
OB GROUNDS
LEGEND
N
1000 500 0 1000 2000 3000
REV. NO. DATE DESCRIPTION
STV/LYON ASSOCIATES, INC.
ARCHITECTS - ENGINEERS - PLANNERS
BALTIMORE, MARYLAND
U.S. ARMY ENGINEER DISTRICT, NEW
CORPS OF ENGINEERS
NEW YORK, NEW YORK
SENECA ARMY DEPOT
ROMULUS, NEW YORK
INSTALLATION MAP
EXISTING CONDITIONS

SENECA ADA

INSTALLATION AND OPEN BURNING GROUNDS

ORDNANCE REMEDIATION OVERVIEW

Presented to the SENECA ADA
Restoration Advisory Board
September 16th, 1997

Ordnance and Explosives Program Overview

US Army Corps of Engineers
Huntsville Engineering
and Support Center

Topics

- Definitions
- Huntsville Center OE Missions
- OE Center of Expertise
- OE Design Center

Definitions

- **OE -- Ordnance and Explosives:** Bombs and warheads, guided and ballistic missiles; artillery and mortar; rocket ammunition, mines; demolition charges, pyrotechnics, grenades; containerized and uncontainerized explosives and propellants; military chemical agents; and all similar and related items or components, explosive in nature or otherwise designed to cause damage to personnel or material. Soils with explosive constituents are considered OE if the concentration is sufficient to be reactive and present an imminent safety hazard.

- **UXO -- Unexploded Ordnance:** An item of ordnance which has failed to function as designed, or has been abandoned or discarded and is still capable of functioning and causing injury to personnel or material.

- **UXO Personnel**: Graduates of the US Naval Explosive Ordnance Disposal (EOD) School at Indianhead, Maryland. Active duty EOD experience requirements vary with position (Sr. Supervisor -- 15 years, Supervisor -- 10 years, Specialist -- 3 years).

Huntsville Center OE

- Huntsville has 2 Main OE Missions
  - USACE OE Center of Expertise
  - USACE OE Design Center
- Secondary Munitions Missions
  - Range and Training Lands Program

OE CX & Design Center Experience

- Have Traditional Corps Capabilities
- Additional Unique Capabilities
  - Explosive Ordnance Disposal
    - Staff of Military Trained EOD Safety Specialists
    - 400+ years EOD Experience
    - Experienced in Both Conventional & CWM
  - OE Experienced Staff in
    - Public Affairs
    - Legal/Regulatory
    - Engineering
    - Contracting

OE CX Missions

- Oversight of USACE OE Activities
- Develop USACE OE Policy
- Review of OE Design Products
- Advise and Participate in External Working Groups for OE
- Find the Best Available Technology for UXO
- OE Training

OE Design Center Mission

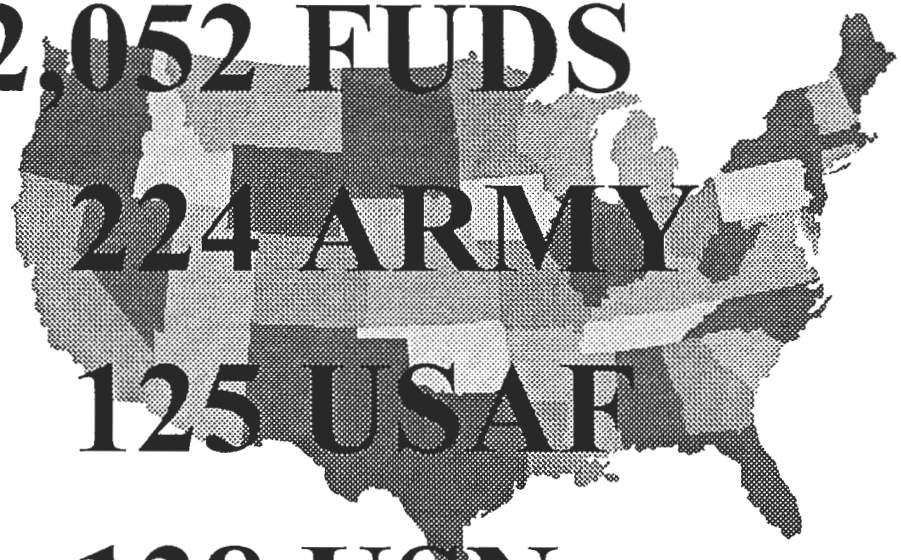
- To Reduce the Risks to the Public from OE
- To Do all Actions Safely
- Insure Highest Level of Quality
- Be Cost Effective
  - Risk Based versus Removal Without Analysis

OE Customers

- FUDS (Formerly Used Defense Sites)
- IR (Installation Restoration)
- BRAC (Base Realignment and Closure)
- Work for Others
  - National Park Service
  - Bureau of Land Management
  - Department of Energy
  - Environmental Protection Agency

Potential OE Sites

Site Counts as of: 27 Sep 96



2,052 FUDS

224 ARMY

125 USAF

138 USN

(224 est. CWM)

Execution Strategy

ACTION	EXECUTION OPTIONS
• Investigations/Studies	Government:
• Time Critical Removal Actions	• In House UXO Specialists
• Engineering Evaluation Cost Analysis	• Other Districts
• Removal Design	Contracts (AE/UXO)
• Removal Actions	• Purchase Orders
	• Letter
	• Time & Materials (1 -UXO)
	• Firm Fixed Price
	• Cost Plus Fixed Fee (2 - UXO) (3 - A/E)

Project Categories

Three Basic Categories of Projects:

- OE Risk Reduction -- Project Focus is on Known or Probable OE and Public Safety
  - 58 Former Defense Sites
  - 30 BRAC Installations
  - 1 Active Installation
- OE Avoidance -- Project Focus is HTRW or Construction
- Real Estate Disposal Actions

Internet Addresses

- Huntsville Center
  - email: *lnameinitial*@smtp.hnd.usace.army.mil
  - Home Page on the Web: http//www.hnd.usace.army.mil
- DUSD - Environmental Security
  - http://www.acq.osd.mil/ens/
- Project Information Retrieval System
  - http://dogbert.ncr.usace.army.mil

Questions


USAESC, Huntsville
P.O. Box 1600
Huntsville, AL 35807-4301
OE Project Execution:
Phone: (205) 895-1582
FAX: (205) 895-1819
OE- CX - Policy, Regulations:
Phone: (205) 895-1320
FAX: (205) 722-8709

Installation-Wide Remediation Overview

Complete Archive Search Report (FY 98)

Information search to gather all available information regarding potential Ordnance sites. Includes records reviews, personnel interviews, etc.

Perform an Engineering Evaluation/Cost Analysis

Sampling at various sites to determine the presence/ extent of OE contamination at each and possible alternatives for removal.

Prepare cost analyses for alternatives and recommend removal alternative

Public/Regulatory Review

Implement Chosen Alternative (s)

