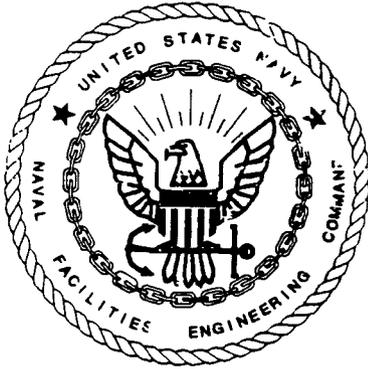


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NAS PENSACOLA
5090.3a

FINAL WORK PLAN FOR FLUSHING AND GROUTING INDUSTRIAL WASTE TREATMENT
PLANT (IWTP) SEWER LINES NAS PENSACOLA FL
5/10/1996
ENSAFE

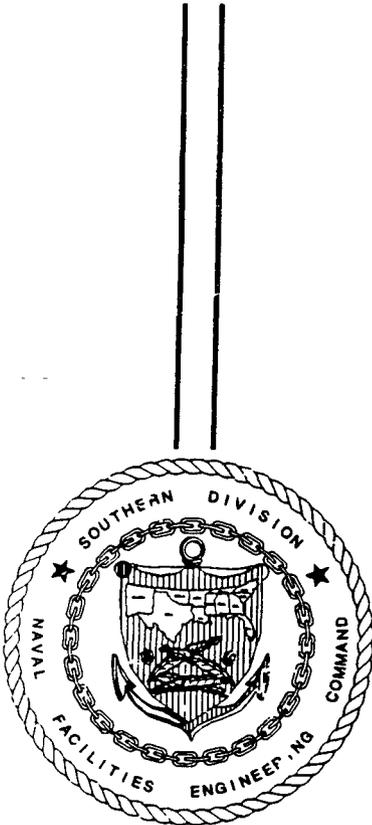
**FINAL WORK PLAN FOR
FLUSHING AND GROUTING IWTP SEWER LINES
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA**



**SOUTHNAVFACENGCOM
CONTRACT NUMBER: N62467-89-D-0318-1083
CTO-1083**

Prepared for:

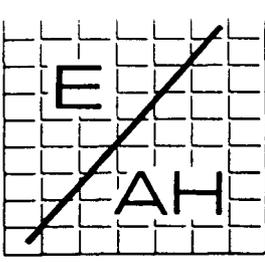
**Department of the Navy
Southern Division
Naval Facilities Engineering Command
North Charleston, South Carolina**



Prepared by:

**EnSafe/Allen & Hoshall
5720 Summer Trees Drive, Suite 8
Memphis, Tennessee 38134
(901) 383-9115**

May 10, 1996



EnSafe / Allen & Hoshall

a joint venture for professional services

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Irving, TX 75038
Phone (214) 791-3222
Fax (214) 791-0405

May 13, 1996

Mr. John Mitchell
Florida Department of Environmental Protection
Federal Facilities Coordinator
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

**Re: Final Work Plan for Flushing and Grouting IWTP Sewer Lines
Naval Air Station Pensacola, Pensacola, FL
Contract No. N62467-89-D-0318, CTO 0108**

Dear Mr. Mitchell:

On behalf of the Navy, EnSafe/Allen & Hoshall is pleased to submit to the Tier 1 Partnering Team two copies of the Final Work Plan for Flushing and Grouting IWTP Sewer Lines at NAS Pensacola.

If you have questions or need additional information, please contact me.

**Sincerely,
EnSafe/Allen & Hoshall**

**By: Claire Barnett, P.E.
Task Order Manager**

Encl.

**cc: Bill Hill, SOUTHNAVFACENGCOM - without enclosure
Tom Moody, FDEP Northwest District - one copy
Patricia Kingcade - without enclosure
Brian Caldwell, E/A&H Pensacola - one copy
EnSafe/Allen & Hoshall Library - one copy
EnSafe/Allen & Hoshall File - one copy
EnSafe/Allen & Hoshall CTO File - without enclosure**

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List of Abbreviations and Acronyms

| | |
|-------------------|---|
| BRAC | Base Realignment and Closure |
| CERCLA | Comprehensive Environmental response Compensation and Liability Act |
| CSAP | Comprehensive Sampling and Analysis Plan |
| CTO | Contract Task Order |
| E/A&H | EnSafe/Allen & Hoshall |
| E&E | Ecology & Environment |
| gpm | gallons per minute |
| ICP | Inductively Coupled Plasma |
| IWTP | Industrial Wastewater Treatment Plant |
| MCL | Maximum Contaminant Levels |
| NADEP | Naval Depot |
| NAS | Naval Air Station |
| NEESA | Naval Energy and Environmental Support Activity |
| PVC | Polyvinyl Chloride |
| PWC | Public Works Center |
| RCRA | Resource Conservation and Recovery Act |
| SOUTHNAVFACENGCOM | Southern Division Naval Facilities Engineering Command |
| TAL | Target Analyte List |
| TCL | Target Compound List |
| USEPA | United States Environmental Protection Agency |

EXECUTIVE SUMMARY

This work plan details the removal of the contents of the industrial wastewater treatment plant (IWTP) sewer piping, at Naval Air Station (NAS), Pensacola, Florida. This work plan includes background and decision information normally associated with an Action Memorandum, and provides a detailed scope of work for the NAS Public Works Center to accomplish this task.

The IWTP piping consists of both gravity and force main piping, constructed of various materials including vitreous-clay, polyvinyl chloride (PVC), cast-iron and fiberglass reinforced piping. The piping ranges in size from 6" to 18" diameter.

The scope of work involves flushing and sealing all building drains that feed this system, pressure cleaning the interior of all gravity piping and manholes, grouting the gravity lines, and flushing the force main portions of the system with potable water, and testing the flushing water to verify no contaminants remain in the system.

