



US ARMY CORPS
OF ENGINEERS
New England District

_____ Contract No. DACW33-01-D-0004
Delivery Order No. 01
September 2002

FINAL
SITE MANAGEMENT PLAN
UPDATE

Interim Data Collection
Remedial Investigation And
Feasibility Study
Centredale Manor Restoration
Project Site
North Providence, Rhode Island

Update to Tasks 19-22 SMP (8/9/2001)
To Support Centredale RI/FS

SITE MANAGEMENT PLAN

**Interim Data Collection
Remedial Investigation And Feasibility Study
Centredale Manor Restoration Project Site
North Providence, Rhode Island**

**CONTRACT NO. DACW33-01-D-004
DELIVERY ORDER NO. 01**

Submitted to:

**Department of the Army
U.S. Army Corps of Engineers
New England Division**

September 2002

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TABLE OF CONTENTS

1.0 INTRODUCTION 1

 1.1 Site Description and History 1

 1.2 Project Organization 1

 1.2.1 Project Manager 2

 1.2.2 Field Operations Leader 2

 1.2.3 Analytical Laboratories 2

 1.2.4 Project Contact Information 2

2.0 SITE MANAGEMENT 4

 2.1 Access 4

 2.2 Facilities 4

 2.3 Security 4

 2.4 Data Management 4

 2.5 Materials Management 4

3.0 REFERENCES 6

FIGURES

Figure 1 Site Location Map 7

Appendix A: How to Manage Investigation Derived Waste

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (USEPA) Region I and U.S. Army Corps of Engineers (USACE) New England District are conducting a Remedial Investigation and Feasibility Study (RI/FS) for the Centredale Manor Restoration Project Site located in North Providence, Rhode Island. The Interim Data Collection Work Plan addresses data gaps that were identified in the *Summary of Data Needs for the Centredale Manor Restoration Project Site RI/FS* (Battelle, 2002d) and revised during a Technical Project Planning Meeting on April 24, 2002. This Site Management Plan (SMP) Update is based on the SMP prepared for the baseline risk assessments (Harding ESE, 2001).

This SMP Update has been prepared to present the project organization and management responsibilities as well as procedures to manage access and security for the site and other study areas.

1.1 Site Description and History

A site location map is provided as Figure 1. More detailed figures are provided in the Field Sampling Plan (FSP) (Battelle, 2002b) prepared for this project. Two apartment complexes are located on the northern portion of the site. Centredale Manor, a multi-unit apartment complex for elderly adults, is located at 2074 Smith Street (Route 44). The Brook Village apartment complex is located at 2072 Smith Street. The site also consists of reaches of the Woonasquatucket River associated with Allendale Pond, Lymansville Pond, Manton Pond, and Dyerville Pond. The general limits of the site are defined by historical chemical manufacturing operations as well as by areas impacted by these operations. The site is bounded by Route 44 to the north, a former mill raceway, and the eastern bank of the Woonasquatucket River to the east, Dyerville Dam to the south, and the western bank of the Woonasquatucket River to the west.

Prior to 1936, Centredale Worsted Mills, a woolens manufacturing plant, occupied the portion of the site located at 2072 and 2074 Smith Street. Circa 1940, Metro Atlantic Chemical Corporation began operations as a chemical manufacturer believed to manufacture hexachlorophene (of which hexachloroxanthene [HCX] is a by-product) and trichlorophenols. Operations at Metro Atlantic Chemical Corporation ceased during the 1960s or early 1970s. Between 1952 and 1969, New England Container Company operated a drum reconditioning facility on a portion of the property. Chemical residues were burned prior to drum reconditioning. In 1972, fire destroyed most property structures. Brook Village was constructed in 1977 and Centredale Manor was constructed in 1982.

Sampling activities conducted by USEPA and the Rhode Island Department of Environmental Management (RIDEM) revealed elevated polychlorinated dibenzodioxins and furans (dioxins and furans) in soils and sediments as well as from fish taken from Woonasquatucket River. Other contaminants detected onsite include: polychlorinated biphenyls (PCBs), chlorinated and aromatic volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), phthalates, and metals. The site was added to the National Priorities List on February 4, 2000. There is currently a fish consumption advisory in place for the Woonasquatucket River recommending that people not eat fish, eels, turtles, or plants from the river downstream of the Smithfield Treatment Plant. Additional site information is provided in the Interim Data Collection Work Plan (Battelle, 2002c).

1.2 Project Organization

The USACE is USEPA's contractor in charge of conducting the RI/FS and associated field and analytical work. Battelle has been contracted by USACE, and will perform most of the necessary laboratory analyses, as well as coordinating the project. Harding ESE has been subcontracted by Battelle to conduct the field investigation. Specific roles and responsibilities as well as contact information are provided below.