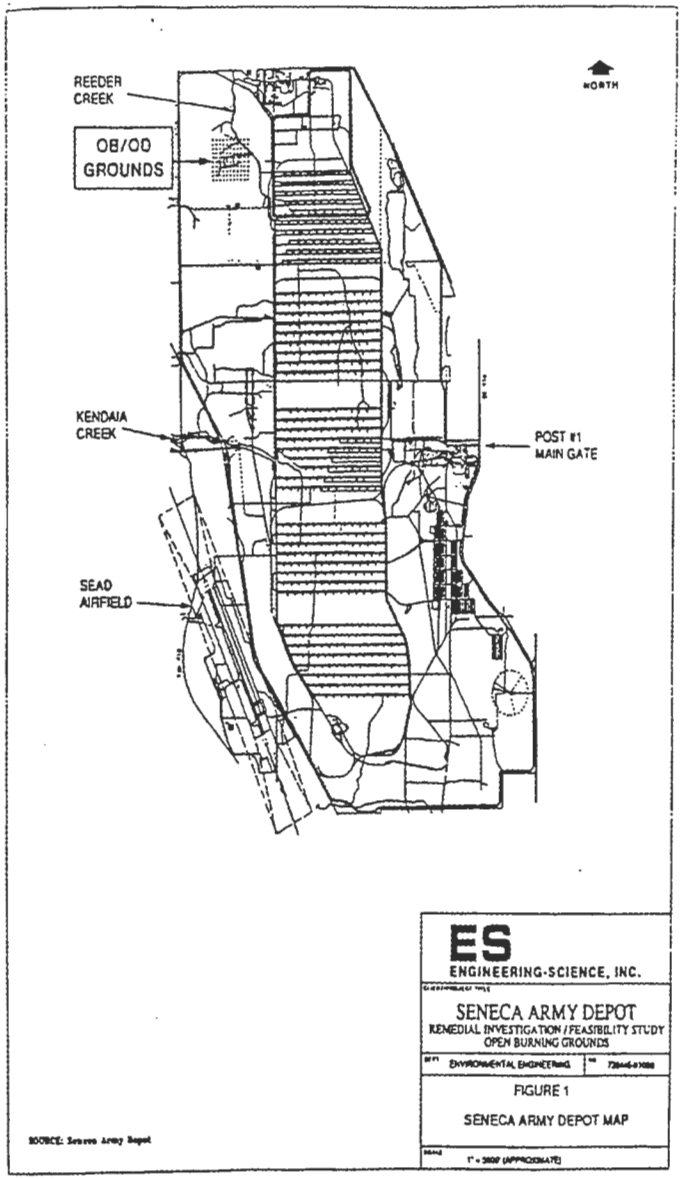
OB Grounds Remediation Overview

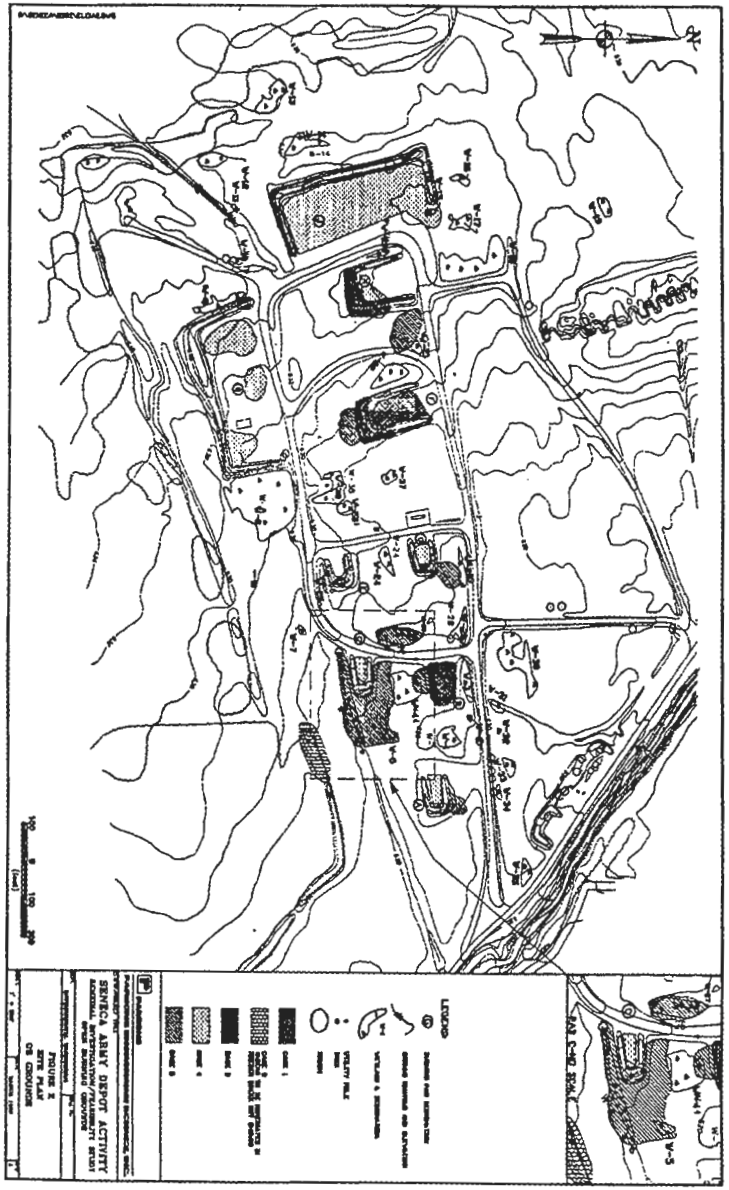
Complete Work Plans

Complete Explosives Safety Submission

Perform Remediation

- Surface OE Contamination
  - sift soils in the burning pad berms
  - sift soils in the low-lying hill
  - visually/geophysically locate OE contamination in the remaining acreage
- Subsurface OE Contamination
  - sweep and clear all anomalies to a depth of two feet
  - sift soils in areas of greater depths


NORTH
REEDER CREEK
OB/OD GROUNDS
KENDAIA CREEK
POST #1 MAIN GATE
SEAD AIRFIELD
ES
ENGINEERING-SCIENCE, INC.
SENECA ARMY DEPOT
REMEDIAL INVESTIGATION / FEASIBILITY STUDY
OPEN BURNING GROUNDS
ENVIRONMENTAL ENGINEERING
FIGURE 1
SENECA ARMY DEPOT MAP
SOURCE: Seneca Army Depot


LEGEND
SENECA ARMY DEPOT ACTIVITY
FIGURE 2
SITE PLAN
OE GROUNDS

Quality Control/Quality Assurance

- Contractor performs QC
- Huntsville Safety Specialist is on-site to oversee all operations and perform a 10% QA check

Disposal

- UXO is blown in place.
- OE-related scrap is inspected (as many as four times) before being certified as inert and disposed of to locally available scrap dealers.

MINUTES
RESTORATION ADVISORY BOARD
SEPTEMBER 16, 1997 MEETING

1. Attendance:

Government RAB Members Present:

Stephen M. Absolom, BRAC Environmental Coordinator, SEDA/Army Co-Chair
Dan Geraghty, NYS Department of Health
Carla Struble, U.S. Environmental Protection Agency

Government RAB Members Not Present:

Marsden Chen, NYS Department of Environmental Conservation

Community RAB Members Present:

Dick Durst/Community Co-Chair, Brian Dombrowski, Anne Herman, Harold Kugelmass, Ken Reimer, Lucinda Sangree, Henry Van Ness

Community RAB Members Not Present:

Frank Ives, Pat Jones (excused), Mary Ann Krupsak (excused), Richard Lewis, Russell Miller, Carmen Serrett, Richard Sisson, David Wagner

Environmental Support Personnel Present:

LTC Donald Olson, SEDA Commander
Randy Battaglia, U.S. Army Corps of Engineers, NY District, SEDA Resident Office
Michael Duchesneau, Parsons Engineering Science, Inc.
Thomas Enroth, U.S. Army Corps of Engineers, NY District, SEDA Resident Office
Janet Fallo, U.S. Army Corps of Engineers, NY District, SEDA Resident Office
Kevin Healy, U.S. Army Corps of Engineers, Huntsville Div
Joanne Ogden, SEDA Legal Rep/Public Affairs Officer
Laura Sposato, SEDA Secretary

Community Support (from sign-in sheet):

Artje Baumner, Cornell
Neil Chaffie, Ovid Gazette
Heather Clark, Community Member
John Confer, Ithaca College
Emilie Sisson, Community Member

2. LTC Olson provided the opening remarks for the meeting. He reported on his recent trip to see General Monroe, the Commanding General at the Installation Operations Command. It was confirmed at the meeting that the mission closure date for Seneca will be September 2000 and the Installation Closure date will be July 2001. He reiterated that there would be much to do between now and then and that Seneca would be working toward closure. A question was raised about would there still be someone left here to monitor the cleanup. Steven Absolom, the BRAC Environmental Coordinator, and the Corps of Engineers will continue the environmental cleanup program.

3. Stephen Absolom, the Army Co-Chair, then welcomed members and support staff to the September Restoration Advisory Board at the NCO Club and outlined the evening's agenda. Steve asked for introductions of all attending.

3. Minutes from the August meeting were signed and entered into the record.

4. The next item brought forth was the changes to Section VI of the RAB Charter. Steve reiterated that on the reminders, miss three meetings within twelve months, unexcused, you would be removed. After a member misses two meetings unexcused, we would send a reminder. If they miss a third, then they would be removed. Also reiterated the change on page two about the location of the information repository being moved to Bldg 116 . The charter will be revised and be sent out as a final document. A question was raised about access to Bldg 116 at Seneca Army Depot Activity. The Administrative Record was moved from the town hall because several documents were missing. Having the records at Bldg 116 rather than the Town Hall makes it easier to control. An individual would have to notify someone first before they came over to see records.

5. Michael Duchesneau, Project Manager for Parsons-Engineering Science, Inc., then gave a presentation on Solidification/ Stabilization Remedial Technologies that they would like to use at the OB Grounds. What it involves is mixing solid or semi-solid with an additive to prevent leaching. The goals are to prevent exposure, eliminate leaching, and improve handling and

physical characteristics. Solidification is the production of a monolithic, inert, block to prevent physical interaction between waste and leaching fluids. Stabilization involves a chemical reaction that produces an insoluble product from the waste. Some types of solidifying agents are lime, quicklime or limestone, fly ash, and Portland cement. Asphaltic materials are used with soil that has high oil content. May use it where fuel oil spill occurred. May use a combination of a mixtures of these materials. Using these additives enables you to move the substance around and properly dispose of it easier.

Some questions were raised:

a. **Question:** What are the contaminants involved?
Answer: Soil at the OBG contains lead, copper, zinc, and barium. Solidification fits well with EPA recommended approach. It prevents exposure to wildlife.

b. **Question:** Do lime, fly ash and cement form a chemical reaction?
Answer: Yes, hydroxide forms an insoluble material. When you add water, you increase the pH and produce hydroxides. Portland cement will form a solid block thus prevent leaching.

c. **Question:** What is flyash?
Answer: It is a silica based material. It forms a bulking agent. It would be used with a combination of the other materials. Flyash has limestone. You would also get the benefits of adding straight lime. The advantages are it is cheaper, it is not complicated and there is no heating. Silica inert bulking agent keeps the mass together. Some of the disadvantages are if there is clay or high contents of oil in soil, it may cause clumping. A treatability study will be done for the best approach.

d. **Question:** What do they take in consideration, i.e., soils high in clay?
Answer: OBG soils are not high in clay. If an area has a lot of clay, they would add a bulking agent, i.e., flyash. They could also add sodium sulfate to decrease the bulking.

e. **Question:** How long could you store wastes in a solid cement block before it could fall apart and be a hazard?
Answer: Hopefully forever.

f. **Question:** Isn't the goal of solidification to be able to move the dirt out? Once it leaves here and is secured in a landfill is that another issue?

Answer: Leaching tests would be done to show that they are achieving the goal.

g. **Question:** With 10,000 acres, would it be possible to spread the soil out all over?

Answer: Not viable. Did talk about a landfill at SEDA to move materials to one central location. Costs with moving to landfill within county more reasonable. It made no sense to create a landfill at Seneca Army Depot when a community landfill is already in place.

h. **Question:** Regarding the size of particles, describe what would be working with--chunks or molecules?

Answer: It would be a mixture of both. We would do sampling of soil at OB Grounds. Small particles of lead you can see and some you can't see. When test and leach, see lead, then put whole soil in solid mass. By putting soil in solid mass, you accomplish taking care of both.

i. **Question:** Could this end up in the Seneca Meadows landfill?

Answer: Yes.

j. **Question:** Any alternative landfills?

Answer: Ontario County Landfill or High Acres Landfill in Rochester. The actual disposal will be part of the bidding process with the contractor. We are not at that step yet.

6. Tom Enroth, Project Engineer with the U.S. Army Corps of Engineers, gave a presentation on the FY 98 Environmental Program Update. Because of a decrease in the amount of funding received, about 25%, some changes had to be made. Some of the projects that changed that he highlighted are:

- Installation Groundwater Monitoring Program - will be done semiannually rather than quarterly.

- Ash Landfill - The FY97 monies awarded will be used to do treatability study, FY 98 funds will be used to remove debris piles.

