

Final

Work Plan
Underground Storage Tank Removals
and Closure Reports
Fort McClellan, Calhoun County, Alabama

Task Order CK08, Modification No. 2
Contract No. DACA21-96-D-0018
IT Project No. 783149

July 2000

Revision 1

Final

Work Plan

**Underground Storage Tank Removals
and Closure Reports**

Fort McClellan, Calhoun County, Alabama

Prepared for:

**U.S. Army Corps of Engineers Mobile District
109 St. Joseph Street
Mobile, Alabama 36602**

Prepared by:

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July 2000

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List of Acronyms

ADEM	Alabama Department of Environmental Management
API	American Petroleum Institute
ASTM	American Society of Testing and Materials
CFR	Code of Federal Regulations
COR	contracting officer's representative
EPA	U.S. Environmental Protection Agency
FSAP	field sampling and analysis plan
FTMC	Fort McClellan
GPS	global positioning system
IDW	investigation-derived waste
IT	IT Corporation
ppm	parts per million
SI	site investigation
TPH	total petroleum hydrocarbon
USACE	U.S. Army Corps of Engineers
UST	underground storage tank

Executive Summary

The U.S. Army Corps of Engineers has contracted IT Corporation (IT) to provide environmental services for Fort McClellan (FTMC), Calhoun County, Alabama. In accordance with Contract Number DACA21-96-D-0018, Delivery Order CK08, Modification Number 2 (U.S. Army Corps of Engineers, 1999), IT will conduct underground storage tank (UST) removal activities at eight UST parcels located at FTMC. IT has prepared this work plan for the removal and disposal of abandoned USTs in accordance with current state and federal regulations at FTMC. The purpose of this work plan is to provide technical guidance for investigation, removal, sampling, and disposal activities at the eight UST parcels. IT will provide environmental services for the investigation, removal, and disposal of USTs at the following sites:

- Parcel 16(7), Former Gas Station, Building 1394, at Former Motor Pool Area 1300, Parcel 148(7)
- Parcel 132(7), Former Gas Station, Building 1594, at Former Motor Pool Area 1500, Parcel 94(7)
- Parcel 133(7), Former Gas Station, Building 1494, at Former Motor Pool Area 1500, Parcel 94(7)
- Parcel 134(7), Former Gas Station, Building 1594A, at Former Motor Pool Area 1500, Parcel 94(7)
- Parcel 135(7), Former Gas Station, Building 594, at Former Waste Chemical Storage Area, Parcel 87(7)
- Parcel 136(7), Former Gas Station, Building 694, at Former Motor Pool Area 600, Parcel 149(7)
- Parcel 137(7), Former Gas Station, Building 2094, at Former Motor Pool Area 2000, Parcel 144(7)
- Parcel 140(7), Former Gas Station, Building 1294, at Former Decontamination Complex, Parcel 93(7)

The UST removal activities will be conducted safely under the site-specific safety and health plan (SSHP) attached as Appendix A. The SSHP will be used in conjunction with the installation-wide safety and health plan. Site-specific hazard analyses are included in the SSHP. The field sampling and analysis plan by which the UST removal activities will be supported is attached as Appendix B and will be used in conjunction with the installation-wide work plan, and

the installation-wide sampling and analysis plan. The installation-wide sampling and analysis plan includes the installation-wide safety and health plan, waste management plan, and quality assurance plan.

1.0 Project Description

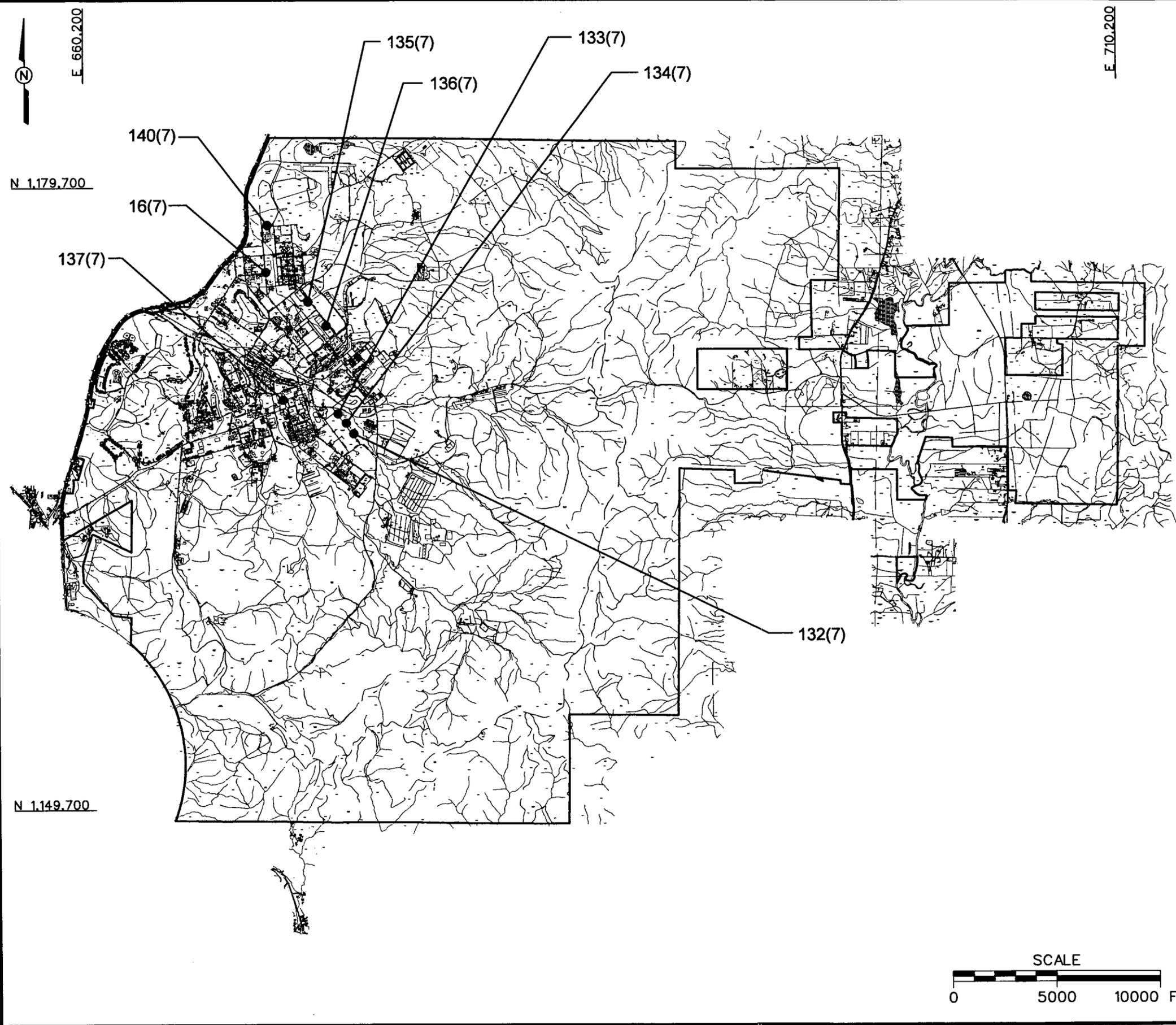
1.1 Introduction

The U.S. Army Corps of Engineers (USACE) has contracted IT Corporation (IT) to provide environmental services for Fort McClellan (FTMC), Calhoun County, Alabama. IT, under contract to the USACE, has prepared this work plan in accordance with the scope of work for Modification No. 2 to Task Order CK08, dated December 1999, for the removal of abandoned underground storage tanks (UST) and disposal of the USTs in accordance with current state and federal regulations at FTMC (USACE, 1999). IT will provide environmental services for the investigation, removal, and disposal of USTs at the following sites (Figure 1-1):

- Parcel 16(7), Former Gas Station, Building 1394, at Former Motor Pool Area 1300, Parcel 148(7)
- Parcel 132(7), Former Gas Station, Building 1594, at Former Motor Pool Area 1500, Parcel 94(7)
- Parcel 133(7), Former Gas Station, Building 1494, at Former Motor Pool Area 1500, Parcel 94(7)
- Parcel 134(7), Former Gas Station, Building 1594A, at Former Motor Pool Area 1500, Parcel 94(7)
- Parcel 135(7), Former Gas Station, Building 594, at Former Waste Chemical Storage Area, Parcel 87(7)
- Parcel 136(7), Former Gas Station, Building 694, at Former Motor Pool Area 600, Parcel 149(7)
- Parcel 137(7), Former Gas Station, Building 2094, at Former Motor Pool Area 2000, Parcel 144(7)
- Parcel 140(7), Former Gas Station, Building 1294, at Former Decontamination Complex, Parcel 93(7)

The work will be performed by IT in accordance with the provisions of contract number DACA21-96-D-0018 with the USACE-Mobile District. The work covers site preparation and location of utilities; removal and disposal of tank contents; UST excavation and removal; removal and disposal of contaminated soil; confirmatory sampling of the excavations; cleaning, demolition and disposal of the USTs; backfilling of the excavations; site restoration; and closure assessment report preparation.