The removal action goal is to eliminate the IWTP lines as a potential source of contamination (through leakage, deterioration, etc), and to abandon them in place so Base Realignment and Closure (BRAC) construction activities may proceed.

This work plan is based on information and documents provided by the U.S. Navy, the U.S. Environmental Protection Agency, Florida Department of Environmental Protection, and information gathered by EnSafe/Allen & Hoshall during assessment and reconnaissance from 1993 to the present. Along with the detailed scope of work for removal activities, the work plan includes a detailed sampling and analysis plan, and a site-specific health and safety plan.

FOREWORD

Site 36 at NAS Pensacola is the soil associated with the IWTP sewer line that transports effluent from the Naval Depot (NADEP) industrial facilities to the Industrial Wastewater Treatment Plant. NADEP is closing as a result of BRAC actions, eliminating almost all of the industrial activities at NAS Pensacola. The BRAC action also requires the construction of a consolidated training complex in areas formerly occupied by NADEP. The BRAC construction is time-critical, and much of it lies in the area of Site 36.

A Tier I Partnering Team was established to accomplish cleanup actions associated with NAS Pensacola. This team includes representatives from the U.S. Navy, USEPA, the Florida Department of Environmental Protection, and EnSafe/Allen & Hoshall. The Tier I Partnering Team agreed the IWTP force main piping could be eliminated as a source of contamination through pressure cleaning, flushing, laboratory analysis, and/or grouting to verify all contaminants have been removed. Upon proper documentation, the lines may be abandoned in place. Soil surrounding the line may be contaminated from previous activities, and will be evaluated further under the ongoing Navy Installation Restoration Program.

This work plan provides the basis for flushing, grouting, and verification testing to assess whether the lines have been properly cleaned. Pressure-cleaning was begun in September/October 1994, and continues as the NADEP facilities are removed from service. The last facility to be taken off the IWTP sewer lines is Building 649, scheduled for October 1995. At this time, the final cleaning will be accomplished and the flushing/verification testing performed. Flushing will be accomplished prior to November 1, 1995, to avoid impacting BRAC construction. Grouting of gravity lines may be accomplished by PWC as its work schedule permits.

1.0 INTRODUCTION

The Department of the Navy, Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) has issued a Contract Task Order (CTO-1083) for a Public Works Support Package Work Plan to EnSafe/Allen & Hoshall (E/A&H). This work plan details the requirements to close the IWTP sewer lines at NAS Pensacola, Pensacola, Florida.

The IWTP sewer line can be divided into three subsystems:

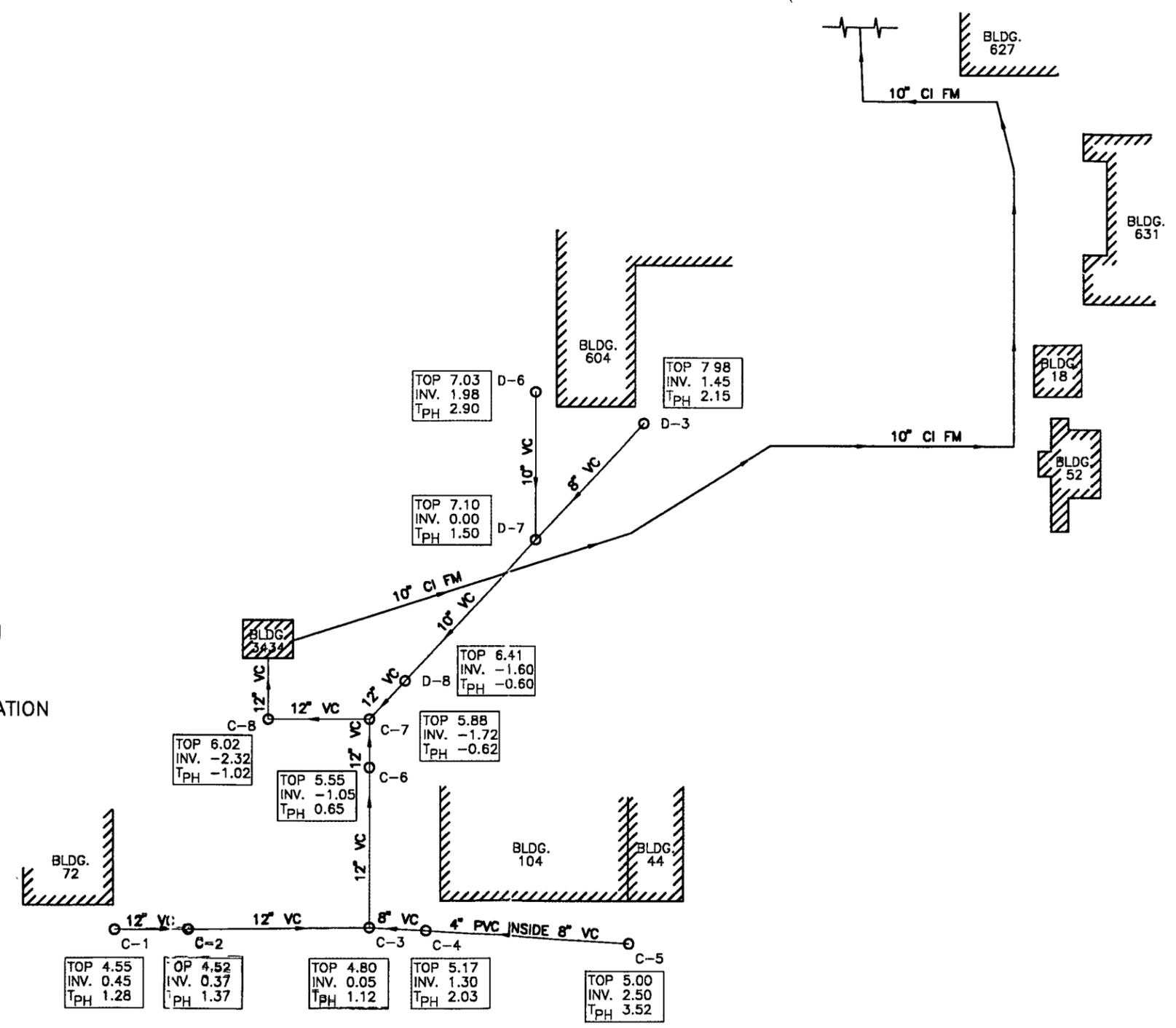
- The southeastern portion of the system includes gravity lines from Buildings 72, 104, and 604 (Figure 1). Wastewater in these gravity lines flows to pump station 1 (Building 3434) and then through a 10-inch cast-iron force main to manhole A-10.
- The remainder of the IWTP sewer system (referred to hereafter as the main system) consists of gravity lines from manhole A-10, and Buildings 2662, 3588, 3460, 3557, 3220, 2691, and 649 (Figure 2). Wastewater in these lines flows to pump station 2 (Building 3437), and then through a 14-inch cast-iron force main to the treatment plant.
- A third force main, which will also require flushing, begins near Building 782 and terminates at manhole A-4. This 8-inch force main transported no RCRA hazardous waste, only caustic soda and sulfuric acid used as pH adjusters. Recent investigations, however, reveal possible cross-contamination.

