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# PROPOSED FIELD CHANGE FOR SITE 1 — SANITARY LANDFILL NAVAL AIR STATION PENSACOLA, FLORIDA

SOUTHNAVFACENGCOM
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Prepared for:
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August 16, 1993

**Proposed Field Change**
**Site 1 — Sanitary Landfill**
**August 16, 1993**

During the recent contaminant source survey (CSS) for Site 1, additional information was gained as to the nature of landfill activities performed. This information was obtained through a review of NAS Public Works Center (PWC) surveyor drawings, review of aerial photographs, and interviews with NAS personnel. Based on this new information, modifications to the investigative approach for the Site 1 Remedial Investigation are now proposed.

## Background Summary

Previous to the CSS, information regarding landfill activities was contained in the NEESA 1983 and E&E 1991 reports. This information indicated that landfill activities were performed in the southernmost portion of the landfill during the late 1950s, in the northernmost portion during the early to mid 1960s, and throughout the central portion of the landfill from the mid 1960s to the mid 1970s (see Figure 1). The landfill was officially closed in October 1976. Waste material was commonly burned before burial, however, this practice stopped in the late 1960s due to citizen's concern over air pollution.

In 1974, landfill leachate was observed to be discharging into a nearby golf course pond from an abandoned drain field (E&E 1991). At this time a drainage outlet was plugged which caused the local water table to rise and additional leachate seepages to appear at the surface. As a result, an investigation was performed in 1975 by Crawford et. al. (report unavailable) during which monitoring wells were installed and sampled. This investigation concluded that shallow groundwater flow was to the north toward Bayou Grande and that groundwater contamination was present in the upper portion of the Sand and Gravel Aquifer near the landfill (NEESA 1983). Since the closing of the landfill in 1976, the following investigations have been performed at the landfill:

- Initial Assessment Study (NEESA 1983);
- Verification Study (Geraghty and Miller 1984);


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- Confirmation Study (Geraghty and Miller 1986);
- Contamination Assessment/Remedial Investigation Phase I Interim **Data** Report (IDR, E&E 1991); and
- Field Investigation (USEPA-ESD 1992).

The investigations concluded that shallow groundwater contamination exists at the landfill. Additionally, the **Phase** I **(E&E** 1991) investigation **as** well **as** the 1992 field investigation (USEPA-ESD) indicate that nearby surface water body sediments may have **also been impacted** by landfill activities.

**CSS Findings**

PWC surveyor drawings located during the CSS and interviews with NAS personnel **confirm** locations where **landfill** activities were performed during the early 1950s through 1976. Figure 1 illustrates a compilation of fill activity information **as** modified from NAVFAC Drawing Number 5205053 dated 12-11-89. **These areas** were generally identified in the Site 1 **Interim** Data Report (E&E 1991) and the Initial Assessment Study of **NAS** Pensacola (NEESA 1983). Additionally, other PWC surveyor drawings disclose general landfill design information (orientation and dimensions of burial trenches, thickness of overburden, ***etc.)*** **for** the *central* portion of the landfill where intense trench and fill activities were performed from approximately 1968 through 1976.

***Areas*** of disturbed topography and relatively newer vegetation (assumably representative of areas of landfill activities) were observed during a visual site survey and aerial photography review conducted during the **CSS.** The location of these features approximately coincide with landfill boundary as defined in the Phase I Investigation IDR (E&E **1991).**

Mr. Ron Cayson, an employee of the **PWC** Transportation Department, **was** interviewed during the contaminant source survey. Mr. Cayson has worked at **NAS** as **a** heavy equipment operator since approximately 1967 and performed trench and fill operations at the landfill from the late


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1960s through 1977. During Mr. Cayson's work at the landfill, various industrial materials and wastes from NAS and other nearby Naval facilities (Saufley, Whiting, Ellison, and Corry Fields) were disposed of in the landfill. These wastes, as confirmed by Mr. Cayson, included the following materials:

**Wastes Disposed**

- empty and unused containers of petroleum products
- empty and unused containers of pesticides/herbicides
- metal plating wastes and sludges
- paint wastes and sludges
- various waste chemicals, solvents, and chemical containers
- solvent soaked cloth rags
- medical wastes
- asbestos materials
- high pressure gas canisters
- a creosote soaked wooden barge
- airplane wreckage

During this discussion, additional information as to the progression and orientation of the trench and fill activities during Mr Cayson's landfill work was gained. The central portion of the landfill was first cleared of trees in order to excavate the trenches. Trenching activities during the late 1960s and through the mid 1970s began along the south-central portion of the landfill and progressed northward over time toward Powerline Road. Immediately south of the central landfill area, trees were cleared form an approximately 300 to 400 feet wide strip of land between the southernmost extent of the late 1960s/early 1970s fill area and the 1950s fill area; however, this strip of land may not have been landfilled (see Figure 1, as indicated by PWC Drawings and personal communication with Ron Cayson). Trenches approximately ten to twelve feet wide, eight to ten feet deep, and up to several hundred feet long were constructed with heavy equipment roughly east to west across the width of the fill area. Trenches were spaced


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approximately 30 to 50 feet apart. General practice during this time was to place unsegregated wastes in the landfill as they were received, into whichever trench may have been in the process of being filled. However, a few trenches were constructed in the southeastern portion of the late 1960s through 1970s fill area specifically for certain types of wastes (such as asbestos or chemicals). Once a trench was filled, it was covered with fill dirt excavated from (and transported in by truck) a nearby borrow pit located just off of Tow Road. The borrow pit (identified as Site 5 in the NEESA 1983 study) is located approximately 1000 feet southwest of Fort Redoubt. Reportedly, no hazardous wastes were disposed of at the pit. During the landfill's latter years of activity (approximately early to mid 1970s), wastes were buried at a rapid and constant rate as trench and fill activities were performed 24 hours a day during consecutive 12 hour shifts. In addition to these fill activities, Mr. Cayson confirmed that wastes were likely deposited earlier in areas both north (the early 1960s fill area) and south (the 1950s fill area) of the area he worked within.

At this time all information regarding landfill activities indicates that a steady stream of assorted industrial wastes have been buried across an expansive area contained within the landfill boundary.

Currently, five shallow monitoring wells and 28 soil borings are proposed within the Site 1 landfill boundaries (see Figure 4-2 of the Site 1 SAP). During the Contaminant Source Survey (CSS) it was discovered that trenches approximately 10 to 12 feet wide, 8 to 10 feet deep, and up to several hundred feet long were constructed roughly east to west across the width of the f i area and used for waste disposal. Trenches were spaced approximately 30 to 50 feet apart. The general practice was to place unsegregated wastes in the landfill as they were received, into whichever trench was in the process of being filled. When a trench was filled, it was covered with dirt excavated from a nearby borrow pit. Because of the potential widespread distribution of heterogenous wastes across most of the landfill, [the Navy] recommends the method of investigation be changed from installing soil borings to using an excavator to uncover discrete sections of the landfill. This change is recommended based on the following objectives:



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- Excavating discrete sections of the landfill will furnish both quantitative and qualitative data on the contents and depositional methods used at the landfill.
- Excavating offers better worker safety by limiting the number of workers required in the work zone during the investigation.
- Excavating offers a cross-sectional view of subsurface soil horizons and waste materials deposited. The excavation can be logged and sampled as necessary.
- Excavating will be a quicker and more effective method of evaluating the landfill contents.
- Excavating minimizes the potential for "blind" drilling through buried materials (e.g., drums, pails, etc.).

Figure 2 illustrates 12 locations where test trench activities are proposed; six coincide with investigative areas identified from aerial photography analysis during the Phase I investigation (E&E 1991). The remaining six locations were based on CSS information, or to provide additional lateral, unbiased coverage of likely filled areas. **[Geophysical techniques were used at Site 1 during Ecology & Environment's Phase I investigation (1991). Anomalies were not observed in the areas shown on Figure 1 as not having been used. Trenches in the vicinity of the unfilled areas will be extended as needed to delineate the extent of the fill areas.]** The rationale for each location is explained below.

**Location Rationale**

***(Note: The information for this section is from E&E, 1991 and CSS.)***

**Location 1:** To investigate the filed area generally south of North Pond where construction debris and rubble have reportedly been buried.

**Locations 2 and 3:** To investigate areas where fill activities were performed during the early to mid 1960s.

**Location 4:** To investigate the approximately 20-foot by 40-foot "tar pit" feature identified during the Phase I Investigation.



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**Location 5:** To investigate the area where a creosote *soaked* barge was reportedly buried (during approximately the late 1960s/early 1970s).

**Locations 6 and 7:** To investigate visibly disturbed areas identified through review of aerial photographs.

**Location 8:** To investigate visibly disturbed areas identified through review of aerial photographs.

**Location 9:** To investigate the area where specific asbestos and chemical waste trenches were reportedly constructed during the late 1960s.

**Location 10:** To investigate the eastern and central portion of the 1950s fill area where irregular land surface that indicates fill has occurred.

**Location 11:** To investigate the eastern and central portion of the 1950s fill area where irregular land surface that indicates fill has occurred.

**Location 12:** To investigate the *collapse* feature identified during the Phase I Investigation.

Except for location 4, approximate north-south orientated test trenches are proposed at these locations in an effort to bisect previously (east to west) constructed burial trenches. The length of each trench will be determined based on field conditions and the dimensions of the burial trenches encountered. At location 4, trenching will not be necessary since the tar material is currently exposed. Actual trench locations might be altered in the field based on accessibility and field observations during the investigation. The excavated contents of the landfill with be visually inspected, logged in the field logbook, and photographed. Representative soil samples will be collected for laboratory analysis. All excavated material will be placed back into the excavation upon completion. **[If readily removable potential sources of contamination are encountered during trenching, the potential sources will be removed if contractually possible for the Navy. If not possible, the potential sources will remain in the area of contamination (AOC).]** If a contaminant source is inadvertently removed during the excavation (e.g., barrel), the source will be disposed of in accordance with federal and state regulations by the Navy. If drums or other obvious contaminant sources are encountered, trenching will be



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terminated at that location. Soil that cannot be returned to the trench because of soil bulking will be placed in a lined roll off dumpster for future disposal by the Navy.

Sampling

At each test trench location (and location 4) where waste/fill material is encountered, soil/waste material sample collection is proposed at the following frequency:

- One discrete sample will be collected from the landfill overburden (not applicable to location 4), 0 to 1 feet below land surface;
- Samples will be collected from areas of obvious contamination from native unsaturated soil located at the bottom of the trench or from the unsaturated sidewalls containing large amounts of waste.
- If groundwater is encountered in the excavation, a groundwater sample will be collected from the pit if waste is observed above the water table.
- At location 4, a sample of the tar and soil immediately underlying the tar will be collected.
- If native soil is not encountered in the excavation, a groundwater sample will be collected from the bottom of the pit.
- If seeping waste (e.g. sludges) is encountered above the water table, a sample will be collected of the waste and submitted for TCLP analysis.

An EnSafe/Allen & Hoshall geologist or engineer will oversee all excavation activities. As the trench is excavated, EnSafe/Allen & Hoshall personnel will direct the operator to retrieve soil from selected intervals based on field observations. Soil samples will be collected from the center of the backhoe bucket to avoid sampling soil which has contacted with the sides of the bucket.



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Use of a backhoe for sample collection may be inappropriate for some locations that are inaccessible for the equipment. In these locations, samples will be collected by a hand auger. The hand auger will be advanced as deep as possible or to the groundwater, whichever is higher. Samples will be collected from the hand auger bucket.

All sampling and decontamination procedures will be performed in accordance with the EPA *Standard Operating Procedures and Quality Assurance Manual,* site-specific Sampling and Analysis Plan and the Comprehensive Sampling and Analysis Plan.

Monitoring Wells

Figure 2 illustrates the four locations where monitoring well nests (3 shallow wells and 4 intermediate wells) are proposed. All decontamination and monitoring well installation, development, and sampling procedures will be performed in accordance with the EPA *Standard* Operating *Procedures/Quality Assurance Manual,* site-specific Sampling and Analysis Plan and the Comprehensive Sampling and Analysis Plan.

Laboratory Analysis

Full CLP TAL/TCL protocol analyses are proposed for all samples collected, as well as selected physical parameter analyses (Physical Parameters — Soil, see Site 1 *SAP).* TCLP analyses will be run on the tar and tar-contaminated soil from location 4; TAL/TCL analyses will not be run on the tar sample.



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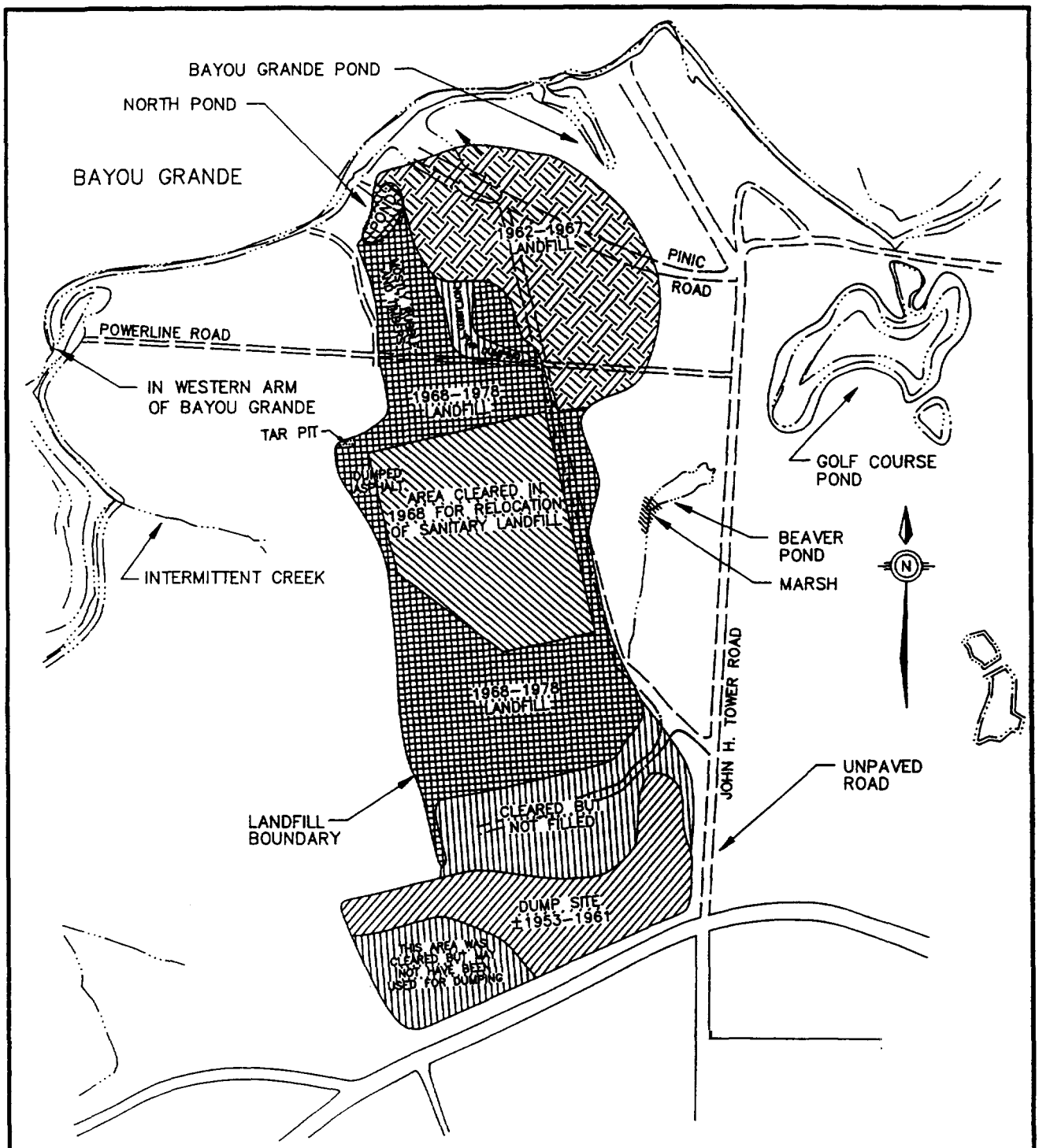
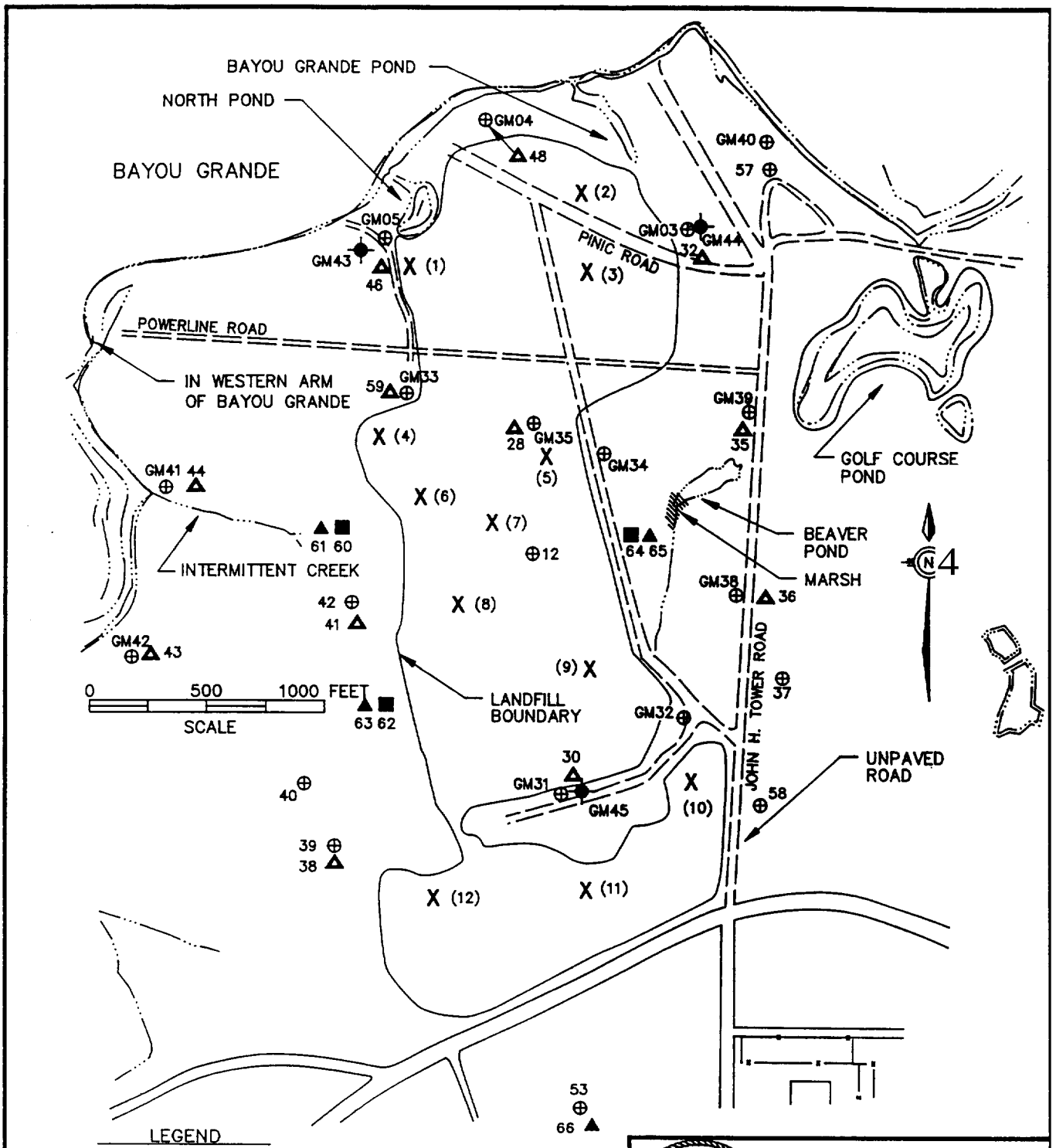



SITE 1 NAS PENSACOLA
PENSACOLA FL.

FIGURE 1
LAND USE MAP

SOURCE: E&E 1991/NAVFAC DRAWING NUMBER 5205053

DWG DATE:06/30/93 | DWG NAME: 059LNDUS




NOTE: THREE OFF-SITE SOIL BORING/SHALLOW MONITORING WELLS AND THREE INTERMEDIATE DEPTH MONITORING WELLS ARE PROPOSED FOR THE EXISTING SUPPLY WELL LOCATIONS. (50,51,AND 52 SEE FIGURE 14-6 SITE 1 WORK PLAN)

SOURCE EM 1991

SITE 1 NAS PENSACOLA
PENSACOLA FL.

FIGURE 2
PROPOSED TEST TRENCH
AND ADDITIONAL
MONITORING WELL LOCATIONS

DWG DATE: 06/30/93 | DWG NAME: 059TEST