- Open Burning Grounds - This will be based on saving money by removing solidification being done on site.

- Fire Training Areas - The Fire Training Pit and Fire Demonstration Pad were scheduled for remedial design (RD) at both sites. The Army will examine a removal action at the pit and some form of natural attenuation at the pad.

- The munitions washout facility, the IRFNA Disposal Site, and the Old Construction Debris Landfill will be awarded with a phased approach for the Remedial Investigation/Feasibility Study (RI/FS). After the field work, the data will be examined. This will give opportunity to look at data collected, decide if a feasibility study is necessary or something in interim, such as a removal action.

- Janet Fallo from the Corps of Engineers reiterated that the Army is required to run a RAB until the end of the cleanup program as long as community wants one.

- Sludge piles - This is sewage sludge from the Depot waste water treatment plant. Different alternatives are being considered, i.e., land spreading at OB Grounds.

- Radiation survey - Not all igloos will be empty in FY 98. Since there is decreased funding, we will do only the empty ones in FY98 and the others at a later date.

Some questions that were generated from Tom's presentation:

a. **Question:** When using deactivation furnaces, is the soil actually burned or heated?

Answer: Heated with low temperature. It drys off organic material - then it is swept thru and combusted at hotter temperatures, i.e, ash landfill. Deactivation furnace unit is already set up. Having it on site, even though it is smaller, will save mobilization and demobilization costs. LTC Olson interjected that we have 13 more of these units throughout the U.S. Do a pilot study of ours. If it works it can save a lot of money for the Army at other locations.

b. **Question:** Regarding removal BTEX/VOCs, who checks out VOCs during treatment?

Answer: During that, we do studies while doing pilot test and submit data to regulators for review and approval.

c. **Question:** Will it take longer to complete projects with less money?

Answer: We have three projects scheduled for remedial investigation. In FY 98 we plan to get money, contract, field work, and analyze data. It is feasible to do proposed plan, ROD

in the out years. Look at data in FY 99, then fund other phases if necessary.

d. **Question:** Looks like you are running out of time? In 2001 you'll be out of here.
Answer: Clean up will go on for years after that.

e. **Question:** Of the total funds that you requested, how much did you actually receive?
Answer: In past years, it ranged from 40-50% of what we asked for.

7. After a short break, Kevin Healy from the US Army Corps of Engineers, Huntsville Engineering and Support Center, gave a presentation on Unexploded Ordnance (UXO). He gave an overview on the Huntsville Center OE Missions and what they do and then talked about the installation-wide remediation overview and the OB Grounds Remediation Overview. The OB Grounds UXO remediation contract has been awarded. The work plans should be completed by November. Some questions generated were:

a. **Question:** Would Seneca be a part of the FUDs (Formerly Used Defense Site) program?
Answer: An example of a FUDs site is an artillery range at Tobyhanna Army Depot is now Tobyhanna State Park. No, Seneca would not be FUDs.

b. **Question:** In regards to some pictures shown of sifting operation, will all soil be covered with plastic?
Answer: Soil not directly put in truck will be placed on plastic.

c. **Question:** What size unexploded ordinance do you expect to find?
Answer: Detection for large items down to 3-4 ft, smaller items one to two feet.

d. **Question:** Will it pick up small arms?
Answer: Bullets that are 3-6 inches. Don't usually consider them when looking for UXO. We will pick up small arms, look for 20mm or larger sizes.

e. **Question:** Potential reseeding of the ground. Are there plans for this?
Answer: Will fill every hole and restore with grass. Don't plan on leaving any holes. The entire area will be revegitated.

f. **Question:** What is the acreage to sift?
Answer: 17,000 cu yds - low lying hill and berms. Sweeping 30 acres. After this is done the entire site will be excavated so that the remaining soil will have 500 ppm lead or less in it.

8. Steve opened the floor for discussion. He also solicited topics for future meetings. One suggestion was more information on the Peer Review.

9. The next Restoration Advisory Board meeting will be held at the SEDA NCO Club on October 21, 1997 at 7:00 p.m.

10. The meeting was adjourned at 9:15 p.m.

Respectfully submitted,

Laura J. Sposato
LAURA J. SPOSATO
Secretary

APPROVED AS SUBMITTED:

Stephen M. Absolom
STEPHEN M. ABSOLOM
U.S. Army Co-Chair

RICHARD A. DURST
Community Co-Chair

Establishing Priorities for Environmental Sites

Janet R. Fallo
U.S. Army Corps of Engineers

Topics of Discussion

- Environmental Restoration Goals
- Timeline
- SWMU Classification
- Relative Risk Site Evaluation
- Interagency Agreement (IAG) Schedule
- Summary

Environmental Restoration Goals

- Protect human health and the environment
- Acknowledge legal obligations and agreements
- Seek dialogue with stakeholders to maximize community needs and protection

Timeline: Acronyms

- **DSERTS** (*Defense Site Environmental Restoration Tracking System*)- software developed by the Department of Defense to track information on environmental sites.
- **NPL** (*National Priorities List*)- a national listing of high priority environmental sites developed by the U.S. EPA.
- **RCRA** (*Resource Conservation and Recovery Act*)- law that covers hazardous waste generation, transportation, treatment, storage, and disposal (1976).
- **RRSE** (*Relative Risk Site Evaluation*)- part of DSERTS that ranks environmental sites.
- **SWMU** (*Solid Waste Management Unit*)- a location where solid or hazardous waste has been managed, stored, or released.

Timeline

- 1980: Initial Installation Assessment identified 27 sites
- 1988: RCRA program identified a total of 41 sites (SWMUs)
- 1989: Seneca Army Depot (SEDA) listed on NPL
- 1994: Final SWMU Classification Report, 72 sites
  DSERTS software reporting began
- 1995: RRSE added to DSERTS software
  SEDA put on BRAC95 base closure list
  Local Redevelopment Authority (LRA) established
- 1997: Final Environmental Baseline Survey (EBS), 98 sites

SWMU Classification

- SWMUs were identified based on:
  - Information obtained from site inspections
  - File searches
  - Discussions with SEDA personnel
  - Limited sampling
- Expanded Site Inspections (ESI) were performed for all Areas of Concern (AOC)

SWMU Classification (cont.)

- 72 SWMUs were grouped into 5 categories:
  - High Priority Areas of Concern (AOC)
  - Moderate Priority AOC
  - Moderately Low Priority AOC
  - Low Priority AOC
  - No Further Action Recommended

TABLE 5-1

NO ACTION SWMUs
SENECA ARMY DEPOT ACTIVITY

UNIT NUMBER	UNIT NAME
SEAD-1	Building 307 - Hazardous Waste Container Storage Facility
SEAD-2	Building 301 - PCB Transformer Storage Facility
SEAD-7	Shale Pit
SEAD-10	Present Scrap Wood Site
SEAD-18	Building 709 - Classified Document Incinerator
SEAD-19	Building 801 - Classified Document Incinerator
SEAD-20	Sewage Treatment Plant No. 4
SEAD-21	Sewage Treatment Plant No. 715
SEAD-22	Sewage Treatment Plant No. 314
SEAD-29	Building 732 - Underground Waste Oil Tank
SEAD-30	Building 118 - Underground Waste Oil Tank
SEAD-31	Building 117 - Underground Waste Oil Tank
SEAD-35	Building 718 - Waste Oil-Burning Boilers (3 units)
SEAD-36	Building 121 - Waste Oil-Burning Boilers (2 units)
SEAD-37	Building 319 - Waste Oil-Burning Boilers (2 units)
SEAD-42	Building 106 - Preventive Medicine Laboratory
SEAD-47	Buildings 321 and 806 - Radiation Calibration Source Storage
SEAD-49	Building 356 - Columbite Ore Storage
SEAD-51	Herbicide Usage - Perimeter of High Security Area
SEAD-53	Munitions Storage Igloos
SEAD-55	Building 357 - Tannin Storage
SEAD-61	Building 718 - Underground Waste Oil Tank
SEAD-65	Acid Storage Areas
SEAD-72	Building 803 - Mixed Waste Storage Facility

TABLE 5-2

HIGH PRIORITY AOCs
SENECA ARMY DEPOT ACTIVITY

UNIT NUMBER	UNIT DESCRIPTION
SEAD-3	Incinerator Cooling Water Pond
SEAD-4	Munitions Washout Facility Leach Field
SEAD-6	Abandoned Ash Landfill
SEAD-8	Non-Combustible Fill Area
SEAD-14	Refuse Burning Pits (2 units)
SEAD-15	Building 2207 - Abandoned Solid Waste Incinerator
SEAD-16	Building S-311 - Abandoned Deactivation Furnace
SEAD-17	Building 367 - Existing Deactivation Furnace
SEAD-23	Open Burning Ground
SEAD-24	Abandoned Powder Burning Pit
SEAD-25	Fire Training and Demonstration Pad
SEAD-26	Fire Training Pit
SEAD-45	Demolition Area

Note: RI/FS currently underway at SEAD-3, SEAD-6, SEAD-8, SEAD-14, SEAD-15 and SEAD-23.

TABLE 5-3

MODERATE PRIORITY AOCs
SENECA ARMY DEPOT ACTIVITY

UNIT NUMBER	UNIT NAME
SEAD-11	Old Construction Debris Landfill
SEAD-13	IRFNA Disposal Site
SEAD-57	Explosive Ordnance Disposal Area

TABLE 5-4

MODERATELY LOW PRIORITY AOCs
SENECA ARMY DEPOT ACTIVITY

SWMU NUMBER	SWMU DESCRIPTION
SEAD-5	Sewage Sludge Waste Piles
SEAD-9	Old Scrap Wood Site
SEAD-12	Radioactive Waste Burial Sites
SEAD-43	Building 606 - Old Missile Propellant Test Laboratory (refer to SEAD-56).
SEAD-44	Quality Assurance Test Laboratory Location A: West of Building 616 Location B: Brady Road
SEAD-50	Tank Farm (Refer to SEAD-54)
SEAD-54	Asbestos Storage
SEAD-56	Building 606 - Herbicide and Pesticide Storage (Refer to SEAD-43)
SEAD-58	Debris Area Near Booster Station 2131
SEAD-59	Fill Area West of Building 135
SEAD-69	Building 606 - Disposal Area

Note: SEAD-43, SEAD-56 and SEAD-69 are included as one AOC for the SI program.
SEAD-50 and SEAD-54 are included as one AOC for the SI program.