The Tier 1 Partnering Team originally agreed to flushing the system at a rate of 2,300 gallons per minute (gpm) for 24 hours, testing the influent and effluent at specified times, and comparing results to determine whether the lines were free of contamination. If the lines were free of contamination, the team agreed the lines would be considered “clean closed” under RCRA and could be abandoned in place. If testing indicated the lines were not satisfactorily cleaned, they would be evaluated under CERCLA for risk-based closure and possible grouting.



LEGEND

TOP TOP OF MANHOLE ELEVATION
 INV. MANHOLE INVERT ELEVATION
 T_{PH} HIGHEST TOP OF PIPE ELEVATION
 IN MANHOLE

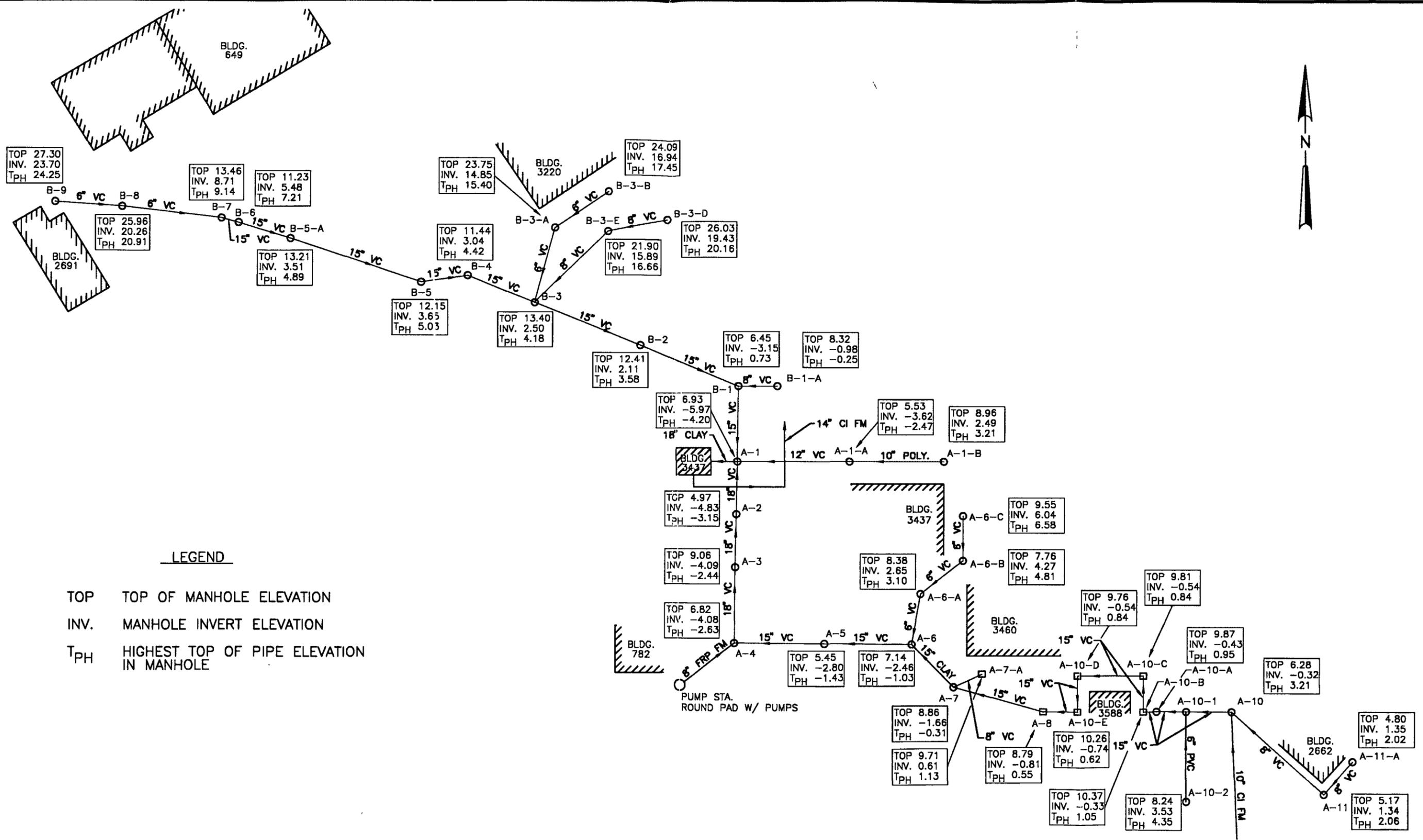


SITE 36
 NAS PENSACOLA

FIGURE 1

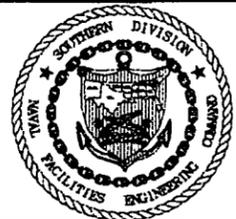
SITE 36 - INDUSTRIAL WASTE
 LINES TO BE FLUSHED

