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SITE SCREENING PLAN GROUPS I THROUGH V STUDY AREAS AND MISCELLANEOUS  
ADDITIONAL SITES ADDENDUM 1 NTC ORLANDO FL  
10/1/1995  
ABB ENVIRONMENTAL SERVICES, INC

**SITE SCREENING PLAN  
GROUPS I THROUGH V STUDY AREAS  
AND MISCELLANEOUS ADDITIONAL SITES  
ADDENDUM 1**

**NAVAL TRAINING CENTER  
ORLANDO, FLORIDA**

**Unit Identification Code: N65928**

**Contract No. N62467-89-D-0317/107**

**Prepared by:**

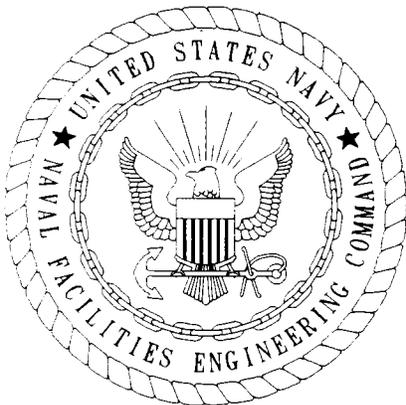
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**Prepared for:**

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**October 1995**



CERTIFICATION OF TECHNICAL  
DATA CONFORMITY (MAY 1987)

The Contractor, ABB Environmental Services, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/107 are complete and accurate and comply with all requirements of this contract.

DATE: October 17, 1995

NAME AND TITLE OF CERTIFYING OFFICIAL: James Manning  
Task Order Manager

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Project Technical Lead

(DFAR 252.227-7036)

## GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
AEC	area of environmental concern
bls	below land surface
CLP	Contract Laboratory Program
DPT	direct push technology
DQOs	data quality objectives
GPR	ground-penetrating radar
MB	Main Base
NTC	Naval Training Center
PCE	perchloroethene (tetrachloroethene preferred)
ppb	parts per billion
TAL	target analyte list
TCL	target compound list
USEPA	U.S. Environmental Protection Agency

## WORKPLAN FOR ADDITIONAL SITES

The following two additional sites will be investigated during site-screening activities to determine the level of environmental concern which should be accorded them during the finding of suitability to lease and/or finding of suitability to transfer process. The first additional site comprises three noncontiguous facilities where there is concern for lead contamination. The three facilities are the former North Grinder Landfill skeet range and the indoor rifle and pistol ranges at Buildings 229 and 601.

The second additional site comprises two noncontiguous facilities on the Main Base. They are the former missile training range (Buildings 2816 and 2817 and adjacent former motor pool) and the alleged disposal area for old silk-screening supplies, near Buildings 2720 and 2723. Brief descriptions of each of the two additional sites follow.

Three of the facilities discussed below were named in an ABB Environmental Services, Inc., report entitled "Technical Memorandum, U.S. Air Force Records Search, Naval Training Center (NTC), Orlando," (submitted as a draft document in August 1995). The site designator is Area of Environmental Concern (AEC)-Main Base (MB)-Site Number (XX).

### **First Additional Site.**

- The former North Grinder Landfill skeet range (AEC-MB-17) is located in the vicinity of Buildings 212, 214, 232, and 234 (Figure 1). The environmental concern is possible lead contamination downrange (west) of the shooting platform.
- The indoor rifle and pistol range at Building 229 is in the Recruit Training Command located in the northwest portion of the Main Base, which has operated since construction in 1971 (Figure 2). The environmental concern is potential lead contamination in the surface soil near vents, windows, and walkways where lead dust might accumulate.
- The indoor rifle and pistol range at Building 601 (now vacant) is located in the southwestern corner of the Herndon Annex (Figure 3). It was constructed in 1970, and the period of operation is unknown. The environmental concern is potential lead contamination in the surface soil near vents, windows, and walkways where lead dust might accumulate.

