



KELLY AFB
TEXAS

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 3358

**Restoration Advisory Board Workshop
January 5, 1995**

Agenda

<u>Event</u>	<u>Time</u>	<u>Speaker</u>
Visit Control Center (Pickup RAB Members)	8:30-9:00 am	Dick Walters
Welcome (Administrative Duties)	9:00-9:15 am	Mr. Bailey
Workshop Outline (Agenda for the Day/Introductions)	9:15-9:30 am	Richard Trevino
Site Visits (Zone 1 - Dan Medina) (Zone 2 - Kenny Johnson) (Zone 3 - Victoria Wark/Ron Catchings) (Zone 4 - Ed Roberson) (Zone 5 - Steve Escude'/Mike Patterson) (Storage Tanks - Mike Patterson/Don Ficklen) (DRMO Facility - Rob Backlund)	9:30-12:00 noon	EMRO, EMC <i>RAB Members board bus</i>
Lunch (Officer's Club)	12:00-1:00 pm	
Return to Redell Room (Restroom Break)	1:00-1:15 pm	
IRP Overview * Program Definition ** How the program was created ** Rules/Laws that govern program ** Historical Waste Handling Practices * Program Strategy	1:15-1:30 pm	Richard Trevino

- ** Priority
 - ** Off-base
 - ** Surface Water
 - ** On-Base
- * Program Process
 - ** IRP Process (PA to RA)
 - ** Interim Remedial Measures
 - ** Groundwater
 - ** Soil

Current Program Status

1:30-3:15 pm

EMRO

- ** Zone 1, 2, 3, 4, 5
 - ** History
 - ** Types of sites
 - ** Impacted Areas (Maps)
 - ** Soil
 - ** Groundwater
 - ** Interim Measures
 - ** Process Status (RI/FS ?)
 - ** Costs - Preferred Alternative
 - ** Present vs Future
 - ** Future Requirements (FY96-FY97)
- ** Storage Tank Program
 - ** Number of Tanks and General location (Map)
 - ** Number Removed by Year until completed
 - ** Number Upgrade by Year until completed
 - ** Quantity Soil Treated to Date

Zones - 15 minutes each

STP - 15 minutes

Breaks - two 5-minute breaks

Budgetary Process

3:15-3:30 pm

Richard Trevino

- * Air Force Policy (60/40 split)
 - * Relative Risk Rating
 - ** Table of Sites Rating
 - * General FY95 Budget (No Dollars)
- * Future Program Requirements
 - * Finished Site Chart (with General Dollars)

Contracting Process

3:30-3:45 pm

PKOEV

- * Sensitivity of Dollar values
- * Laws/Rules

Spill Prevention Procedures

3:45-4:00 pm

EMC

Public Affairs Activities

4:00-4:15 pm

PAE

Summary and Closing

4:15-4:30 pm

Mr. Bailey

Workshop Completed

4:30 pm

Mfg 29 Dec 94 @ 10:00 AM Bldg 306
EM Conf Rm

Restoration Advisory Board

Outline

- * ***Kelly AFB - Site Visit***
- * ***IRP Overview***
- * ***Current Program Status***
- * ***Budgetary Process***
- * ***Contracting Process***
- * ***Spill Prevention Procedures***
- * ***Public Affairs***
- * ***Summary/Closing***

IRP Overview

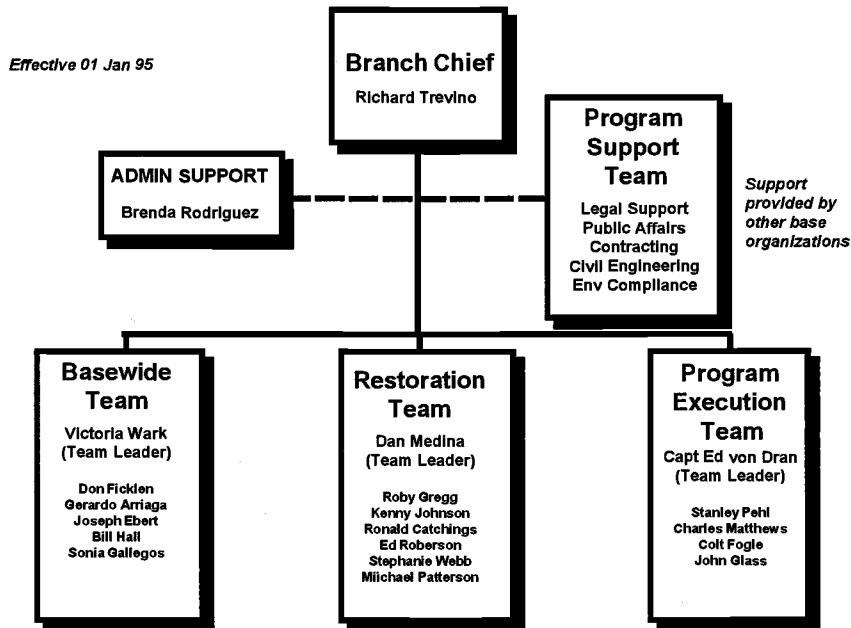
Program Definition

- * ***Program Creation:***
 - * **The Department of Air Force initiated the Installation Restoration Program (IRP) in 1976.**
 - * **The IRP is funded and operated under the Department of Defense (DoD) for the purpose of identifying impacted areas and perform appropriate cleanup actions.**
 - * **Kelly IRP began in 1982 with a Preliminary Assessment identifying 26 potential sites.**

IRP Overview *Program Definition*

- *Between 1983 and 1988, a Site Investigation began investigating the 26 sites.**
- *In 1988, a dedicated environmental staff was created to handle strictly cleanup actions.**
- *Between 1988 and 1993, a total of 52 IRP sites were identified requiring investigation and appropriate cleanup.**
- *Between 1990 and 1994, a total of 20 sites have been closed recommending no further action.**

RESTORATION OPERATIONS BRANCH



IRP Overview *Program Definition*

- * **Elements that govern the Kelly cleanup program**
 - * **Federal rules, laws and regulations**
 - * **Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)**
 - * **Resource Conservation and Recovery Act (RCRA)**
 - * **Superfund Amendments and Reauthorization Act (SARA)**
 - * ***State of Texas rules, laws and regulations***
 - * **30 Texas Administrative Code 335 (30 TAC 335)**
 - * **Texas Water Code 305**

IRP Overview *Strategy and Objectives*

- * **Overall Protection of Human Health and the Environment.**
- * **Compliance with Federal/State/Local laws and regulations.**
- * **To Accomplish the Objectives, the Proposed Actions will address:**
 - * **Containment at the Base Boundary**
 - * **Permanent Treatment**
 - * **Source Area Remediation**
 - * **Focus on Cleaning Up Highly Impacted Areas**

IRP Overview *Strategy and Objectives*

*** Strategy of cleanup program:**

*** Eliminate or reduce impact to human health and/or the environment with priority, as follows:**

*** Off-base Areas**

*** Surface Waters**

*** On-base Areas**

IRP Overview *Evaluation Criteria*

*** Preferred Action evaluated on nine factors:**

*** Overall Protection of Human Health and the Environment**

*** Compliance with ARARs (Federal/State laws)**

*** Long-Term Effectiveness and Permanence**

*** Reduction of Mobility, Toxicity, or Volume through Treatment**

*** Short-Term Effectiveness**

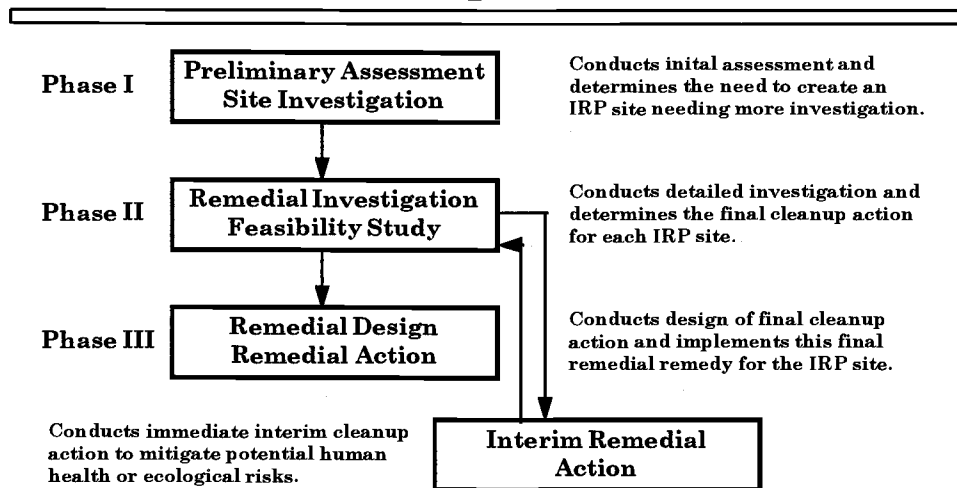
*** Implementability**

*** Cost**

*** State Acceptance**

*** Community Acceptance**

IRP Overview *Cleanup Process*



Current Program Status *Installation Restoration Program*

January 5, 1995

IRP Zone 1 Status

January 5, 1995

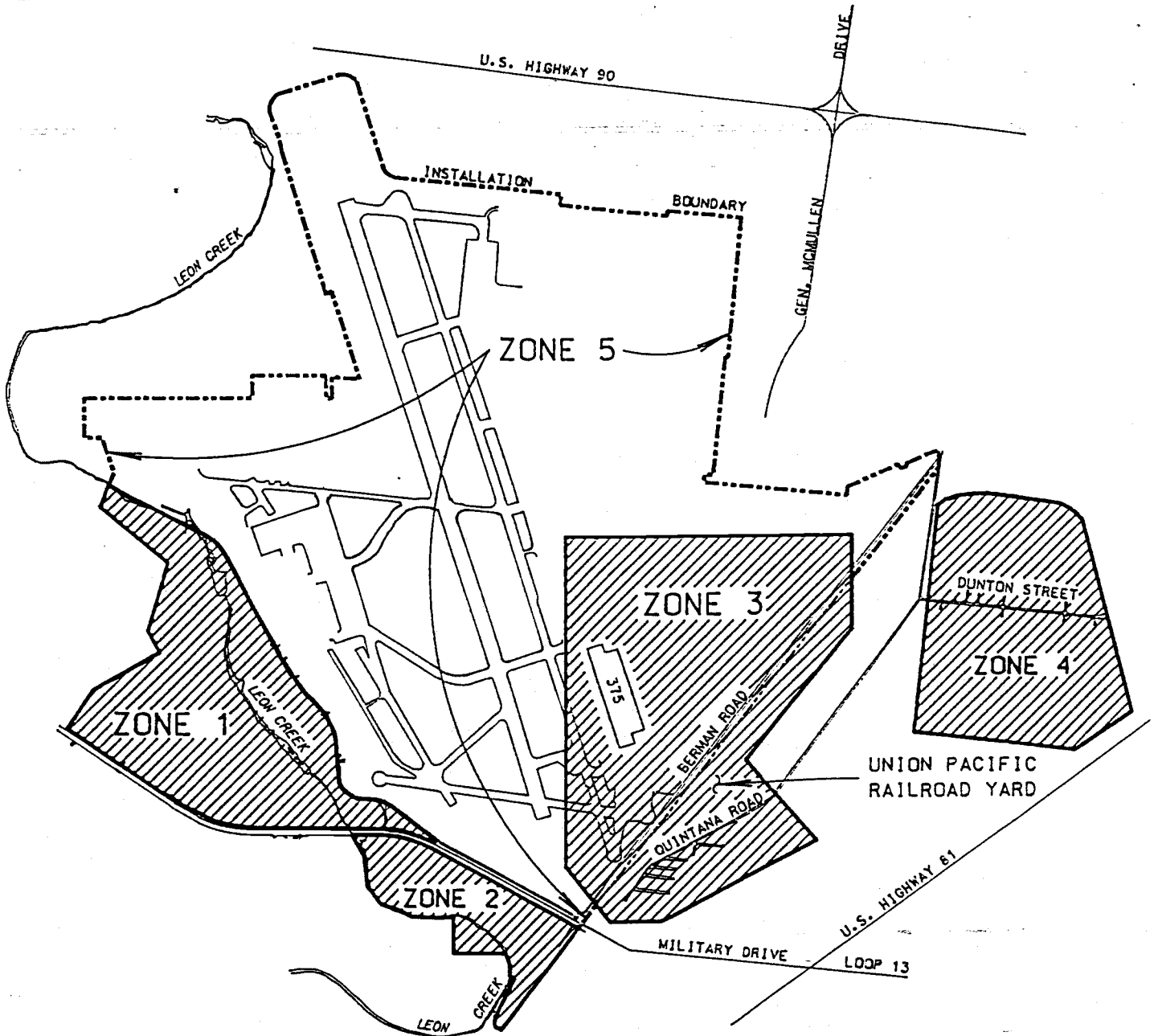
Zone 1 *Overview*

Zone 1 Team

- * Dan Medina
- * Roby Gregg

17 Sites in Zone 1

- * 16 Individual Soil Sites
- * Groundwater Zone 1 (Site SS-035)
- * Comprised of 383 Acres

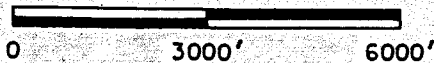


NOTE:

ZONE 5--ISOLATED SITES. INCLUDES SITES THAT ARE NOT LOCATED IN OTHER ZONES.

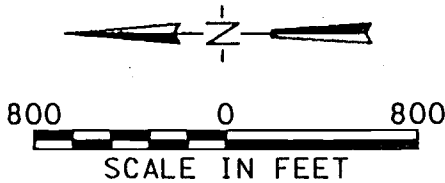
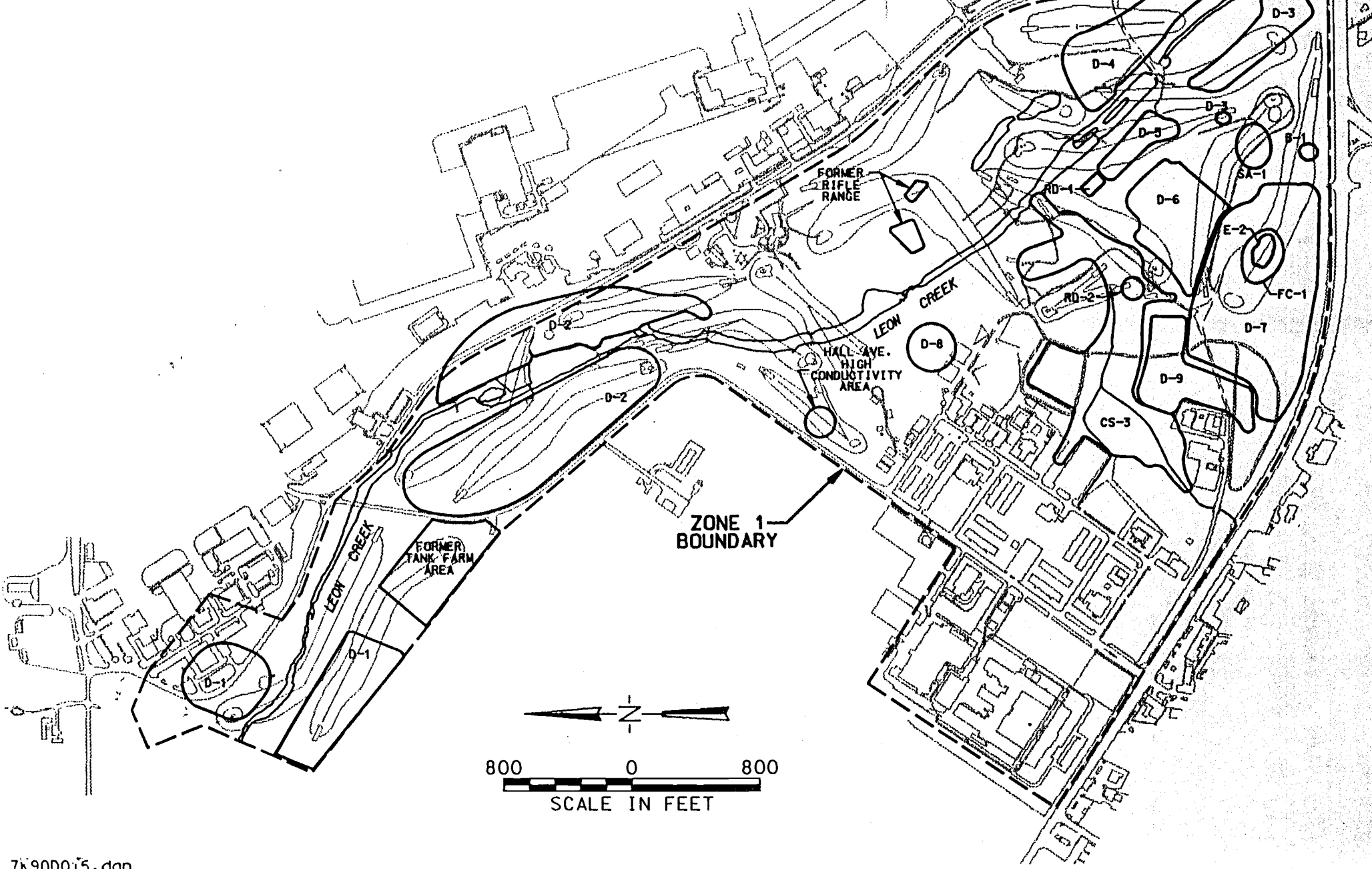