DWG DATE: 9/14/95 | DWG NAME: IWLINES2



LEGEND

- TOP TOP OF MANHOLE ELEVATION
- INV. MANHOLE INVERT ELEVATION
- TPH HIGHEST TOP OF PIPE ELEVATION IN MANHOLE



**SITE 36
NAS PENSACOLA**

FIGURE 2

**SITE 36 - INDUSTRIAL WASTE
LINES TO BE FLUSHED**

| | |
|-------------------|--------------------|
| DWG DATE: 9/14/95 | DWG NAME: IWLINES1 |
|-------------------|--------------------|

Upon further investigation of the system, it was determined the 2,300 gpm rate is not achievable because the pump stations cannot produce this flow. The Navy has therefore elected to omit the flushing and testing and proceed directly to grouting the gravity portions of the piping. The three sections of force main will be flushed, as grouting these sections poses special difficulty. During a Tier I Partnering Team meeting on August 24, 1995, it was agreed to modify the scope of work to include grouting all gravity lines, and flushing only the force mains.

The removal action goal is to eliminate the IWTP sewer lines as a potential source of contamination so they can be abandoned in place. Soil adjacent to the IWTP sewer lines will continue to be evaluated under the Navy's Installation Restoration Program.

1.1 Site Description

The IWTP sewer piping is entirely on NAS Pensacola, as Figures 1 and 2 indicate. Military housing is within a quarter-mile of the site, but is not downgradient for either surface water or groundwater flow. The IWTP piping is in the area set aside as the future site of a consolidated training complex for the U.S. Navy. The site is federally owned property operated by the Department of Defense (U.S. Navy). The Navy is the lead agency for all actions on this site.

1.2 Site Background and Previous Studies

1.2.1 Operational History

The IWTP sewer line piping served NADEP, accepting the discharges from several large industrial facilities. Most of the facilities discharging to the IWTP sewer did so without pretreatment or segregation of the wastes (NEESA 1983). The wastestream consisted of discharges from facilities upstream and included paint strippers, heavy metals, pesticides, radioactive wastes, fuels, cyanide wastes, solvents, and waste oils.

1.2.2 Assessment Activities and Reconnaissance

Ecology and Environment, Inc. (E&E) performed a Phase I investigation of Site 36 to identify areas of potential contamination. The investigation results are detailed in E&E Interim Data Report (1992). Soil and groundwater samples collected during the investigation were submitted for laboratory analysis. Metals, total recoverable petroleum hydrocarbons, volatile organic compounds, and polynuclear aromatic hydrocarbons were detected onsite, but it was not determined if their source was the IWTP sewer line. The E&E data were collected at Data Quality Objective Level II, which are suitable for screening only.

E/A&H conducted field investigations for Site 36 and the Category V sites (9, 29, and 34). Results are detailed in the *Site 36 Sampling and Analysis Plan, January 23, 1995*, and *Draft Remedial Investigation Report, Sites 9, 29, and 34, May 9, 1995*.

1.2.3 Other Actions to Date

Previous Actions

As NADEP industrial facilities have ceased operations, the building drains connected to the sewer have been flushed and capped. Gravity sewer lines have been cleaned using standard industry procedures (pressure washing). Pump station 1, once deactivated, has since been restored to service.

Soil adjacent to discrete areas of the IWTP piping has been removed under a previous action. The soil removal action is described in an Action Memorandum dated June 26, 1995. Further remedial activities will be conducted in accordance with the Comprehensive Environmental Response Compensation and Liability Act (CERCLA).

Current Actions

The remaining portions of the IWTP lines are being pressure cleaned in preparation for grouting, flushing, and verification sampling. Adjacent soil at Site 36 is concurrently being evaluated in accordance with CERCLA, under the Navy's Installation Restoration Program.

2.0 THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AGENCIES

2.1 Threats to Public Health or Welfare

Although residences exist within a quarter-mile, the IWTP lines are underground and the construction sites are fenced to prevent unauthorized access; therefore, onsite workers are the only potentially exposed population. The decision to clean, grout, and flush the lines was primarily driven by the BRAC construction schedule. Rather than delaying construction while the IWTP lines and adjacent soil undergo extensive assessment, the removal was deemed time-critical.

2.2 Threats to the Environment

Contaminants could be transferred from the IWTP piping to the soil or groundwater if the piping or joints fail. Since the system is to be abandoned and maintenance discontinued, this action is intended to remove the potential source of contamination. Because the area is fully developed and paved, there are no ecologically sensitive receptors.

3.0 CONTRIBUTION TO REMEDIAL PERFORMANCE

The purpose of this removal action is not primarily remedial in nature. The Tier I Partnering Team has agreed to allow the Navy to abandon the IWTP lines in place, based on grouting all gravity lines and flushing all force mains, followed by laboratory verification that contaminants have been removed from the force mains. This action will implement the previously agreed upon procedures and meet the requirements for RCRA closure.

The contribution to remedial performance is considered minimal. There is benefit, however, in eliminating the IWTP lines as a potential source of contamination.