### **Second Additional Site.**

- The missile training range (AEC-MB-13), of which Buildings 2816 and 2817 are a part (Figure 4), is located in the northwestern portion of the Main Base. There are three former identical structures (one to the south and two to the north) which also belonged to the missile training range. A motor pool is also believed to have existed in this area. The environmental concerns at this site are a possible perchloroethene (tetrachloroethene preferred) (PCE) plume and environmental releases from the motor pool.
- The alleged disposal area for old silk-screening supplies (AEC-MB-8) is reportedly under a grassy area north of Building 2723 and south of Building

2720 (Figure 4). Material buried may have included xylenes, microthinners, inks, and paints. The environmental concern is release to the environment of these chemicals to the soil and groundwater.

#### **Discussion and Rationale for First Additional Site.**

The former North Grinder Landfill skeet range (AEC-MB-17) is shown on Figure 1. Little is known of the former skeet range, although it is indicated on an Air Force Drawing entitled "Sanitary Sewerage System and Treatment Plan," drawing No. AF08 (614)-3232, Department of the Air Force, March 30, 1964. The drawing indicates that the downrange direction is to the west. Any potential lead contamination would be limited to a distance of no more than 300 feet downrange. Construction activities for the buildings (212, 214, 232, and 234), which were built in 1967 and 1968, undoubtedly disturbed the surface soil downrange of the skeet range and thus will affect the results of lead screening in surface soil. However, during the Base Realignment and Closure Cleanup Team meeting of July 10, 1995, it was proposed and agreed that six soil samples would be taken in the interval of 0 to 1 foot below land surface (bls) in the zone most likely to have received spent shot. Soil samples will be taken in the locations indicated on Figure 1 and analyzed only for lead.

The indoor rifle and pistol range at Building 229 is in the Recruit Training Command in the northwest portion of the Main Base and has operated since its construction in 1971 (Figure 2). When active, 80 pounds of lead alloy were collected downrange of training activities. The lead was placed in containers for salvage. Air filters were installed at some point after 1971 and were used to filter lead from the air ventilation system. Spent filters were turned over to a waste disposal contractor.

Collection of a total of 20 soil samples within 50 feet of the facility is proposed. The goal is to assess human health risk due to lead particulate contamination in soil. Sampling activities will be biased toward the locations of doors (where particulates could have been tracked outside by patrons of the facility) and windows (from which airborne particulates might have escaped the facility). Sampling will also be biased toward potential runoff areas outside the facility where surface water might tend to concentrate particulates, such as in swales and natural drainage areas. The samples will be analyzed offsite for total lead by the inductively coupled plasma technique (U.S. Environmental Protection Agency [USEPA] Method 3050/6010). The analysis has a method detection limit of 10 milligrams per kilogram. Samples will be collected from 0 to 1 foot bls. When analytical results are received, a decision will be made whether or not to extend the sampling grid further away from the facility.

The indoor rifle and pistol range at Building 601 (now vacant) is located in the southwestern corner of the Herndon Annex (Figure 3). It was constructed in 1970, and the period of operation is unknown. Prior to 1970, the property was undeveloped and was possibly part of Orlando Executive Airport. The structure is rectangular in shape and occupies 2,268 square feet. A bullet trap is located at the northern end of the building. Stormwater from the site flows northeast within a drainage basin and from there to a drainage ditch along the eastern property line.

A total of 20 soil samples within 50 feet of the facility are proposed. Sampling methodology will be identical to that for Building 229. When analytical results

are received, a decision will be made whether or not to extend the sampling grid further away from the facility.

#### Discussion and Rationale for Second Additional Site.

The missile training range and motor pool (AEC-MB-13) is indicated on Figure 4. During site-screening studies at Study Area 3, PCE was detected at elevated concentrations (9 to 12 parts per billion [ppb] versus maximum contaminant level of 3 ppb) in groundwater at two of the four monitoring wells (OLD-3-01 and OLD-03-04). This prompted concerns of a possible PCE plume. There are also former structures east of the missile training range believed to have been a motor pool. These structures will be included in this portion of the investigation.

The approach will be similar to other site-screening studies already completed at the Naval Training Center. The objectives of screening activities will be to evaluate what chemical contaminants are associated with releases to the environment due to past waste storage and handling operations. A secondary objective will be to evaluate the source of PCE detections in monitoring wells OLD-03-01 and OLD-03-04 noted during site-screening activities for Study Area 3.

Objective: to evaluate what chemical contaminants are associated with releases to the environment due to past waste storage and handling operations and evaluate PCE contamination observed in two monitoring wells in Study Area 3.