GRAPHIC SCALE



MAP OF ZONES UNDER INVESTIGATION
AT KELLY AIR FORCE BASE

IRP SITE LOCATIONS KELLY AIR FORCE BASE SAN ANTONIO, TEXAS



Zone 1 *Overview*

*** Geologic Setting**

- * Alluvial sediments consist of silts, clays, gravels**

*** Hydrogeologic Setting**



- * Groundwater exists under unconfined aquifer conditions**
- * Groundwater typically flows towards Leon Creek**
- * Perched groundwater also exists within landfill trenches**

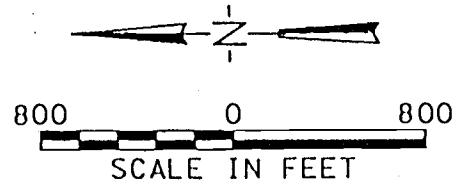
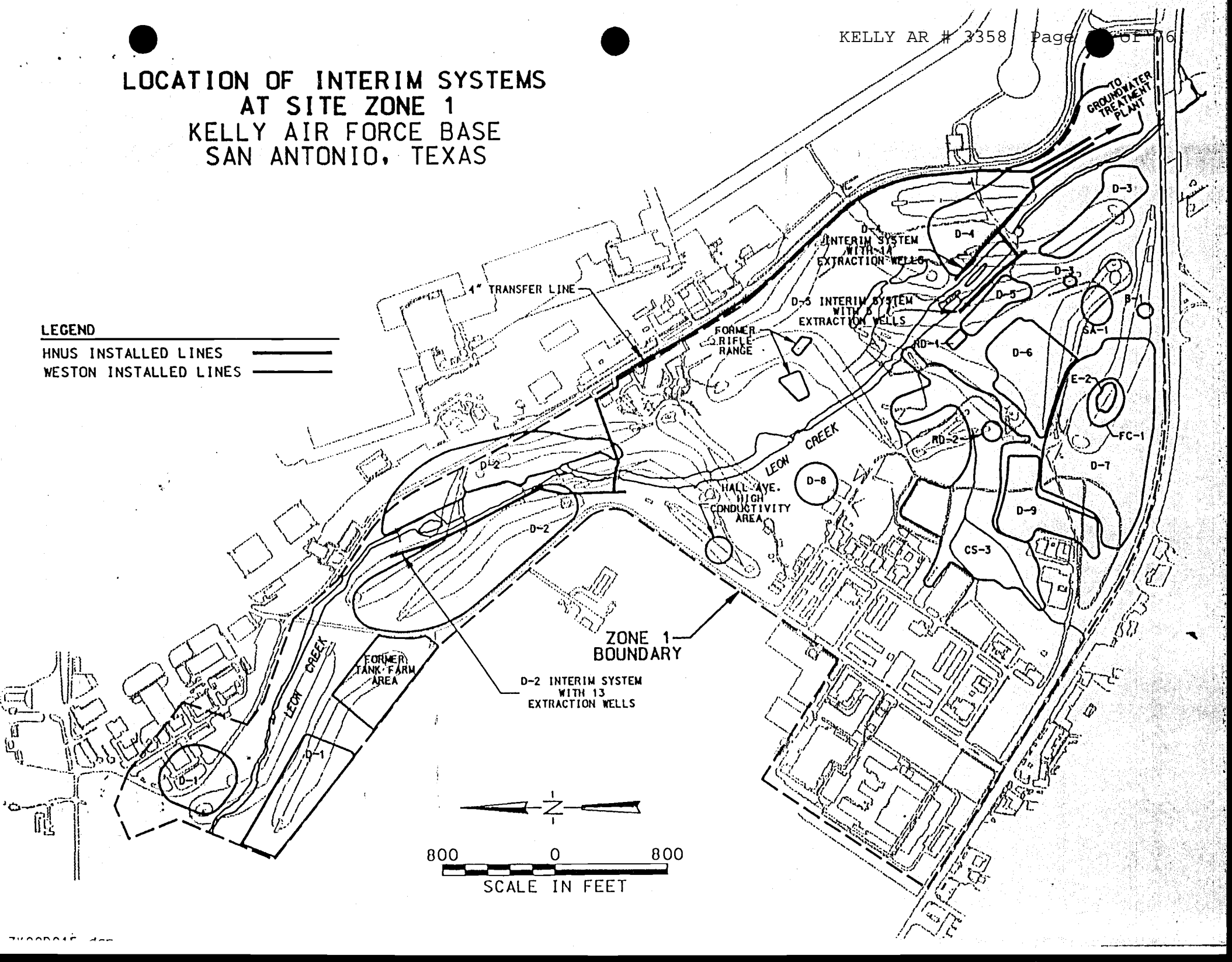
Zone 1 *Overview*

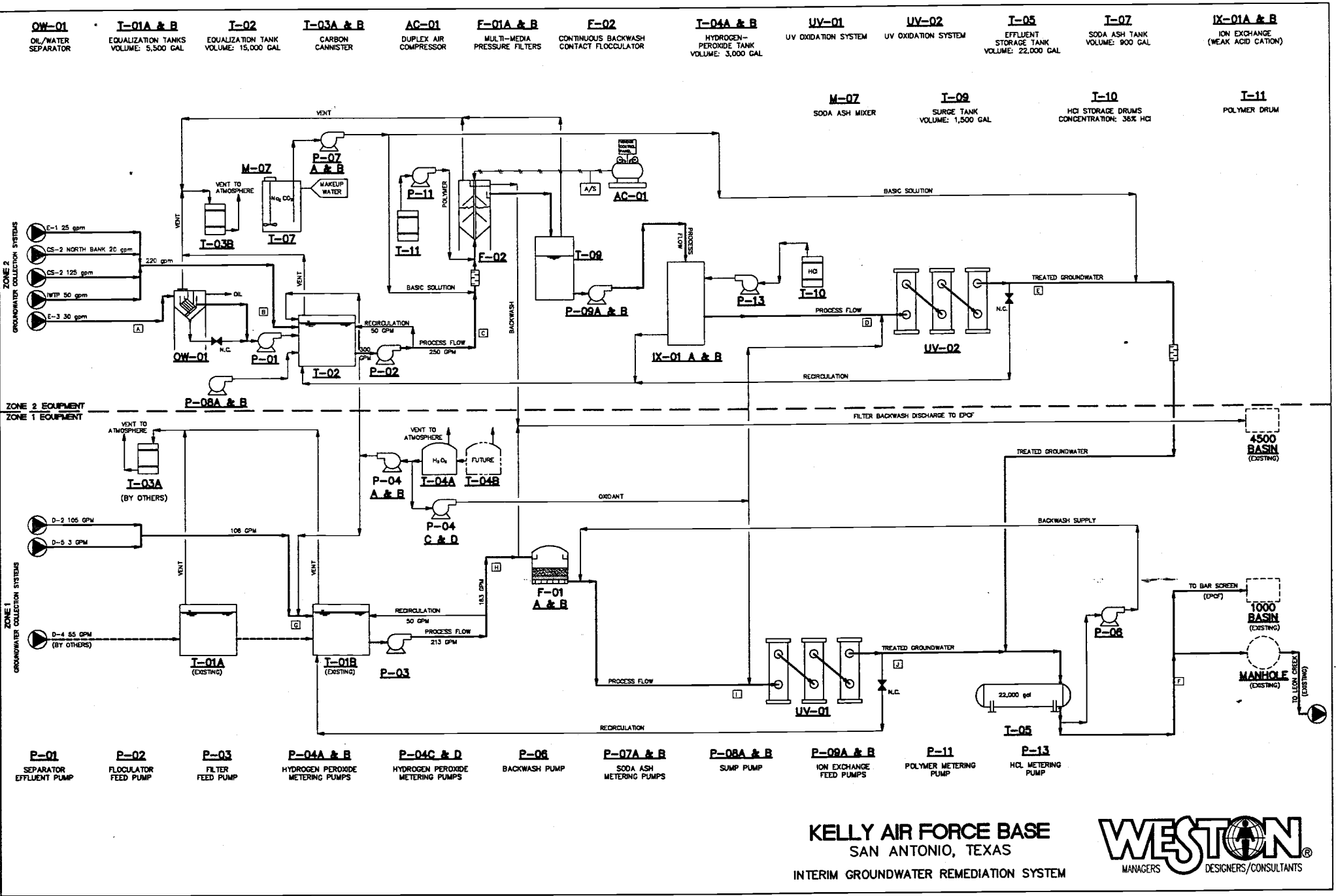
*** Historical Uses of Zone 1 include:**

- * Disposal of waste materials through landfills, sludge beds, an oil evaporation pit, and an oil burning pit**
- * Landfilling, trenching and grading, and related operations have disturbed much of the near surface soils**
- * Golf course construction in the late 1960's have affected undisturbed soils**

LOCATION OF INTERIM SYSTEMS AT SITE ZONE 1 KELLY AIR FORCE BASE SAN ANTONIO, TEXAS

LEGEND
HNUS INSTALLED LINES 
WESTON INSTALLED LINES 





OW-01
OIL/WATER
SEPARATOR

T-01A & B
EQUALIZATION TANKS
VOLUME: 5,500 GAL

T-02
EQUALIZATION TANK
VOLUME: 15,000 GAL

T-03A & B
CARBON
CANNISTER

AC-01
DUPLIX AIR
COMPRESSOR

F-01A & B
MULTI-MEDIA
PRESSURE FILTERS

F-02
CONTINUOUS BACKWASH
CONTACT FLOCCULATOR

T-04A & B
HYDROGEN-
PEROXIDE TANK
VOLUME: 3,000 GAL

UV-01
UV OXIDATION SYSTEM

UV-02
UV OXIDATION SYSTEM

T-05
EFFLUENT
STORAGE TANK
VOLUME: 22,000 GAL

T-07
SODA ASH TANK
VOLUME: 900 GAL

IX-01A & B
ION EXCHANGE
(WEAK ACID CATION)

M-07
SODA ASH MIXER

T-09
SURGE TANK
VOLUME: 1,500 GAL

T-10
HCl STORAGE DRUMS
CONCENTRATION: 36% HCl

T-11
POLYMER DRUM

ZONE 2
GROUNDWATER COLLECTION SYSTEMS
E-1 25 gpm
CS-2 NORTH BANK 20 gpm
CS-2 125 gpm
WTP 50 gpm
E-3 30 gpm

ZONE 2 EQUIPMENT
ZONE 1 EQUIPMENT

ZONE 1
GROUNDWATER COLLECTION SYSTEMS
D-2 105 GPM
D-5 3 GPM
D-4 55 GPM (BY OTHERS)

P-01
SEPARATOR
EFFLUENT PUMP

P-02
FLOCCULATOR
FEED PUMP

P-03
FILTER
FEED PUMP

P-04A & B
HYDROGEN PEROXIDE
METERING PUMPS

P-04C & D
HYDROGEN PEROXIDE
METERING PUMPS

P-06
BACKWASH PUMP

P-07A & B
SODA ASH
METERING PUMPS

P-08A & B
SUMP PUMP

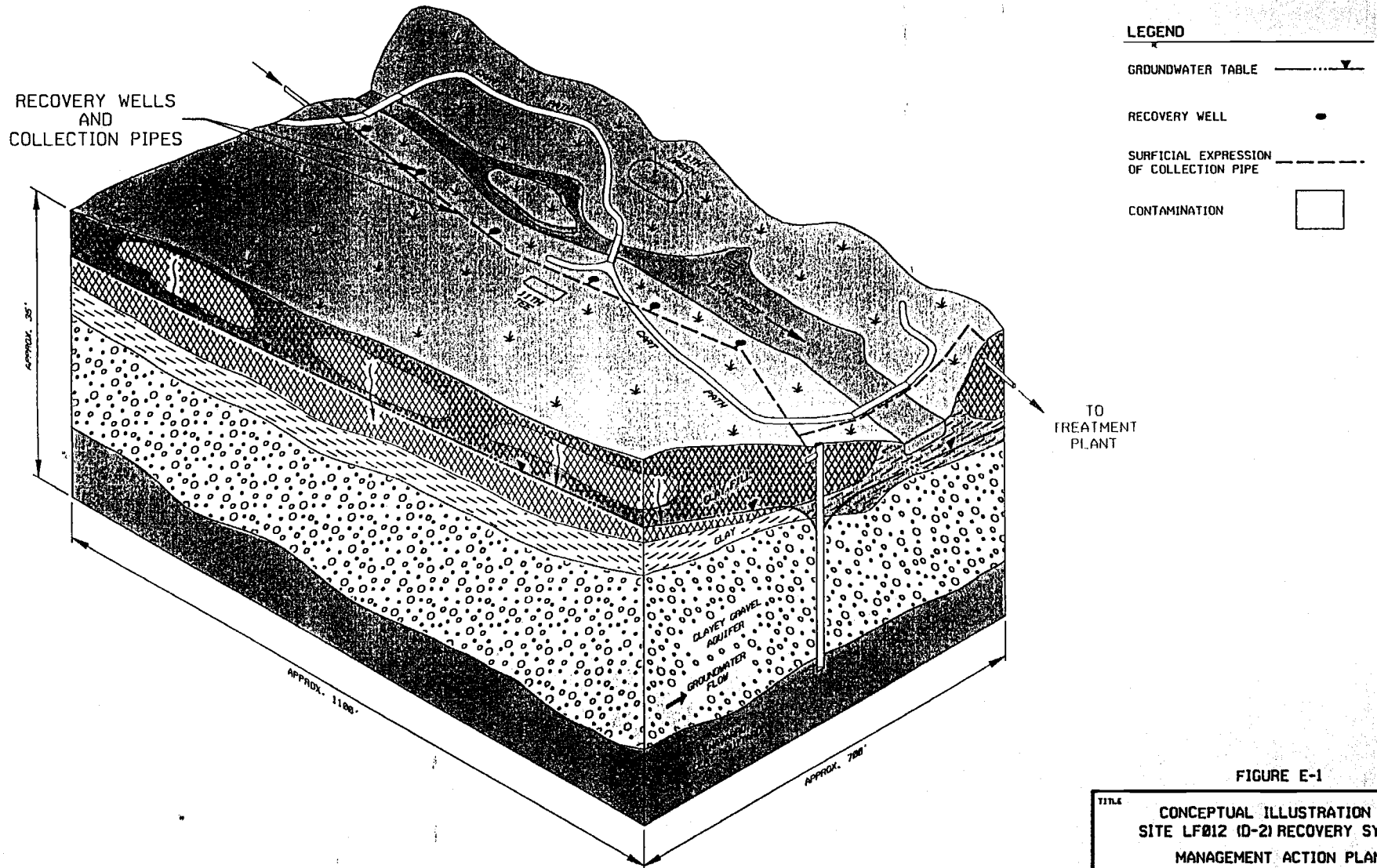
P-09A & B
ION EXCHANGE
FEED PUMPS

P-11
POLYMER METERING
PUMP

P-13
HCl METERING
PUMP

KELLY AIR FORCE BASE
SAN ANTONIO, TEXAS
INTERIM GROUNDWATER REMEDIATION SYSTEM

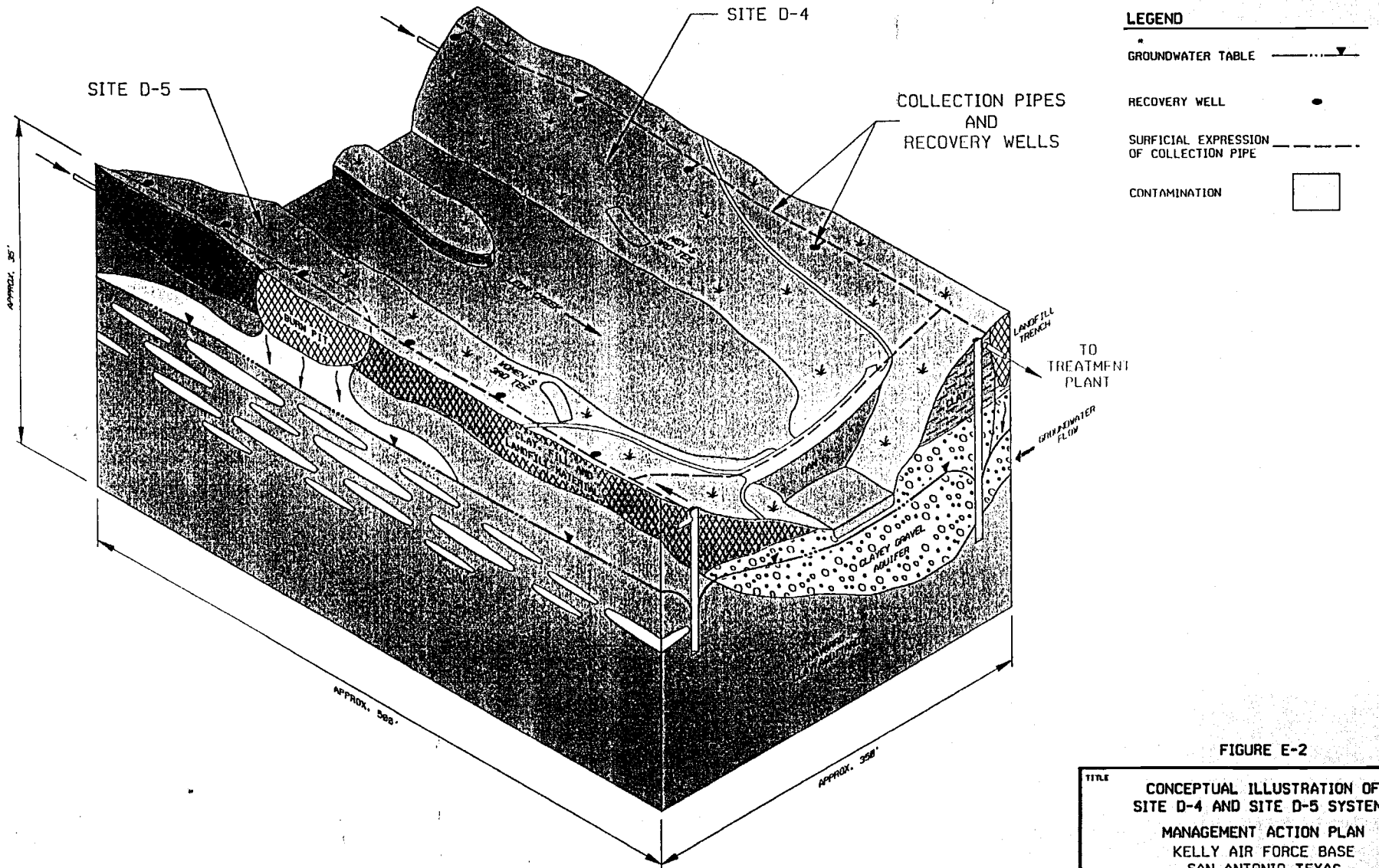




NOT TO SCALE

FIGURE E-1

TITLE	
CONCEPTUAL ILLUSTRATION OF SITE LF012 (D-2) RECOVERY SYSTEM MANAGEMENT ACTION PLAN KELLY AIR FORCE BASE SAN ANTONIO, TEXAS	
DRAWING NO.	DATE
2P10G027	7-1-93