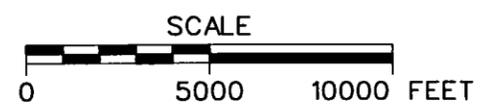
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 INITIATOR: J. RAGSDALE
 PROJ. MGR.: J. YACOUB
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LEGEND
 FORT McCLELLAN BOUNDARY

FIGURE 1-1
 SITE LOCATION MAP
 UST REMOVAL SITES
 PARCELS 16(7), 132(7), 133(7),
 134(7), 135(7), 136(7), 137(7),
 AND 140(7)

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 MOBILE DISTRICT
 FORT McCLELLAN
 CALHOUN COUNTY, ALABAMA
 Contract No. DACA21-96-D-0018



ITT IT CORPORATION
 A Member of The IT Group

1.2 Site Descriptions

At all of the UST parcels, geophysical surveys were conducted. Anomalies located by the geophysical surveys at the UST sites were identified by three categories based on the potential for the anomaly to be a UST. The categories are as follows:

- Category 1 – geophysical anomalies most likely to be caused by a UST
- Category 2 – geophysical anomalies more uncertain of being caused by a UST
- Category 3 – geophysical anomalies highly uncertain of being caused by a UST.

Only Category 1 and 2 anomalies will be investigated for potential USTs. The following are the descriptions of each site where IT will investigate potential USTs; if USTs are found, IT will remove the USTs for disposal:

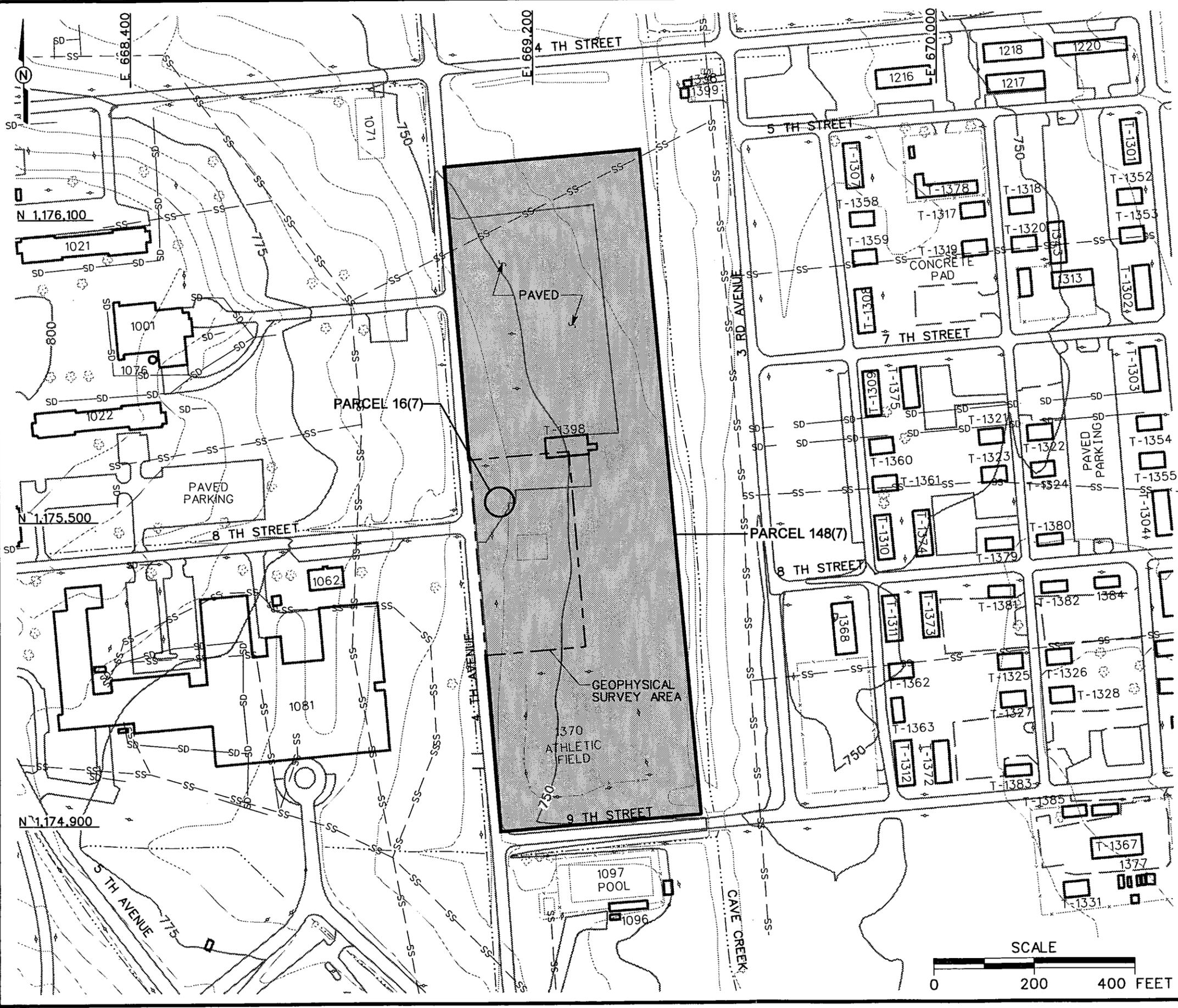
Parcel 16(7) - Former Gas Station, Building 1394, Former Motor Pool Area 1300, Parcel 148(7). The Former Motor Pool Area 1300, Parcel 148(7), is located northwest on Main Post (Figure 1-1). The site of Former Motor Pool Area 1300 is a rectangular plot bounded by 4th Street on the north, 3rd Avenue on the east, 9th Street on the south, and 4th Avenue on the west (Figure 1-2). Two 5,000-gallon tanks are reported to have been removed in 1991, but there are no closure reports on file.

There are three anomalies (A-1[2], A-2[2], and A-3[2]) identified as potential USTs during the site investigation (SI) field work conducted at Motor Pool 1300, Parcel 148(7) (Figure 1-3). These three anomalies will be investigated; if it is determined there are USTs at these locations, any USTs found will be removed for disposal.

Parcel 132(7) - Former Gas Station, Former Building 1594, Former Motor Pool Area 1500, Parcel 94(7). The Motor Pool Area 1500, Parcel 94(7) (also known as the Former Chemical Laundry) is located in the central part of the Main Post east of 5th Avenue and south of 22nd Street (Figure 1-4). The area was used as a site of a former vehicle maintenance facility (motor pool) and three gas stations were reported located at Motor Pool 1500 during World War II. Parcel 132(7) is recorded as a standard post gas station built in 1941. The original plans called for two 10,000-gallon USTs, one containing gasoline and the other diesel fuel. The foundations of the building and the former pump islands are still visible.

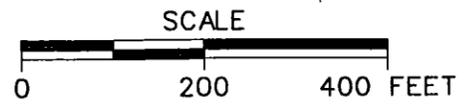
Geophysical surveys were conducted at Parcels 132(7), 133(7), and 134(7) at Motor Pool 1500 during the SI field work and the results of the surveys are shown on Figures 1-5 and 1-6. One