TABLE 5-5

LOW PRIORITY AOCs
SENECA ARMY DEPOT ACTIVITY

SWMU NUMBER	SWMU DESCRIPTION
SEAD-27	Building 360 - Steam Cleaning Waste Tanks
SEAD-28	Building 360 - Underground Waste Oil Tanks
SEAD-32	Building 718 - Underground Waste Oil Tanks
SEAD-33	Building 121 - Underground Waste Oil Tanks
SEAD-34	Building 319 - Underground Waste Oil Tanks
SEAD-38	Building 2079 - Boiler Plant Blowdown Leach Pit
SEAD-39	Building 121 - Boiler Plant Blowdown Leach Pit
SEAD-40	Building 319 - Boiler Plant Blowdown Leach Pit
SEAD-41	Building 718 - Boiler Plant Blowdown Leach Pit
SEAD-46	Small Arms Range
SEAD-48	Pitch Blend Sotrage Igloos
SEAD-52	Buildings 608 and 612 - Ammunition Breakdown Area
SEAD-60	Oil Discharge Adjacent to Building 609
SEAD-62	Nicotine Sulfate Disposal Area near Buildings 606 or 612
SEAD-63	Miscellaneous Components Burial Site
SEAD-64	Garbage Disposal Areas: Location A: Debris Landfill South of Storage Pad Location B: Disposal Area South of Classification Yards Location C: Proposed Landfill Site Location D: Disposal Area West of Building 2203
SEAD-66	Pesticide Storage Near Buildings 5 and 6
SEAD-67	No. 4 pump Site East of Sewage Treatment Plant
SEAD-68	Building S-335 - Old Pest Control Shop
SEAD-70	Building 2110 - Fill Area
SEAD-71	Alleged Paint Disposal Area

Relative Risk Site Evaluation (RRSE)

- Used as a consideration for setting priorities
- Established by the Department of Defense to be used as a screening tool
- RRSE is not:
  - a health risk assessment
  - an independent funding tool
  - a means of establishing cleanup levels

RRSE (cont.)

- Based on three factors:
  - **CHF**(*Contaminant Hazard Factor*)- how much contamination, how bad is it?
    - Significant, moderate, minimal
  - **MPF**(*Migration Pathway Factor*)- is the contamination moving or will it move?
    - Evident, Potential, Confined
  - **RF**(*Receptor Factor*)- are there humans or sensitive environments nearby?
    - Identified, Potential, Limited

RRSE (cont.)

- Each factor is evaluated in surface water, sediment, groundwater, and surface soils
- Each site receives an overall score:
  - 1 = High
  - 2 = Medium
  - 3 = Low
  - A = Agreement (NPL)
  - B = No Agreement
- NE means not evaluated

Seneca Army Depot Activity
Relative Risk Scores

Site	Description	RRSE Score
SEAD-001	BLDG 307- HAZ WASTE STORAGE FACILITY	NE
SEAD-002	BLDG 301- PCB TRANSFORMER STORAGE AREA	NE
SEAD-003	INCINERATOR COOLING WATER POND	2A
SEAD-004	MUNITIONS WASHOUT FACILITY LEACH FIELD	1A
SEAD-005	SEWAGE SLUDGE WASTE PILES	1A
SEAD-006	ASH LANDFILL (SEAD-3,6,8,14,15)	2A
SEAD-007	SHALE PIT	NE
SEAD-008	NONCOMBUST FILL AREA, PART OF SEAD-006	2A
SEAD-009	OLD SCRAP WOOD PILE	2A
SEAD-010	PRESENT SCRAP WOOD PILE	NE
SEAD-011	OLD CONSTRUCTION DEBRIS LANDFILL	1A
SEAD-012	RADIOACTIVE BURIAL SITES (3)	1A
SEAD-013	IRFNA DISPOSAL SITE (6)	1A
SEAD-014	REFUSE BURNING PITS	2A
SEAD-015	ABANDONED SOLID WASTE INCINERATOR	2A
SEAD-016	ABANDONED DEACTIVATION FURNACE	1A
SEAD-017	BLDG 367 PRESENT DEACTIVATION FURNACE	1A
SEAD-018	CLASSIFIED DOCUMENT INCINERATOR (709)	NE
SEAD-019	CLASSIFIED DOCUMENT INCINERATOR (801)	NE
SEAD-020	STP NO 4	NE
SEAD-021	STP NO 715	NE
SEAD-022	STPS NO 314, 715, 4 (SEAD-20,-22)	NE
SEAD-023	DEMOLITION GROUND OB	2A
SEAD-024	ABANDONED POWDER BURNING PIT	1A
SEAD-025	FIRE TRAINING AND DEMO PAD	1A
SEAD-026	FIRE TRAINING PIT	1A
SEAD-027	BLDG 360 STEAM CLEANING WASTE TANK	NE
SEAD-028	UST BLDG A,B POL (BLDG 360)	NE
SEAD-029	UST BLDG 732 POL	NE
SEAD-030	UST BUILDING 118 POL	NE
SEAD-031	UST BUILDING 117 POL	NE
SEAD-032	UST BUILDING 718 A,B POL	NE
SEAD-033	UST BUILDING 121 POL	NE
SEAD-034	UST BUILDING 319 A,B POL	NE
SEAD-035	WASTE OIL BOILER, BUILDING 718	NE
SEAD-036	WASTE OIL BOILER, BUILDING 121	NE
SEAD-037	WASTE OIL BOILER, BUILDING 319	NE
SEAD-038	BOILER PLANT BLOWDOWN PITS BUILDING 2079	NE
SEAD-039	BOILER PLANT BLOWDOWN PITS BUILDING 121	NE
SEAD-040	BOILER PLANT BLOWDOWN PITS BUILDING 319	NE
SEAD-041	BOILER PLANT BLOWDOWN PITS BUILDING 718	NE
SEAD-042	OLD PREVENTATIVE MEDICINE LABORATORY	NE
SEAD-043	BLDG 606 MISSILE PROP. TEST LAB.	1A

Seneca Army Depot Activity
Relative Risk Scores

Site	Description	RRSE Score
SEAD-044	QA TEST LAB	1A
SEAD-045	DEMOLITION AREA	1A
SEAD-046	SMALL ARMS RANGE	NE
SEAD-047	RAD CALIBRATION SOURCE STOR BLG-321, 806	NE
SEAD-048	PITCHBLEND STORAGE AREAS	2A
SEAD-049	COLUMBITE ORE STORAGE BLDG 356	NE
SEAD-050	TANK FARM	1A
SEAD-051	PERIMETER OF HIGH SECURITY AREA	NE
SEAD-052	AMMUNITION BREAKDOWN AREA	3A
SEAD-053	MUNITIONS STORAGE IGLOOS	NE
SEAD-054	ASBESTOS STORAGE	NE
SEAD-055	BUILDING 357- TANNIN STORAGE	NE
SEAD-056	HERBICIDE AND PESTICIDE STORAGE	NE
SEAD-057	EXPLOSIVE ORDNANCE RANGE	1A
SEAD-058	DEBRIS AREA NEAR BOOSTER STATION 2131	2A
SEAD-059	FILL AREA WEST 135	1A
SEAD-060	OIL DISCHARGE, 609	1A
SEAD-061	UST WASTE OIL TANK BLDG 718	NE
SEAD-062	NICOTINE SULFATE DISPOSAL AREA	3A
SEAD-063	MISCELLANEOUS COMPONENTS BURIAL SITE	1A
SEAD-065	ACID STORAGE AREA	NE
SEAD-066	PESTICIDE STORAGE AREA	3A
SEAD-067	DUMP SITE EAST OF STP #4	1A
SEAD-068	PEST CONTROL SHOP	NE
SEAD-069	BLDG 606 DISPOSAL AREA	1A
SEAD-070	BLDG 2110 FILL AREA	2A
SEAD-071	PAINT DISPOSAL AREA	1A
SEAD-072	BUILDING 803- MIXED WASTE STORAGE	NE
SEAD-099	COMP- ASBESTOS SURVEY & OTHER M ACCT WK	NE
SEAD-100	COMP- ASBESTOS ABATEMENT PROJECT	NE
SEAD-101	COMP- HAZARDOUS WASTE DISPOSAL	NE
SEAD-102	COMP- ASBESTOS TRAINING	NE
SEAD-103	COMP- ENVIRONMENTAL TRAINING	NE
SEAD-104	COMP- REMOVE & REPLACE UST AT 8 PUBL	NE
SEAD-105	COMP- EXPLOSIVE OPERATIONS DECON/REMED	NE
SEAD-106	COMP- ENVIRONMENTAL TESTING CONTRACTS	NE
SEAD-107	COMP- DISPOSAL CONTRACTS OIL/WATER SEP	NE
SEAD-108	COMP- TRANSFER- WASTE WATER TREATMENT	NE
SEAD-109	COMP- WATER TREATMENT SYSTEM TRANSFER	NE
SEAD-110	COMP- REVISION OF ISCP/SPCC PLAN	NE
SEAD-111	COMP- RADIATION SURVEYS	NE
SEAD-112	COMP- BRAC CLEANUP PLAN	NE
SEAD-113	COMP- LEAD BASED PAINT ABATEMENT	NE

Seneca Army Depot Activity
Relative Risk Scores

Site	Description	RRSE Score
SEAD-114	COMP- HAZARDOUS WASTE STORAGE/ACCUMUL	NE
SEAD-115	COMP- RCRA CLOSURE OF OB/OD GROUNDS	NE
SEAD-116	COMP- P TREATED DISPOSAL	NE
SEAD-117	COMP- CULTURAL RESOURCE MANAGEMENT	NE
SEAD-118	COMP- INSTALLATION ARCHIVE SEARCH. UXO	NE
SEAD-119	EBS SITES- HOUSING AREA	NE
SEAD-120	EBS SITES- CONSERVATION AREA	NE
SEAD-121	EBS SITES- INDUSTRIAL AREA	NE
SEAD-122	EBS SITES- AIRFIELD AREA	NE
SEAD-123	EBS SITES- INSTITUTIONAL AREA	NE
SEAD-64A	GARBAGE DISPOSAL AREA A	1A
SEAD-64B	GARBAGE DISPOSAL AREA B	2A
SEAD-64C	GARBAGE DISPOSAL AREA C	3A
SEAD-64D	GARBAGE DISPOSAL AREA D	2A

IAG Schedule

- Attachment 7: Generic Site Schedule
  - Shows a "best case" time schedule (31 months) for a site going from a Remedial Investigation through Record of Decision
- Attachment 5: Master Schedule
  - Shows the specific schedule for sites
  - Documents must be held to this schedule or the EPA could assess penalties to the installation
  - Due dates may be extended

IAG Schedule (cont.)