LEGEND

- GROUNDWATER TABLE
- RECOVERY WELL
- SURFICIAL EXPRESSION OF COLLECTION PIPE
- CONTAMINATION

FIGURE E-2

TITLE	
CONCEPTUAL ILLUSTRATION OF SITE D-4 AND SITE D-5 SYSTEMS MANAGEMENT ACTION PLAN KELLY AIR FORCE BASE SAN ANTONIO, TEXAS	
DRAWING NO.	DATE
2P10G026	7-1-93

Zone 1
Past Investigations and Projects

Remedial Investigations / Feasibility Studies

- * **Completed RI for all sites**

Sites Closures

- * **5 Sites proposed for No Further Action**
- * **2 Sites proposed for Long Term Monitoring**

Interim Remedial Actions

- * **3 Groundwater recovery systems installed**

Zone 1
Current Investigations and Projects

Remedial Investigations / Feasibility Studies



- * **FS for Groundwater and Soil currently in progress**

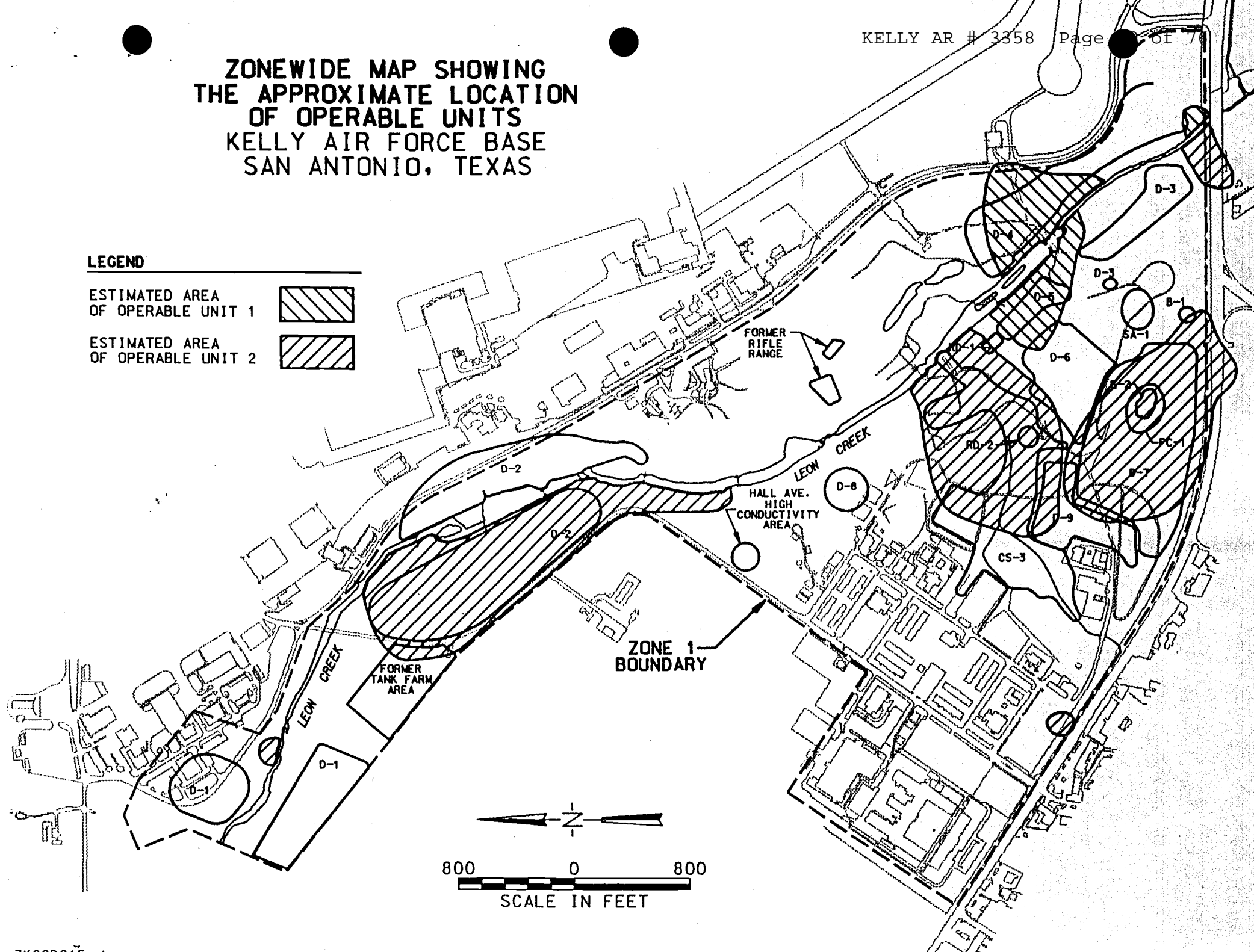
Interim Remedial Actions

- * **Sites D-2, D-4 and D-5 in operation**
- * **Total Interim Remedial Costs - \$2.9 Million (Includes \$900 Thousand for D-4 and \$2.0 Million for D-2, D-5)**
- * **Installed as a result of RI data indicating potential risks associated with soil and groundwater contamination as well as potential impact to Leon Creek**
- * **Interim Action serves as a Quick-Response Measure to prevent or minimize potential impact to the public, workers and the environment**

ZONEWIDE MAP SHOWING THE APPROXIMATE LOCATION OF OPERABLE UNITS KELLY AIR FORCE BASE SAN ANTONIO, TEXAS

LEGEND

- ESTIMATED AREA OF OPERABLE UNIT 1 
- ESTIMATED AREA OF OPERABLE UNIT 2 



**Proposed Groundwater Remedial
Alternatives**

- * **Proposed Alternatives to Address 2 Operable Units for Groundwater in Zone 1**

- * **Alternatives to Incorporate Interim Remedial Actions Currently in Operation for D-2, D-4 & D-5**

- * **Groundwater Alternatives to be done inconjunction with Soil Remedial Actions**

**Groundwater - Zone 1
Summary**

- * **OPERABLE UNIT 1 \$9.61Million**
 - * DEED RESTRICTIONS
 - * GROUNDWATER MONITORING
 - * EXTRACTION WELLS, OXIDATION
 - * DISCHARGE TO PERMITTED OUTFALL

- * **OPERABLE UNIT 2 \$24.50 Million**
 - * DEED RESTRICTIONS
 - * GROUNDWATER MONITORING
 - * COLLECTION TRENCHES, WELLS
 - * OXIDATION, PRECIPITATION
 - * DISCHARGE TO PERMITTED OUTFALL

- * **OPERABLE UNIT COSTS REFLECTS \$2.9 MILLION SPENT ON INTERIM REMEDIAL ACTIONS**

Operable Unit 1
Cost Summary

OPERABLE UNIT 1 - Proposed Clean Up Action

- * **Installation Time: 12-18 months**
- * **Cost - Capital: \$260,000**
- * **O&M/Present Worth: \$9.35 Million**
- * **Cost of Alternative Accounts for Part of \$2.9 Million Spent On Currently Operating Interim Remedial Actions**

- * **Total: \$9.61 Million Over 30 Years**

Operable Unit 2
Cost Summary

OPERABLE UNIT 2 - Proposed Clean Up Action

- Installation Time - 12-18 months**
- * **Cost - Capital: \$6.53 Million**
- * **O&M/Present Worth: \$17.96 Million**
- * **Cost of Alternative Accounts for Part of \$2.9 Million Spent on Currently Operating Interim Remedial Actions**

- * **Total: \$25.40 Million Over 30 Years**

Zone 1
Future Projects

Remedial Design

- * FY 95 - Completion of Soil and Groundwater Feasibility Studies and Record of Decision
- * FY 95 - Zone 1 Soil and Groundwater Design
- * FY 96 - All sites not closed during FS

Remedial Actions

- * FY96, FY97

IRP Zone 2 Status

January 5, 1995

Zone 2 Overview

Zone 2 Project Manager

- * **Ken Johnson**

Hydrology/Geology

- * **Silts, clays, sands, gravels, Navarro Clay**
- * **Water table ranges from 5 to 30 feet below surface**
- * **Groundwater flow is to the Southeast**

16 Sites in Zone 2

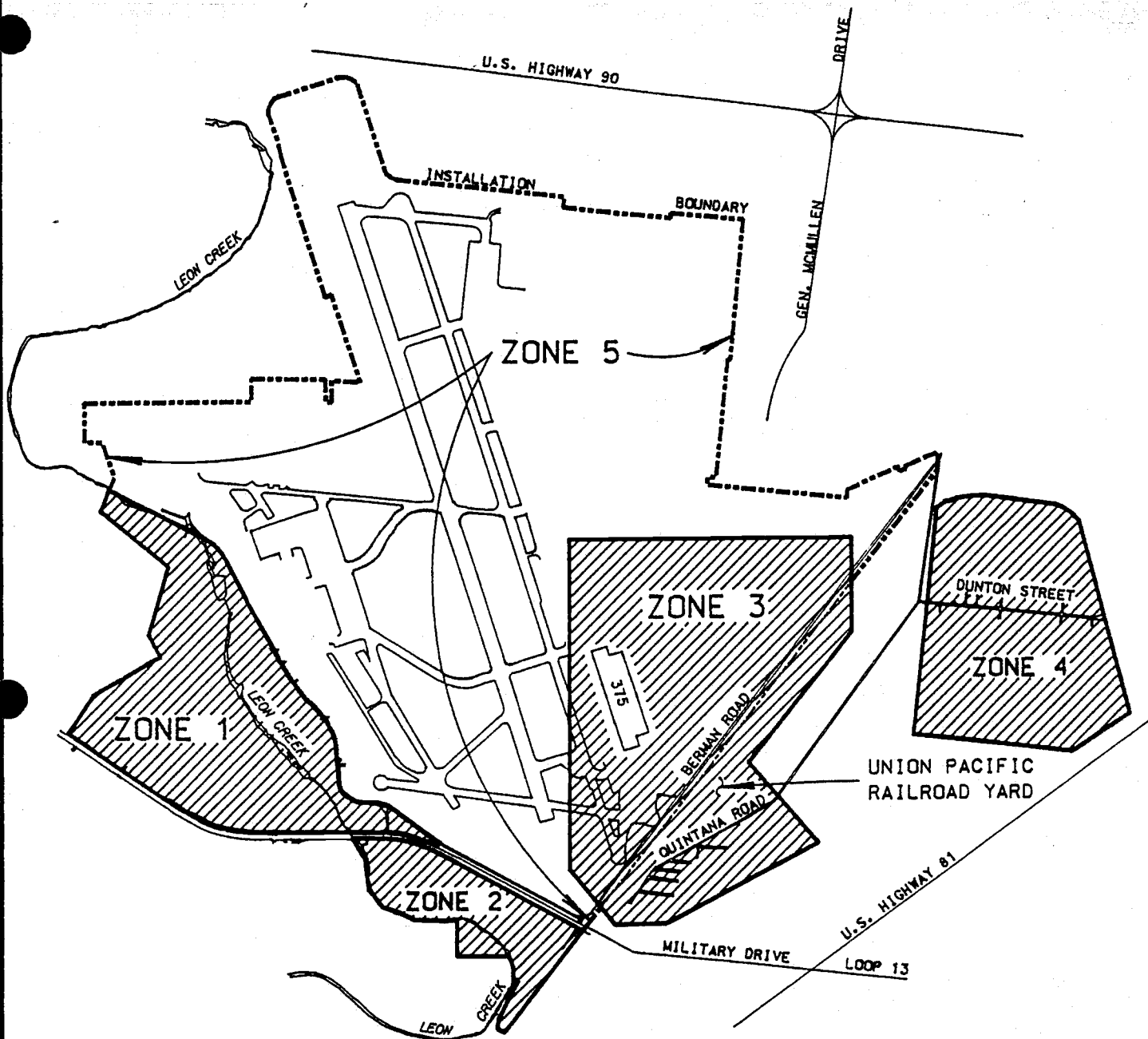
15 Soil Sites

- * **Groundwater Zone 2 (Site SS-036)**
- * **Total Area Zone 2: 174 Acres**

Zone 2 Overview

Zone 2 Historical Uses:

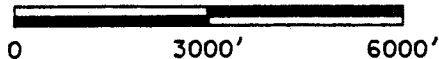
- * **Jet Engine Testing**
- * **Wastewater Treatment**
- * **Fire Control Training**
- * **Waste Disposal in Evaporating Pits**
- * **Sludge Drying in Land Spreading Areas**
- * **Equipment and Material Storage**



NOTE:
 ZONE 5—ISOLATED SITES. INCLUDES SITES THAT ARE NOT LOCATED IN OTHER ZONES.