#### Methods:

- shallow groundwater screening survey
- DPT surveys
- soil boring and monitoring well installation
- groundwater sampling
- surface soil sampling

To evaluate if past waste handling practices have impacted soil or groundwater, and to potentially map PCE contamination in shallow groundwater, ABB-ES proposes to acquire shallow groundwater samples to identify any areas with elevated subsurface concentrations of volatile organic compounds or semivolatile organic compounds and focus the investigation on direct push technology (DPT) and confirmatory soil and groundwater sampling. Groundwater sampling locations will be established in a 100-foot sampling grid in the area indicated on Figure 4, although structures and utilities in the area may alter the exact locations. Additional samples will be added as needed if further plume definition is required to define groundwater contamination. As many as 75 shallow groundwater sampling locations may be required to delineate groundwater conditions. Groundwater samples will be acquired with the TerraProbe<sup>SM</sup> system at the water table, estimated to be 11 feet bls. Headspace from the groundwater sample will be analyzed with a field gas chromatograph. The analyses will be completed in accordance with Level II data quality objectives (DQOs) and are considered field screening.

After evaluating shallow groundwater sampling results, direct push technology DPT will be used to determine local geologic conditions in the shallow aquifer above the Hawthorn Group (estimated at a depth of 60 feet bls). DPT will also be used to obtain discrete water samples at the water table and at other appropriate intervals in the shallow aquifer. Chemical analysis of these water samples will

be completed in the field on a portable field gas chromatograph in accordance with Level II DQOs. These analyses are considered field screening.

To evaluate the PCE contaminant plume, two downgradient well clusters are proposed. Water levels in monitoring wells OLD-03-01, -02, -03, and -04 indicate that groundwater flow is to the northeast. Each cluster will contain a well screened at the water table (estimated to be at a depth of approximately 10 feet) and a second well either at the top of the Hawthorn Group or a shallower, competent aquitard which may be defined through DPT or during continuous split-spoon sampling for the deep well in each cluster. PCE is a dense nonaqueous phase liquid which sinks in the zone of saturation until it reaches an impermeable layer (clay or silt). Groundwater samples will be submitted for full suite Contract Laboratory Program (CLP) target compound list (TCL), and target analyte list (TAL) laboratory analyses in accordance with USEPA Level IV DQOs.

During the evaluation of the PCE contaminant plume, if other PCE contamination is observed, particularly in the deep monitoring wells, site-screening activities will cease and the site will be considered a candidate for a remedial investigation.

To evaluate potential contamination from the former motor pool, four soil samples are proposed. The locations of these samples will be selected based on the shallow groundwater sampling results. To evaluate groundwater contamination at the former motor pool, up to three shallow monitoring wells are proposed. One soil sample will be collected from each shallow boring for laboratory analysis. The soil sample will be collected from the interval where flame ionization detector screening or visual observation indicates the presence of contaminants. If no field observations indicate the presence of contamination, the soil sample will be collected from the interval directly above the water table. Soil and groundwater samples will be submitted for full suite CLP TCL and TAL laboratory analyses in accordance with USEPA Level IV DQOs.

**The alleged disposal area for old silk-screening supplies (AEC-MB-8) is indicated on Figure 4. Material buried may have included xylenes, microthinners, inks, and paints, and any associated containers. The objective of screening activities will be to evaluate whether disposal of these materials occurred, and what chemical contaminants were released to the environment due to alleged disposal practices in this area.**

**Objective: to evaluate whether disposal of silk-screening supplies occurred, and if so, what chemical contaminants are present in soil and groundwater due to disposal activities.**

**Methods:**

- geophysical survey
- soil boring and monitoring well installation
- groundwater sampling

The geophysical survey will consist of time domain metal detector surveys and ground-penetrating radar (GPR). The area of investigation is shown on Figure 3. The survey will be conducted in a 5- to 10-foot grid (5-foot grid for the time domain metal detector and up to a 10-foot grid for the GPR). If no anomalies indicative of the alleged disposal area are found, a single well will be

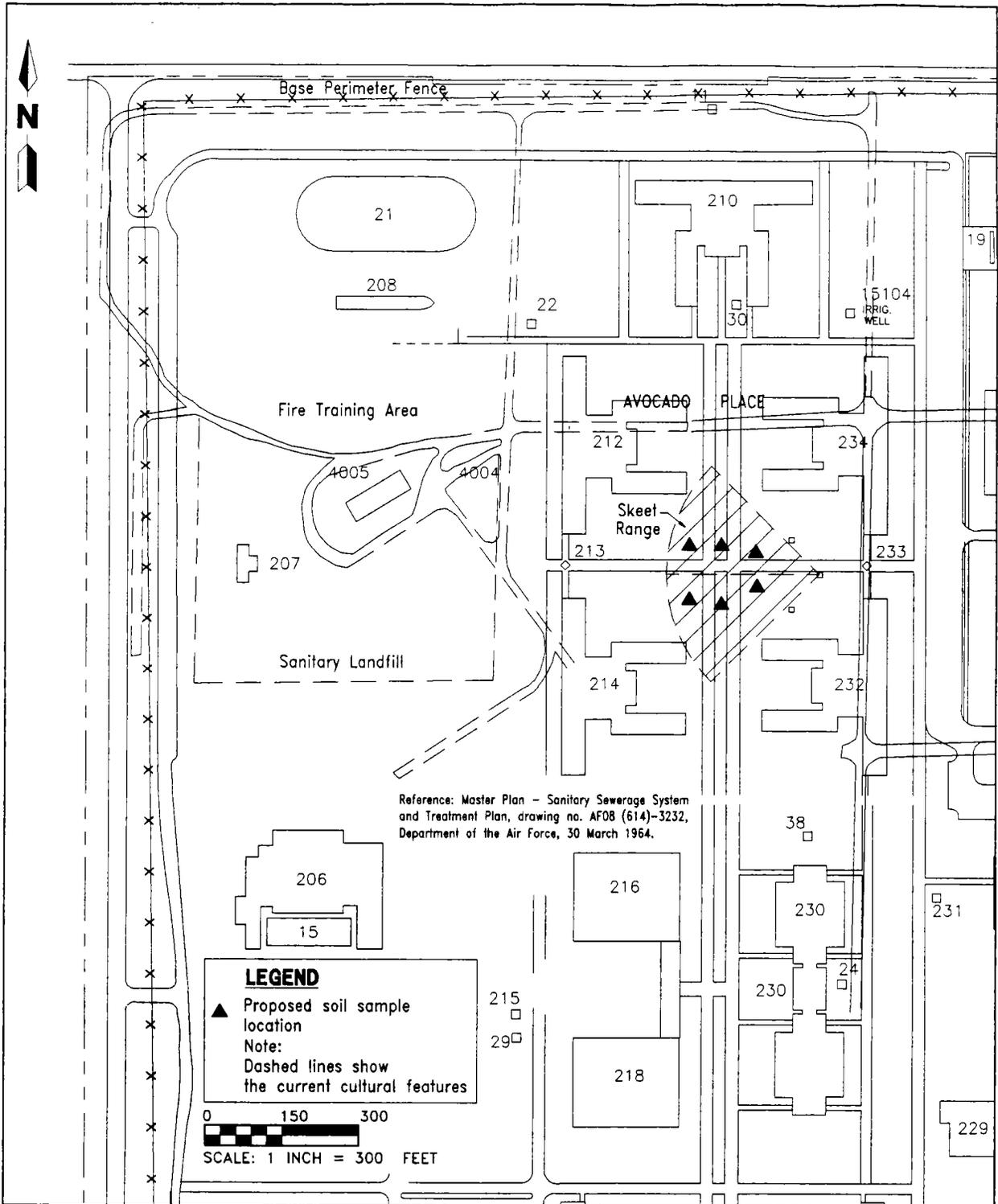
installed in a downgradient direction from the reported location of the disposal area to confirm groundwater conditions. If an anomaly is mapped, up to three wells will be installed to assess groundwater conditions. Groundwater samples will be submitted for full suite CLP TCL and TAL laboratory analyses in accordance with USEPA Level IV DQOs.

**ATTACHMENT A**

**FIGURES**

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3	Building 601 Herndon Annex . . . . .	A-3
4	Former Missile Training Range and Disposal Area for Silk Silk Screening Supplies . . . . .	A-4



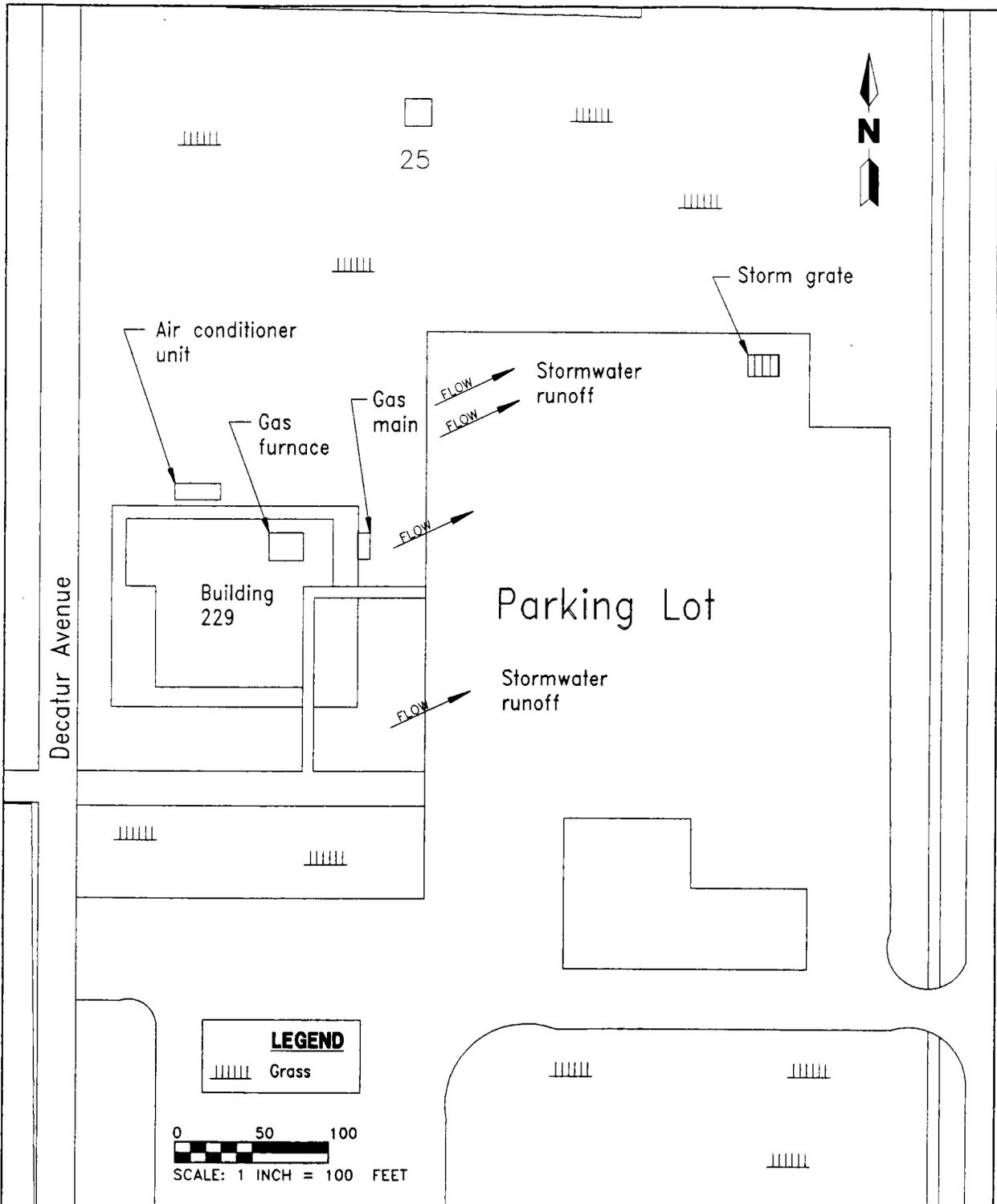
**FIGURE 1  
HISTORICAL MAP (1964) OF  
NORTH GRINDER AREA**



**FINAL SITE SCREENING WORKPLAN  
ADDITIONAL SITES**

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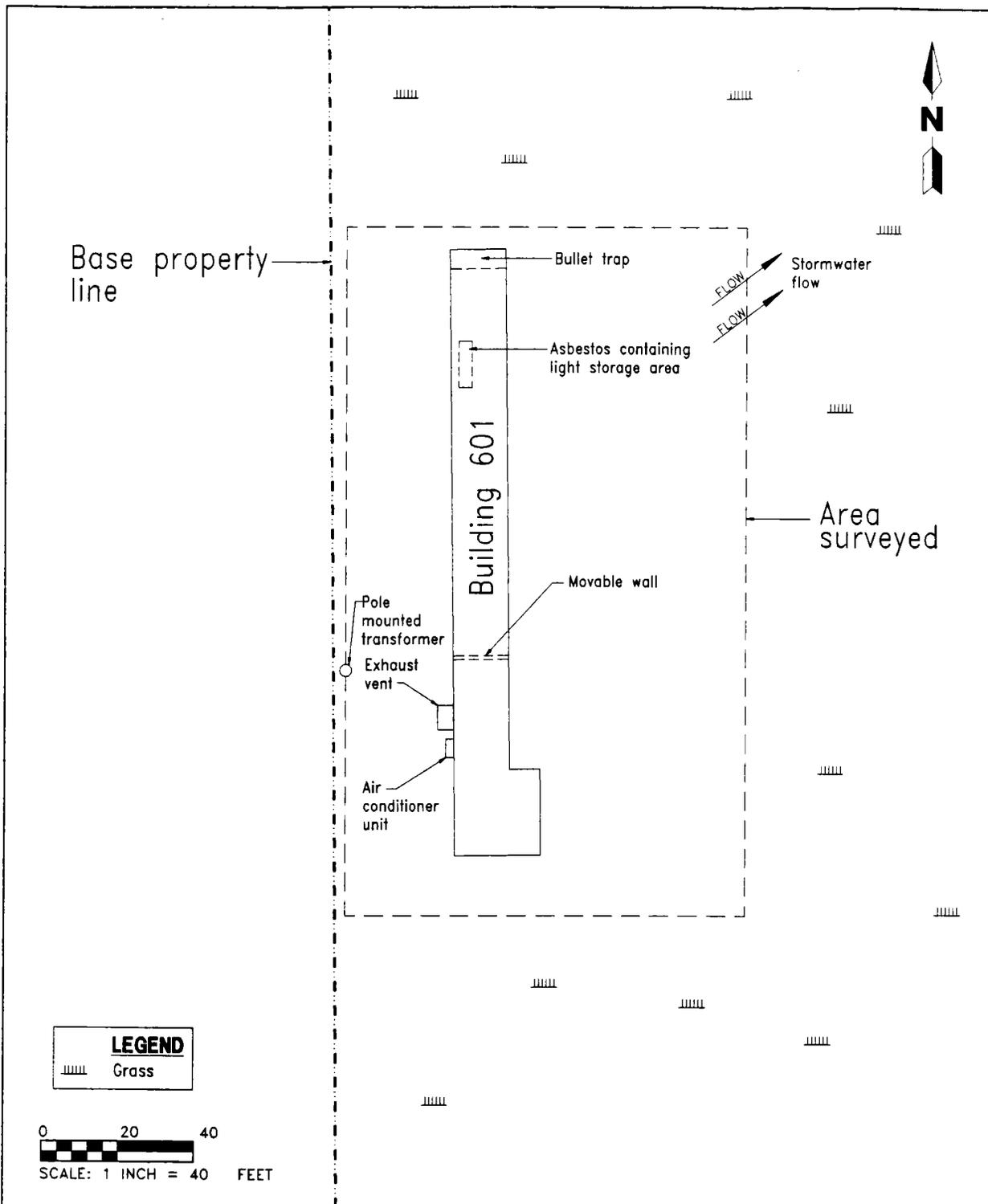
**FIGURE 2**  
**BUILDING 229**



**FINAL SITE SCREENING WORKPLAN**  
**ADDITIONAL SITES**

**NAVAL TRAINING CENTER**  
**ORLANDO, FLORIDA**

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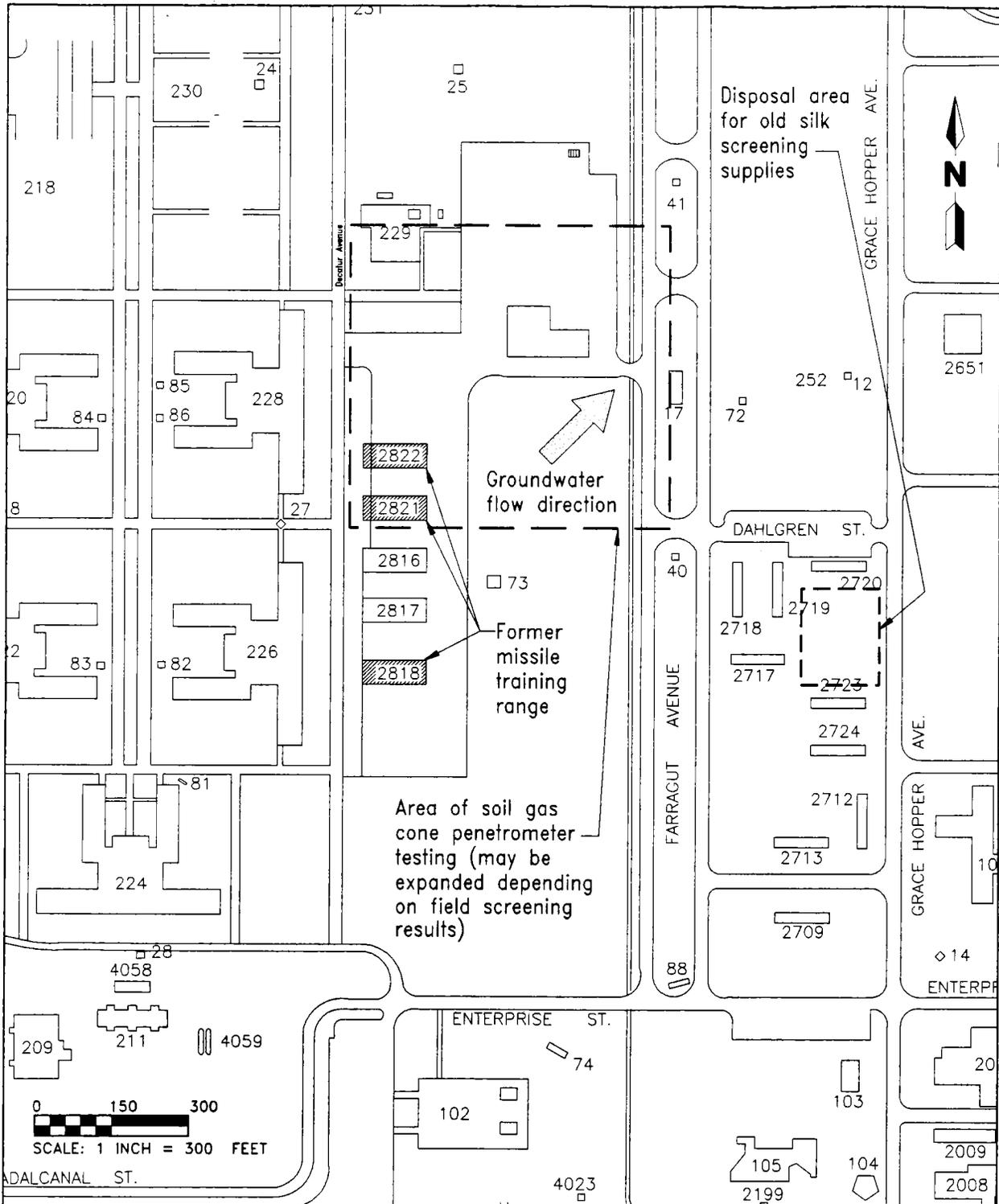
**FIGURE 3**  
**BUILDING 601**  
**HERNDON ANNEX**



**FINAL SITE SCREENING WORKPLAN**  
**ADDITIONAL SITES**

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**FIGURE 4**  
**FORMER MISSILE TRAINING RANGE AND**  
**DISPOSAL AREA FOR SILK SCREENING**  
**SUPPLIES**



**FINAL SITE SCREENING WORKPLAN**  
**ADDITIONAL SITES**

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