4.0 SCOPE OF WORK

Closure of the IWTP sewer lines includes grouting the gravity lines and flushing the force mains. The activities required to accomplish the closures are:

Force Mains

- Flushing force mains with potable water using system pumps at pump station 1, pump station 2, and Building 782.
- Sampling influent and effluent water at set intervals during flushing for screening.
- Collecting and analyzing verification samples of influent and effluent water upon termination of flushing for use in making final determination of closure.
- Sealing influent and effluent ends of force mains to complete closure.

Gravity Lines

- Completion and verification of plugging of building pits and drain lines.
- Completion and verification of pressure washing of lines and plugging of manholes where appropriate.
- Grouting gravity lines and manholes.
- Collection and disposal of water displaced by grouting (this water must be treated as industrial wastewater and disposed of accordingly).

The closure activities are described in more detail in the following sections.

4.1 Preflushing Activities

Several activities will be accomplished before flushing the force mains. Specific tasks include preparation of pumps at pump stations, establishing a communications network, conducting an orientation meeting, and performing required notifications.

4.1.1 Orientation Meeting

Prior to commencement of activities associated with the implementation of this work plan, it is imperative to hold an orientation meeting outlining all activities to take place during flushing and grouting of the IWTP lines. A representative from each of the following should attend this meeting to discuss the work process to be carried out and establish roles and responsibilities for implementing this work plan.

- PWC operations and supervisory personnel.
- IWTP operators and managers.
- Fire Department Personnel.
- Personnel to operate and monitor the pumping stations.
- Onsite testing laboratory crews (NAS and independent laboratory) capable of collecting and analyzing influent and effluent samples at designated time intervals.
- Spill response personnel from NAS Pensacola in the event water inadvertently leaks during flushing or grouting activities.
- E/A&H personnel to ensure all present understand the intent of the work plan.

4.1.2 Communications Network

During the implementation of the work plan, there must be adequate means of communication among the various groups involved. Continuous communication must be provided at each end of the force mains and at the treatment plant during flushing to address problems arising during the flushing operation.

For the duration of the flushing, it will be necessary to establish a known location as a command post. This command post, the location of which can be set at the orientation meeting, will be accessible to the above listed personnel should the need to terminate flushing activities arise.

4.1.3 Onsite Personnel Required

It is necessary to have appropriate personnel onsite to monitor various aspects of flushing action:

- PWC personnel to implement/supervise flushing activity.
- Pump station operators.
- Fire Department to ensure the flushing operation does not create water shortages that adversely affect fire-fighting capabilities.
- Personnel to operate and monitor the pumping stations as necessary.
- Onsite NAS laboratory personnel capable of collecting and analyzing influent and effluent samples at designated time intervals for screening purposes.
- E/A&H personnel.
- Independent testing laboratory to collect/analyze verification samples.

4.1.4 Pump Preparation at Pump Stations 1, 2, and Building 782

Because the pump stations will be used to flush the force main section to the treatment plant, PWC must confirm they are capable of running continuously without any difficulties. The pump stations should receive routine maintenance and be kept in good working order until the final flushing is completed.

4.1.5 Spill Containment Procedures

If a discharge occurs during the flushing activity, spill response personnel should contain it, and collect the water for suitable disposal. One suitable method would be to contain the water in tank trucks for disposal at the treatment plant. Directing water that has overflowed the system back into the IWTP piping could introduce contamination from external sources, invalidating the results of the flushing operation.

4.2 Flushing Activities

4.2.1 Pumping Process

Nearby fire hydrants will be used to fill the wet wells of the pump stations. The first step will be to clean the wet well by pumping several volumes of the wet well through the system. If more than one pump exists at each pump station, the use of the pumps will be alternated, reserving one pump for emergency backup should it be necessary. Pumps will be alternated at 2-hour intervals to ensure all pumps are thoroughly flushed. The water level in the pump station wet well will be controlled by regulating the water from the fire hydrants, as required.

4.2.2 Termination of Flushing Procedures

Flushing will be terminated based on analysis of screening samples. The NAS Pensacola laboratory will analyze screening samples collected at 2-hour intervals beginning 6 hours after flushing begins. Screening samples will be collected from both the influent and effluent of each force main, and analyzed in accordance with the procedures listed in Section 5.0. When screening results indicate the effluent water is similar in quality to the influent, final verification

samples of the influent and effluent water will be collected and the flushing terminated. If the screening results indicate the line is not "clean," flushing will continue and verification sampling will be accomplished in accordance with paragraph 5.0.

4.3 Grouting of Gravity Lines

The PWC has been pressure-washing IWTP gravity lines for several months in preparation for closure. Prior to grouting, the PWC must confirm all IWTP gravity lines have been pressure-washed and capped at the appropriate manholes.

Before work begins, PWC will identify sections of gravity piping and number of manholes to be grouted, and quantify the amount of grout mixture needed for each. Grouting will be performed in accordance with standard industry practice. Water displaced by the grouting procedure is to be collected, treated, and disposed as industrial waste.

Upon completion of grouting gravity lines, all manholes will be grouted to the surface, or removed and disposed as hazardous waste. Quantities of grout needed to fill each pipe section and manhole should be recorded to verify the lines are completely filled.

5.0 SAMPLING AND ANALYSIS PLAN

E/A&H will sample the influent and effluent following the criteria agreed upon by the Tier I Partnering Team on August 24, 1995, and as stated below.

- Influent and effluent screening samples will be collected at the injection and discharge points of each force main to be flushed. These samples will be collected every two hours beginning six hours after flushing has started. These screening samples will be analyzed by the NAS laboratory using inductively coupled plasma (ICP) for metals and gas chromatography/mass spectroscopy for volatile compounds. When the effluent water appears similar in quality to the influent water, a final verification sample of the influent

and effluent will be analyzed by an independent laboratory. This final sample will be analyzed using priority turnaround submittal for TAL/TCL in accordance with the contract laboratory program low concentration statement of work. The laboratory results of the effluent samples will then be compared to the Florida maximum contaminant levels (MCLs). If the concentrations are below the Florida MCLs for drinking water, the force main will be granted clean closure under RCRA.