GRAPHIC SCALE



TITLE
**MAP OF ZONES UNDER INVESTIGATION
 AT KELLY AIR FORCE BASE
 MANAGEMENT ACTION PLAN
 KELLY AIR FORCE BASE
 SAN ANTONIO, TEXAS**

DRAWING NO. 2P10G001

DATE 10-20-92

FINAL DRAFT

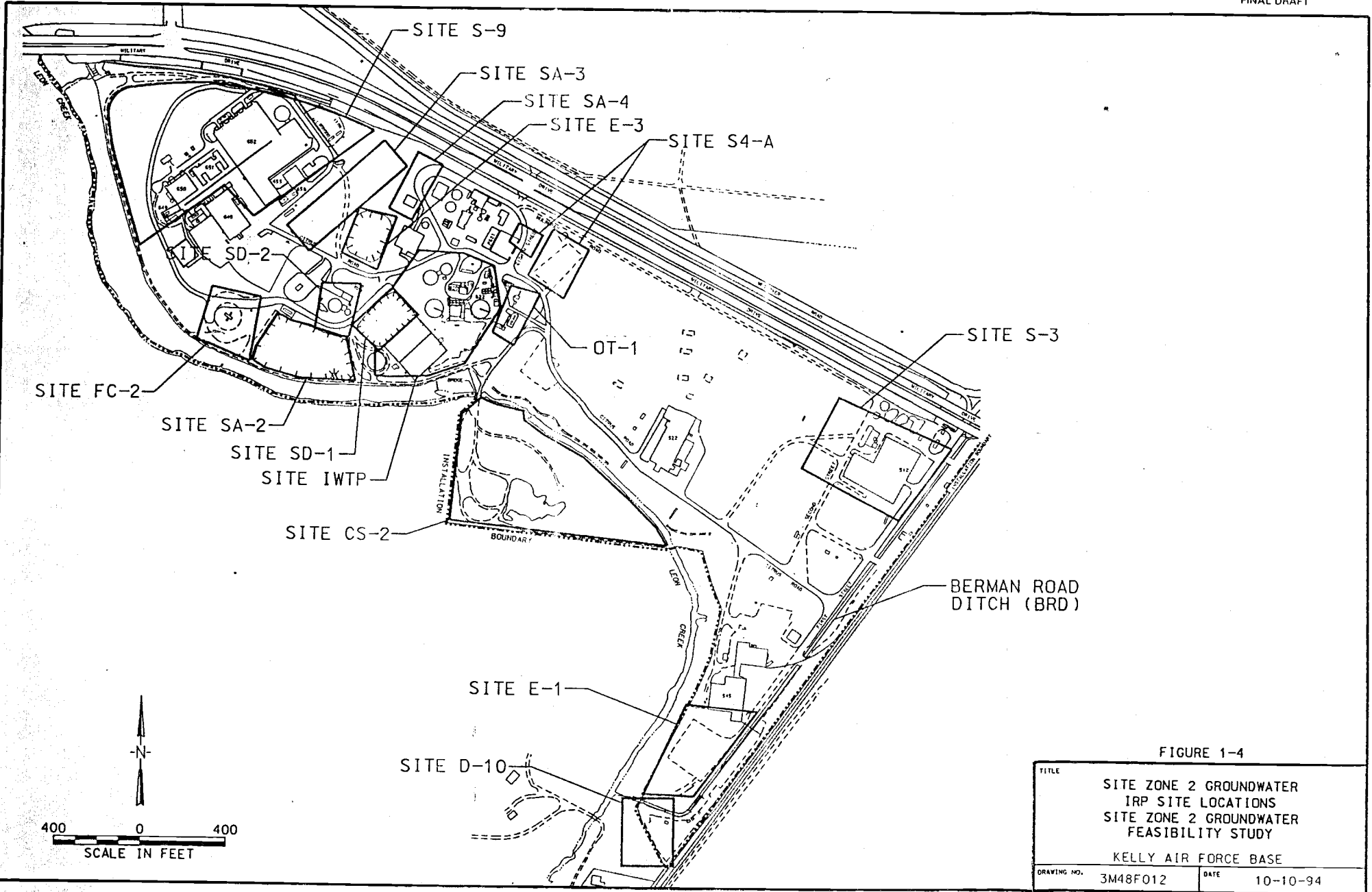


FIGURE 1-4

TITLE	
SITE ZONE 2 GROUNDWATER IRP SITE LOCATIONS SITE ZONE 2 GROUNDWATER FEASIBILITY STUDY	
KELLY AIR FORCE BASE	
DRAWING NO.	DATE
3M48F012	10-10-94

Zone 2
Past Investigations and Projects

Remedial Investigations / Feasibility Studies

- * Completed RI for all sites except D-10

Site Closures

- * 5 Sites proposed for No Further Action

Removal Actions

- * 1 Removal action completed

Interim Remedial Actions

- * 2 Groundwater recovery systems installed

Zone 2
Current Investigations and Projects

Remedial Investigations / Feasibility Studies

- * Zone 2 FS for Groundwater and Soil currently in progress
- * D-10 RI/FS in progress

Interim Remedial Actions

- * Sites E-3, E-1, CS-2 and IWTP in progress

Operable Unit 1 *Cost Summary*

OPERABLE UNIT 1 - Proposed Clean Up Action

- * Installation Time: 12-18 months
- * Cost - Capital: \$6,470,000
- * O&M/Present Worth: \$10,870,000
- * Interim Remedial Actions: Less \$3,444,000

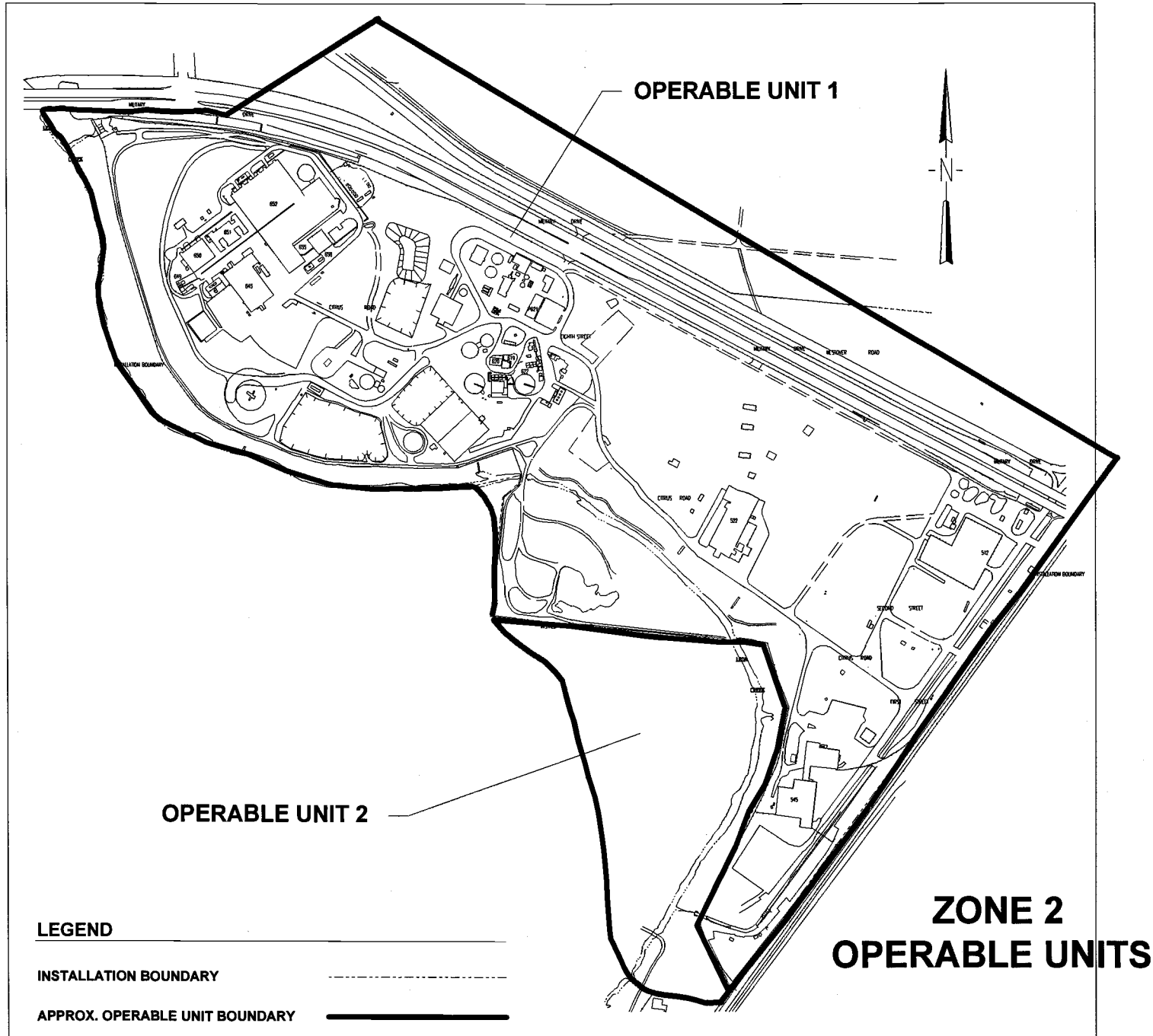
- * Future Costs: \$13,896,000
- * Total: \$17.3 Million Over 8 Years

Operable Unit 2 *Cost Summary*

OPERABLE UNIT 2 - Proposed Clean Up Action

- * Installation Time: Less than 6 months
- * Cost - Capital: \$273,000
- * O&M/Present Worth: \$289,000

- * Total: \$562 Thousand Over 5 Years



Groundwater Zone 2 *Summary*

OPERABLE UNIT 1 \$17.3 Million

- * Deed Restrictions
- * Groundwater Monitoring
- * ReInjection
- * Collection Trenches
- * In Situ Aerobic Bioremediation
- * Oxidation
- * Precipitation
- * Slurry Wall

Groundwater Zone 2 *Summary*

OPERABLE UNIT 2 \$562 Thousand

- * Deed Restrictions
- * Groundwater Monitoring

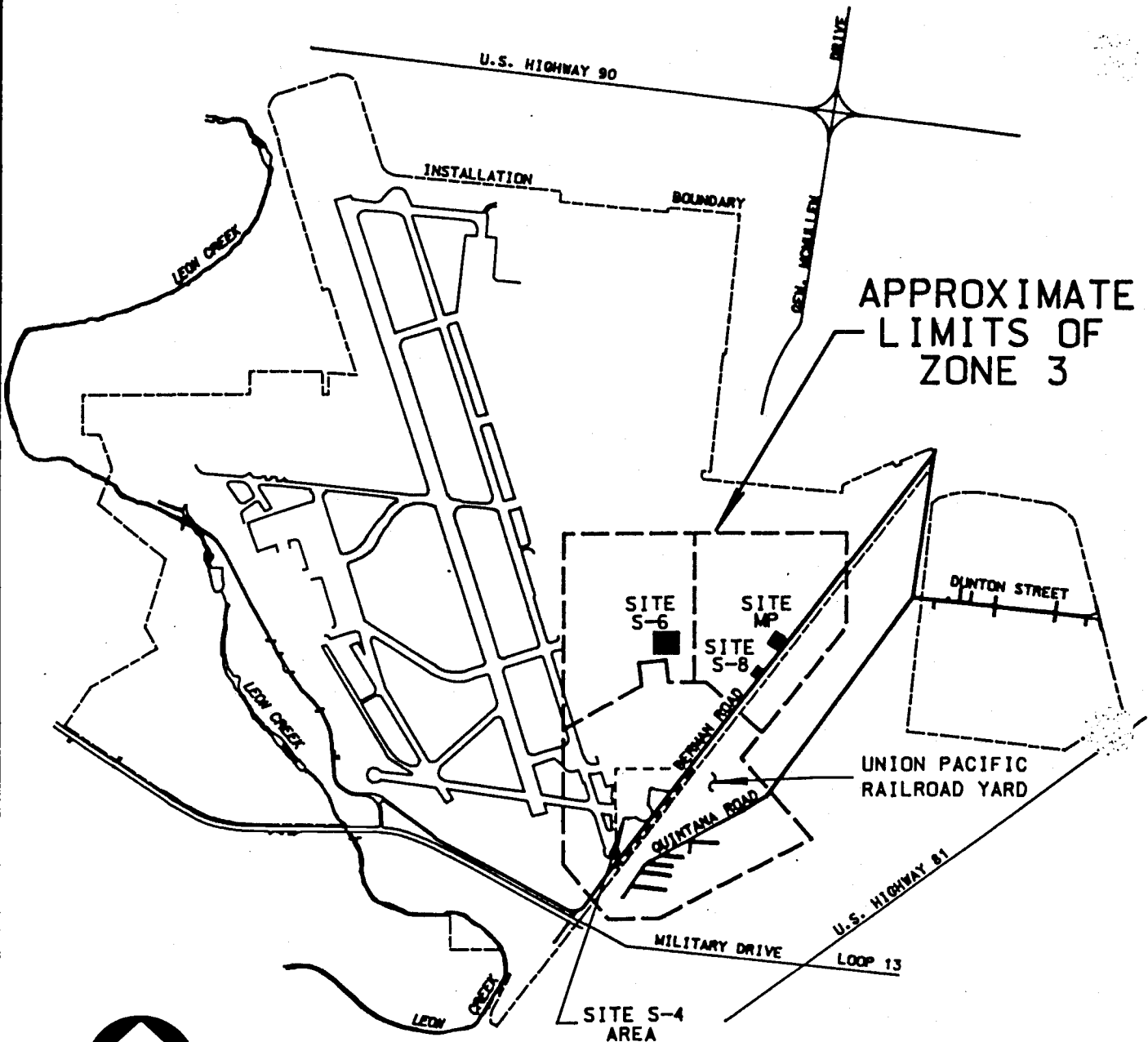
* OPERABLE UNIT COSTS REFLECTS \$3.4 MILLION
SPENT ON INTERIM REMEDIAL ACTIONS

IRP Zone 3 Status

January 5, 1995

Groundwater - Zone 3 *Overview*

- * **Project Manager: Ronald C. Catchings**
- * **Location:**
 - * **Eastern Base Boundary**
 - * **Union Pacific Railroad Yard**
 - * **Quintana Road neighborhood**
- * **Site Characteristics:**
 - * **Consists of 488 Acres**
 - * **10 IRP Sites including:**
 - * **1 RCRA-regulated unit (Site S-8)**



APPROXIMATE
LIMITS OF
ZONE 3

NOTES:

- 1) SITE IWCS IS NOT SHOWN. SEE FIGURES 5-1, 6-1 AND 7-1 FOR SPECIFIC SITE BOUNDARIES.
- 2) SITE MP IS EQUIVALENT TO IRP SITE OT-2 REFERENCED IN THE UNILATERAL ORDER.
- 3) SITE S-8 IS A RCRA SITE.



GRAPHIC SCALE



TITLE

ZONE 3
LOCATION MAP
KELLY AIR FORCE BASE
SAN ANTONIO, TEXAS

DRAWING NO.

5F38G003

DATE

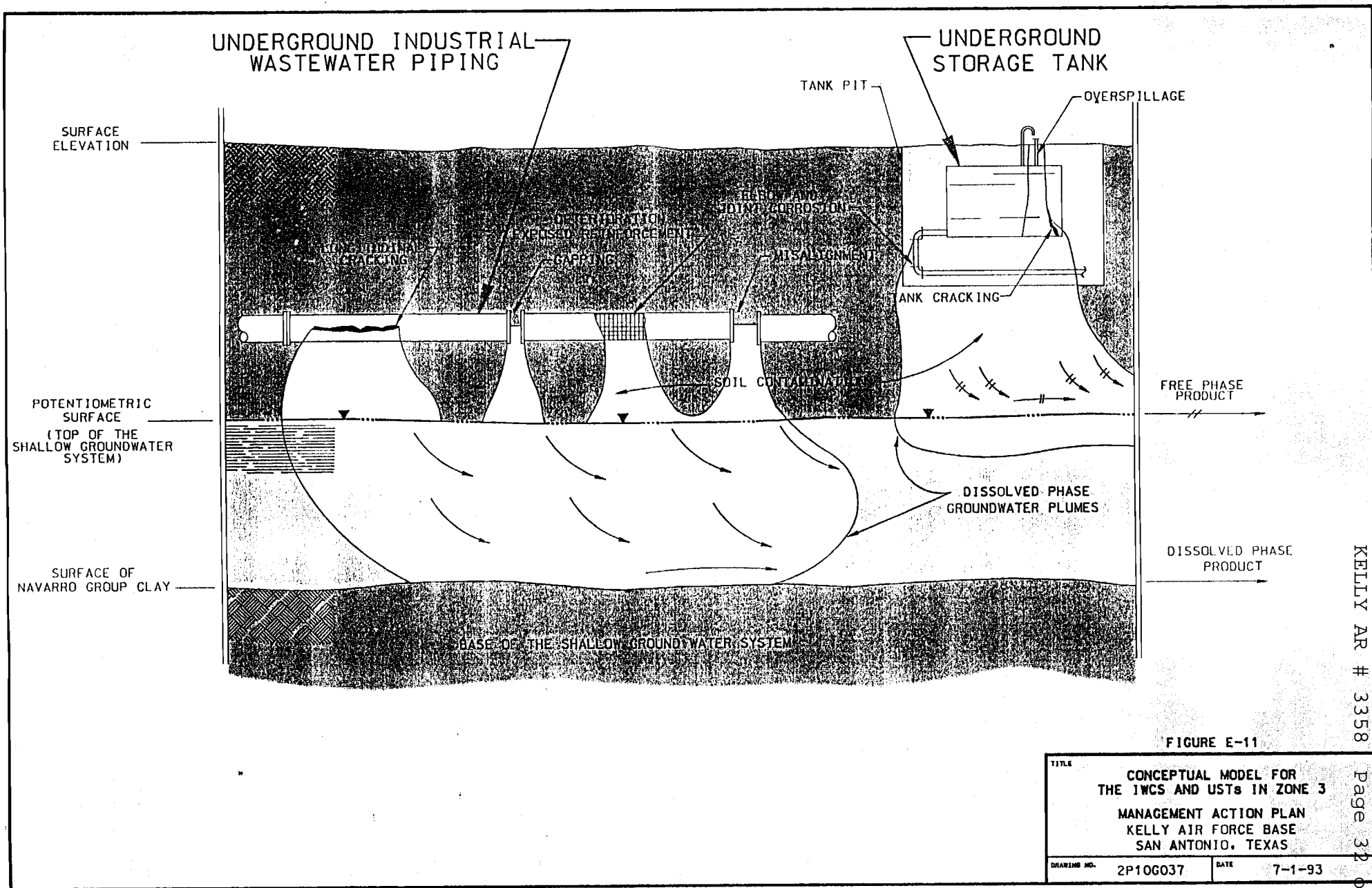


FIGURE E-11

TITLE		
CONCEPTUAL MODEL FOR THE IWCS AND USTs IN ZONE 3		
MANAGEMENT ACTION PLAN		
KELLY AIR FORCE BASE		
SAN ANTONIO, TEXAS		
DRAWING NO.	2P10G037	DATE
		7-1-93

E2-30

Zone 3
Historical Uses

- * **Industrial Part of Air Base**
- * **Maintenance of Jet Engines**
- * **Depot Maintenance of B-52s (Past)**
- * **Depot Maintenance of C-5s (Present)**
- * **Depot Maintenance of C-17s (Future)**
- * **Depot Maintenance Started 1940's**
- * **Industrial Waste Collection Line (Leaks)**
- * **Underground Storage Tanks (Leaks)**