1.2.1 Project Manager

Mr. William Steinhauer will serve as the Battelle Project Manager, and Ms. Patricia White will serve as the RI/FS Task Manager. Ms. White's responsibilities include maintenance of the project schedule; preparation and submittal of all required project deliverables including weekly reports; participation in meetings and telephone conferences among the USEPA, the USACE, and other project team members; and resolution of issues that may arise due to changed field conditions or other factors.

1.2.2 Field Operations Leader

Mr. Mark Phaneuf will be the Field Operations Leader for Harding ESE's activities at the site. Mr. Phaneuf will be assisted by other Harding ESE field staff.

1.2.3 Analytical Laboratories

Battelle will conduct most of the sample analysis at their Duxbury, Massachusetts; Columbus, Ohio; or Sequim, Washington laboratories. Additional analyses will be carried out by Applied Marine Sciences, Inc., of League City, Texas; and Severn Trent Laboratories of Pittsburgh, Pennsylvania.

1.2.4 Project Contact Information

Contact information for each of the key project team members and laboratories is provided below:

Ms. Anna Krasko, Project Manager
USEPA
1 Congress Street
Boston, MA 02114
(617) 918-1232

Ms. Laureen Borocharner, Project Manager
USACE
696 Virginia Road
Concord, MA 01742
(978) 318-8802

Ms. Beverly Lawrence, RI/FS Technical Lead
USACE
696 Virginia Road
Concord, MA 01742
(978) 318-8512

Mr. William Steinhauer, Project Manager
Battelle
397 Washington Street
Duxbury, MA 02332
(781) 952-5319

Ms. Patricia White, RI/FS Task Manager
Battelle
397 Washington Street
Duxbury, MA 02332
(781) 952-5279

Mr. Mark Phaneuf, Field Operations Leader
Harding ESE
107 Audubon Road
Wakefield, MA 01880
(781) 245-6606

Laboratory Contact Information:

Jessica Fahey
Battelle Duxbury
397 Washington Street
Duxbury, MA 02332
Phone: 781-952-5270
(Battelle Duxbury will analyze samples for SVOCs (as PAHs), PCB/Pesticides, and moisture)

Mark Misita
Battelle Columbus
505 King Avenue
Columbus, OH 43201
Phone: 614-424-7884
(Battelle Columbus will analyze samples for Dioxin/Furans and HCX)

Carolynn Suslick
Battelle MSL
1529 Sequim Bay Road
Sequim, WA 98382
Phone: 360-681-3624
(Battelle MSL will analyze samples for metals and MeHg)

Mr. Ken Davis
Applied Marine Sciences, Inc.
502 North Highway 3
League City, TX 77573
Phone: 281-554-7272
(AMS will analyze soil samples for grain size and TOC)

Severn Trent Laboratories - Pittsburgh
Anthony Lee
450 William Pitt Way, Building 6
Pittsburgh, PA 15238
412-820-8380
(STL will analyze samples for VOCs)

2.0 SITE MANAGEMENT

2.1 Access

Access to sample locations will be coordinated by USEPA. Access agreements for all locations will be executed and maintained by USEPA.

2.2 Facilities

A field office is not available at the site. A field vehicle will be used as the base for field operations.

2.3 Security

Chain link fencing is in use in some areas of the Site to restrict public access. Fencing runs approximately 150 ft south of Smith Street along the west bank of the Woonasquatucket River. Additionally, a fence blocks access to the riverbank along the parking lots south of Centredale Manor, including the two areas which have been covered by soil caps.

Access to the former mill raceway along the eastern edge of the former Facility site is controlled by fencing both on the east and west banks of the raceway. The fence on the east bank of the raceway continues south to Allendale Way, controlling access to the river bank and Allendale Pond. On the west bank of the Woonasquatucket, access is restricted by fencing from approximately George Street to approximately Peach Hill Ave.

The site is in an urban area, and large portions are readily accessible to the public. During field operations, an exclusion zone immediately surrounding the active sample location will be established. Equipment, support vehicles, and materials remaining on-site during non-working hours will be secured to the extent practicable. All perimeter fence gates will be secured during non-working hours.

2.4 Data Management

Data management procedures are provided in the Data Management Plan Update that has been prepared for the project (Battelle, 2002a).

2.5 Materials Management

Procedures for the management of investigation-derived waste (IDW) are described in SOP S-9 (Appendix A); additional details are provided in the FSP (Battelle, 2002b) and summarized below. IDW generated during the Harding ESE field investigation activities will be limited to liquid (aqueous and solvent) and solid waste, as follows:

- Purge water from the groundwater wells;
- Excess sample material from the soil borings in the tailrace;
- Unexpended sample material;
- Decontamination fluids;
- Filters used for dewatering; and
- Personal protective equipment (PPE) waste.

Aqueous IDW will be comprised of the aqueous liquids generated during equipment decontamination. Based on communications with EPA and USACE, Battelle and Harding ESE will dewater aqueous IDW (primarily wash water from equipment cleaning) in general accordance with procedures historically conducted onsite by TetraTech NUS and LEA, Inc. at the Centredale Manor Site under direction of EPA (additional detail

provided in the FSP, Battelle 2002b). The water resulting from the above filtration procedure will be discharged to the Woonasquatucket River.

Solvent IDW will be comprised of solvent (e.g., methanol, methylene chloride) used to decontaminate sampling equipment and/or drums. Solvent IDW is classified as F-listed waste and will be placed in separate labeled containers for ultimate destruction at the disposal facility.

Solid IDW will be comprised of excess soil sample material (e.g., soil cuttings), solid residuals from dewatering process, PPE and unexpended sample material. Solid residuals from the dewatering process will be comprised of sediments and used bag filters. The PPE waste generated during work will be decontaminated, double-bagged in plastic bags, and disposed of as solid waste in 55-gallon drums. The unexpended sample material is sample remaining after completion of laboratory analyses; this unexpended sample material will be returned to the site and placed in the drums of solid waste. Solid waste is classified as F-listed waste and will be placed in separate labeled drums for ultimate thermal destruction at the disposal facility.

IDW will be stored (on a daily basis) at the Interim Cap #1 Area at Centredale Manor until disposal.

Harding ESE will segregate solid and liquids after each sampling event. Solid and liquids (generated during equipment decontamination) will be placed in separate labeled drums. After solid IDW is drummed and the lid clamped tight, the drum will be marked using a waterproof indelible ink marker as follows:

- IDW-CM-01 – (IDW – Centredale Manor – drum #01)
- Date first accumulated: e.g., 9/25/99
- Source(s) of material: Sample ID#
- Volume and type of total material

Drum labeling is necessary to identify materials stored in the drums. On a daily basis, the FOL or designee will document the generation of IDW during the investigative activities to ensure that the IDW is properly containerized and stored at the staging area. Information will be recorded in a bound notebook. Daily records of soil stored in drums will include the following information:

- Drum Identification Number;
- Date first accumulated;
- Source of material;
- Volume of material; and
- Sample Identification Numbers (consistent with sample identifiers described in Section 3.3.3 of the FSP [Battelle, 2002b]).

Solid IDW will be sampled to characterize this waste to the extent possible; characterization of the solvent IDW and dewatered aqueous waste is not required (Battelle, 2002b). The drum sample (solid IDW) for waste characterization will be shipped to FIRSTECH, Inc. of Warrensville Heights, Ohio for complete TCLP and total PCB (by Aroclor) analysis. The total PCB concentration of the drum sample must be less than 50 ppm (dry weight), otherwise the solid waste cannot cross the US border into Canada and the solid waste (drums) will remain at the site.

A disposal facility will be identified based on the classification of the IDW and waste profile information will be submitted for approval.

3.0 REFERENCES

Battelle. 2002a. *Data Management Plan Update, Interim Data Collection, Remedial Investigation and Feasibility Study, Centredale Manor Restoration Project Site*. Prepared for U.S. Army Corps of Engineers New England District. September.

Battelle. 2002b. *Draft Field Sampling Plan, Interim Data Collection, Remedial Investigation and Feasibility Study, Centredale Manor Restoration Project Site*. Prepared for U.S. Army Corps of Engineers New England District. September.

Battelle. 2002c. *Draft Work Plan, Interim Data Collection, Remedial Investigation and Feasibility Study, Centredale Manor Restoration Project Site*. Prepared for U.S. Army Corps of Engineers New England District. September.

Battelle. 2002d. *Summary of Data Needs for the Centredale Manor Restoration Project Site RI/FS*. Prepared for U.S. Army Corps of Engineers New England District. January.

Harding ESE. 2001. *Final Site Management Plan. Centredale Manor Restoration Superfund Project Site, North Providence, Rhode Island*. Prepared for U.S. Army Corps of Engineers New England District. August 9.

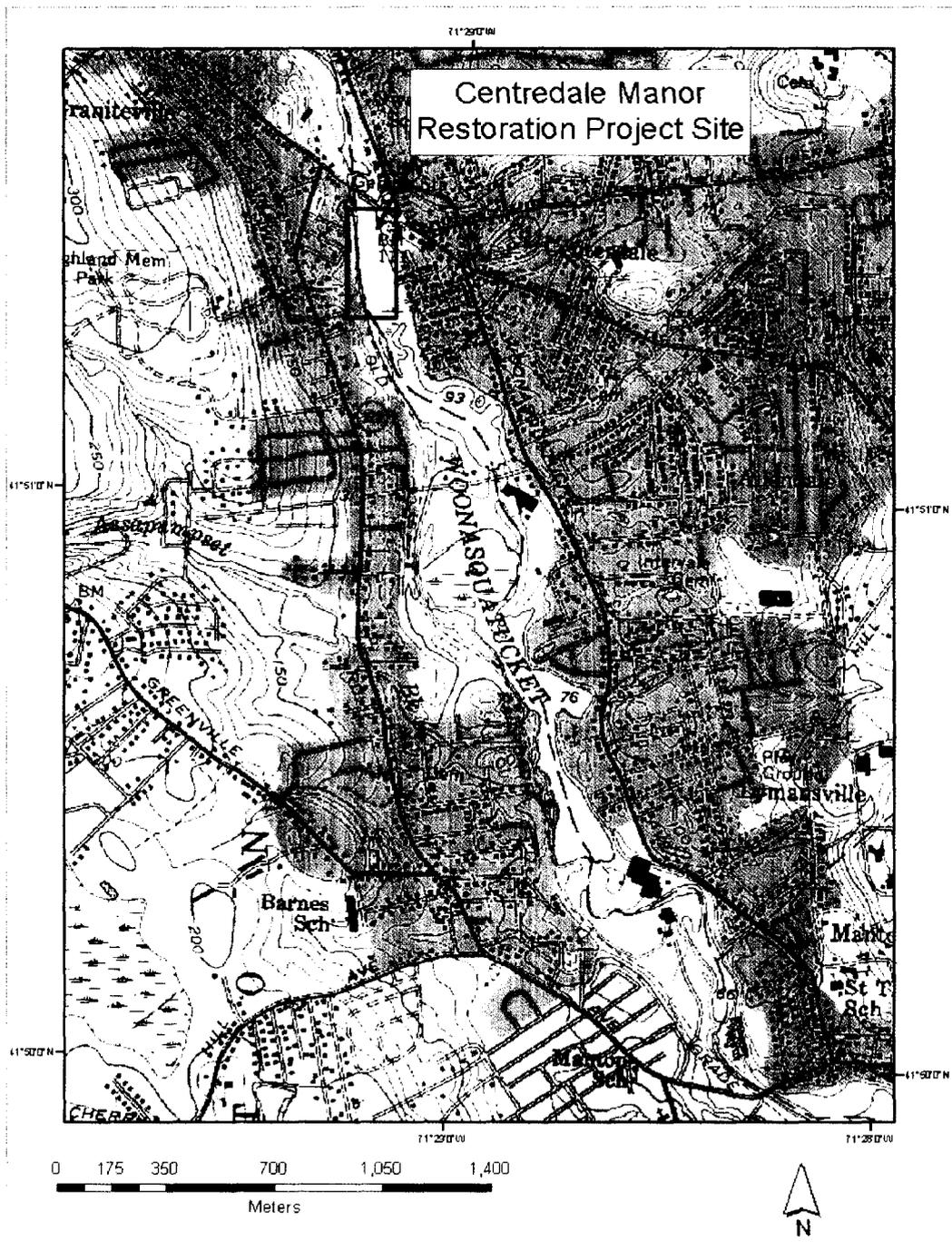


Figure 1. Site Location Map

APPENDIX A
How to Manage Investigation Derived Waste

Conduct Intrusive Explorations

Method Title: HOW TO MANAGE INVESTIGATION DERIVED WASTE

Prerequisites: Understand Project Health and Safety Procedures , Oversee/ Document Subcontractor Activities, Decontaminate Drilling and Sampling Equipment

Equipment:

Cautions: Understand the range of site safety hazards. Know project-specific scope of investigation. Management of IDW from field programs is very specific to state regulatory requirements, program requirements, or client requirements. Be sure to consult the project work plan and senior staff before making decisions. This Work Instruction applies to onsite collection and documentation of investigation derived waste (IDW) at sites where hazardous materials could be encountered; it does not apply to specific disposal options or to the specific analytical requirements for waste characterization.

Operations:

1. Manage soil cuttings IDW from drill program:
 - a. If appropriate, spread plastic sheeting on ground for collection of soil cuttings.
 - a. Screen the soil cutting (auger cuttings or soil from drive and wash or mud tub) with field instrumentation (i.e., flannel/photoionization detector, radiation meter, field gas chromatograph) as stated in the project work plan.
 - a. If soil cuttings do not pass the screening procedures mentioned above, collect and containerize soil cuttings (auger cuttings or soil from a drive and wash or mud tub) in 55-gallon drums.
 - a. Label and transport drums or roll offs to a central temporary storage area. For large piles of soil cutting, collect appropriate composite samples and cover with plastic sheeting to avoid erosion.

Yes No N/A

Notes:

Management of investigation derived waste (IDW) can fall into five categories: (1) soil cuttings (solids); (2) liquids from drilling (drilling water/mud); (3) liquids from monitoring well development and purging; (4) decontamination fluids; and (5) solid waste consisting of personal protective equipment and trash.

Soil cuttings, drilling water/mud, or development water treated as IDW should be segregated by "area of contamination" (AOC), which is typically the well or boring location, or location of a specific well cluster

Conduct Intrusive Explorations

Method Title: **HOW TO MANAGE INVESTIGATION DERIVED WASTE**

Operations:	Yes No N/A	Notes:
a. Document the collection of soil cuttings in field notes.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Record all pertinent data including location, physical characteristics of material (texture, water content, odor, field instrumentation readings associated with material, etc.). Record the number of drums or estimated volume of IDW in field notes.
b. Oversee physical transfer of the cuttings to drums by drilling subcontractor.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Supervise workers to assure that proper health and safety and containerization procedures are being followed.
c. Label individual drums with site name, location identification, description of contents, field instrument readings, and any appropriate labeling required for transport include the following.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	If more than one drum is needed per AOC, label drums sequentially (i.e. 1 of 3, 2 of 3, etc.).
<ul style="list-style-type: none"> • Type of waste (i.e. soil, water, decontamination fluids) • Point of origin (i.e. boring or well number) • Site name • Job number • Screening results • Date 	<ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 	
d. Assure and document that drums are sealed and that material is transported to a safe staging area (identified by regulatory agency and/or client) that is restricted by fencing from all unauthorized access upon completion of the IDW containment.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Drums are to be segregated by AOC as much as is practical.
e. Screen ground surface under former soil cuttings to confirm that no residual contamination remains. If residual contamination is observed, remove and place in IDW soil drums generated from this AOC.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
f. Document proposed final disposition of IDW.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

Conduct Intrusive Explorations

Method Title: **HOW TO MANAGE INVESTIGATION DERIVED WASTE**

Operations:	Yes	No	N/A	Notes:
g. Document client contact who has been informed of IDW disposal procedures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Manage drilling water/mud and development water IDW.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Drilling water/mud consisting of water/bentonite and suspended solids from drilling, at a specific AOC, can be containerized in drums or pumped into a tank for transfer to a larger tank or treatment system.
a. Containerize development water.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Development water that is collected as wells are pumped or surged can be collected in the same manner mentioned above. Normally drilling fluids and development water from a specific AOC do not have to be segregated from one another.
b. Document in <i>field log book</i> all pertinent data related to volume, physical characteristics of material, odors, field instrumentation readings, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c. Label drums according to procedure described in 1g above.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Manage decontamination fluids IDW.				Development water should be pumped directly into 55-gallon drum or tank and a screening sample should be collected once the container is full.
a. Collect and contain all fluids and solids from the decon operations at a central area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All liquid from drilling equipment and decontamination should flow to a sump from where it can be pumped out and containerized in the appropriate manner. Solid should be shoveled from the equipment pad into 55-gallon drums for screening prior to disposal. Decontamination fluids from sampling activities should also be collected and containerized at a central location for sampling and/or disposal. Normally decontamination fluids are not segregated by AOC, except in cases where specific AOCs are known to be highly contaminated.
b. Document handling of decontamination fluids.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c. Label drums of decon fluids as in section 1g above.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Documentation and containerization of the decontamination fluids should proceed in the same manner as described in preceding discussions.

References:

Conduct Intrusive Explorations

Method Title: **HOW TO MANAGE INVESTIGATION DERIVED WASTE**

Appropriate document review to include:

ASTM D 5092-90; Standard Practice For Design and Installation of Groundwater Monitoring Wells in Aquifers
MACTEC SOP WEINS-006: Drilling and Well Installation
Navy CLEAN SOP for Drilling and Well Installation (if applicable)
USEPA Guidance on Monitoring Well Installation (appropriate region)
State Specific Guidance on Monitoring Well Installation and Permit Requirements
Site Specific Health and Safety Plan
USEPA, 1991. Management of Investigation-Derived Wastes During Site Inspections. EPA/540/G-91/009.

Comments: