

**SAMPLING AND ANALYSIS PLAN ADDENDUM
FOR SITE 38 —
BUILDING 71 AND INDUSTRIAL SEWER LINE
(TL 073/C SOUTHWEST TO THE END)
NAVAL AIR STATION
PENSACOLA, FLORIDA**

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**SOUTHDIV-CONTRACT NUMBER:
N62467-89-D-0318
CTO-058**

**Prepared for:
NAVAL SUPPORT ACTIVITY
NAVAL AIR STATION
PENSACOLA, FLORIDA**



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July 27, 1993

INTRODUCTION

Since the Work Plan and Sampling and Analysis Plan (**SAP**) were written, the investigation of Site 38 has been enlarged to include the IWTP sewer line from TL 073/C southwest to the end. The additional work was proposed in a modification for negotiation purposes which was submitted to the Navy by EnSafe/Allen & Hoshall (E/A&H) on May 27, 1993. The additional field work and laboratory analysis to be included in the Remedial Investigation of Site 38 are detailed in this addendum to the **SAP**.

ADDITIONAL WORK

Figure A-1 shows the portion of the **IWTP** sewer line to be incorporated into the field investigation. Sections of the IWTP sewer previously investigated by E/A&H (February, 1993) are shown in Figure A-2. Figures are presented at the end of the text. These sections investigated in February will not be re-investigated, but all pertinent data will be included in the corresponding Site 38 RI/FS reports. Sampling and analysis procedures required to investigate the remaining IWTP sewer line will be performed in accordance with the comprehensive **SAP** (**CSAP**) and the site-specific **SAP**. The results of the additional investigation and the investigation completed in February will be summarized in the RI/FS reports for Site 38.

Video and Smoke Test Review

The Navy conducted video tests of the force mains and smoke tests of the gravity lines. These videos and results are to be provided to E/A&H by the Navy, if possible, for review to locate any possible leaks in the line. Areas with possible leaks will be targeted for investigation.

Soil Borings

The soil sampling protocol followed during the investigation will be based on whether the sewer is a gravity line or a force main. A soil boring will be advanced to the water table approximately every 100 feet along the gravity line. A soil boring will be advanced to the water table approximately every 200 feet along the force main. Nine borings, in close proximity to

manholes where leakage may have **occurred**, will be placed along the length of the industrial sewer line. The soil boring locations **are** illustrated **in** Figure A-1. Boring depths are based on the depth to water measurements collected during the February 1993 E/A&H investigation. Soil samples will be collected from 0 to 1-foot depth **and** at 2-foot intervals to the water table in areas of less than 5 feet to the water table. Soil samples will be collected from 0 to 1-foot depth and at 5-foot intervals (4-6', 9-11., etc.) to the water table in **areas** greater than 5 feet to the water table. These borings will be used to locate industrial sewer line leaks which may have contaminated soil above the water table. Boring locations **are** tentative and may change based on field observation or video and smoke test results.

Monitoring Wells

Five monitoring wells will be completed along the industrial sewer line, **as** shown in Figure A-1. Two shallow depth monitoring wells (approximately 15 feet deep) **and** three intermediate depth monitoring wells (approximately 40 feet deep, to the top of **an** underlying confining clay layer) will be completed. Analytical results from industrial sewer line monitoring wells will be used **to** delineate any impact by the sewer line. Well locations are tentative and may change based on field observation or video and smoke test results.

Sampling Previously Installed Wells

Twelve ABB monitoring wells (11 shallow and 1 intermediate) near the IWTP sewer line between Buildings 604 and 45 (Figure A-1) will be redeveloped and sampled to determine the impact on groundwater **from** a former leaking underground storage tank (**UST**) at Building 604 or **the** IWTP sewer line. Preliminary work completed during the **UST** program **has** identified high concentrations of 1,2-dichloroethene, tetrachloroethene, trichloroethene, vinyl chloride, and cadmium in the groundwater.

SAMPLING AND ANALYTICAL REQUIREMENTS

The following table represents the number of samples and the analytical requirements for the addendum scope of work.

Sampling and Analytical Requirements Site 38 Addendum		
Medium	No. of Samples	Analytical Requirements
Soil ^a	18 (2)	CLP TAL/TCL PPS
Groundwater ^b	17 (2)	CLP TAL/TCL PPW
Total	(35) (4)	CLP TAL/TCL PPS/PPW

Notes:

CLP TAL/TCL — EPA Contract Laboratory Program Target Analyte List/Target Compound List

Physical Parameters - Soils (**PPS**) — Total phosphorus, nitrate-N, total Kjeldahl nitrogen (TKN), heterotrophic plate count, total organic carbon, and cation exchange capacity

Physical Parameters -Water (**PPW**) — 5-day biological oxygen demand (BOD), chemical oxygen demand (COD), hardness, total suspended solids, alkalinity, total phosphorus, nitrate-N, TKN, and heterotrophic plate count

- a — 9 total boring locations x 2 depth intervals = 18 soil samples. Boring depth is based on the depth to water measurements collected during the Ecology and Environment Phase I investigation.
- b — 11 existing shallow monitoring wells + 1 existing intermediate monitoring well + 2 new shallow monitoring wells + 3 new intermediate monitoring wells = 17 groundwater samples

For total sample estimation purposes, soil samples will be collected from the 0-1' interval and in the 2-foot interval above the water table. Shallow monitoring wells will be completed to approximately 15 feet depth. Monitoring wells will be constructed of 10 foot long, 2 inch diameter, 0.01 inch slot width PVC well screen flush threaded to 2 inch diameter PVC riser pipe. Intermediate depth monitoring wells will be completed to approximately 40 feet depth.

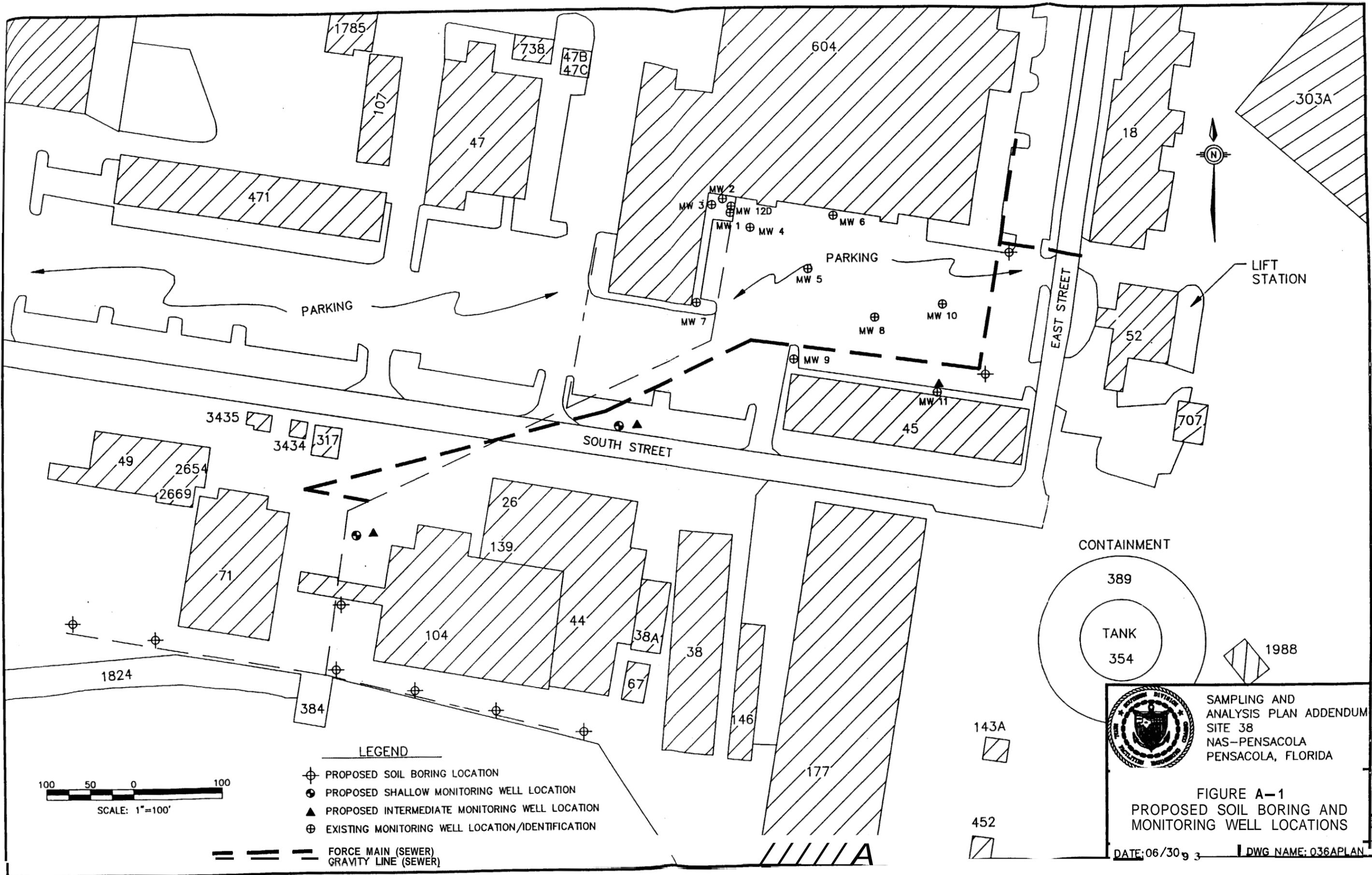
APPLICABLE DOCUMENTS

The following references should be consulted for specific methods and descriptions:

Ecology and Environment, Inc. (1992). *Contamination Assessment/Remedial Activities Investigation Work Plan — Group P Naval Air Station Pensacola, Pensacola, Florida; Building 71 (Site 38)*. Ecology and Environment, Pensacola, Florida.

EnSafe/Allen & Hoshall (1993). *Comprehensive long-Term Environmental Action Final Sampling and Analysis Plan for Site 38 — Building 71, Naval Air Station Pensacola, Florida*. EnSafe/Allen & Hoshall, Memphis, Tennessee.

EnSafe /Allen & Hoshall (1993). *Comprehensive Sampling and Analysis Plan Naval Air Station Pensacola, Florida*. EnSafe/Allen & Hoshall, Memphis, Tennessee.

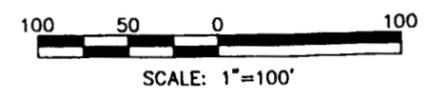


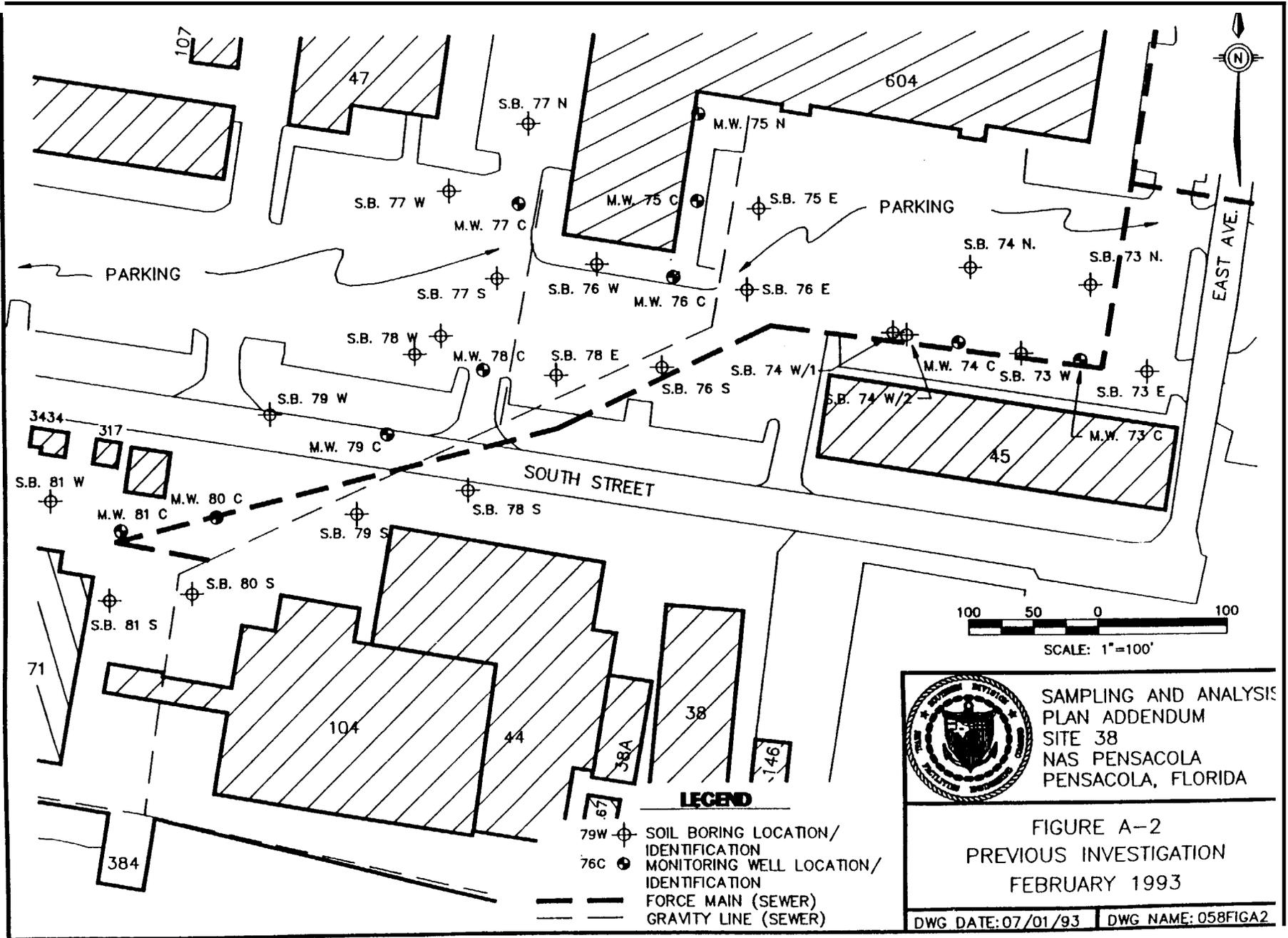
SAMPLING AND ANALYSIS PLAN ADDENDUM
 SITE 38
 NAS-PENSACOLA
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FIGURE A-1
 PROPOSED SOIL BORING AND MONITORING WELL LOCATIONS

DATE: 06/30/93 DWG NAME: 036APLAN

- LEGEND**
- ⊕ PROPOSED SOIL BORING LOCATION
 - ⊙ PROPOSED SHALLOW MONITORING WELL LOCATION
 - ▲ PROPOSED INTERMEDIATE MONITORING WELL LOCATION
 - ⊕ EXISTING MONITORING WELL LOCATION/IDENTIFICATION
 - — — — — FORCE MAIN (SEWER)
 - — — — — GRAVITY LINE (SEWER)





FLORIDA PROFESSIONAL GEOLOGIST SEAL

I have read and approve of this Sampling and Analysis Plan Addendum for Site **38** at the Naval Air Station Pensacola, Florida, and **seal** it in accordance with Chapter **492** of the Florida Statutes. In sealing this document, I certify the geological **information** contained in it is true to the best of my knowledge and the geological methods and procedures included herein are consistent with currently accepted geological practices.

Name: Henry H. Beiro
License Number: **1847**
State: Florida
Expiration Date: July 31, 1998

Henry H. Beiro

Henry H. Beiro
4-9-97

Date