Zone 3
Past Investigations and Projects

Remedial Investigations / Feasibility Studies

- * **Completed Zone 3 RI**

Site Closures

- * **5 Sites proposed for No Further Action**

Interim Remedial Actions

- * **2 Groundwater recovery systems installed**

Zone 3
Current Investigations and Projects

Remedial Investigations / Feasibility Studies

- * **Zone 3 FS in progress**

Interim Remedial Actions

- * **Contracted 2 groundwater recovery systems**
- * **Contracted with City of San Antonio for Containment Barrier**

Groundwater - Zone 3
Program Status

- * **Interim Remedial Actions (IRAs) - 5 major efforts**

- * **Site S-4/Quintana Road IFPRS**

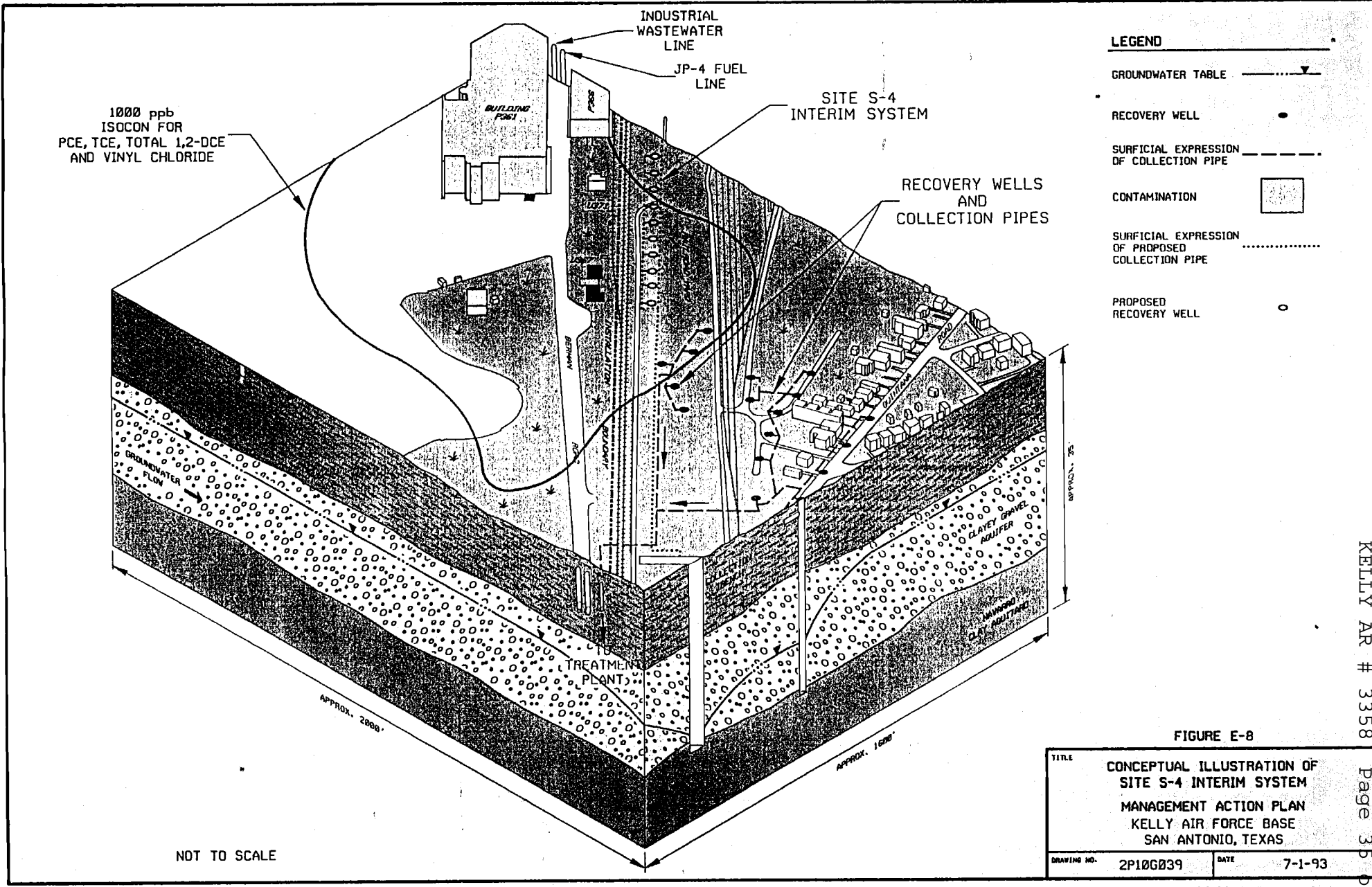
- * **Site S-8 IFPRS**

- * **Site S-4 Upgrade**

- * **Site OT-2 GWRS**

- * **Quintana Road Storm Drainage Project
(provides containment structure)**

- * **Note: 2 IRAs are in place - 3 IRAs are under construction. All IRAs are incorporated into the FS preferred alternative.**



- LEGEND**
- GROUNDWATER TABLE ———— ▽
 - RECOVERY WELL ●
 - SURFICIAL EXPRESSION OF COLLECTION PIPE - - - - -
 - CONTAMINATION [shaded box]
 - SURFICIAL EXPRESSION OF PROPOSED COLLECTION PIPE ······
 - PROPOSED RECOVERY WELL ○

FIGURE E-8

TITLE	
CONCEPTUAL ILLUSTRATION OF SITE S-4 INTERIM SYSTEM	
MANAGEMENT ACTION PLAN	
KELLY AIR FORCE BASE	
SAN ANTONIO, TEXAS	
DRAWING NO.	DATE
2P10G039	7-1-93

E2-22

NOT TO SCALE

KELLY AR # 3358 Page 35 OF 76

Groundwater - Zone 3
Preferred Alternative

- * **OPERABLE UNIT 1 - Proposed Clean Up Action**

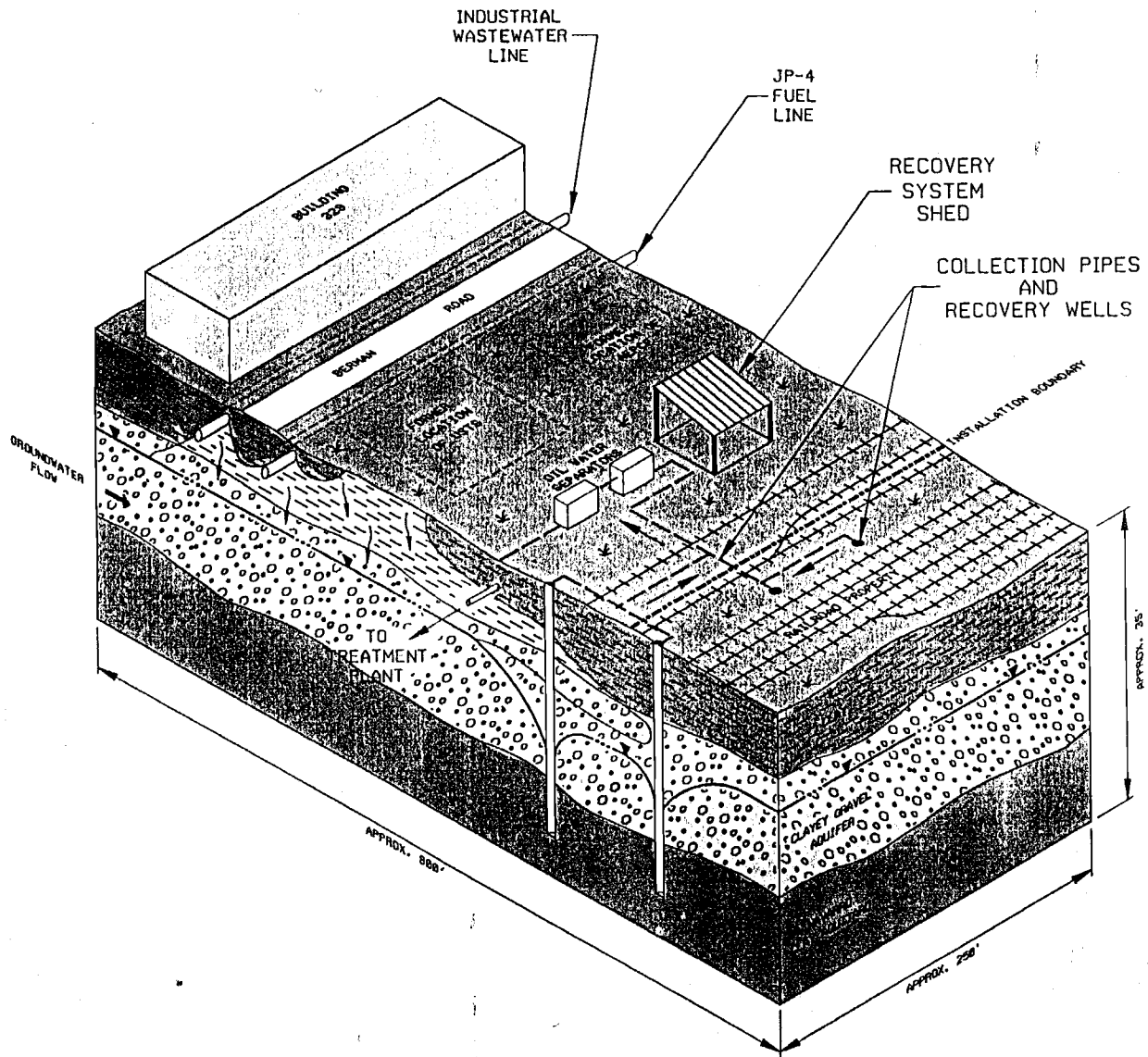
- * **Institutional Controls**
- * **Groundwater Monitoring**
- * **Extraction Wells**
- * **Ex Situ Oxidation Treatment (organics)**
- * **Ex Situ Precipitation Treatment (inorganics)**
- * **Disposal at EPCF**
- * **Underground Containment Structure Off-base**

Groundwater - Zone 3
Preferred Alternative

- * **Capital costs:**
 - * **\$13.7 million**
 - * **\$6.8 million - current**
 - * **\$6,900,000 - Future**

- * **O&M/Long-Term Monitoring (30 years):**
 - * **\$28.6 million**

- * **Total Cost \$42.3 million**



LEGEND

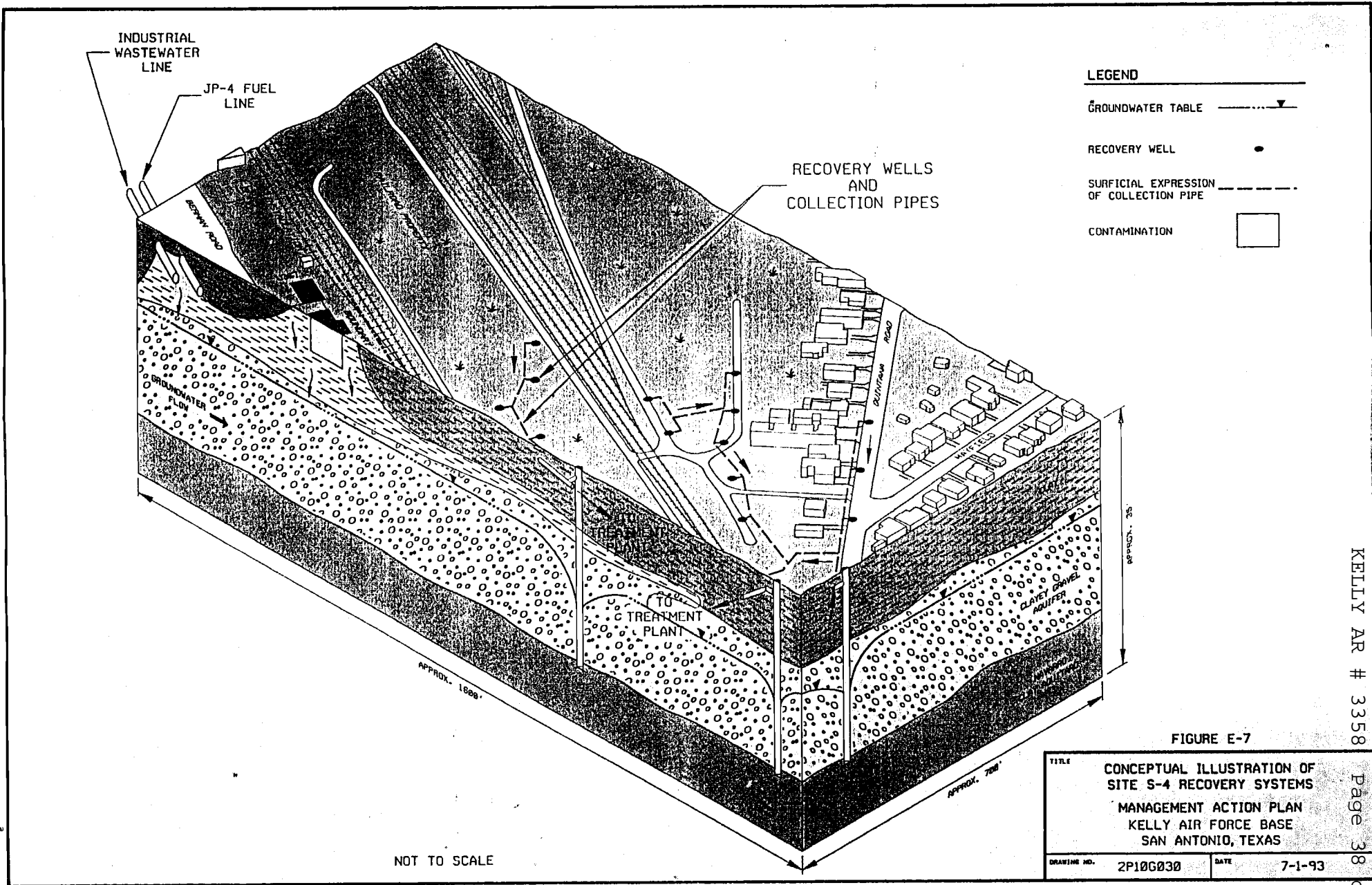
- GROUNDWATER TABLE
- RECOVERY WELL
- SURFICIAL EXPRESSION OF COLLECTION PIPE
- CONTAMINATION
- AUTOMATED ENGINE PARTS CLEANING FACILITY AEP
- UNDERGROUND STORAGE TANKS UST

NOT TO SCALE

FIGURE E-9

717.E	
CONCEPTUAL ILLUSTRATION OF SITE ST038 (S-8) RECOVERY SYSTEM MANAGEMENT ACTION PLAN KELLY AIR FORCE BASE SAN ANTONIO, TEXAS	
DRAWING NO.	2P10G029
DATE	7-1-93

E2-25



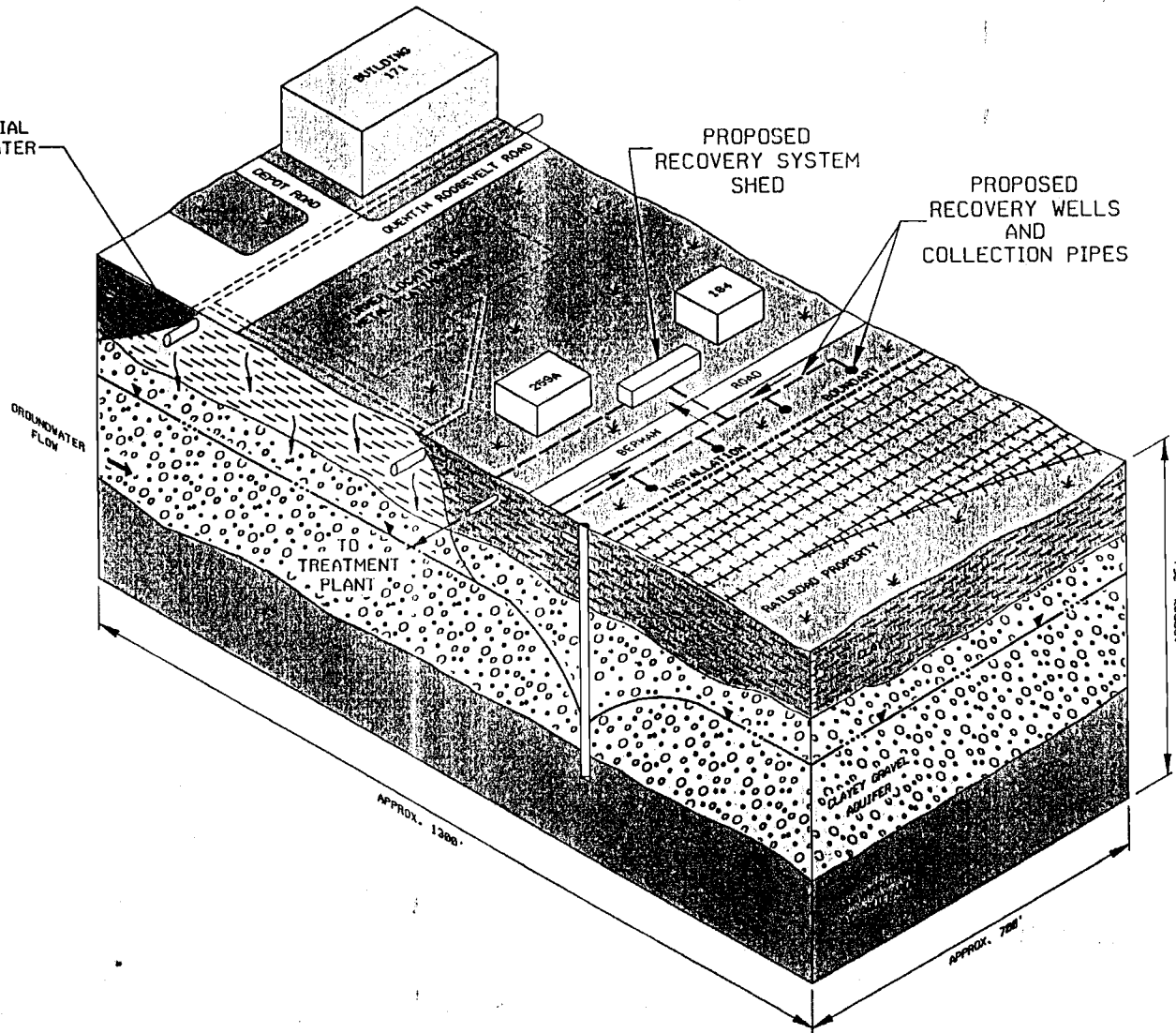
- LEGEND**
- GROUNDWATER TABLE
 - RECOVERY WELL
 - SURFICIAL EXPRESSION OF COLLECTION PIPE
 - CONTAMINATION

FIGURE E-7

TITLE		CONCEPTUAL ILLUSTRATION OF SITE S-4 RECOVERY SYSTEMS	
		MANAGEMENT ACTION PLAN	
		KELLY AIR FORCE BASE	
		SAN ANTONIO, TEXAS	
DRAWING NO.	2P10G030	DATE	7-1-93

E2-19

INDUSTRIAL WASTEWATER LINE



LEGEND

- GROUNDWATER TABLE
- RECOVERY WELL
- SURFICIAL EXPRESSION OF COLLECTION PIPE
- CONTAMINATION

NOT TO SCALE

FIGURE E-10

TITLE	
CONCEPTUAL ILLUSTRATION OF SITE SS040 (OT-2) RECOVERY SYSTEM MANAGEMENT ACTION PLAN KELLY AIR FORCE BASE SAN ANTONIO, TEXAS	
DRAWING NO.	2P10G028
DATE	7-1-93

E2-28

Zone 3
Future Projects

Remedial Investigations / Feasibility Studies

* Completed - 1995

Remedial Design / Remedial Actions

* FY 95 - Remedial Design - Groundwater

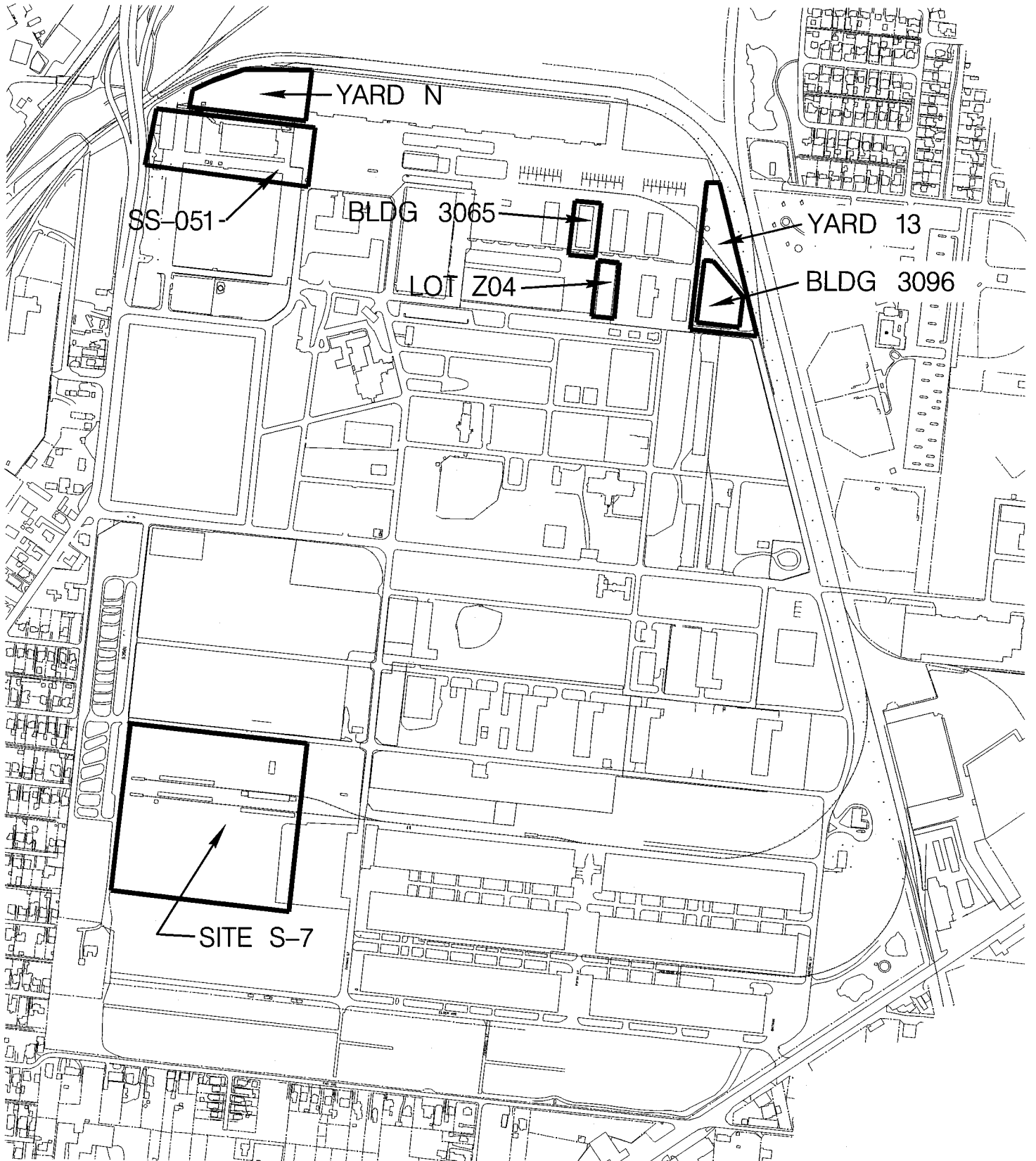
* FY 95 - Remedial Design - Soil

* FY 96 - Remedial Action

IRP Zone 4 Status

January 5, 1995

IRP ZONE 4 - EAST KELLY AFB



Zone 4 Overview

Zone 4 Team

- * Ed Roberson
- * Stephenie Webb

Size of Zone 4

- * Total area of East Kelly is 400 acres
- * 46 acres are leased to Defense Reutilization & Marketing Office (DRMO)

Zone 4 Overview

8 Investigation Sites

4 IRP Sites in Zone 4

- * 3 Spill Sites (S-2, S-7, and SS-051)
- * Groundwater Zone 4 (SS-052)

4 DRMO Hazardous Waste Management Units

- * Yard N
- * Yard 13
- * Building 3065
- * Lot Z04

Zone 4 *Overview*

- * **Geology**
 - * **Alluvial deposits of clays and gravels (approximately 40 feet deep from surface)**
 - * **Sediments underlain with the Navarro clay and Taylor marl formations (approximately 800 feet thick)**

- * **Hydrogeology**
 - * **Shallow groundwater aquifer found in the alluvial gravels only**
 - * **Groundwater is under confined conditions**

Zone 4 *Description*

- * **East Kelly AFB is an annex to Kelly AFB**

- * **Formerly known as the Normoyle Quartermaster Depot.**

- * **Most organizations are tenant organizations.**
 - * **Some of these, such as the Defense Logistics Agency (DLA) and the Defense Reutilization and Marketing Office (DRMO), are under the control of the Department of Defense and not under direct control of the Air Force.**

Zone 4

Description

- * DRMO leases 46 acres on the north side of East Kelly. DRMO is responsible for collecting and reusing, recycling, and/or selling all surplus government property from all military installations in their region.

- * The San Antonio office of DRMO handles surplus property for Kelly AFB, Lackland AFB, Randolph AFB, Brooks AFB, Ft. Sam Houston, Camp Stanley, Laughlin AFB (Del Rio), Bergstrom AFB (Austin), and Ellington Field (Houston).

- * DLA also used yards on the west and south sides of East Kelly as storage areas.

Zone 4

IRP History

- * Two potential IRP sites identified in the Phase 1 study in 1982 (Sites S-2 and S-7)
 - * Site S-2 consisted of two outdoor storage areas (Yard N and Yard 13) in the DRMO leased area. These two yards were used for storage of drums containing used solvents from the 1960s to mid 1980s.
 - * Site S-7 was an outdoor storage area located in the DLA area. This area was used for storage of drums of herbicide in 1971-1972.

Zone 4
IRP History

- * Preliminary investigations were conducted at Sites S-2 and S-7 during the Phase II, Stage 2 Study in 1985. This report indicated the need to conduct a full investigation at both of these sites.

- * A Remedial Investigation was started for both sites in 1989. These investigations were completed in 1992.

Zone 4
Past IRP Projects

- * The Site S-7 RI concluded that there was not significant amounts of residual herbicides left at the site that would pose a risk to human health or the environment, and recommended that a No Further Action Decision Document be prepared and submitted to close the site.

- * The No Further Action Decision Document for Site S-7 was submitted to the TNRCC in August 1992.

- * The TNRCC requested that additional sampling be conducted at Site S-7 before approving the site closure.

Zone 4
Past IRP Projects

- * The Site S-2 RI concluded that there were solvents in the groundwater, but that Yard N and Yard 13 were not the source.
- * The most probable source was an old industrial waste collection system (IWCS) line located south of Yard N. This line was used to transport used solvents from the engine repair facilities (now St. Philips College, Southwest Campus) to the wastewater treatment plant.
- * A No Further Action Decision Document was submitted to the TNRCC for Site S-2 in August 1992, which was approved.

Zone 4
Current IRP Projects

- * The area around the IWCS line (found during the Site S-2 RI) was designated as IRP Site SS-051, and the groundwater on East Kelly was designated as IRP Site SS-052.
- * A Remedial Investigation of these two sites was started in October 1993, and is still under way. The RI should be complete by December 1995, at which time the Feasibility Study will begin.
- * The additional sampling required by the TNRCC for Site S-7 was conducted as part of the Zone 4 RI. An amendment to the S-7 RI and Decision Document will be forth coming.

Zone 4
Future IRP Projects

FY 96

- * **Conduct Zone 4 Feasibility Study**

FY 97

- * **Design and install Remedial Actions (if needed)**

Zone 4
DRMO History

- * **DRMO constructed a temporary storage facility for hazardous wastes in 1986, which is Building 3096. A RCRA Part B Permit was issued to DRMO in December 1987 to operate Building 3096.**
- * **Five previously used areas in the DRMO lease were classified as hazardous waste management areas, and were included in the Part B Permit.**
- * **Four of these units were required to have a closure investigation conducted to determine if wastes were released into the environment. These units were Building 3065, Yard N, Yard 13, and Lot Z04.**

Zone 4
Past DRMO Projects

- * A Closure Investigation was conducted on Building 3065 in 1992-1994. The Closure Investigation Report was submitted to the TNRCC in April 1994. This project was done by the DLA and the Army Corps of Engineers. The report is awaiting TNRCC comments.

- * A Closure Investigation was conducted on Yard N and Yard 13 was started in November 1993, and the Closure Investigation Reports were submitted to the TNRCC in June 1994. This project was done by DLA through base contracting at Kelly AFB, and the Zone 4 team acted as project managers for this effort. The report is awaiting TNRCC comments.

Zone 4
Current DRMO Projects

- * A new Closure Plan is being prepared for Lot Z04, and will be submitted to the TNRCC on February 1, 1995. This document will be a work plan for conducting a Closure Investigation on Lot Z04.

- * The Closure Investigation of Lot Z04 will begin after the Closure Plan is approved by the TNRCC.

Zone 4
Future DRMO Projects

*** FY 96**

- * Conduct Corrective Measure Study to select best alternative for remediations at Building 3065, Yard N, and Yard 13.**
- * Conduct Closure Investigation on Lot Z04**

*** FY 97**

- * Design and install corrective measures at Building 3065, Yard N, and Yard 13 (if needed).**
- * Conduct Corrective Measure Study for Lot Z04.**

IRP Zone 5 Status

January 5, 1995

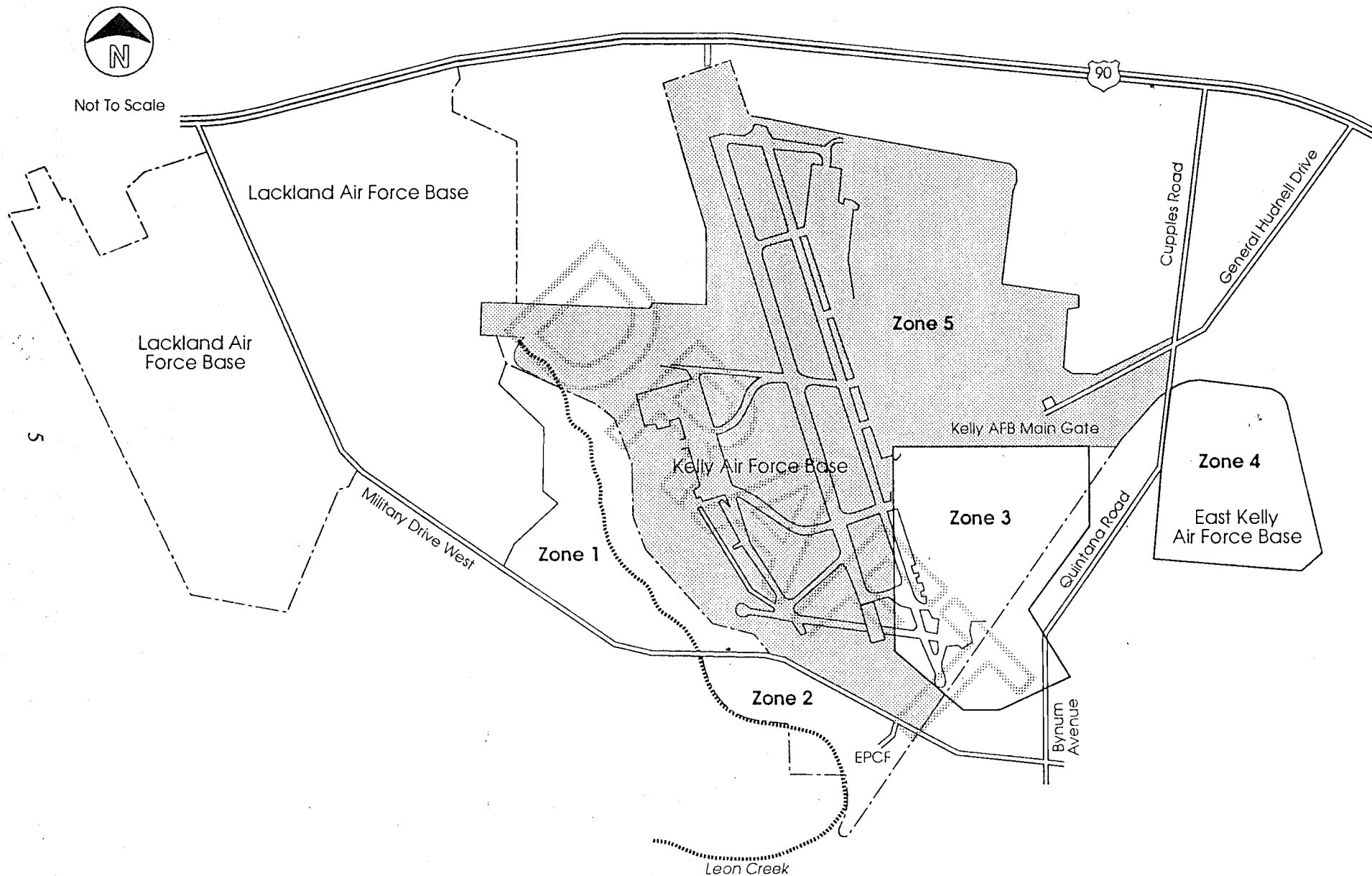
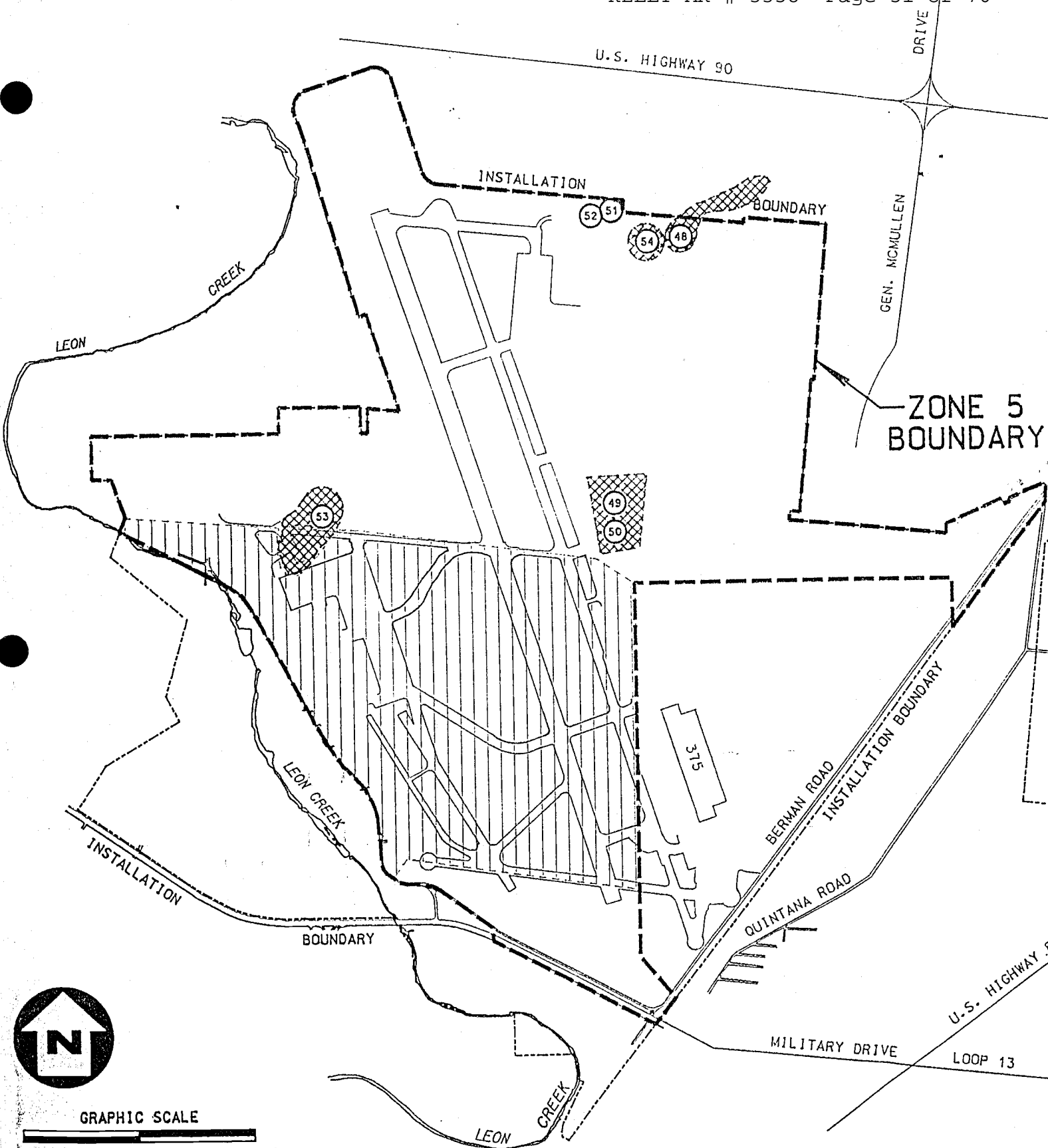


Figure 1.3. Site Map, Kelly AFB, San Antonio, Texas.



Zone 5 Overview

- * **Zone 5 Project Manager**
 - * **Mike Patterson**
- * **Zone 5 Covers Approx. 2,500 Acres**
 - * **Approx. 54% of Kelly AFB's Total Acreage**
- * **2 Non IRP Spill Sites**
 - * **1100 Area**
 - * **1500 Area**
- * **6 IRP Sites in Zone 5**
 - * **5 Spill Sites (IS-1, S-1, S-5, S-10, and SS-050)**
 - * **Groundwater Zone 5 (SS-053)**

Zone 5 Historical Uses

- * **Site S-5: Former Aqua Fuels System**
- * **Site S-10: Former Small Aircraft
Maintenance Area**
- * **Site IS-1: Former Solvent Still Site**
- * **Site OT-050: Groundwater Contamination
Associated with Site IS-1**
- * **Site S-1: Former Waste Oil Storage Facility**

Zone 5
Past Investigations and Projects

Remedial Investigations / Feasibility Studies

- * Completed S-5 RI/FS
- * Completed S-1 RI
- * Completed S-1 FFS

Site Closures

- * 1 Site proposed for No Further Action (IS-1)

Removal Actions

- * 1 Removal Action Completed (Site S-5)

Zone 5
Past Investigations and Projects

Remedial Actions (Petroleum Storage Tank Closures)

- * 1500 Area Fuel Spill
 - * Installed Bioventing System

- * 1100 Area Fuel Spill
 - * Installed Groundwater Extraction w/ Air Stripper
 - * Installed Soil Vapor Extraction System
 - * Installed Bioventing System

Zone 5
Current Investigations and Projects

Remedial Investigations / Feasibility Studies

- * **Groundwater Zone 5 RI/FS**

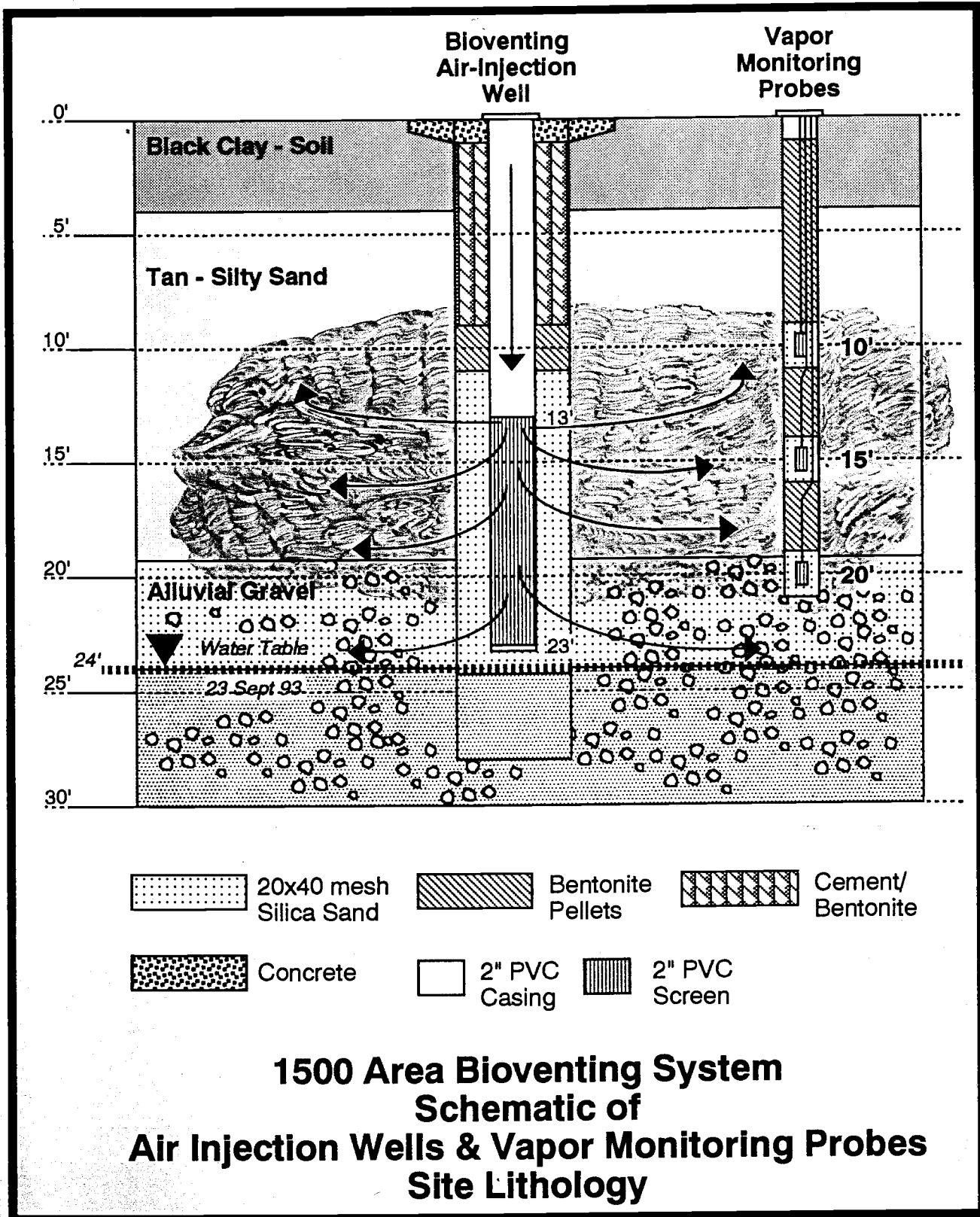
Interim Remedial Actions

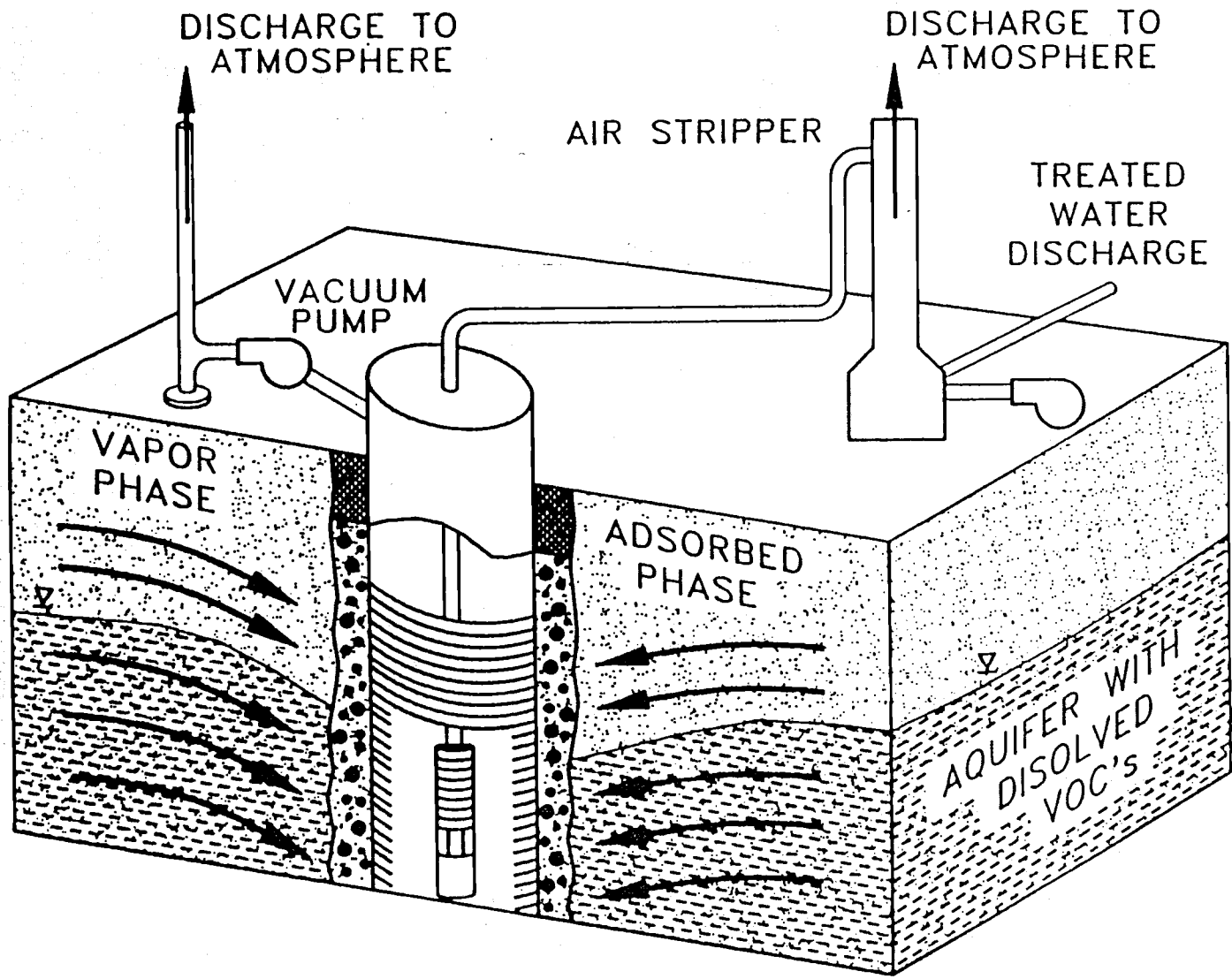
- * **Site S-1**
 - * **Construction to start 09 Jan 95**

Zone 5
Future Projects

Remedial Investigations / Feasibility Studies

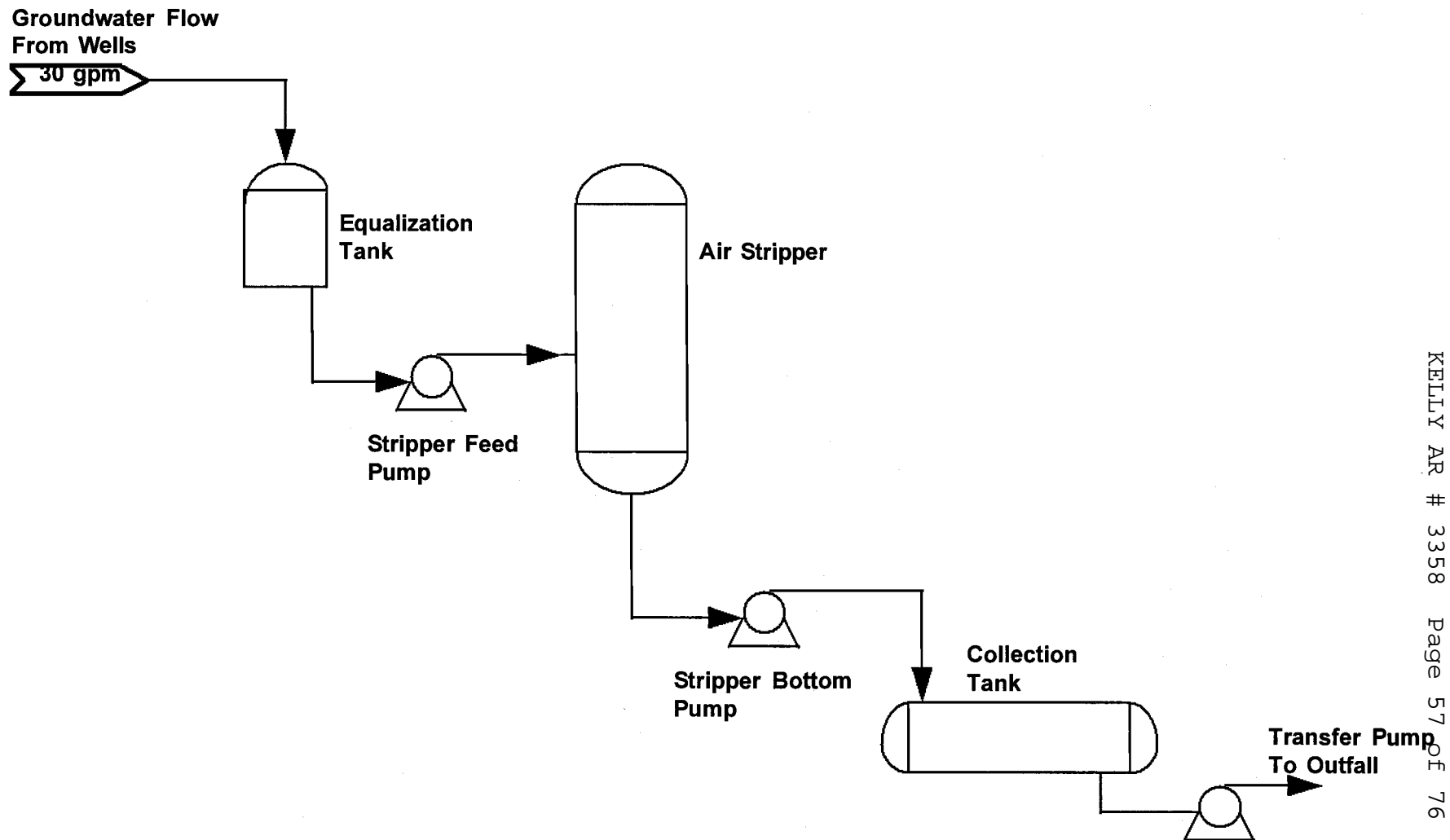
- * **Zone 5 RI/FS**
 - * **Zone 5 RI - FY 95/96**
 - * **Zone 5 FS - FY 96/97**
- * **Remedial Designs**
 - * **FY 98 - Groundwater Zone 5**
- * **Remedial Actions**
 - * **FY 98/99 - Sites Not Closed During the FS**