If screening samples do not indicate the line is "clean," verification sampling will be performed in accordance with the following previously approved procedures.

- Influent and effluent samples will be collected at 12, 22, 23, and 24 hours. The laboratory results of the effluent samples will be compared to the Florida MCLs. If the concentrations are below the Florida MCLs for drinking water, the force main will be granted clean closure under RCRA.
- If the detected concentrations in the 24th-hour sample (500 series method) are above Florida MCLs, the samples collected at 12, 22, and 23 hours will be analyzed for trends. If conditions are not asymptotic, the force main will be flushed for an additional 24 hours and the effluent rinse water will be sampled and analyzed following the previously listed procedures. If, after additional flushing, the detected concentrations in the effluent rinse water are above the MCLs and asymptotic conditions are achieved, the force main will not be granted clean closure. In this case, the force main will be risk-based closed under CERCLA and possibly grouted in place by the construction contractor.

Results of testing will be included in the Remedial Action Reports for Category V and Category VIII.

6.0 HEALTH AND SAFETY PLAN

A Health and Safety Plan worksheet for this work plan is provided in Appendix A. This plan should be reviewed by all appropriate personnel prior to commencement of all flushing and grouting activities.

All pressure cleaning and flushing operations associated with this work plan will be performed by PWC personnel at NAS Pensacola. Pressure washing and flushing the system are considered normal procedures associated with the operation of the IWTP, and no additional permits or requirements are necessary.

7.0 QUALITY ASSURANCE PLAN

The Quality Assurance Plan presented in Section 15 of the Comprehensive Sampling and Analysis Plan (CSAP) will be used during the flushing procedure.

8.0 DATA MANAGEMENT PLAN

Data management includes documenting field activities, validating analytical data, report preparation, and other activities related to this project, such as preparing meeting summaries, telephone conversation logs, illustrations, computations, and engineering data. Section 14 of the CSAP contains the data management guidelines to be followed during this project.

9.0 COMMUNITY RELATIONS PLAN

The Navy will comply with the community relations aspects of this project, as required. The designated spokesperson shall be the Public Affairs Officer for NAS Pensacola. SOUTHNAVFACENGCOM, with the assistance of and in coordination with NAS Pensacola, will develop and publish a public notice within 60 days of the start of this removal action. After providing a 30-day comment period, a written response to significant comments will be generated for inclusion in the record.

10.0 SCHEDULE

Commencement of this work depends on completion of industrial pretreatment facilities for Building 649, currently scheduled for mid-September 1995. Some preparation for the flushing (grouting some of the lines, scheduling equipment, and confirmations) may be accomplished before removing Building 649 from the system. E/A&H estimates the follow-on activities, including submission of the verification sampling report, can be accomplished in approximately 20 days after completion of the flushing.

11.0 REFERENCES

EnSafe/Allen & Hoshall (1995). *Comprehensive Sampling and Analysis Plan for Naval Air Station Pensacola, Pensacola, Florida - Final*. EnSafe/Allen & Hoshall: Memphis, Tennessee.

Naval Energy and Environmental Support Activity (NEESA). (1983). *Initial Assessment Study of Naval Air Station, Pensacola, Florida*. NEESA 13-015.

APPENDIX A
HEALTH AND SAFETY PLAN

**Safety Plan Work Sheet
(Site-Specific Safety Plan)**

Site History and Description

A. Address and Telephone Number (or Mobile Number) of Site:

Naval Air Station - Pensacola, Florida

Mobile Number:

Primary Site Contact and Telephone Number:

Mike Gold, EnSafe (904) 479-4595

Type of Site: Spill HW Site Other

Description of Site:

Industrial Waste Treatment Plant (IWTP) sewer lines. The lines have
been flushed by PWC and are ready for verification sampling.

B. Activities Performed Onsite Prior to Investigation/Cleanup:

Soil sampling in surrounding areas.

C. Unusual Features (containers, buildings, dikes, power lines, terrain,
bodies of water, etc.):

None

D. Results of Previous Surveys:

Surrounding soils contained metals, petroleum hydrocarbons

E. Waste Types: Liquid Solid Gas/Vapor

F. Characteristics: Toxic Flammable/Volatile Radioactive
Reactive Corrosive

| G. | Substances* | Toxicity (PEL/TLV) | Quantity (Volume) |
|----|-------------|--------------------|-------------------|
|----|-------------|--------------------|-------------------|

None known.

Sewer lines have reportedly been cleaned.

**Provide Material Safety Data Sheets (MSDS) for each substance listed as an attachment to this Health & Safety Plan.*

H. Physical Hazards: Biological/Animal/Insects Cold Confined Spaces
 Electrical/Stored Energy Elevated Heights Heat
 Noise Radiation Structural Hazards

Other (specify): _____

Comments:

Under no circumstances shall E/A&H personnel enter a sewer line. These
lines are considered confined spaces and are not addressed by this
plan.

I. Weather: Hot

Site Organization and Control

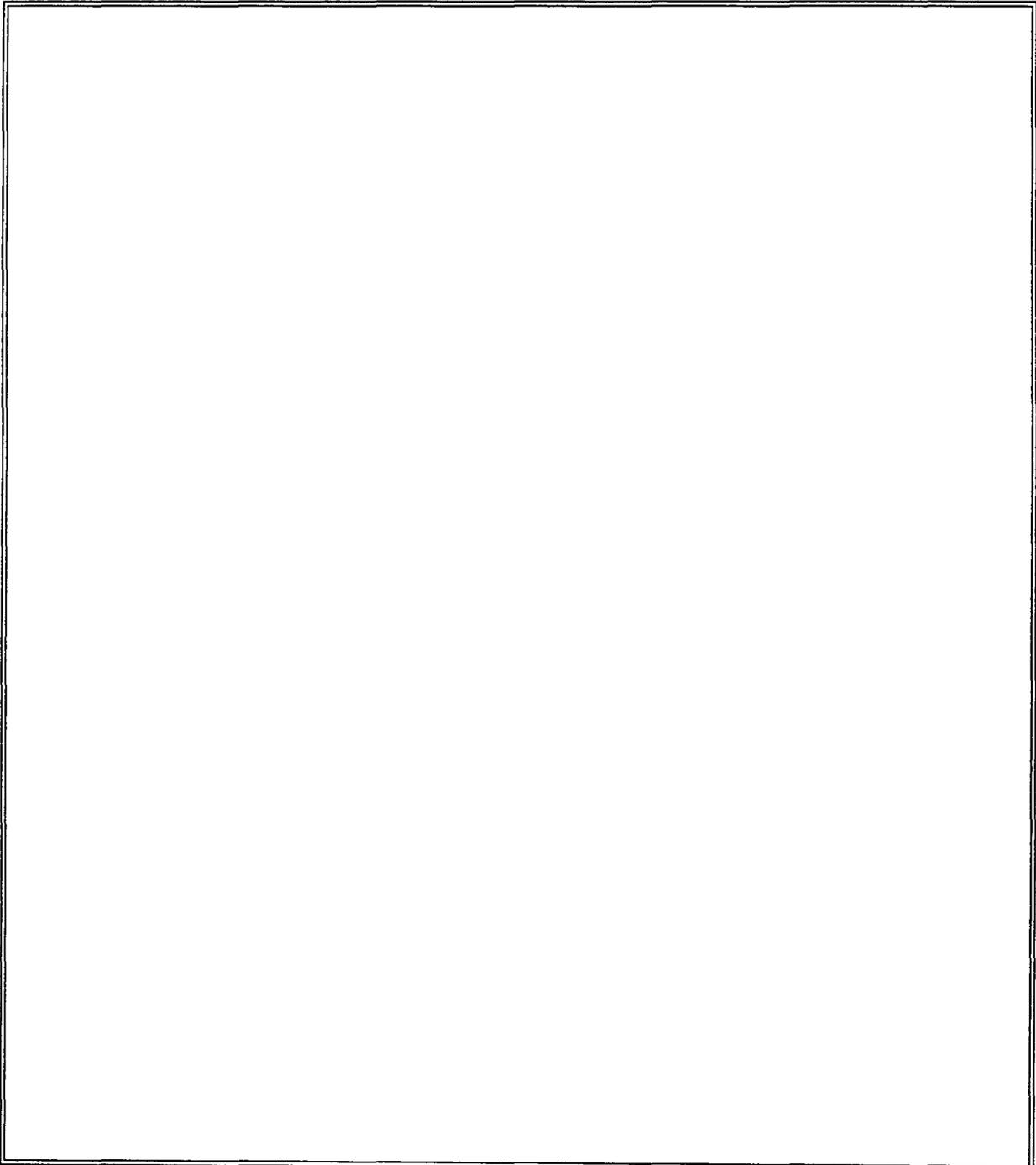
A. Work Areas Identified: Sewer discharge points.

B. Decontamination Areas Identified: None needed.

C. Support Areas Established: NA

D. Site Security Established: NA

Sketch of Site:



Provide map of sewer system (if available) as attachment.

Job Activities/Work Plans

A. Types of Activities to Be Performed:

1. Drum: Excavation Sampling Staging Treatment Disposal

2. Soil: Excavation Sampling Treatment Disposal

3. Water sampling/Treatment: Discharge water

4. Spill Cleanup: _____

5. Well Installation: _____

6. Other (specify): _____

B. Comments:

Verification sampling will be performed on the cleaned sewer lines.

Education and Training

1. Are All Site Workers 40-Hour OSHA Trained with Up-to-Date 8-Hour Refresher Training? No Yes (Obtain copies of certificates)

2. Will Site Workers Be Trained on the Hazards Associated with the Site (Hazard Communication 29 CFR 1910.1200)? No Yes

3. Special Training Required for this Site: No Yes
If yes, specify types:

| | No | Yes | |
|----------------------|-------------------------------------|--------------------------|----------------|
| Confined Space Entry | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Fall Protection | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Lockout/Tagout | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Special PPE Training | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Other | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Specify: _____ |

Medical Surveillance

Special Medical Monitoring Required? No Yes

If yes, (specify):

Ambient Field Monitoring

A. Field Monitoring Equipment Needed for Site:

| | No | Yes | |
|---|-------------------------------------|--------------------------|-------------------------|
| Combustible Gas/Oxygen Meter | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Drager Tubes | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Photoionization Detector (Organic Vapors) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Other | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Specify: _____ _____ |

B. Field Calibration Equipment/Materials Needed for Site:

| | No | Yes | |
|--------------------------------|-------------------------------------|--------------------------|------------|
| Isobutylene (PID): | <input checked="" type="checkbox"/> | <input type="checkbox"/> | _____ ppm |
| Methane (CGI/O ₂): | <input checked="" type="checkbox"/> | <input type="checkbox"/> | _____ %LEL |
| Others: Specify: | | | _____ |

C. Monitoring Protocol (should correspond with work plans):

None needed.

Note: Document time, location, reading, & person performing the monitoring in a field workbook. Post the air monitoring readings for employee review at the end of the day.

Levels of Protection

A. Job Activity: Sewer sampling Level: (circle one) A, B, C, Modified D, D

List of Personal Equipment:

| | No | Yes | |
|------------------------------|-------------------------------------|-------------------------------------|---|
| Air-Purifying Respirator | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Cartridges: _____ |
| Boot Covers | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Chemical Protective Clothing | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Gloves | <input type="checkbox"/> | <input checked="" type="checkbox"/> | (2 layers of blue nitrile) Types: Nitrile (Inner) Nitril (Outer) |
| Hard Hat | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Safety Boot | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Safety Glasses | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Saranex Coated Coveralls | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Splash Shield | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

B. Job Activity: _____ Level: (circle one) A, B, C, Modified D, D

List of Personal Equipment:

| | No | Yes | |
|------------------------------|--------------------------|--------------------------|----------------------------------|
| Air-Purifying Respirator | <input type="checkbox"/> | <input type="checkbox"/> | Cartridges: _____ |
| Boot Covers | <input type="checkbox"/> | <input type="checkbox"/> | |
| Chemical Protective Clothing | <input type="checkbox"/> | <input type="checkbox"/> | |
| Gloves | <input type="checkbox"/> | <input type="checkbox"/> | Types: _____(Inner)_____ (Outer) |
| Hard Hat | <input type="checkbox"/> | <input type="checkbox"/> | |
| Safety Boot | <input type="checkbox"/> | <input type="checkbox"/> | |
| Safety Glasses | <input type="checkbox"/> | <input type="checkbox"/> | |
| Saranex Coated Coveralls | <input type="checkbox"/> | <input type="checkbox"/> | |
| Splash Shield | <input type="checkbox"/> | <input type="checkbox"/> | |

C. Job Activity: _____ Level: (circle one) A, B, C, Modified D, D

List of Personal Equipment:

| | No | Yes | |
|------------------------------|--------------------------|--------------------------|----------------------------------|
| Air-Purifying Respirator | <input type="checkbox"/> | <input type="checkbox"/> | Cartridges: _____ |
| Boot Covers | <input type="checkbox"/> | <input type="checkbox"/> | |
| Chemical Protective Clothing | <input type="checkbox"/> | <input type="checkbox"/> | |
| Gloves | <input type="checkbox"/> | <input type="checkbox"/> | Types: _____(Inner)_____ (Outer) |
| Hard Hat | <input type="checkbox"/> | <input type="checkbox"/> | |
| Safety Boot | <input type="checkbox"/> | <input type="checkbox"/> | |
| Safety Glasses | <input type="checkbox"/> | <input type="checkbox"/> | |
| Saranex Coated Coveralls | <input type="checkbox"/> | <input type="checkbox"/> | |
| Splash Shield | <input type="checkbox"/> | <input type="checkbox"/> | |

Safety Equipment List

| | No | Yes | |
|-----------------------------|-------------------------------------|-------------------------------------|------------------------------|
| Communications | <input type="checkbox"/> | <input checked="" type="checkbox"/> | (Radios/Signs/Mobile Phones) |
| Fall Protection System | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Fire Extinguisher | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Provided By: _____ |
| First Aid Kit | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Forced Air Ventilation | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Full Body Entry Harness | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Insulated Coveralls | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Mechanical Retrieval | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Personal Flootation Devices | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Portable Canopy | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

E. Decontamination Equipment:

| | No | Yes | |
|------------------------|-------------------------------------|-------------------------------------|------------------------------------|
| Brushes | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Buckets | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Hexane | <input checked="" type="checkbox"/> | <input type="checkbox"/> | (Equipment Decon Only) |
| Liquinox | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Water Source Available | <input type="checkbox"/> | <input checked="" type="checkbox"/> | (If not bottled water may be used) |

Note: See workplan for collection procedures for decon solutions.

F. Sanitation: Latrines Showers Hand washing

Comments:

Decontamination Procedures

A. Work Activities: Sewer sampling

Level of Protection: D

Decontamination Solutions: Liquinox/water

Procedures (by Station):

Wash hands and face thoroughly before leaving site.

B. Work Activities: _____

Level of Protection: _____

Decontamination Solutions: _____

Procedures (By Station):

Emergency Information

A. Local Sources of Assistance:

1. Hospital:

(name) See Attachment 2

(address) _____

(phone) _____

Directions:

2. Ambulance (name and number): (904) 452-3333 or 911

3. Fire Department (name and number): (904) 452-3333 or 911

4. Police (and number): (904) 452-3333 or 911

5. Site Phone Number: _____

B. National or Regional Sources of Assistance

1. EnSafe/Allen & Hoshall 1-901-372-7962

2. CHEMTREC (24 hours) 1-800-424-9300

The following may be reached through CHEMTREC:

- Chemical Manufacturer
- National Agricultural Chemical Association (NACA) Pesticides Safety Team Network
- Chlorine Emergency Plan (CHLOREP).
- Energy Research and Development Administration (ERDA)(radioactive materials)

3. Association of American Railroads 1-202-293-4048

4. Center for Disease Control (biological agents) 1-404-633-5313

5. DOT, Office of Hazardous Materials Transportation

Regulatory Matters) 1-202-366-4488

6. US Environmental Protection Agency (USEPA) _____

7. National Response Center, (NRC) (oil
and hazardous substances) 1-800-424-8802

C. Special First-Aid or Evacuation Procedures:

ATTACHMENT 1

MATERIAL SAFETY DATA SHEETS

No known chemical constituents are expected to be present at these sites.

ATTACHMENT 2

DIRECTIONS TO EMERGENCY MEDICAL FACILITIES

DIRECTIONS TO THE NEAREST MEDICAL FACILITIES

The nearest hospital and the nearest facility capable of treating chemical burns are the same facility, which is located in the NAS Pensacola Dispensary Building.

**Nearest Hospital
NAS Pensacola Dispensary Building
3600 Turner Street
NAS Pensacola, Florida
Emergency Number: (904) 452-3333**