- Master schedule changes according to several factors:
  - Reuse priorities
  - Results of environmental investigations
  - Stakeholder involvement (public, regulators)
  - Availability of funding
  - Availability of resources
  - Relative Risk Site Evaluation

IAG Schedule: Acronyms

- IRP Installation Restoration Program
- OU Operable Unit
- RI Remedial Investigation
- FS Feasibility Study
- PRAP Proposed Remedial Action Plan
- ROD Record of Decision

ATTACHMENT 7
GENERIC SCHEDULE

Seneca Army Depot
RI/FS to ROD

Event Description	Best Case Schedule
Draft Work Plan Submitted for Review	Day 0
Draft Work Plan Comments Received by Army	Day 30
Draft Final Work Plan Submitted for Review	Day 75
Final Work Plan Comments Received by Army	Day 105
Prepare Draft Contract Statement of Work and Complete Informal EPA & NYSDEC Review	Day 150
Contract Statement of Work Finalized	Day 165
Request for Proposals Issued to Contractor	Day 175
Proposal Received from Contractor	Day 190
Negotiate and Award Contract to Execute RI/FS Work Plan	Day 205
Contractor Mobilization Completed and Field Work Starts	Day 245
Draft RI Report Submitted	Day 395
Draft RI Comments Due to Army	Day 425
Draft Final RI Report Submitted	Day 470
Final RI Report (No Disputes)	Day 500
Draft FS Report Submitted	Day 540
Draft FS Report Comments to Army	Day 570
Draft Final FS Report Submitted	Day 615
Final FS Report (No Disputes)	Day 645

Event Description	Best Case Schedule
Draft PRAP Submitted	Day 650
Draft PRAP Comments to Army	Day 680
Draft Final PRAP Submitted	Day 725
Issue PRAP for 30 Day Public Comment Plus 30 Day Extension if requested	Day 755
Close of Public Comment Period	Day 815
Draft ROD Submitted	Day 845
Draft ROD Comments to Army	Day 875
Draft Final ROD Submitted	Day 905
Final ROD (No Disputes)	31 Months

Assumptions for Best Case Schedule:

1. The schedule will not require any delay in field work activities as a result of winter weather (approximately 1 December through 1 April annually).

2. Comments are submitted and incorporated consistent with this Agreement without any extensions or reiterations.

3. Additional field work is not required.

ATTACHMENT 5
SCHEDULES

The schedule of IRP work completed to date and planned through completion of all restoration work at SEDA is as follows:

RELEVANT MILESTONES (1)(2)

ASH LANDFILL (SEAD-003, 006, 008, 014, and 015) OU1

Draft Work Plan	(04 Dec 90)
Draft RI	(20 Oct 93)
Draft FS	(19 Sep 94)
Draft PRAP	(07 Mar 97)
Draft ROD	(06 Nov 97)

OPEN BURNING GROUNDS (SEAD-023) OU2

Draft Work Plan	(29 Aug 91)
Draft RI	(28 Jan 94)
Draft FS	(09 Mar 94)
Draft PRAP	(04 Jul 96)
Draft ROD	(17 Oct 97)

REMEDIAL INVESTIGATIONS/FEASIBILITY STUDIES (3)(4)
FIRE TRAINING AREAS (SEAD-025, 026) OU3

Draft RI/FS Work Plan	(29 Mar 95)
Draft RI Submission	(28 Jun 96)
Draft FS Submission	(22 Oct 97)
Draft PRAP	(09 Jan 98)
Draft ROD	(23 May 98)

DEACTIVATION FURNACES (SEAD-016, 017) OU4

Draft RI/FS Work Plan	(29 Mar 95)
Draft RI Submission	(18 Jan 97)
Draft FS Submission	(30 Oct 97)
Draft PRAP	(08 Jan 98)
Draft ROD	(02 Jul 98)

RAD SITES (SEAD-012, 063) OU5

Draft RI/FS Work Plan	(19 Dec 95)
Draft RI Submission	(23 Oct 97)
Draft FS Submission	(18 Mar 98)
Draft PRAP	(06 Jul 98)
Draft ROD	(27 Jan 99)

SEAD-059, 071 Fill Area/Paint Disposal

Draft RI/FS Work Plan	(30 Jan 96)
Draft RI Submission	(06 Jan 98)
Draft FS Submission	(31 May 98)
Draft PRAP	(19 Sep 98)
Draft ROD	(30 Mar 99)

SEAD-004 Munitions Washout Facility

Draft RI/FS Work Plan	(25 Oct 95)
Draft RI Submission	(06 Mar 98)
Draft FS Submission	(31 Jul 98)
Draft PRAP	(19 Nov 98)
Draft ROD	(30 May 99)

SEAD-011, 64A, 64D Old Construction Debris Landfills (5)

Draft RI/FS Work Plan	(15 Jun 95)
Draft RI Submission	(06 Nov 98)
Draft FS Submission	(31 Mar 99)
Draft PRAP	(19 Jul 99)
Draft ROD	(30 Jan 00)

SEAD-013 IRFNA Disposal Site

Draft RI/FS Work Plan	(14 Nov 95)
Draft RI Submission	(06 Jan 99)
Draft FS Submission	(31 May 99)
Draft PRAP	(19 Sep 99)
Draft ROD	(30 Mar 00)

SEAD-052, 060 Bldg 612 Complex

Draft RI/FS Work Plan	(19 Jan 96)
Draft RI Submission	(06 Mar 99)
Draft FS Submission	(31 Jul 99)
Draft PRAP	(19 Nov 99)
Draft ROD	(30 May 00)

SEAD-045, and 057 Demo Area/EOD (6)

Draft RI/FS Work Plan	(26 Feb 96)

SEAD-046 Small Arms Range (6)

Draft RI/FS Work Plan	(09 May 96)

SEAD-045, 046, and 057 Demo Area/EOD/Small Arms Range (6)

Draft RI/FS Work Plan	(See above)
Draft RI Submission	(06 Nov 99)
Draft FS Submission	(30 Mar 00)
Draft PRAP	(18 Jul 00)
Draft ROD	(29 Jan 01)

SEAD-048 Pitch Blend Storage

Draft RI/FS Work Plan	(19 Dec 95)
Draft RI Submission	(05 Nov 00)
Draft FS Submission	(30 Mar 01)
Draft PRAP	(18 Jul 01)
Draft ROD	(29 Jan 02)

SEAD-066 Pesticide Storage Areas

Draft RI/FS Work Plan	(02 Dec 96)
Draft RI Submission	(05 Jan 01)
Draft FS Submission	(30 May 01)
Draft PRAP	(18 Sep 01)
Draft ROD	(29 Mar 02)

FOOTNOTES:

(1) Draft and Draft-Final submissions are based on the InterAgency Agreement (IAG) stipulation of 45 days for Army preparation and 30 days for regulatory review. Final dates are based upon the IAG stipulation that all documents become final automatically within 30 days of the Draft-Final submission if no comments are received.

(2) Multiple document submittals will be likely considering the amount of work required and the tight schedules for performance. All schedules assume that regulatory reviews will be conducted concurrently, if required, as is assumed in the IAG.

(3) All schedules for RIs to be performed assume that two phases of fieldwork will be required. If Phase II RI fieldwork is unnecessary for SEADs 25 and 26, SEADs 16 and 17, SEAD 4, SEADs 12, 48, and 63; all draft documents for these operable units shall be submitted to the USEPA and NYSDEC earlier than the deadlines in Attachment 5: Facility Master Schedule. The Army shall submit a revised Attachment 5 to the USEPA and NYSDEC to reflect the new deadlines within 30 days of NYSDEC and USEPA indicating that Phase II RI fieldwork would not be needed for the above-mentioned SEADs.

(4) Operable unit designation will be assigned after project has been funded and consistent with definition, Section 2, paragraph 14.

(5) Years will continue to be designated by their last two digits in the year 2000, e.g. "00", "01", "02", etc.

(6) SEAD-045, and 057 (Demo Area/EOD) have been combined with SEAD-046 (Small Arms Range) for Draft RI Submission.

Dated 9/29/97

Summary

- Priorities maximize community needs and protection of human health and the environment
- Priorities are influenced by many factors
- Changes in policy have altered priorities in the past and may continue to change them in the future

SENECA ARMY DEPOT ACTIVITY, NY
RESTORATION ADVISORY BOARD CHARTER

I. Purpose of the Restoration Advisory Board (RAB)

The primary purpose of the Seneca Army Depot Activity (SEDA) RAB is to improve public participation in the environmental restoration process taking place at SEDA.

II. Functions of the RAB

1. The RAB will: function as a forum for open and interactive dialogue between government agencies and the public regarding environmental cleanup information; conduct regular meetings open to the public at convenient times and locations; keep meeting minutes; and make meeting minutes available to the public. The RAB brings together members who reflect diverse community interests to facilitate the flow of information, concerns, and needs between the local community, U.S. Army, N.Y. state regulators, and federal regulators.

2. The RAB will review issues related to cleanup, review cleanup strategies, track current and future activities and provide perspectives on cleanup priorities. The RAB and its members will communicate with community members and interest groups, serve as direct and reliable conduits of information to and from the community, and review and comment on various technical reports and cleanup plans.

III. Basis and Authority for the RAB Charter

The basis and authority for this charter are contained in the National Defense Authorization Act for Fiscal Year 1995 (Public Law 103-337), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendment and Reauthorization Act (SARA) of 1986, particularly section 120(a), 120(f), and 10 USC 2705, enacted by Section 211 of SARA, and DoD and United States Environmental Protection Agency RAB Implementation Guidelines of September 1994, plus subsequent acts of United States Congress that here-in apply.

IV. Structure of the RAB

1. The RAB will be co-chaired by the BRAC Environmental Coordinator (BEC) for Seneca Army Depot Activity (or his/her alternate) and a community member. The co-chairs will have responsibility for managing the meetings.

2. Government RAB members include representatives from the installation (the BEC), U.S. Environmental Protection Agency, and N.Y. State. Other representatives from government agencies attend the RAB meetings as technical support staff but will not be named as RAB members. All other RAB members will be part of the Finger Lakes

communities that are affected by Seneca Army Depot Activity.

3. The community co-chair is selected by secret ballot and majority vote of community RAB members present as established by the RAB. The term of office for the community co-chair position is indefinite.

4. The RAB community members are responsible for terminating a co-chair who is ineffective or detrimental to the progress of the RAB. Co-chair removal will be determined by the RAB community members in the future if necessary.

5. The RAB will meet at least quarterly at a location agreed upon by a consensus of the RAB members. Additional meetings or special focus meetings may be scheduled as the need arises.

6. Agenda items will be compiled by the co-chairs. Suggested topics should be given to the Army co-chair not later than 3 weeks prior to each meeting. The Army co-chair will be responsible for providing written notification to all RAB members of the upcoming agenda, date, time, and place of scheduled RAB meetings at least 2 weeks prior to each meeting.

7. The Army co-chair will be responsible for coordinating the recording and distributing of meeting minutes including a written list of attendees within 2 weeks after the meeting. Any comments on the minutes will be addressed at the next meeting. After the minutes are reviewed and revised, they will be available in the Information Repository at Seneca Army Depot Activity in Building 116.

8. A draft copy of the minutes will be available to local newspapers and other media. This will reach members of the public interested in RAB activities who did not attend the meeting.

V. Roles and Responsibilities

1. **The Army co-chairperson will:**

   Coordinate with the community co-chairperson to prepare and distribute an agenda prior to each RAB public meeting.

   Ensure that Department of Defense employees participate in an open and constructive manner.

   Ensure that the RAB has the opportunity to participate in the SEDA environmental restoration process.

   Ensure that community issues and concerns related to restoration are addressed when raised.

Ensure that an accurate mailing list of interested parties is developed and maintained.

Provide relevant policies and guidance documents to RAB members in order to enhance the RAB operation.

Ensure that adequate administrative support is provided for meeting agendas and minutes, meeting locations, necessary document reproduction and mailings, and distribution of public notices in local newspapers.

Refer issues not related to restoration to an appropriate installation official.

Report RAB activities to the appropriate installation officials.

Ensure documents distributed to the RAB are also made available to the general public, as deemed appropriate in compliance with applicable laws and regulations.

2. **The Community Co-chairperson will:**

Coordinate with the Army co-chairperson and RAB members to prepare and distribute an agenda prior to each RAB public meeting.

Ensure that community members participate in an open and constructive manner.

Ensure that the RAB has the opportunity to participate in the SEDA environmental restoration process.

Ensure that community issues and concerns related to restoration are raised.

Ensure documents distributed to the RAB are also made available to the general public.

3. **The RAB Community Members will:**

Attend all RAB meetings.

Provide advice and comment on environmental restoration issues to appropriate governmental agencies.

Be responsible for representing and communicating community interests and concerns to the RAB.

Members will serve as a direct and reliable conduit for information exchange between the community and restoration process decision makers.

Members will be available to review the various technical documents generated by the environmental restoration process at SEDA.

4. **The N.Y. State Regulatory Agency Member(s) will:**

   Attend all RAB meetings.

   Serve as an information, referral resource bank for communities, installations and agencies regarding installation restoration.

   Review documents and other materials related to restoration.

   Ensure that state environmental standards and regulations are identified and addressed by SEDA.

   Facilitate flexible and innovative resolutions of environmental issues and concerns.

   Assist in education and training for the RAB members.

5. **The U.S. Environmental Protection Agency (EPA) Member will:**

   Attend all RAB meetings.

   Serve as an information, referral and resource bank for communities, installations and agencies regarding installation restoration.

   Review documents and other materials related to restoration.

   Ensure that federal environmental standards and regulations are identified and addressed by SEDA.

   Facilitate flexible and innovative resolutions of environmental issues and concerns.

   Assist in education and training for the RAB members.

VI. RAB Attendance Requirements

RAB members are expected to attend all meetings. If a conflict occurs, the member should notify one of the co-chairpersons that they will not be in attendance. Members who fail to provide advance notice of their absence to a RAB meeting will be considered unexcused. Two unexcused absences in a 12 month period will result in a reminder from both Co-chairs of the members commitment to attend RAB meetings. Three unexcused absences in a 12 month period will result in termination of membership in the RAB.

VII. RAB Meeting Structure

1. The regular RAB meetings will be conducted monthly or as needed on the third Tuesday of the month at the Seneca Army Depot NCO Club or a location determined at the

previous meeting.

2. Meetings will begin at 7:00 p.m. and end when RAB business has been completed, normally not lasting more than 2 hours. Special focus meetings will be held, when necessary, in addition to the regular meetings.

3. Each meeting will begin with a review of the previous meetings minutes. There will be time allotted on each agenda for public comments and an open discussion.

VIII. Procedure and Time Period for Review of Technical Documents

Technical documents will be reviewed by the RAB in the same time period as the regulatory staff, normally at least 30 days, so that the environmental restoration efforts at SEDA are not impeded. RAB members may provide written comments on documents which will be consolidated by the Army co-chairperson. An executive summary of large documents may be provided to RAB members and full documents will be available at the Information Repository. RAB members will be furnished a copy of documents in review at request.

IX. Amendments to this Charter

This charter may be amended by a simple majority vote of RAB members in attendance at a RAB meeting, if the amendment is consistent with the laws and regulations governing its existence.

X. Termination of this Charter

This charter will be terminated upon completion of the environmental restoration process at SEDA or as determined by the RAB.

XI. Effective Date of this Charter

The effective date of this charter shall be when it is accepted by a majority vote of RAB members and both co-chairs have signed the charter.

XII. Signatories to the RAB Charter

IN WITNESS WHEREOF, this charter was approved by the following members of the SEDA Restoration Advisory Board on the 8 day of Oct, 1997.

Stephen M. Absolom
Army Co-chair

Dick Durst
Community Co-chair

Restoration Advisory Board
Meeting Agenda

October 21, 1997

7:00	**Welcome** LTC Donald C. Olson Commander, Seneca Army Depot Activity
7:05	**Acceptance of Minutes/Sign Revised RAB Charter** Mr. Stephen M. Absolom/Dr. Dick Durst Army Co-chair/Community Co-chair
7:15	**Establishing Priorities for Environmental Sites** Ms. Janet R. Fallo Project Engineer, U.S. Army Corps of Engineers, NY District
7:35	**Reuse Plan Update** Ms. Pat Jones Acting Executive Director, SEDA Local Redevelopment Authority
8:00	**Break**
8:10	**Agency for Toxic Substances and Disease Registry (ATSDR) Upcoming Visit** Dr. Kathleen Buchi U.S. Army Center for Health Promotion and Preventive Medicine
8:30	**Open Discussion**
9:00	**Adjourn**

MINUTES
RESTORATION ADVISORY BOARD
OCTOBER 21, 1997 MEETING

1. Attendance:

Government RAB Members Present:

Stephen M. Absolom, BRAC Environment Coordinator, SEDA/Army Co-Chair
Dan Geraghty, NYS Department of Health
Carla Struble, U.S. Environmental Protection Agency

Government RAB Members Not Present:

Marsden Chen, NYS Department of Environmental Conservation

Community RAB Members Present:

Dick Durst/Community Co-Chair, Anne Herman, Frank Ives, Pat Jones, Harold Kugelmass, Russell Miller, Ken Reimer, Lucinda Sangree, Richard Sisson, David Wagner

Community RAB Members Not Present:

Brian Dombrowski (excused), Mary Ann Krupsak, Richard Lewis, Carmen Serrett, Henry Van Ness(excused)

Environmental Support Personnel Present:

LTC Donald Olson, SEDA Commander
Michael Duchesneau, Parsons Engineering Science, Inc.
Janet Fallo, U.S. Army Corps of Engineers, NY District, SEDA Resident Office
Kevin Healy, U.S. Army Corps of Engineers, Huntsville Div
Joanne Ogden, SEDA Legal Rep/Public Affairs Officer
Laura Sposato, SEDA Secretary
Michael Rivara, NYSDOH
Jeff Waugh, AEC

Community Support (from sign-in sheet):

Heather Clark, Community Member
Artie Baeumner
John Confer, Ithaca College
Emilie Sisson, Community Member
Neil Chaffie, Ovid Gazette
Russell Miller

2. LTC Olson provided the opening remarks for the meeting. He inquired if it was easier for members to get in tonight as we had some problems at the last meeting. He then went around the room asking for introductions of all attending.

3. Stephen Absolom, the Army Co-Chair, welcomed members and support staff to the October Restoration Advisory Board and outlined the evening's agenda.

4. Minutes from the September meeting were signed and entered into the record.

5. Ms. Janet Fallo, Project Engineer, USA COE, NY District, gave a presentation on how priorities are established for environmental sites. The Corps of Engineer Office will continue to support the depot as they downsize. She highlighted areas of Environmental Restoration Goals to show prioritizing projects, a timeline, how changes affect priorities, SWMU Classification - the original grouping of sites, relative risk site evaluation- a way of ranking/comparing the sites and went over the Interagency Agreement (IAG) Schedule. She explained how a software program which they use, DSERTS (Defense Site Environmental Restoration Tracking System), developed by the Department of Defense, is used to track information on environmental sites. In 1980 Initial Installation Assessment identified 27 sites. As of this date we have a final environmental baseline survey (EBS) total of 98 sites. Positive comments were made on how helpful it was that Janet had identified the acronyms in her presentation. Some questions were raised:

a. **Question:** A question was asked if any of DSERTS information is accessible on the Internet.
Answer: Right now it is just submitted electronically to Army and is not available to the public on the Internet. The Army guidelines, however, are available on the Internet.

b. **Question:** What factors affect master schedule?
Answer: Availability of resources, i.e., and people. Can only do so much with staff here. It's also up to EPA, state, etc., as they can only review so many documents.

c. **Question:** When a site is labeled NE, means not evaluated. Will it ever be done?

Answer: Not at this time. Most of the NE sites are no action sites, and we still have to track them in the system. However, if anything is found there, it can change. Change can also be affected if an area falls under a different regulatory arena, i.e., sewage treatment plant.

d. **Question:** When special weapons were there - were any buried in place?

Answer: Can't comment on that.

e. **Question:** Some months ago, asked about radioactive stuff. SEDA one of two places where nuclear weapons were stored.

Answer: Can't comment on that, other than we did cease to have a special weapons mission at SEDA in 1993.

6. Pat Jones, the Executive Director of SEDA Local Redevelopment Authority, followed with a presentation on the status of the reuse plan. Some months ago she talked about the status of the reuse plan. They are now moving from a planning LRA into implementation LRA. She handed out a map of the depot and highlighted those changes, some of which are:

- Housing/Lake Housing Area. No change to that. Still plan to market that as well as Elliot acres together. On the dark blue, former northern end, we have some proposals on the table.

- A proposal from a soccer organization.

- A proposal from the Youth Services International (YSI) for an academy for troubled youths.

We have no final agreement with either of these two groups. We are, however, talking very closely with YSI. About 400 jobs would be created. They would like to start renovations in March 98 and it could be up and running next summer. Some of the positions would be teachers, psychologists, trades people, and office positions. This is run by private organization, not state. There will be one person who will be doing the hiring. They will hire employees and contractors from the local community. Some questions generated:

a. Question: Who funds this operation?
Answer: Mostly the state that the child comes from. Some would be from NY State. Some could possibly be from Pennsylvania. The YSI operates 22 different facilities. Several members of LRA went to Maryland to see one. They talked to community members, asking their comments. They were positive.

b. Question: Who were some of those that went?
Answer: Some of the individuals that went were Mr. Zajac, Mr. Glenn Cook, and Sheriff Tom Fox. The YSI met with Varick Planning Board about a month ago. We will be holding informal meetings for the public further down the road. When they find out when, Pat will provide the information to Steve so that it can be published when they will be. Expect to hear something in the next 45 days.

c. Question: Because it is private, what will it do with tax base?
Answer: IDA - will be tax exempt but will receive payment in lieu of taxes and some funds will be paid to the Town of Varick.

d. Question: What is the status of the soccer organization?
Answer: Haven't eliminated soccer but financially not able to take it over yet. The YSI has the money right now.

e. Question: Is the Army retaining any sites?
Answer: No. The Army is going to keep two warehouses for DS2 storage but wants to move it out for cost effectiveness. No decision has been made.

f. Question: An individual expressed concern that if no formal clean up has been done as of yet and with the proximity of Q-Area to adolescents for YSI, can see high reluctance to be putting in an institution so close.
Answer: Our last presentation might answer some of those questions. We certainly aren't going to turn over land that is a threat to health. Information obtained to date indicates there is no surface problems. Regarding the residual from the 80's, we are not finding anything at the surface. Steve added that if anything is found, it is identified in some form as part of lease document - suitable transfer of lease. We will issue FOSL based on knowing children are there.

g. **Question:** Will that be cleaned up too (referring to map blue area)?

Answer: Blue area not going to be industrial - residents on site. There are five new sites to look at. Only one known site is identified in blue area. That removal action occurs in FY 98. What we'll find on new sites don't know yet. If we find things we will consider appropriate action.

h. **Question:** Would risk assessment be different for children/adults?

Answer: Look at expected duration of exposure. It is different from an adolescent or an adult. We tailor the risk assessment to exposure. Average time youths spend at YSI is 12 months.

i. **Question:** In regards to the Q Area, what you have tested, have you found anything there that will require removal?

Answer: SEAD 63 - burial sites, items will be removed.

j. **Question:** Will the blue area on the map be confined with a fence so children won't wander in there?

Answer: It is currently fenced in. There will also be a fence across the Access Road.

k. **Question:** Will remediation take place after children move in? Would there be precautions?

Answer: Yes. Pat Jones also mentioned that the YSI would be started up in two to three phases. They would utilize the barracks then gym, chapel, bowling alley, and former Champions. These points next to Q would be in phase 3. We are 2-3 years from that now.

l. **Question:** A question was raised on concern of lead paint and asbestos in facilities.

Answer: A notice is put in the transfer documents that asbestos containing material or lead based paint exists. The lease document will indicate that its presence is not posing a health hazard at this time.

Pat also highlighted the airfield/training ranges. They have combined that parcel. The Finger Lakes Law Enforcement Academy is interested in this. There is presently $6 million dollars allotted for design and

budget. They don't have any specifics right know. They will talk to the state to find out what their intentions were. The LRA is hopeful that Finger Lakes and state will join forces and share facility.

NYDEC to mange wildlife and like property. A private citizen inquired to manage wildlife. Will consider both propositions at this time. A question was raised as to how many acres are involved in this. Pat said about 8500 acres.

The green area - will be transferred to Loran C Coast Guards. It is 290 acres.

In regards to the warehouse area, IDA has elected not to include this in the EDC. The Army will have to sell the property.

LTC Olson also mentioned that there is an ongoing meeting this week on the DS2. Status is up in the air right now.

Pat also highlighted the area on the map that is marked off as a proposed prison. Does this mean we are getting a prison? No. Does it mean we could posture ourselves for one in the future? Yes. Last state bid went to TupperLake for a prison as they were postured for it at this time.

The yellow area on the map is the planned industrial area. White Deer Corp complex modification to PID added 22 acres and extending that end into and including gate 14.

a. **Question:** Why don't we put in a Casino to get rid of the legal hassles and create jobs?
Answer: That was a proposal sometime ago. LRA doesn't want the liability. As far as reuse, we are looking for the highest price with the highest and best use.

b. **Question:** Elliot Acres was used this summer. Any improvements made to them at this time?
Answer: Not really, just some plumbing repairs.

7. LTC Olson then introduced the next presenter, Dr. Kathleen Buchi, from the U.S. Center for Health Promotion and Preventive Medicine (CHPPM). ATSDR is the organization that "looks over your shoulder" to make sure things are being done right. They are the watchdogs for public health. She introduced Mike White, the Army Liaison, who will be making the future visits

to SEDA. If your depot is on the NPL list, it triggers ATSDR to come in. The ATSDR will do a comprehensive public health assessment for the installation.

NPL Listing triggers them to come in.
- They do a site scoping visit.
- Identify any hazards from contamination in and around the depot, collect data and issue report.
- Initial Release Draft/Data Validation Agency review and comment period
- Public comment Release
- Public Review and Comment Period
- Final Release
- Periodic Update of Public Health Action plan.

Seneca did not rank high on the list earlier. It was moved forward because of BRAC. ATSDR looks at BRAC list for priority. Some installations have current remedial investigation program. Some are non-BRAC.

An estimated time table:

ATSDR - done 2nd Qtr FY 98
Initial Release - Late Oct 98
Public Review Oct-Dec 98
Final Release Dec 98-Mar 99
9 month process - and may go longer

LTC Olson asked what kind of input would she need from SEDA support staff. Dr. Buchi said they would be here a short period of time, 2-5 days, for site scoping visit. They will send a list of documents they need. They will look at rest of Remedial Investigation reports that are available. They will flag documents they need copies of. They will provide an in briefing as well as an out briefing. They would focus only on sites that have a public health implication.

Question: Do they have clearances to review information on what was stored here?
Answer: Yes, some of the staff will have clearances before they come if necessary.

She highlighted the pathway of exposure. There are five parts:

1. Source - is it there?
2. Can it move?
3. Is it accessible to people?
4. Can they eat, breath, touch it?
5. Does someone eat, touch or breathe it?

She also highlighted that community involvement would start with the RAB. Some questions that were generated:

a. **Question:** It is required that a remedial investigation be done before they look at the site?
Answer: No, they can come in anytime. It is better to come during the middle of remedial investigation. They would be in a better position to incorporate findings.

b. **Question:** How big is your organization.
Answer: About 500 people. Thirty are full time people that are liaisons with ATSDR.

c. **Question:** Confusion exists about the organization. Is it for public health service or the Army when they come?
Answer: It is through a MOU. Kathleen works for DOD and manages the ATSDR program.

d. **Question:** Who is the person in charge of ATSDR?
Answer: Commander Joe Hubert.

e. **Question:** Where is the accountability back to Congress? Is it an independent operation from DOD?
Answer: Yes, they (ATSDR) report every year to Congress.

f. **Question:** Do you report to GAO, Cabinet?
Answer: Yes, the ATSDR does.

g. **Question:** Will you be looking into concerns about breast cancer?
Answer: Yes, they are already aware of some newspaper articles. Will be working with NY Department of health on that.

8. Janet Fallo introduced Heather Clerk who is a Cornell graduate Student. Heather put some forms out on the table for RAB members so she may be able to interview anyone who has attended a RAB meeting and get their views, comments, etc. Everything will be kept

confidential. If you are interested, fill out the form and return to Heather. Her thesis depends on the input. She will also give RAB an opportunity to preview her draft thesis. Her field of study is natural resources. Janet also mentioned that Heather has a survey she would like RAB members to look at. It will be sent out in a separate package.

9. Steve opened the floor for open discussion. There being no further discussion, Steve then mentioned the November RAB meeting on November 18 would be a public meeting for the Open Burning Grounds Proposed Remedial Action Plan. We will send out specifics for this. The public meeting will be held at the Seneca County Building in Waterloo in the Supervisors Room at 7:00. It will be a posterboard session with stations. There will be a county court stenographer there to take down concerns. **ADDED NOTE: PUBLIC MEETING HAS BEEN POSTPONED UNTIL 17 DECEMBER.**

10. A question was raised about the necessity of a December RAB. Steve mentioned that we will have to assess whether we will have the December meeting. After the November public meeting there is a 30 day comment period. If anything is pressing we will send out a package in December and maybe reconvene and meet in December. We also might be involved with the ASTDR at that time.

11. There being no further business, the meeting was adjourned at 9:25 p.m.

Respectfully
submitted,

LAURA J. SPOSATO
Secretary

APPROVED AS SUBMITTED:

STEPHEN M. ABSOLOM
U.S. Army Co-Chair

RICHARD A. DURST
Community Co-Chair

AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR)

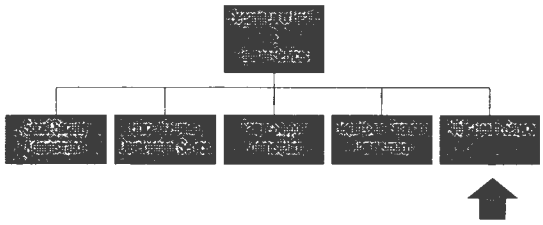
OVERVIEW FOR ARMY INSTALLATIONS

Dr Kathleen Buchi
(410) 671-4929, DSN 584-4929, FAX 4996
e-mail dr_kathleen_buchi@chppm-ccmail.apgea.army.mil

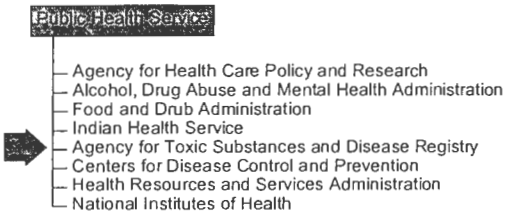
BRIEFING OUTLINE

- What is ATSDR ?
- Why?
- What is a PHA and its process?
  - Contents
  - Data Needs
  - Timeline
  - Community Involvement
- Other ATSDR Services
- CHPPM's Role

DHHS ORGANIZATION



PUBLIC HEALTH SERVICE ORGANIZATION



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ATSDR MISSION

- To Prevent Exposure, Adverse Human Health Effects, and Diminished Quality of Life Associated With Release of Hazardous Substances From Waste Sites, Unplanned Releases, and Other Sources of Pollution Present in the Environment.

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AUTHORIZING STATUTE

- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by Superfund Amendments and Reauthorization Act of 1986 (SARA)
- Section 104(i)
- Not a regulatory agency

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PUBLIC HEALTH ASSESSMENT (PHA)

- Mandated by Congress Under CERCLA
  - Sites on or proposed for the NPL
  - Citizen's Petition
  - DOD Request
- Evaluates:
  - Hazardous Substance Releases Into the Environment
  - Community Health Concerns
  - Local Health Outcome Data
  - Exposure
    - » Past, Current and Future

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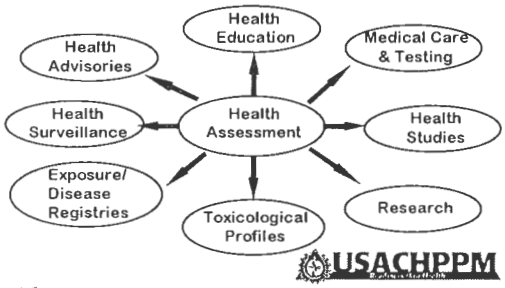
omplete
By 99

PUBLIC HEALTH ASSESSMENT PROCESS



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PHA vs. RISK ASSESSMENT FOCUS

ATSDR PHA	EPA RA
- Entire Installation	- Specific Site
- All Hazardous Substances & Physical Hazards	- Site Contaminants Only
- Health Risk Judgments	- Numbered Risk Estimate

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PHA vs. RISK ASSESSMENT GOALS & RESPONSE

ATSDR PHA	EPA RA
– Characterize Public Health Exposures	– Characterize Site Risks, including Ecological Risks
– Develop Health Advisories & Recommendations	– Facilitate Site Remediation
– Conduct Health Studies, Education, Exposure Investigations, Prevention	– Select of Remedial Measures

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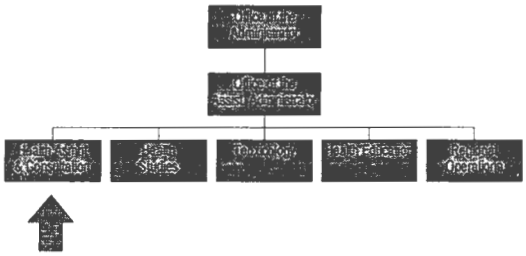
ATSDR ORGANIZATION



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PHA PROCEDURAL STEPS

- NPL Proposal/Listing or Citizen Petition
- Site Scoping Visit
- Initial Release Draft/Data Validation
- Agency Review and Comment Period
- Public Comment Release (Brown Cover)
- Public Review and Comment Period
- Final Release (Blue Cover)
- Periodic Update of Public Health Action Plan

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GENERAL TIME TABLE

- Site Scoping Sep 97
- Initial Release May 98
- Public Comment Aug 98
- Final Release Oct 98

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Now → site visit → Tour
Site Tour

PHA CONTENTS

- Background
- Community Health Concerns
- Environmental Contamination & Other Hazards
- Pathways Analysis
- Public Health Implications
- Conclusions/Recommendations
- Public Health Action Plan
- Preparers of Report/References

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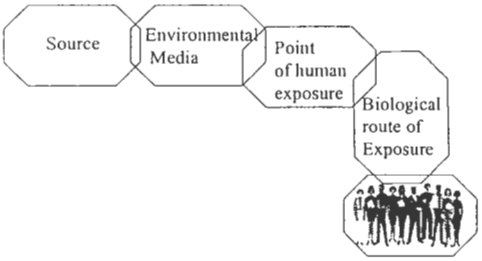
Pathway of Exposure



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PHA CONCLUSIONS

- Degree of Public Health Hazard
- Exposure Pathways
- Community Health Concerns
- Data gaps
- Public Health Action Plan

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DEGREE OF PUBLIC HEALTH HAZARD

- A - Urgent Public Health Hazard
- B - Public Health Hazard
- C - Indeterminate Public Health Hazard
- D - No Apparent Public Health Hazard
- E - No Public Health Hazard

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SPECIFIC DATA NEEDS

- Concentrations in On- & Off-Site Media
- Verification of High Level QA/QC
- Media Samples for Potential Range of Public Exposure
- Surface Soil Samples (Down to 3")
- Biota Studies (Using Edible Portions Only)
- Ambient and Indoor Air Sampling Data
- Identification of Physical Hazards & Site Access

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DOCUMENTS REVIEWED BY ATSDR

- IRP Reports
- Records of Decision
- Federal Facility Agreements
- Environmental Permits
- Compliance Reports
- Inspection Reports

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MORE DOCUMENTS REVIEWED

- Groundwater Monitoring Reports
- Drinking Water Reports
- Incident/Release Reports
- Off-Site Demographics
- Hunting/Fishing/Recreational Area Data

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INSTALLATION CONTACTS

- Command Group Representative
- Installation Restoration Program (IRP) Manger
  - IRP Contractor
- Environmental Officer
- Safety Manager
- Natural Resources/Wildlife Manager
- Legal Officer
- Public Affairs Officer

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INSTALLATION CONTACTS

- Fire Chief
- DPW
- Housing Officer
- Base Historian
- Medical Department Representation
  - Occupational Medicine Physician
  - Preventive Medicine Officer
  - Environmental Science Officer
  - Occupational Health Nurse
  - Industrial Hygienist

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COMMUNITY INVOLVEMENT

- Public Availability Sessions
- Public Meetings
- Public Comment Period
- Other Communication Channels
  - Local Community Groups
  - Political Leaders
  - Health Professionals
  - Local Media
- Community Assistance Panels

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OTHER ATSDR SERVICES

- Consultations
- Toxicological Profiles
- Emergency Response
  - 24-Hr Tox Line (404) 639-6000
- Public Health Education
- Hazardous Substances & Public Health Newsletter
- Public Health Statements
- Most Frequently Asked Health Questions

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Toxicological Profiles

- 25 DOD Specified Substances
  - 24 compounds done or in draft
    - Explosives
    - Solvents
    - POL
- Industrial Substances
  - 205 completed or in draft

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Toxicological Profiles for DOD

– 1,3,5-tetryl	1,3-dinitrobenzene/trinitrobenzene
– 2-butoxyl ethanol	Aminonitrotoluene
– Diethyl phthalate	Diisopropylmethylphosphate (DIMP)
– Dimethylhydrazine	Ethylene/propylene glycol
– Fuel Oils	Gasoline
– Hexachloroethane	Hexamethylene diisocyanate
– HMX	Hydraulic Fluid
– Methylene Di-aniline	Jet Fuels (JP4, 5, 7, & 8)
– Otto Fuel II	RDX
– Stoddard Solvent	Titanium Tetrachloride
– White Phosphorus	Mineral-based Crankcase Oil
– TPH	TNT

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DOD/ATSDR MOU

- Section 2704 of Title 10
- USACHPPM executes MOU
  - Coordinates multi-service program
  - Facilitates and monitors funding execution
  - Coordinates toxicological profile review
  - Negotiates Annual Plan of Work
  - Serves as First Line Dispute Resolution Authority

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CHPPM PHA SUPPORT

- Army and DoD Points of Contact for ATSDR
- Accompanies ATSDR on PHA Site Visits
- Reviews PHA Documents
- Coordinates Health Education & other Activities

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POINTS OF CONTACT

- DOD LEAD AGENT
  - Dr. Kathleen Buchi
    - (410) 671-4929, DSN 584-4929, FAX DSN 584-4996
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    - Jenna Mitchell (410) 612-7709, DSN 584-7709, FAX 584-8170
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- ARMY LIAISON OFFICER
  - Mr. Michael White
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- ATSDR INTERNET
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- COMING SOON
  - DOD LEAD AGENT INTERNET
    - http://chppm-www/

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