COMBINATION SOIL VENTING AND
GROUNDWATER RECOVERY WELL

SITE S-1 PUMP & TREAT



Storage Tank Program Status

January 5, 1995

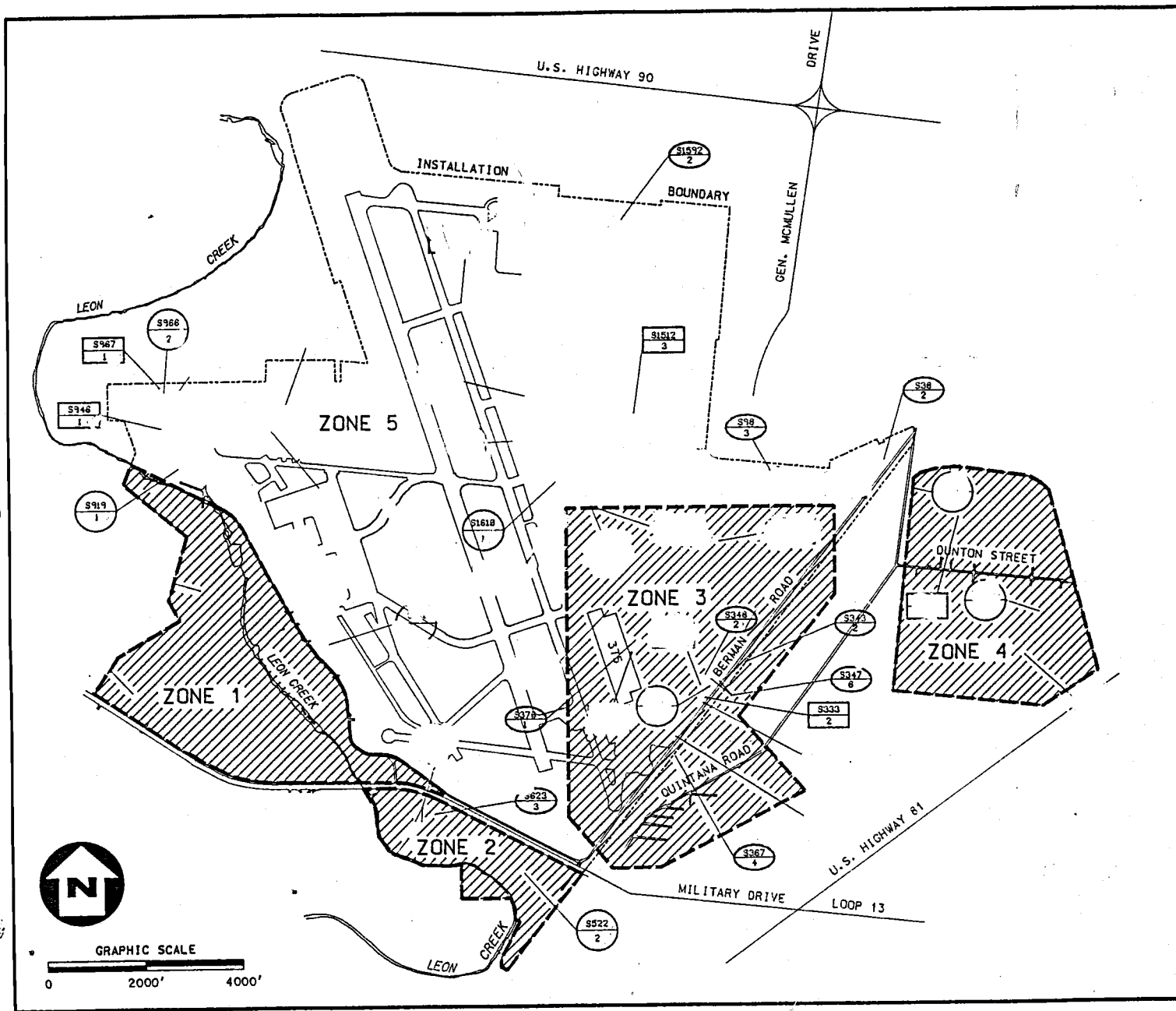
Storage Tank Program *Overview*

Storage Tank Team


- * Don Ficklen**
- * Jerry Arriaga**
- * Joe Ebert**


188 Underground Storage Tanks (USTs)


31 USTs still in operation





LEGEND

DENOTES SYSTEM I.D. NUMBER 

DENOTES NUMBER OF TANKS IN SYSTEM 

DENOTES EXISTING UNDERGROUND STORAGE TANK SYSTEMS TO REMAIN IN SERVICE 

DENOTES TANKS TO BE REMOVED ONLY 

DENOTES TANKS TO BE REMOVED AND REPLACED WITH VAULTED/ABOVEGROUND TANKS 

NOTE:
 ZONE 5--ISOLATED SITES. INCLUDES SITES THAT ARE NOT LOCATED IN OTHER ZONES.

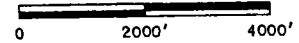
FIGURE 4-2

TITLE	
LOCATIONS OF UNDERGROUND STORAGE TANKS MANAGEMENT ACTION PLAN KELLY AIR FORCE BASE SAN ANTONIO, TEXAS	
DRAWING NO.	DATE
2P10G010	7-1-93

4-14



GRAPHIC SCALE



KELLY AR # 3358 Page 59 OF 75

Storage Tank Program *Overview*

- * Tank Systems on Kelly AFB are managed according to their status:**
- * Active systems by EMC (Gary Goodman)**
- * Inactive Systems by EMRO**

Storage Tank Program *Current Status*

- * >130 USTs Removed from 1990 to Present**
- * 18 USTs to be Removed in Fiscal Year 95**
- * 22 USTs were Upgraded by Dec 94**
- * 32 USTs were Tested by Dec 94**

Scheduled Tank Removals
Current Status

*** Military Construction UST Removal and/or
Replacement Project**

- * 30 UST Removals**
- * 13 Vault/AST Installations**

*** All fieldwork is completed.**

Scheduled Tank Removals
Current Status

*** SWMU UST Removal/Replacement Projects**

- * To Be Completed: 17 UST Removals**
3 Replacements

*** Completed: 6 UST Removals**

*** SWMU Partial Facility Closures: 9 Sites**

Scheduled Tank Removals
Current Status

*** PST UST Removals:**

*** To Be Complete: 8 UST Removals**

*** PST Site Assessment Closures:**

*** To Be Completed: 8 Sites**

Compliance Activity Schedule
Current Status

*** Spill/Overfill Protection and Automatic Tank Gauging Upgrades complete by Dec 94:**

***9 Tank Systems**

*** Tank Tightness Testing complete by Dec 94:**

***13 Tank Systems**

Leon Creek Study

January 5, 1995

Leon Creek Study *Purpose*

- * To evaluate the conditions of the creek, and to determine if the conditions in or around the creek pose any impact to human health or the environment.

- * The areas that were focused on included:
 - * Physical conditions
 - * Biological conditions
 - * Chemical conditions

- * Data collected from 3 sampling sets.

Leon Creek Study *Conclusions*

- * **The study shows very minor impacts to ecological health. This is no different from impacts to other streams in the area exposed to urbanization.**
- * **Some chemicals were entering Leon Creek from the groundwater near IRP sites. Some groundwater containment systems have been installed at certain areas to control this groundwater flow.**
- * **The conditions in Leon Creek do not pose actual human health concerns, but rather show potential impacts for a worst-case (RME) scenario.**
- * **Leon Creek monitoring will continue with information being updated to off-base neighbors.**

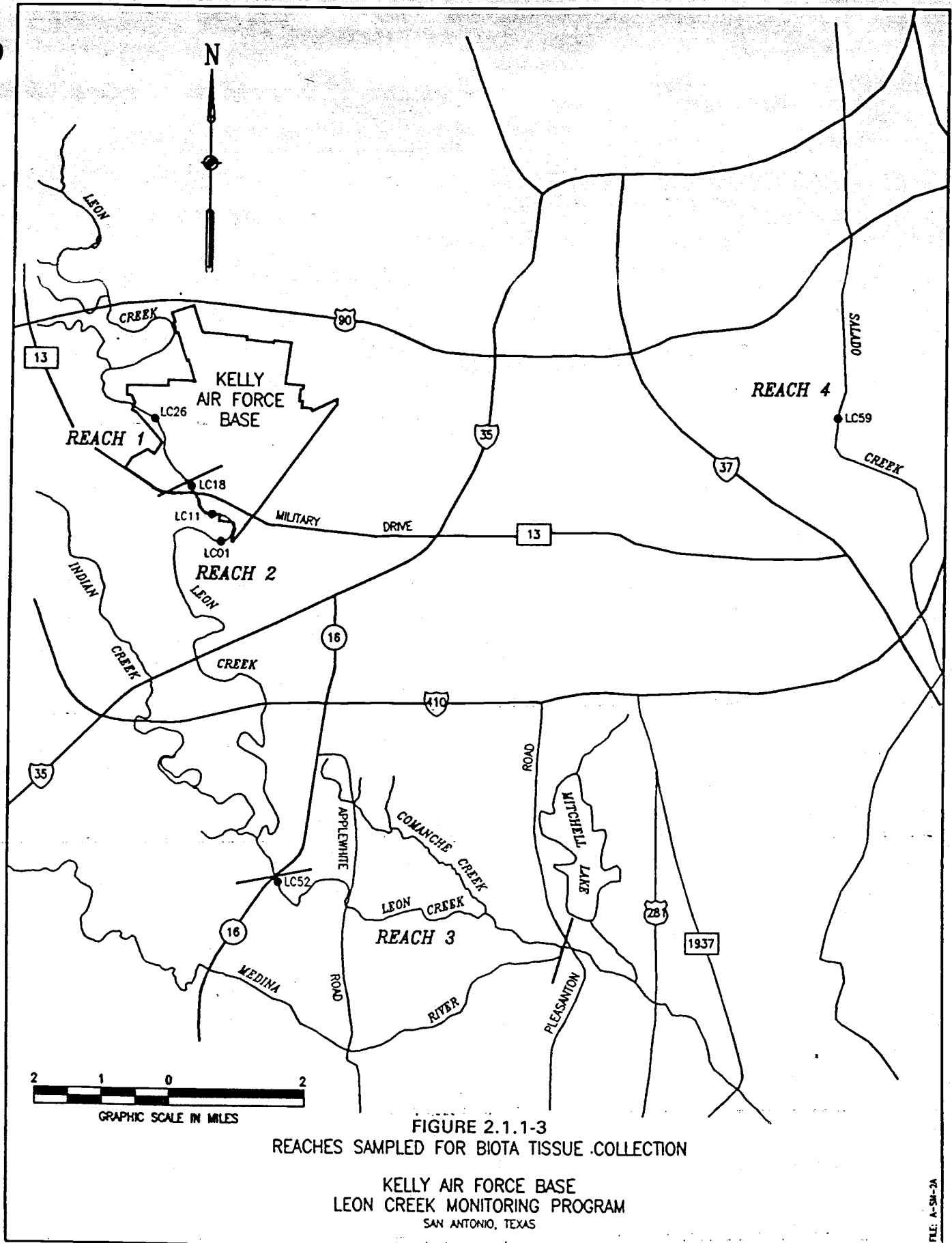


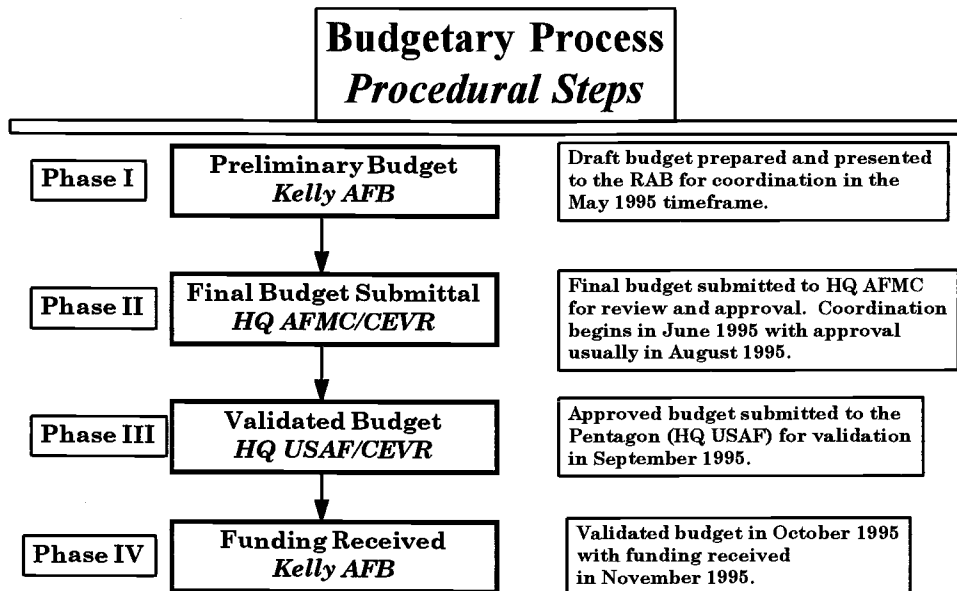
FIGURE 2.1.1-3
REACHES SAMPLED FOR BIOTA TISSUE COLLECTION

KELLY AIR FORCE BASE
LEON CREEK MONITORING PROGRAM
SAN ANTONIO, TEXAS

FILE: A-SM-2A

Budgetary Process *Installation Restoration Program*

January 5, 1995



Budgetary Process *Current Policy*

- * **Current Fiscal Year 1995 Air Force Policy Guidance on the IRP:**

- * **Due to shrinking environmental budgets/dollars, the focus is on cleanup actions.**
 - * Each military base has to provide their budget with at least 60 percent towards cleanup actions.
 - * Use of Relative Risk Rating as a priority tool
 - * High - Medium - Low Rating
 - * Do High Rated Sites first and reduce to Low

Budgetary Process *Budget Requirements*

- * **Prior Fiscal Year Funding (1983-1994)**
 - * Investigation, O&M and Basewide - \$49 million
 - * Cleanup actions - \$25 million
 - * Storage Tanks - \$12 million

- * **Current Fiscal Year 1995 Requirements**
 - * Remedial Design - Zone 3
 - * Remedial Design - Zone 2
 - * Remedial Design - Zone 1
 - * Investigation/Study - Zone 4
 - * Investigation/Study - Zone 5

Budgetary Process ***Budget Requirements***

*** Projected Budgetary Requirements**

*** Fiscal Years 1996-1997**

- * Cleanup actions**
 - * Zone 1, 2, and 3**
- * Feasibility Studies**
 - * Zones 4 and 5**

*** Fiscal Years 1998-1999**

- * Remedial Design - Zones 4 and 5**
- * Cleanup Actions - Zones 4 and 5**

Contracting Process

January 5, 1995

Contracting Process Overview

Existing Contracts

*** Architect-Engineer : From PA through Design, Estimated
\$24.9 Million**

One Year with 2 One-Year Options

- * CH2M Hill**
- * EA Engineering, Science and Technology**
- * Metcalf & Eddy**
- * Science Applications International Corp.**

Contracting Process Overview

Existing Contracts

*** Remedial Action : Construction, Estimated \$195 Million**

One Year with 4 One-Year Options

- * Chemical Waste Management**
- * Halliburton NUS Corp**
- * Foster Wheeler**
- * Ogden Environmental & Energy Services**

Contracting Issues *Overview*

- * **Federal Acquisition Regulations (FAR)**
- * **A-E Selection Process**
- * **Source Selection Process**
- * **“Standard” Acquisition Process**

- * **Release of Information**
 - * **Freedom of Information Act**
 - * **Procurement Integrity - FAR 3.104**

Spill Prevention Procedures

January 5, 1995

Spill Response Overview

- * **Spill Response Point of Contact**
 - * **Jerry Pantoja**

- * **Annual Training for All Responders**

- * **HAZMAT Response Team**
 - * **20 HAZMAT trained and equipped Fire Department personnel**
 - * **Lead Responsibility to respond to and contain spills**
 - * **On duty at the base at all times**

Spill Response Overview

- * **Spill Response Team**
 - * **Primary function is spill cleanup**
 - * **Fully HAZMAT equipped and trained including operation of heavy equipment**

- * **Other Base Resources Available**

- * **HAZMAT Exercises**
 - * **Preparedness for Response Exercise Program**
 - * **Involved in community exercises at least annually**

- * **Mutual Support Agreement with COSA**

Spill Prevention *Overview*

- * **Secondary Containment**
- * **Annual Training for All Personnel Handling HAZMATs**
- * **Chemical Authorization System**
- * **Inspections**
 - * **Daily inspections of tank systems**
 - * **ECAMP**
 - * **KEEP**
- * **Operating Procedures and Technical Orders**
- * **Spill Contingency Planning**

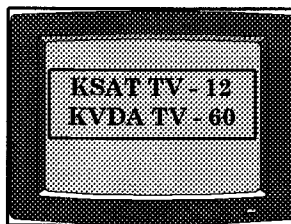
Public Affairs Activites

January 5, 1995

Public Affairs *Resources*

- * **Public Meetings.**
- * **Progress Reports/direct mail products.**
- * **News Releases and Media Visits.**
- * **Tours and talks for various groups.**
- * **Trifold Brochure and Fact Sheets.**
- * **Support to RAB membership.**

Telling the RAB Story



- * **Channel 12 coverage of last RAB meeting.**
- * **Channel 60 (Spanish) coverage of program.**

Public Affairs Coming Events

- * **Installation of Pump & Treat Systems as Interim Removal Actions (Sites S-1, S-4, MP).**
- * **Public Meeting and Public Comment periods for Zones 3, 2 and 1 groundwater cleanups.**
- * **Expanded mailing list (10,000 vs. 2,500).**
- * **Continued support to RAB activities.**

Who shall I call?

- * **Dick Walters, 925-1812 (Building 305)**
- * **Mike Estrada, 925-7951 (Building 1635)**
- * **At night or weekends, call 925-6906**

Summary

January 5, 1995

Summary/Closing *Overview*

*** Listing of Action Items**

*** RAB Meeting - 30 Jan 95**

*** Workshop Adjourned**

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE