



DEPARTMENT OF THE NAVY

NORTHERN DIVISION  
NAVAL FACILITIES ENGINEERING COMMAND  
BUILDING 77L, U.S. NAVAL BASE  
PHILADELPHIA, PENNSYLVANIA 19112-5094

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NWS EARLE  
5090.3a

IN REPLY REFER TO  
5090  
Ser 1234/1421/EN

*May 10, 1991*

Paul Ingrisano  
U.S. Environmental Protection Agency  
Region II  
26 Federal Plaza  
New York, NY 10278

Dear Mr. Ingrisano,

Enclosed please find the draft Naval Weapons Station Earle Site 8 Work Plan for your review and comment. As discussed at the April 2, 1991 TRC meeting, Site 8 is being accelerated to accommodate a personnel parking lot construction project the Navy has planned in the Site 8 area.

The Navy is committed to investigating and remediating all of its CERCLA/SARA sites in accordance with all federal and state regulations. Accelerating this site is a means to reach a final remedial decision without impacting the mission of Naval Weapons Station Earle.

The construction project is scheduled to start in October or November 1991. In order to expedite the investigation at Site 8, please forward any comments on the work plan no later than May 24, 1991.

If you have any questions please contact Eileen Neilands at (215) 897 - 6280.

*Raymond J. Manrella  
for*

Richard E. Fini  
Head, Restoration Technical Section  
By direction of the Commanding Officer

Encl:  
(1) Draft Work Plan for Site 8

Copy to: (w/enclosure)  
NWS Earle, Greg Goepfert  
NJDEP, Joe Freudenberg  
Weston, Rich Johnson

**WORK PLAN**  
**SITE 8 LANDFILL EAST OF S-186**

**Site Description and Background**

The one acre landfill east of Building S-186, Site 8, was used for dunnage disposal from 1943 to 1972. Dunnage is lumber wedged among the ship's cargo to prevent damage from chafing or moisture and to provide ventilation. Dunnage was removed from the ships, stacked at Site 8, and burned. The ashes were then covered with soil. See Figure 1. This practice was discontinued in 1972 when the dunnage was thrown in dumpsters and taken off site for disposal.

The Initial Assessment Study (IAS) by Fred C. Hart stated that some of the dunnage may have been treated with pentachlorophenol or arsenic, two common wood treatments. Personnel interviews indicate that a small percentage of the lumber was yellow suggesting it was treated, however, some of the yellow dunnage was used to build a fence which lasted only one year before termites destroyed the wood in contact with the soil.

The quantity of dunnage disposed of is not known. Estimates of total unburned dunnage range from 900 to 1500 cubic yards per year indicating that approximately 25,000 to 40,000 cubic yards of material were dumped at this site.

Nine construction borings taken at Site 8 in 1985 for a Traffic and Railroad Signals Project planned at Site 8 showed sand, clayey silts, and traces of gravel. No evidence of dunnage was found. The borings are documented in the design drawings of Northern Division, Naval Facilities Engineering Command project titled Traffic and Railroad Signals Normandy Road Naval Weapons Station Earle, Colts Neck, NJ.

The New Jersey Department of Environmental Protection (NJDEP) conducted a site inspection in May 1987. The subsequent NJDEP RCRA Facility Assessment Report dated February 1988 recommended that no further action is needed at Site 8.

During the 12 June 1989 field visit by Technical Review Committee (TRC) members, the site could not be identified due to lush vegetation growth. Through an aerial photograph search conducted by Weston and Northern Division on March 13, 1991, photos were found showing lumber stacked behind and to the east of Building S-186. The 1971 photo shows three aluminum lifeboats that were reported buried at the site sometime between 1972 and 1974.

**Possible Site Contaminants**

Contaminants are generally not associated with untreated lumber. However, since the IAS reported that some of the dunnage

may have been treated, pentachlorophenol and arsenic are among the contaminants which will be analyzed. Total petroleum hydrocarbons will also be analyzed to detect fuel which may have been used to ignite the dunnage.

### **Plan of Action**

In order to define the limits of the landfill and obtain samples for chemical analyses, a backhoe will be used to excavate six test pits at the site. Three or four test pits will be excavated along the northern and northeastern boundary of the site. These boundaries are downslope and have the potential for possible contamination migrating offsite is the greatest in this area. At least one test pit will be upslope. For characterization purposes, one pit will be in the approximate center of the site. See Figure 2.

The test pits will be excavated to a maximum depth of 10 feet below ground surface. Excavated material will be stockpiled around the test pit. The soil stratigraphy will be described and logged in a field notebook noting color, content, texture, moisture, depth to groundwater, and odor or staining if present. Photographs of each test pit will also be recorded.

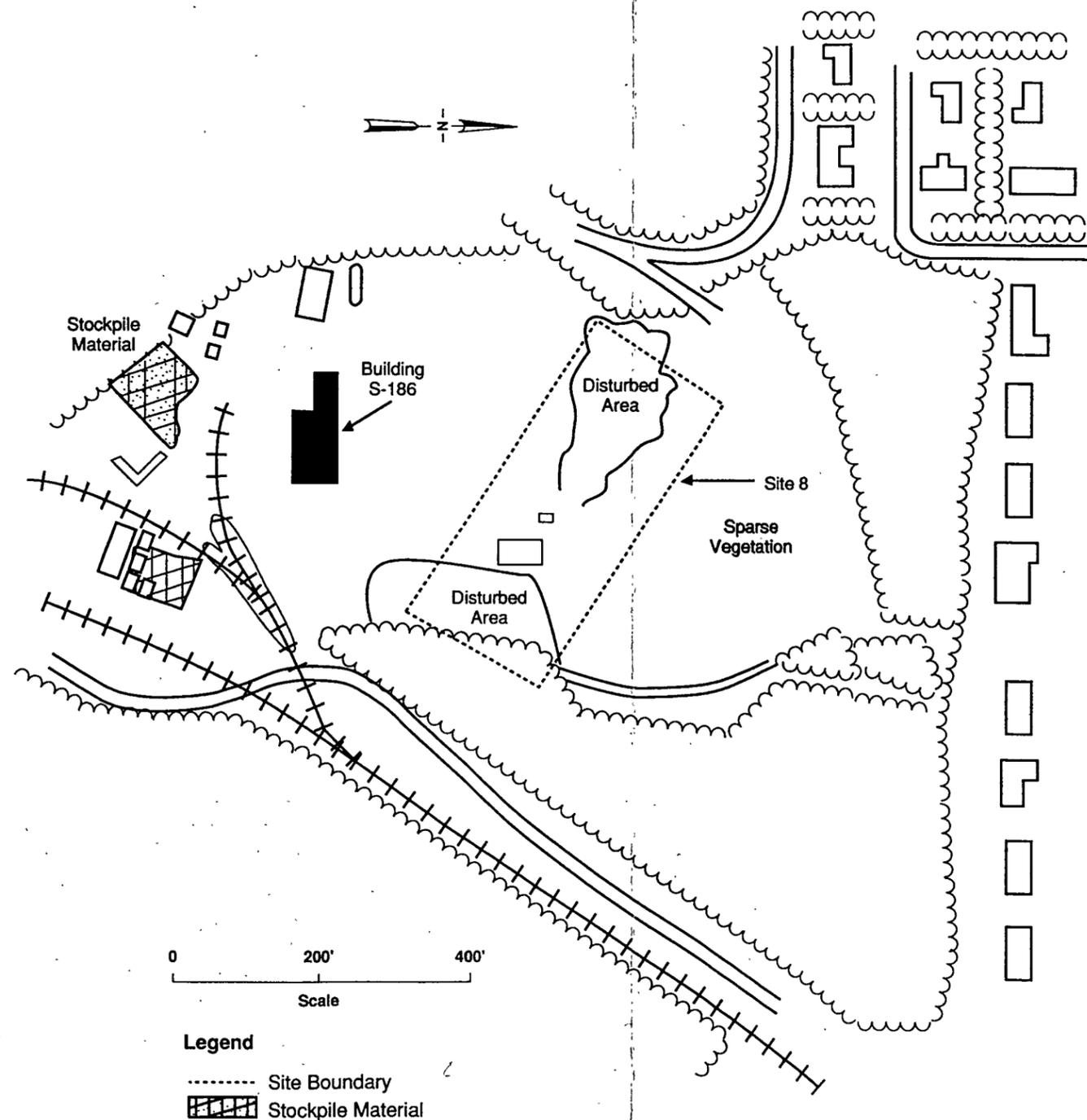
Soil sampling will be conducted in accordance with the RI Health and Safety Plan (Weston June 1990). Soil sampling will follow the procedures outlined in EPA Region II CERCLA Quality Assurance Manual (October 1989) and the RI Quality Assurance Project Plan (Weston June 1990).

No test pits will be entered by field personnel. All sampling will be conducted using the backhoe bucket and a shovel as needed. Two soil samples will be collected from selected test pits along the northern and northeastern boundary of the site. One background sample will also be collected from the upslope test pit. The samples shall be collected in the fill material and analyzed for full TCL, arsenic, and TPH. One sample will also be analyzed for TCLP. If no fill is encountered, the samples will be collected from just above the soil-water interface. Upon completion of each pit, excavated materials will be backfilled into the pit and compacted with the backhoe bucket. The backhoe bucket will be steam cleaned before excavation of the first pit, between sampling locations, test pits, and following completion of the last pit.

Sample handling, documentation, analytical, and QA/QC procedures will be in accordance with the RI Quality Assurance Project Plan (Weston June 1990). The information gathered from this investigation will be incorporated into the SI report.



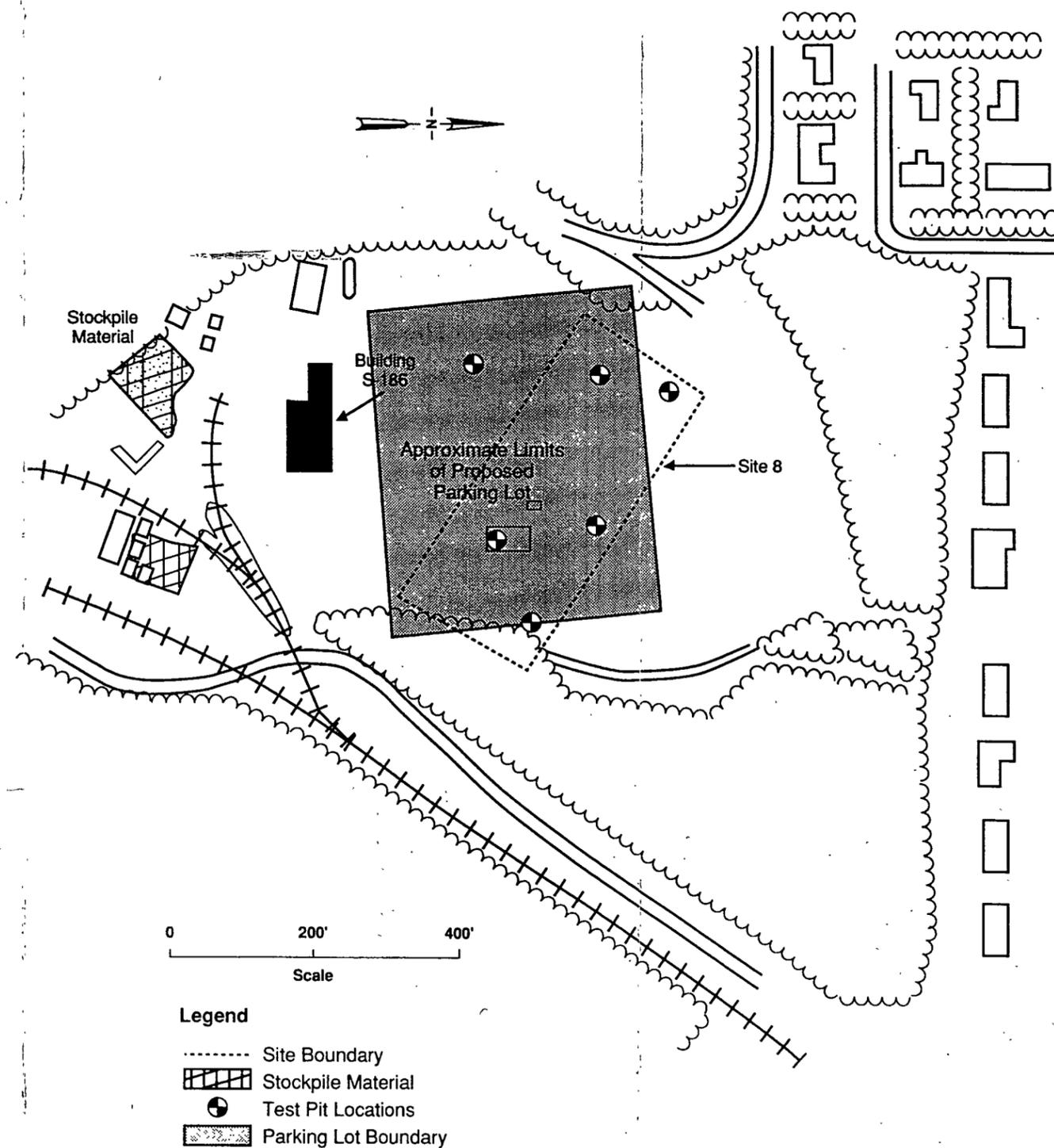
1971 aerial photograph showing Site 8 - Dunnage Disposal Landfill northeast of building S-186. Surficial evidence of disturbed soils.



**FIGURE 1 AERIAL PHOTOGRAPH ANALYSIS SHOWING SURFICIAL CHARACTERISTICS OF SITE 8**



1977 aerial photograph showing Site 8 - Dunnage Disposal Landfill northeast of building S-186. Weathering effects and re-establishing vegetation evident in previously disturbed areas.



- Legend**
- Site Boundary
  - ▨ Stockpile Material
  - ⊕ Test Pit Locations
  - ▭ Parking Lot Boundary

**FIGURE 2 AERIAL PHOTOGRAPH ANALYSIS SHOWING SURFICIAL CHARACTERISTICS OF SITE 8**