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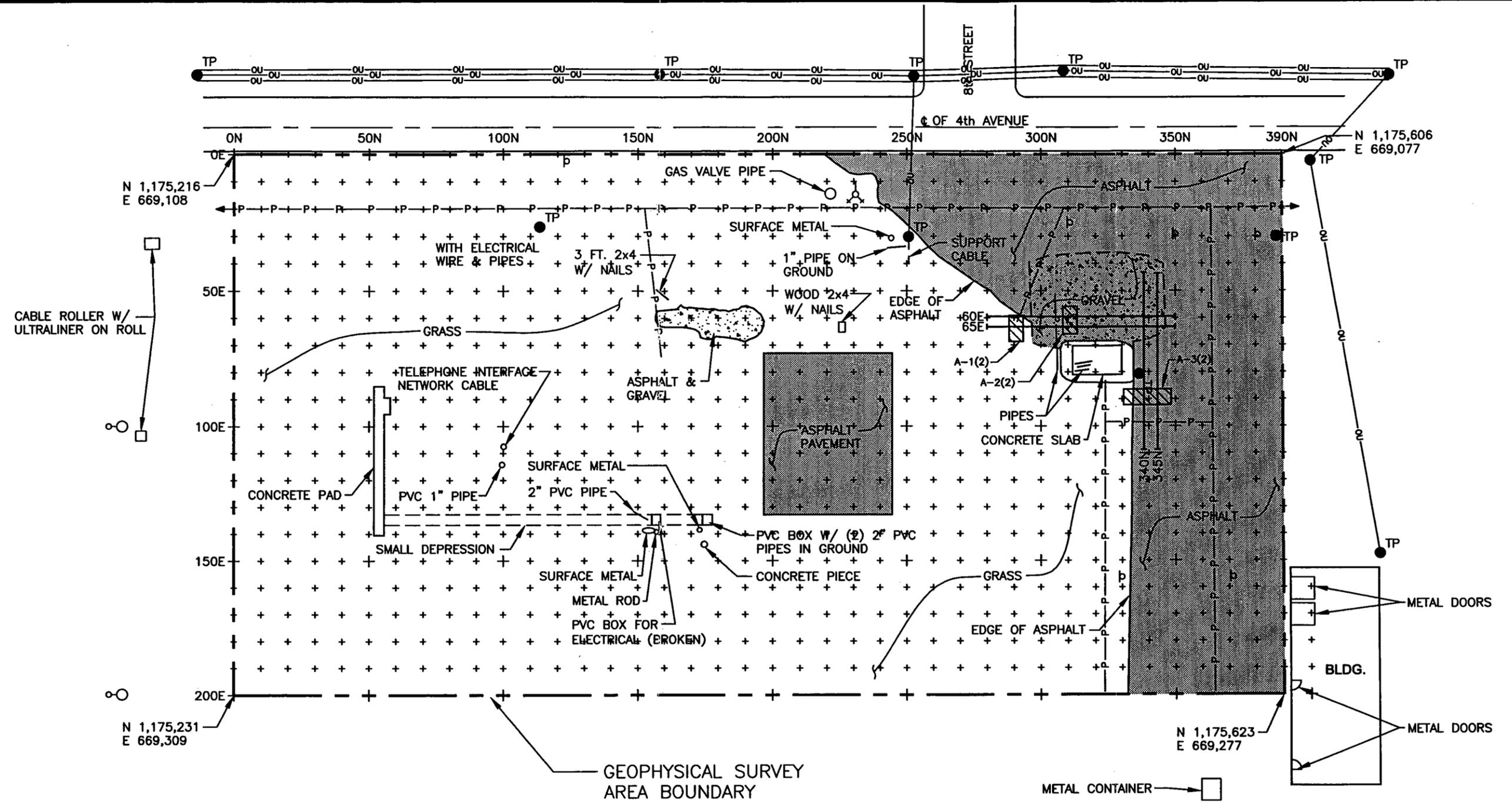


- LEGEND**
- UNIMPROVED ROADS AND PARKING
 - PAVED ROADS AND PARKING
 - BUILDING
 - TOPOGRAPHIC CONTOURS
 - TREES / TREELINE
 - PARCEL BOUNDARY
 - EXTENT OF GEOPHYSICAL SURVEY
 - SURFACE DRAINAGE / CREEK
 - MANMADE SURFACE DRAINAGE FEATURE
 - FENCE
 - UTILITY POLE
 - SANITARY SEWER LINE
 - STORM DRAINAGE LINE

FIGURE 1-2
SITE MAP, PARCEL 16(7)
FORMER GAS STATION,
BUILDING 1394
AT FORMER MOTOR POOL 1300
PARCEL 148(7)
 U. S. ARMY CORPS OF ENGINEERS
 MOBILE DISTRICT
 FORT McCLELLAN
 CALHOUN COUNTY, ALABAMA
 Contract No. DACA21-96-D-0018



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|---|---------------------|--|------------------------------------|
|  | GEOPHYSICAL ANOMALY |  | OVERHEAD UTILITIES |
| A-1(2) | |  | LOCATION OF BURIED PIPE OR UTILITY |
|  | TELEPHONE POLE |  | GPR PROFILES PRESENTED |
|  | LIGHT POLE | N 1,175,216 | ALABAMA EAST STATE |
|  | METAL SIGN POST | E 669,108 | PLANE COORDINATES (NAD83) |
|  | FIRE HYDRANT | | |

NOTES: 1) LOCATIONS OF FEATURES OUTSIDE SURVEY AREA ARE APPROXIMATE

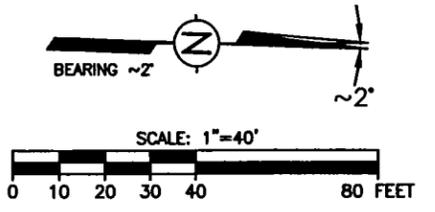
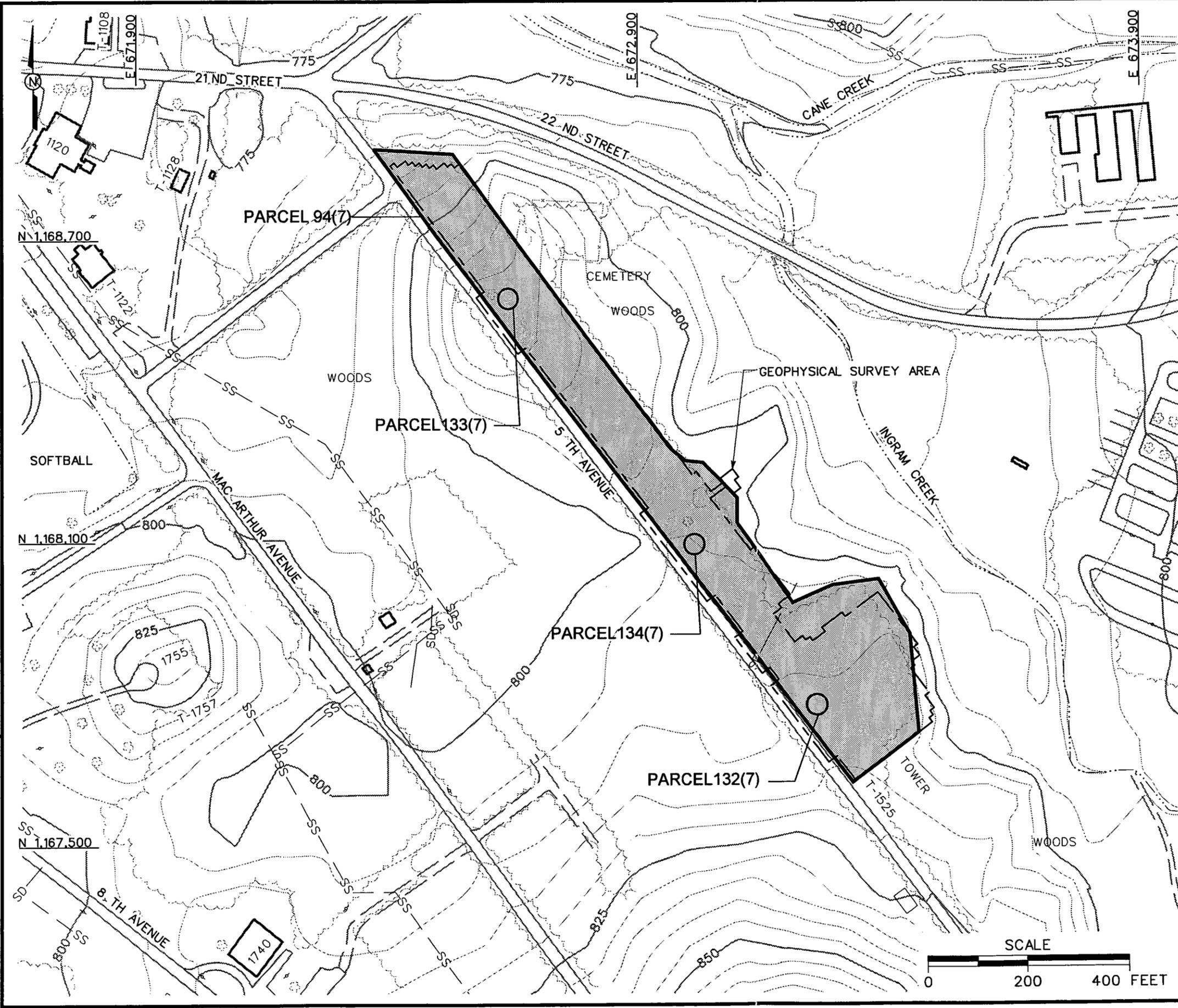


FIGURE 1-3
 SITE MAP WITH GEOPHYSICAL INTERPRETATION
 FOR PARCEL 16(7), FORMER GAS STATION,
 BUILDING 1394, AT FORMER MOTOR POOL
 AREA 1300, PARCEL 148(7)

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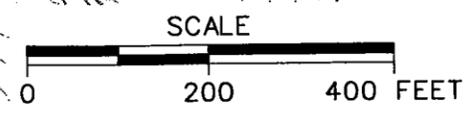
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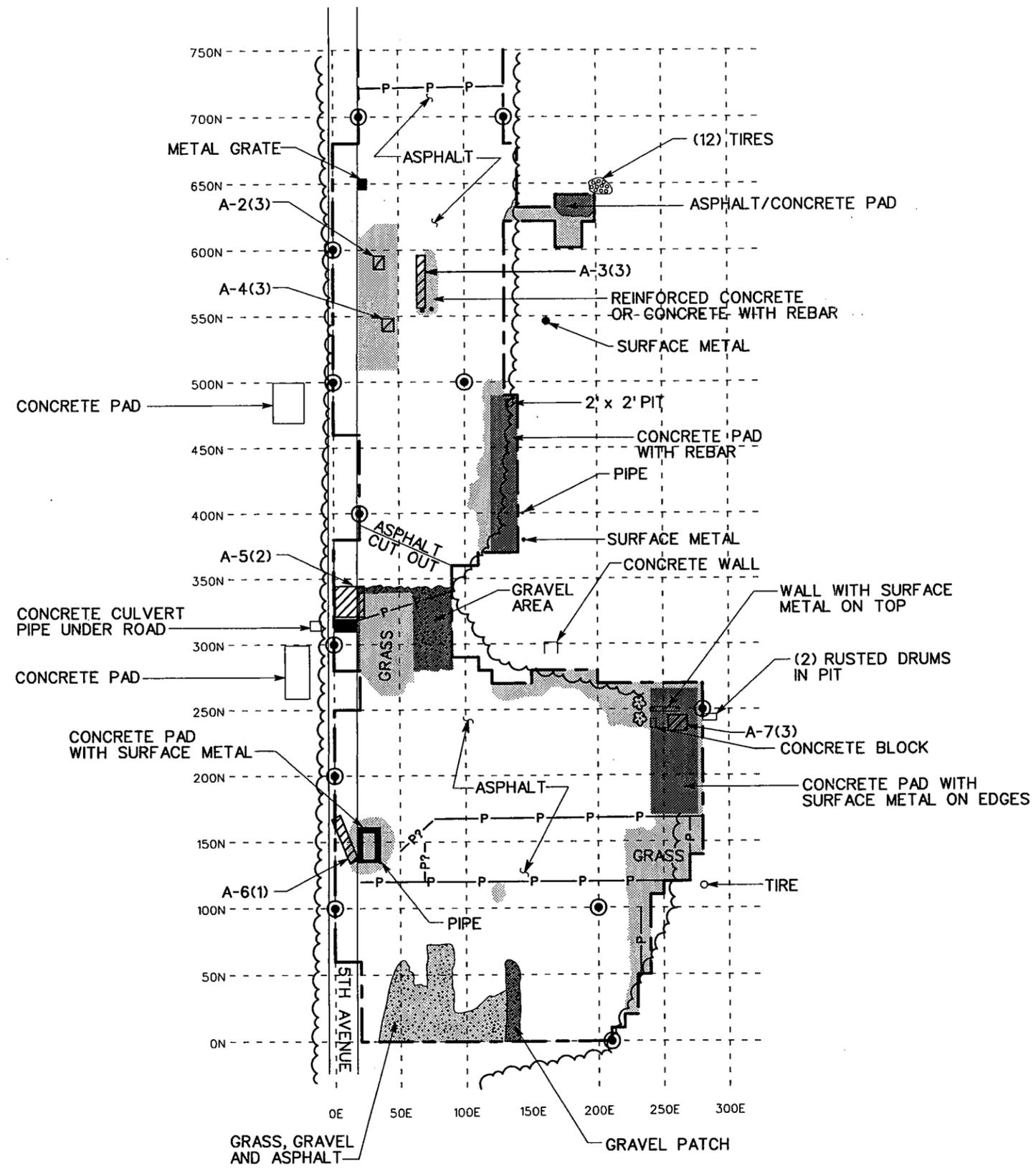
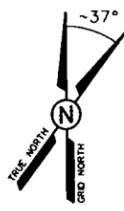
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	PAVED ROADS AND PARKING
	BUILDING
	TOPOGRAPHIC CONTOURS
	TREES / TREELINE
	PARCEL BOUNDARY
	GEOPHYSICAL SURVEY AREA
	BRIDGE
	CULVERT WITH HEADWALL
	SURFACE DRAINAGE / CREEK
	FENCE
	UTILITY POLE
	SANITARY SEWER LINE
	STORM DRAINAGE LINE

FIGURE 1-4
 SITE MAP, PARCELS 132(7), 133(7),
 AND 134(7), FORMER GAS STATIONS,
 FORMER BUILDINGS 1594, 1494, AND
 1594A, AT FORMER MOTOR POOL
 AREA 1500, PARCEL 94(7)

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LEGEND

- GEOPHYSICAL SURVEY BOUNDARY
- CIVIL SURVEY STAKE LOCATION
- ▨ GEOPHYSICAL ANOMALY
- A-2(3)
- ▩ METAL GRATE
- P— PIPE/BURIED UTILITY
- ⊕ TREES / TREELINE

NAD 83 SPHEROID, ALABAMA EAST STATE PLANE DATUM		
LOCAL GRID COORDINATES	STATE PLANE COORDINATES	
0N,210E	1167770.373N	673446.227E
100N,0E	1167725.093N	673217.598E
100N,200E	1167846.812N	673376.590E
200N,0E	1167804.791N	673157.351E
250N,280E	1168015.176N	673348.335E
300N,0E	1167884.901N	673097.683E
400N,20E	1167976.889N	673053.056E
500N,0E	1168044.523N	672976.720E
500N,100E	1168105.109N	673056.274E
600N,0E	1168124.273N	672916.517E
700N,20E	1168216.274N	672872.470E
700N,130E	1168282.776N	672959.396E

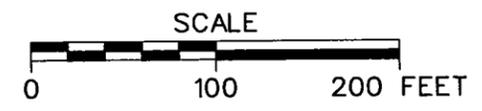
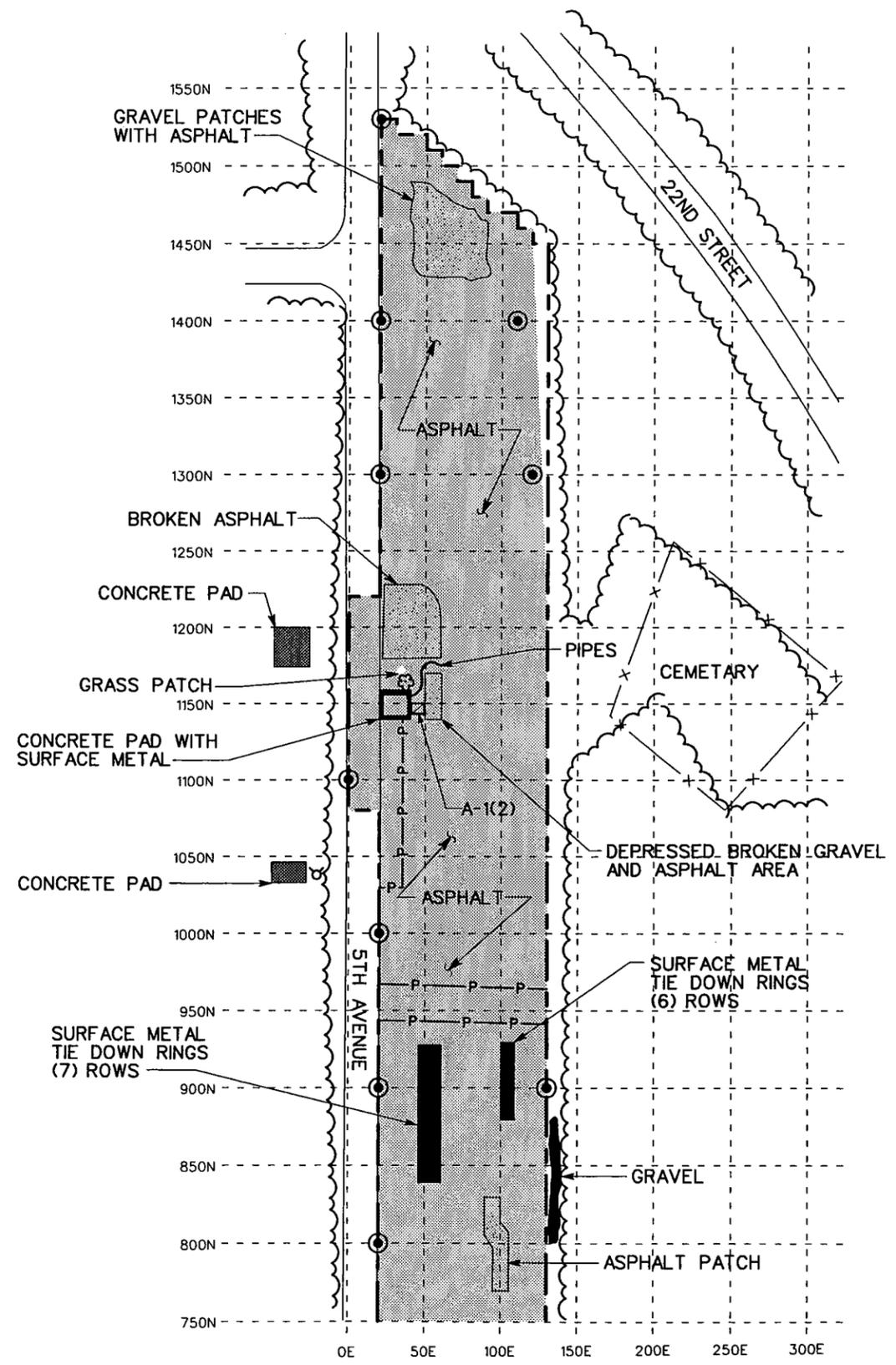
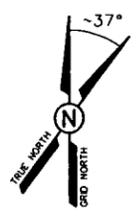


FIGURE 1-5
 SITE MAP WITH GEOPHYSICAL INTERPRETATION, PARCELS 132(7), 133(7), AND 134(7), FORMER GAS STATION, BUILDINGS 1494, 1594, AND 1594A, AT FORMER MOTOR POOL AREA 1500, PARCEL 94(7), SOUTH PORTION OF THE SITE

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- LEGEND**
- GEOPHYSICAL SURVEY BOUNDARY
 - CIVIL SURVEY STAKE LOCATION
 - ▨ GEOPHYSICAL ANOMALY
A-1(2)
 - P— PIPE/BURIED UTILITY
 - ⊕ FIRE HYDRANT
 - x— FENCE
 - ⊕ TREES / TREELINE

NAD 83 SPHEROID, ALABAMA EAST STATE PLANE DATUM		
LOCAL GRID COORDINATES	STATE PLANE COORDINATES	
800N,20E	1168295.870N	672812.560E
900N,20E	1168375.740N	672752.501E
900N,130E	1168442.910N	672839.364E
1000N,20E	1168455.590N	672692.494E
1100N,0E	1168523.062N	672616.332E
1300N,20E	1168695.029N	672512.281E
1300N,120E	1168755.073N	672590.110E
1400N,110E	1168829.443N	672523.679E
1400N,20E	1168774.924N	672452.259E
1530N,20E	1168878.105N	672374.359E

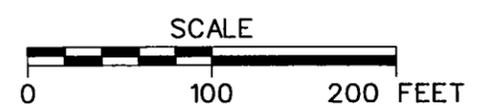


FIGURE 1-6
 SITE MAP WITH GEOPHYSICAL INTERPRETATION
 PARCELS 132(7), 133(7), AND 134(7)
 FORMER GAS STATIONS, FORMER BUILDINGS 1594, 1494, AND 1594A,
 AT FORMER MOTOR POOL AREA 1500, PARCEL 94(7)
 NORTHERN PORTION OF THE SITE

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anomaly for Parcel 132(7) was identified as A-6(1), shown on Figure 1-5. The area immediately around the concrete pad and the anomaly A-6(1) will be investigated for potential USTs. Any USTs found will be removed for disposal.

Parcel 133(7) - Former Gas Station, Former Building 1494, Former Motor Pool Area 1500, Parcel 94(7). A former gas station was located at Building 1494, which is located at Motor Pool Area 1500 (former Chemical Laundry). Records indicate that the standard post gas station was built in 1941. The original plans called for two 10,000-gallon USTs, one containing gasoline and the other diesel fuel. The foundations of the building and the former pump island are still present.

Geophysical surveys were conducted at Parcel 133(7) during the SI field work and one anomaly was identified as A-1(2) on Figure 1-6. There were not any conclusive results; therefore, the area immediately around the concrete pad and the anomaly A-1(2) will be investigated for potential USTs. Any USTs found will be removed for disposal.

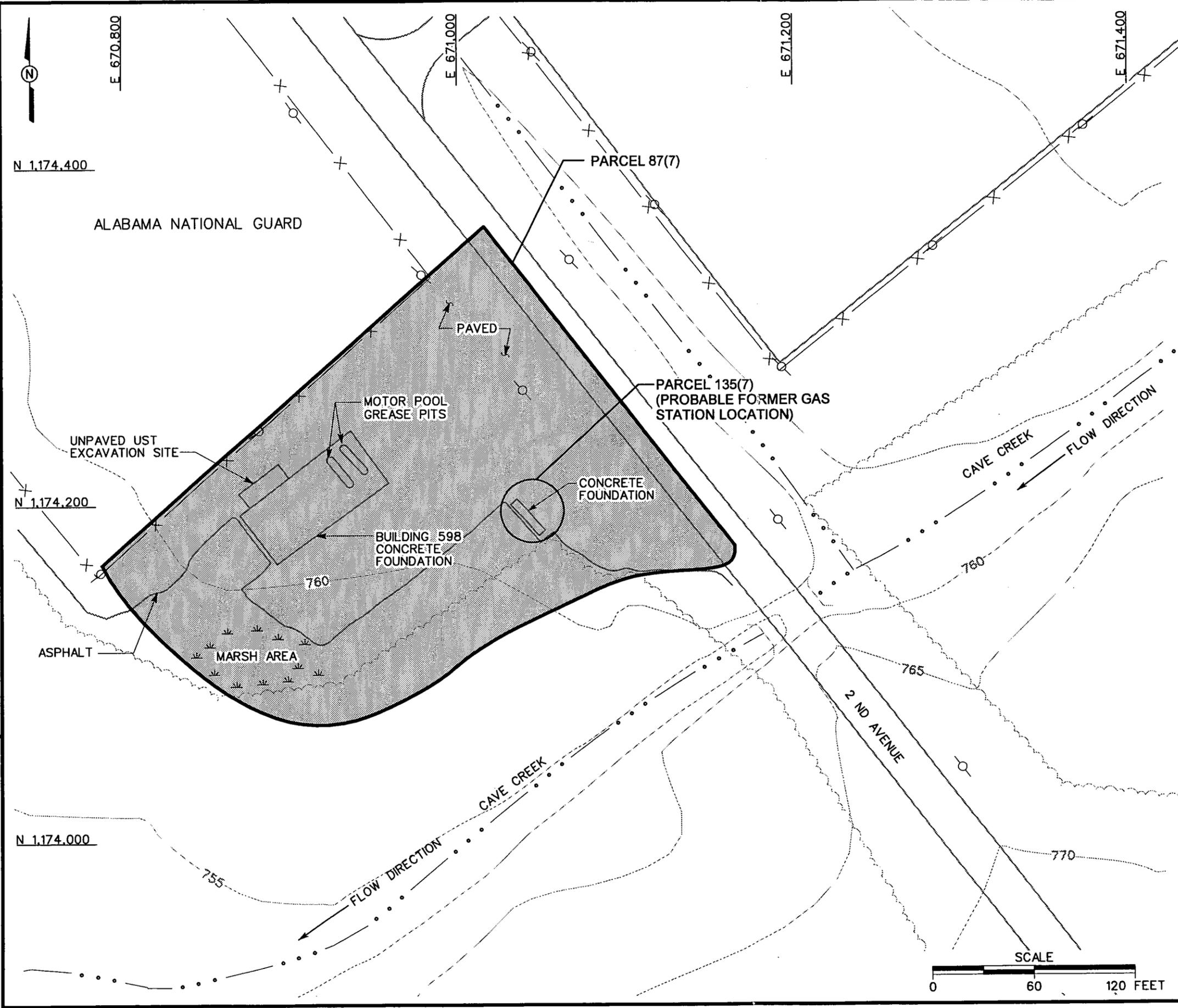
Parcel 134(7) - Former Gas Station, Former Building 1594A, Former Motor Pool Area 1500, Parcel 94(7). A former gas station was recorded as located at Building 1594A, which is located at former Motor Pool 1500 (former Chemical Laundry) (Figure 1-4). Records indicate that the standard post gas station was built in 1941. The original plans called for two 10,000-gallon USTs, one containing gasoline and the other diesel fuel. The foundations of the building and the former pump island are still present.

Geophysical surveys were conducted at Parcel 134(7) during the SI field work for Motor Pool 1500. One anomaly was identified as A-3(3) as shown on Figure 1-5. The results at Parcel 134(7) were inconclusive and did not indicate any USTs that would meet the size of two 10,000-gallon USTs. However the area around the concrete pad and the anomaly will be investigated. Any USTs identified will be removed for disposal.

An additional anomaly, A-5(2) that was located approximately 250 feet south of Parcel 134(7) was found during the geophysical survey field work (Figure 1-5). This anomaly will be investigated. Any USTs identified in this area will be removed for disposal.

Parcel 135(7) - Former Gas Station, Former Building 594, Former Waste Chemical Storage Area, Parcel 87(7). The Former Waste Chemical Storage Area Site, Parcels 87(7) is the former location of Building 598 (Figure 1-7). The site is located in the north central section

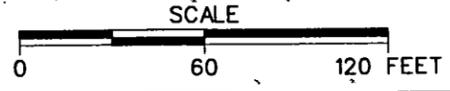
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- LEGEND**
- UNIMPROVED ROADS AND PARKING
 - PAVED ROADS AND PARKING
 - BUILDING
 - TOPOGRAPHIC CONTOURS
 - TREES / TREELINE
 - MARSH / WETLANDS
 - PARCEL BOUNDARY
 - BRIDGE
 - CULVERT WITH HEADWALL
 - SURFACE DRAINAGE / CREEK
 - FENCE
 - UTILITY POLE

FIGURE 1-7
SITE MAP, PARCEL 135(7)
FORMER GAS STATION, BUILDING 594
AT FORMER WASTE CHEMICAL
STORAGE AREA
PARCEL 87(7)

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of the Main Post. Second Street borders the site to the northeast. Cave Creek borders the site to the southeast and flows southwest past the site. The site is located next to the Alabama National Guard Area. This site was originally the location of a motor pool facility (Motor Pool 500) prior to its use as a storage area for waste chemicals. A former gas station was located at Building 594 at the Former Waste Chemical Storage Area (also recorded as Motor Pool 500). Records indicate that the standard post gas station was built in 1941. Reportedly, the station contained a single 10,000-gallon UST to store gasoline. The foundation of a building is still present.

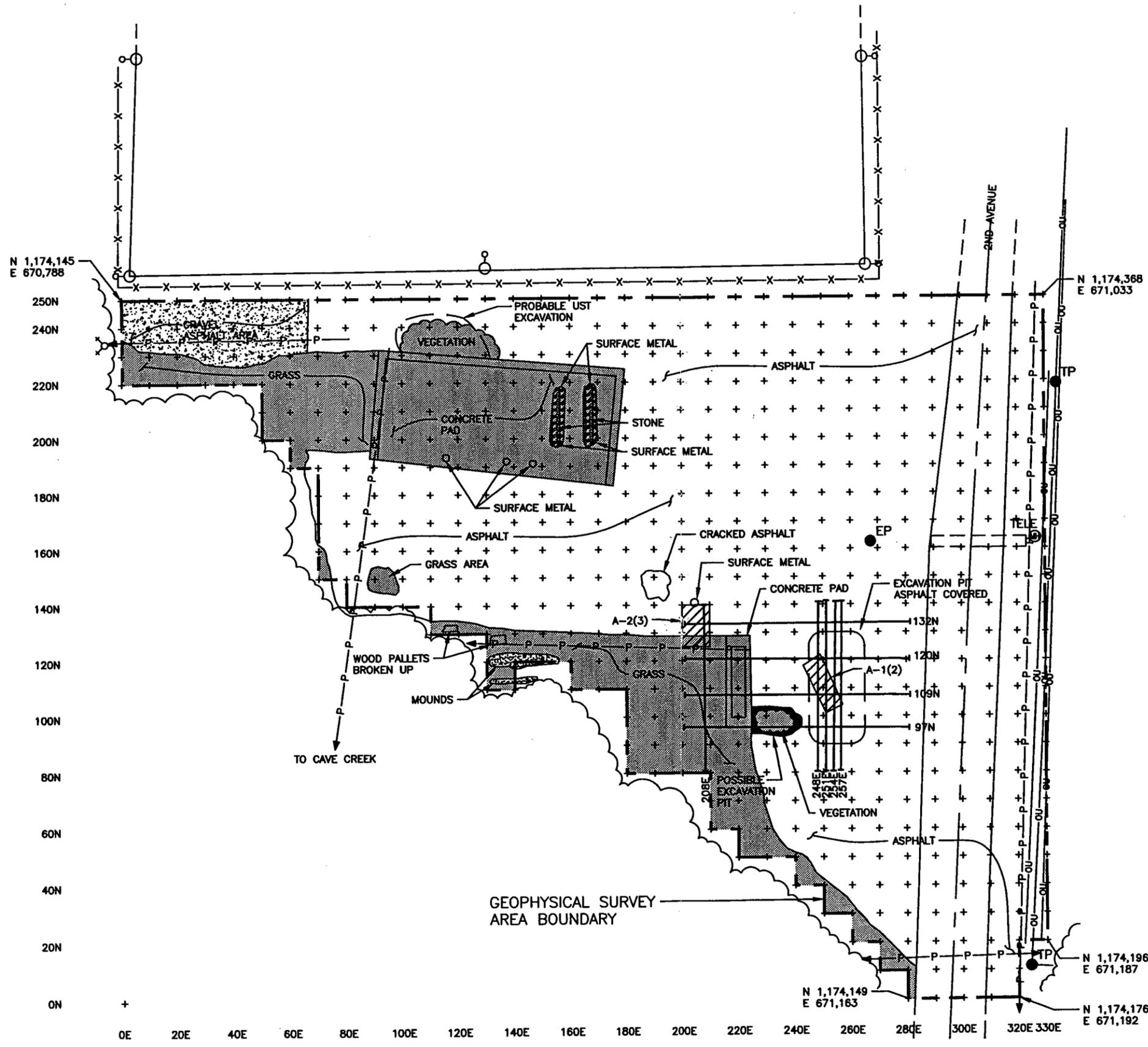
Geophysical surveys were conducted during the SI field work for the former Waste Chemical Storage Area. The geophysical survey results indicated one potential UST as anomaly A-1(2) shown on Figure 1-8. The area around the anomaly and adjacent to the concrete pad to the west will be investigated. Any UST identified will be removed for disposal.

Parcel 136(7) - Former Gas Station, Building 694, Former Motor Pool Area 600, Parcel 149(7). Former Motor Pool Area 600, Parcel 149(7), is an 8-acre rectangular parcel oriented northwest-southeast at 18th Street and 2nd Avenue (Figure 1-9). Currently, the wildlife management office and the offices of roads and grounds operations are located in Buildings 698 and 699 (Figure 1-9). It is believed that motor vehicle maintenance was conducted at this site in the past; however, this activity is not currently being conducted in this area. A former gas station was located at Building 694 at Motor Pool Area 600; however, the building or the foundation does not exist. Records indicate that this was a former standard post gas station built in 1941. Reportedly, the station contained a single 10,000-gallon UST to store diesel fuel.

Geophysical surveys were conducted at Parcel 136(7) during the SI field work for the Former Motor Pool Area 600. The geophysical survey results indicated the presence of two anomalies (A-1[2] and A-2[2]) in the immediate area of a concrete patch in the asphalt as shown on Figure 1-10). These two anomalies will be investigated and area adjacent to the concrete patch. If USTs are identified, they will be removed for disposal.

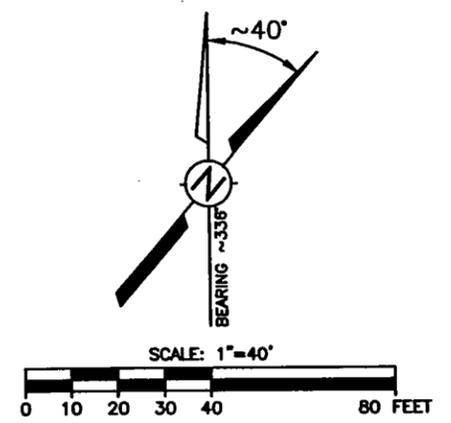
Parcel 137(7) - Former Gas Station, Building 2094, Former Motor Pool Area 2000, Parcel 144(7). The Former Motor Pool Area 2000 is located in the central part of Main Post at the intersection of 10th Avenue and 20th Street (Figure 1-11). The motor pool covers approximately 3.8 acres. The entire site is covered with asphalt, with the exception of the western boundary, which has grass. The only structures at the site are Building T-2098, located in the grass area in the western section of the site and a small shed located 60 feet north of Building T-2098. The area around the site consists of housing, recreational facilities, parking

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- LEGEND**
- GEOPHYSICAL ANOMALY
 - A-1(2)
 - TELEPHONE POLE
 - ELECTRICAL POLE
 - LIGHT POLE
 - MANHOLE (TELEPHONE)
 - FIRE HYDRANT
 - OVERHEAD UTILITIES
 - FENCE
 - PIPES
 - GPR PROFILES PRESENTED
 - VEGETATION
 - STONE
 - N 1,174,368 E 671,033** ALABAMA EAST STATE PLANE COORDINATES (NAD83)

NOTE: 1) LOCATIONS OF FEATURES OUTSIDE SURVEY AREA ARE APPROXIMATE



**FIGURE 1-8
 SITE MAP WITH GEOPHYSICAL INTERPRETATION
 PARCEL 135(7), FORMER GAS STATION,
 BUILDING 594, AT FORMER WASTE CHEMICAL
 STORAGE AREA, PARCEL 87(7)**

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 CALHOUN COUNTY, ALABAMA
 Contract No. DACA21-96-D-0018



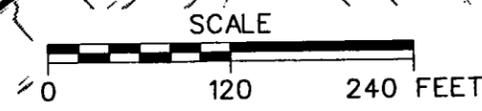
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 PROJ. MGR.: J. YACOUB
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 ENGR. CHCK. BY: J. RAGSDALE
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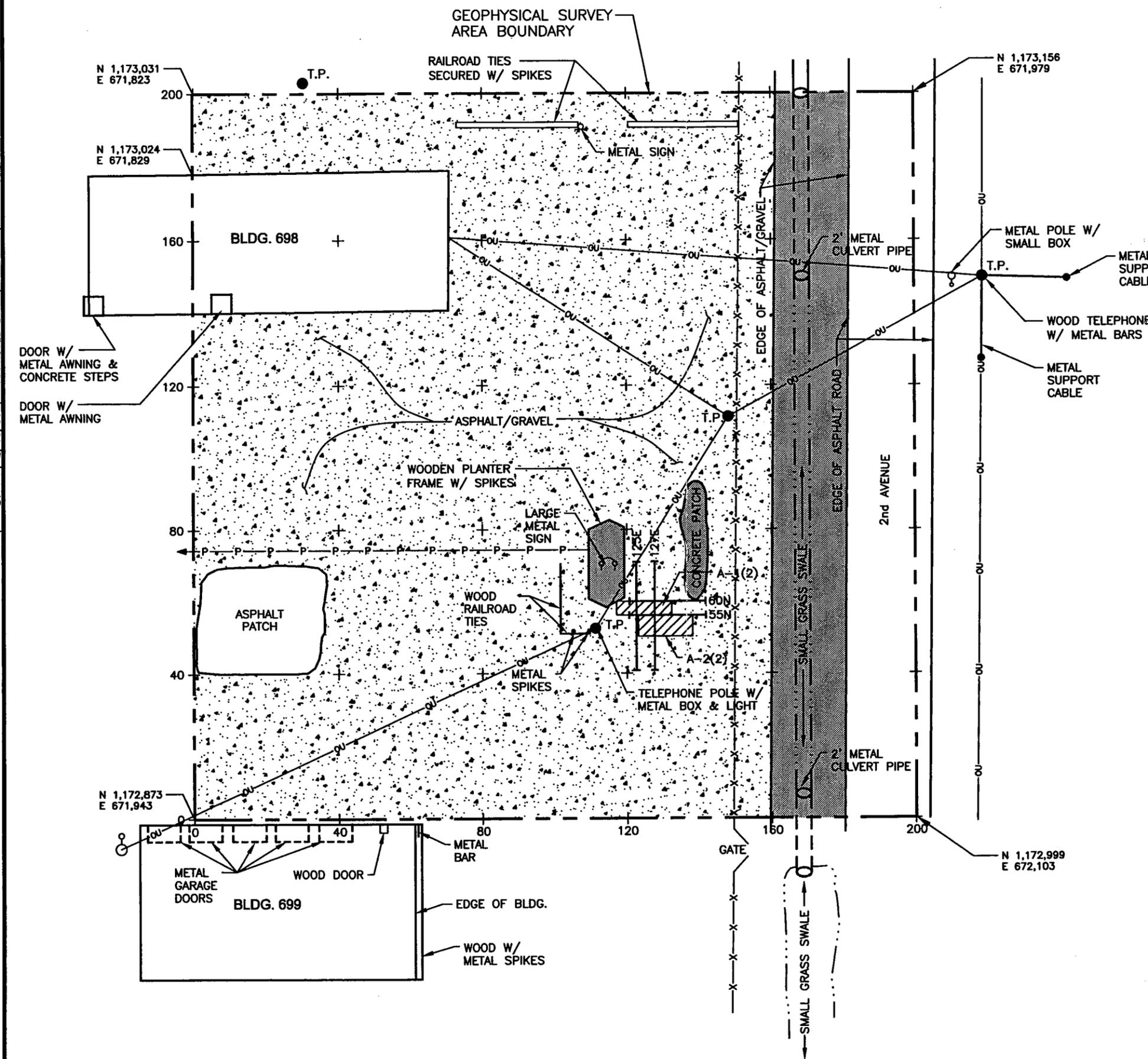
- LEGEND**
- UNIMPROVED ROADS AND PARKING
 - PAVED ROADS AND PARKING
 - BUILDING
 - TOPOGRAPHIC CONTOURS
 - TREES / TREELINE
 - PARCEL BOUNDARY
 - EXTENT OF GEOPHYSICAL SURVEY
 - SURFACE DRAINAGE / CREEK
 - MANMADE SURFACE DRAINAGE FEATURE
 - FENCE
 - UTILITY POLE
 - SANITARY SEWER LINE
 - STORM DRAINAGE LINE

FIGURE 1-9
SITE MAP, PARCEL 136(7)
FORMER GAS STATION, BUILDING 694
AT FORMER MOTOR POOL
AREA 600, PARCEL 149(7)

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 CALHOUN COUNTY, ALABAMA
 Contract No. DACA21-96-D-0018



DRAWING NUMBER 783149-079.DWG
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 MSN 2/10/99
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- LEGEND:**
- GEOPHYSICAL ANOMALY A-1(2)
 - LIGHT POLE
 - SIGN
 - T.P. TELEPHONE POLE
 - OVERHEAD UTILITY LINES
 - CHAIN LINK FENCE
 - LOCATION OF BURIED PIPE OR UTILITY
 - 55N GPR PROFILES PRESENTED
 - N 1,173,155 E 671,978 ALABAMA EAST STATE PLANE COORDINATES (NAD83)

FIGURE 1-10
SITE MAP WITH GEOPHYSICAL INTERPRETATION
PARCEL 136(7), FORMER GAS STATION,
BUILDING 694, AT FORMER MOTOR POOL
AREA 600, PARCEL 149(7)

U.S. ARMY CORPS OF ENGINEERS
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 FORT McCLELLAN
 CALHOUN COUNTY, ALABAMA
 Contract No. DACA21-96-D-0018



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 INITIATOR: J. RAGSDALE
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 PROJ. NO.: 783149



LEGEND

	UNIMPROVED ROADS AND PARKING
	PAVED ROADS AND PARKING
	BUILDING
	TOPOGRAPHIC CONTOURS
	TREES / TREELINE
	PARCEL BOUNDARY
	EXTENT OF GEOPHYSICAL SURVEY
	SURFACE DRAINAGE / CREEK
	FENCE
	UTILITY POLE
	SANITARY SEWER LINE
	STORM DRAINAGE LINE

- NOTES:**
- POTENTIAL UST LOCATION MARKED IN THE FIELD.
 - SITE FEATURES FOUND ON THIS MAP ARE UNCHECKED; FOR ACCURATE SITE INFORMATION TO RECONSTRUCT UST LOCATION, USE GEOPHYSICS SITE MAP.

FIGURE 1-11
 SITE MAP, PARCEL 137(7)
 FORMER GAS STATION,
 BUILDING 2094
 AT FORMER MOTOR POOL
 AREA 2000, PARCEL 144(7)

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lots, and administrative buildings. The site was previously used as a go-cart racetrack. A former gas station was located at Building 2094 at the former Motor Pool Area 2000. Records indicate that it was the standard post gas station built in 1941. Reportedly, the station contained two 10,000-gallon USTs to store gasoline and diesel fuel. The foundation of the building is not present.

Geophysical surveys were conducted in the area Parcel 137(7) during the SI field work for the Former Motor Pool Area 2000. The geophysical survey results indicated the presence of a UST at anomaly A-1(1) as shown on Figure 1-12. If a UST is identified, it will be removed for disposal.

Parcel 140(7) - Former Gas Station, Building 1294, Former Decontamination Complex, Parcel 93(7). The Former Decontamination Complex, Parcel 93(7), is located north on Main Post on the corner of 4th Avenue and 1st Street (Figure 1-13). This site is also the location of Former Motor Pool Area 1200. The Former Decontamination Complex was built in 1941, and covers approximately 4 acres (including parking areas). The most of the area is fenced. A former gas station was reportedly located at former Building 1294 at the north end of the parcel. Records indicate that the standard post gas station was typical of those built in 1941. Reportedly, the station contained two 10,000-gallon USTs to store gasoline and diesel fuel. The foundation of the building is not present.

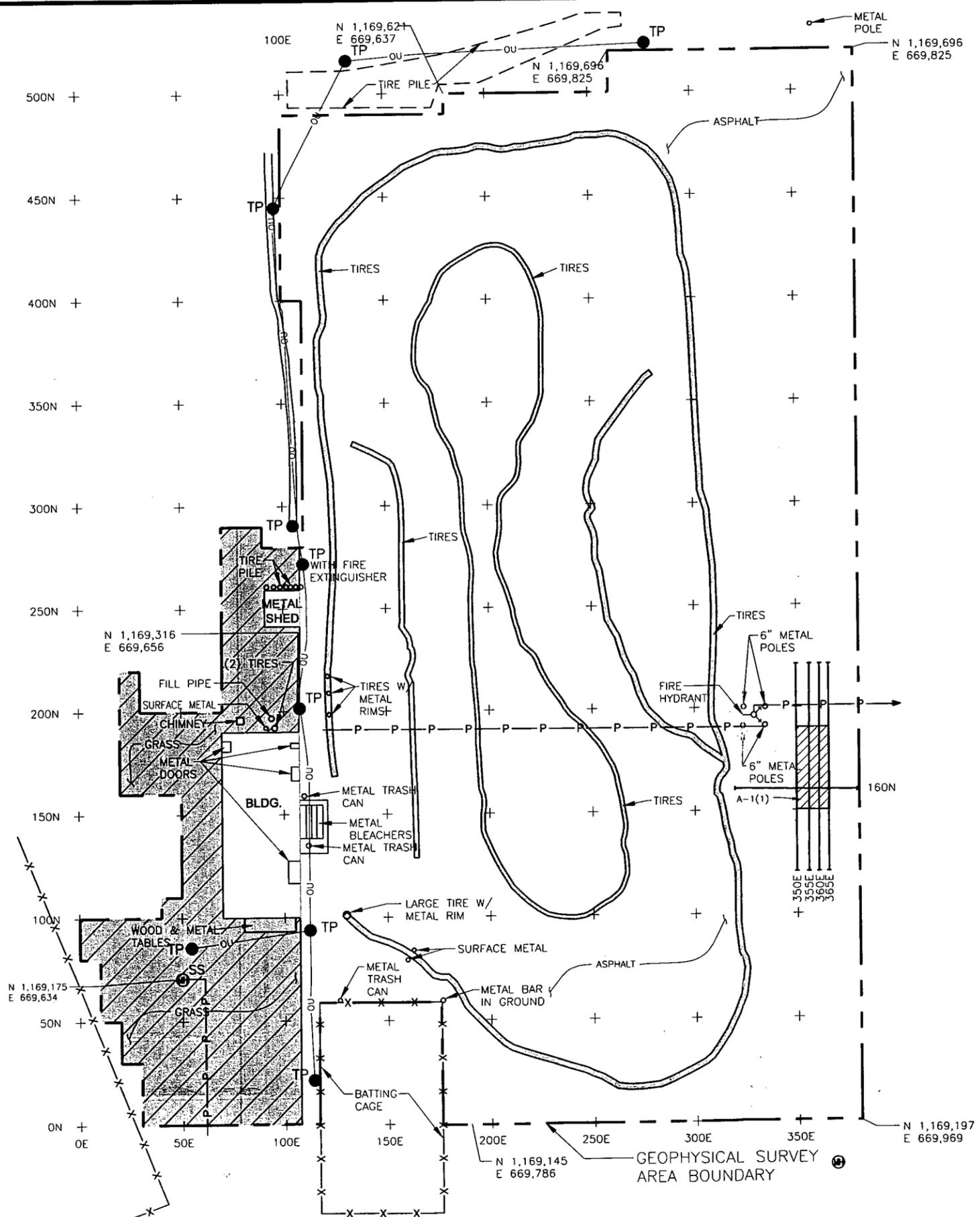
Geophysical surveys were conducted in the area of Parcel 137(7) during the SI field work for the Former Motor Pool Area 2000. The geophysical survey results indicated the presence of a UST at anomaly A-1(2) as shown on Figure 1-14. If a UST is identified, it will be removed for disposal.

1.3 Scope of Work

IT will perform activities including procurement; mobilization/demobilization; site preparation and location of utilities; removal and disposal of tank contents; UST excavation and removal; removal and disposal of contaminated soil; confirmatory sampling of the excavations; cleaning, demolition and disposal of the USTs; backfilling of the excavations; site restoration; and closure assessment report preparation. The proposed schedule anticipates these activities will be performed sequentially for all locations.

To support the field activities, IT will mobilize a site superintendent, project engineer, health and safety coordinator, equipment operators, laborers, a truck driver, and a sample technician.

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 MSN 11/17/99
 APPROVED BY
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- LEGEND**
- GEOPHYSICAL ANOMALY A-1(1)
 - TELEPHONE POLE
 - MANHOLE
 - MANHOLE (SANITARY SEWER)
 - FIRE HYDRANT
 - OVERHEAD UTILITIES
 - FENCE
 - LOCATION OF BURIED PIPE OR UTILITY
 - 360E GPR PROFILES PRESENTED
 - TIRES
 - N 1,169,175 E 669,634 ALABAMA EAST STATE PLANE COORDINATES (NAD83)

NOTES: 1) LOCATIONS OF FEATURES OUTSIDE SURVEY AREA ARE APPROXIMATE.
 2) THIS FIGURE REPRESENTS CONDITIONS AT THE SITE IN 1998 WHEN THE GEOPHYSICAL SURVEY WAS CONDUCTED. THE TIRES, METAL SHED, METAL BLEACHERS, BATting CAGE, TRASH CANS, FIRE EXTINGUISHER, WOOD AND METAL TABLES HAS BEEN REMOVED.

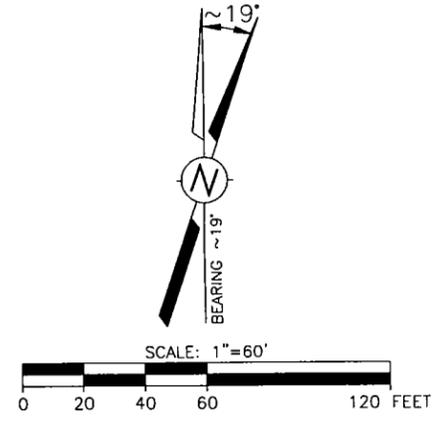
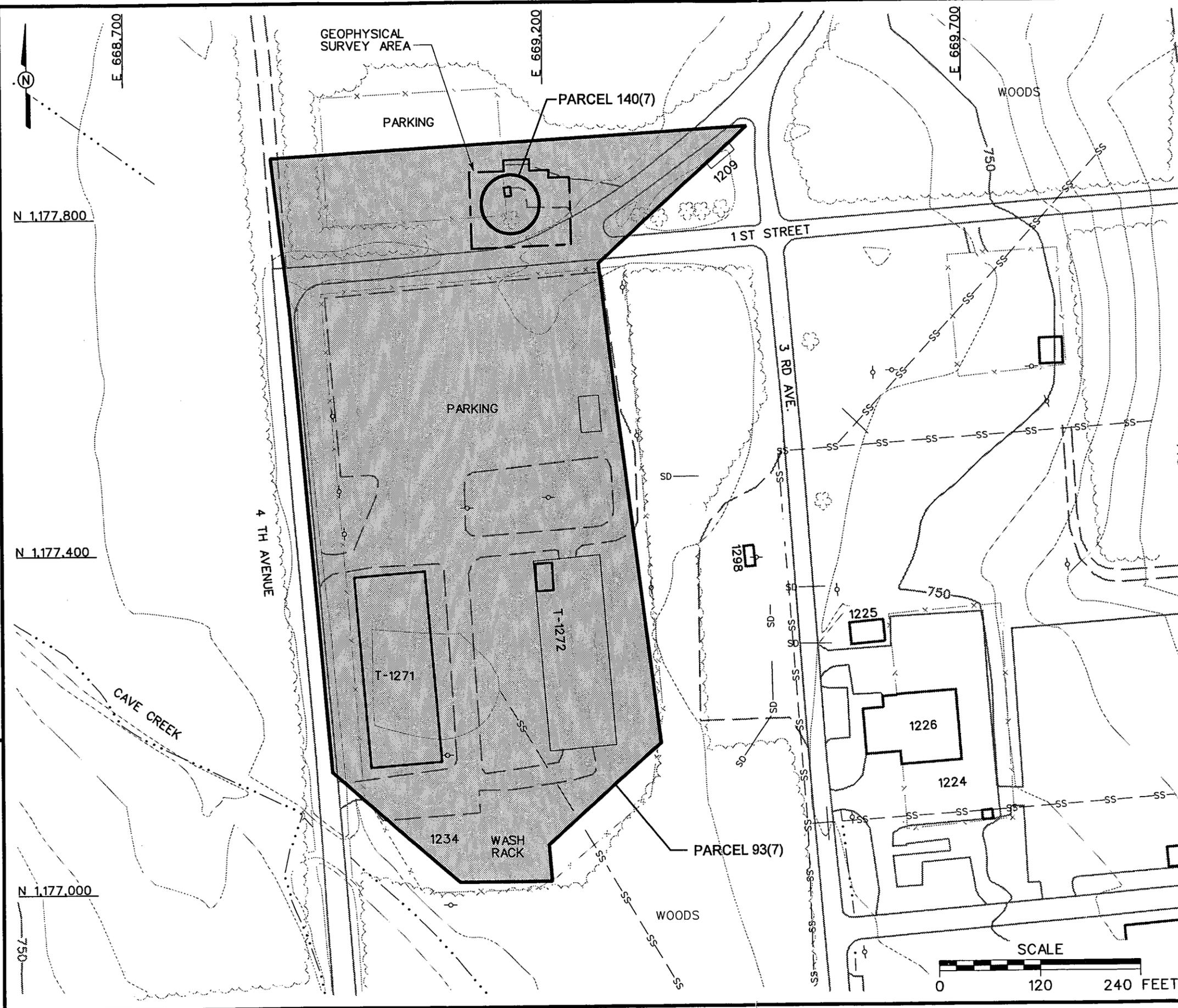


FIGURE 1-12
SITE MAP WITH GEOPHYSICAL INTERPRETATION
PARCEL 137(7), FORMER GAS STATION,
BUILDING 2094, AT FORMER MOTOR POOL
AREA 2000, PARCEL 144(7)

U.S. ARMY CORPS OF ENGINEERS
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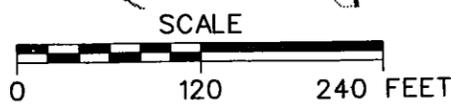
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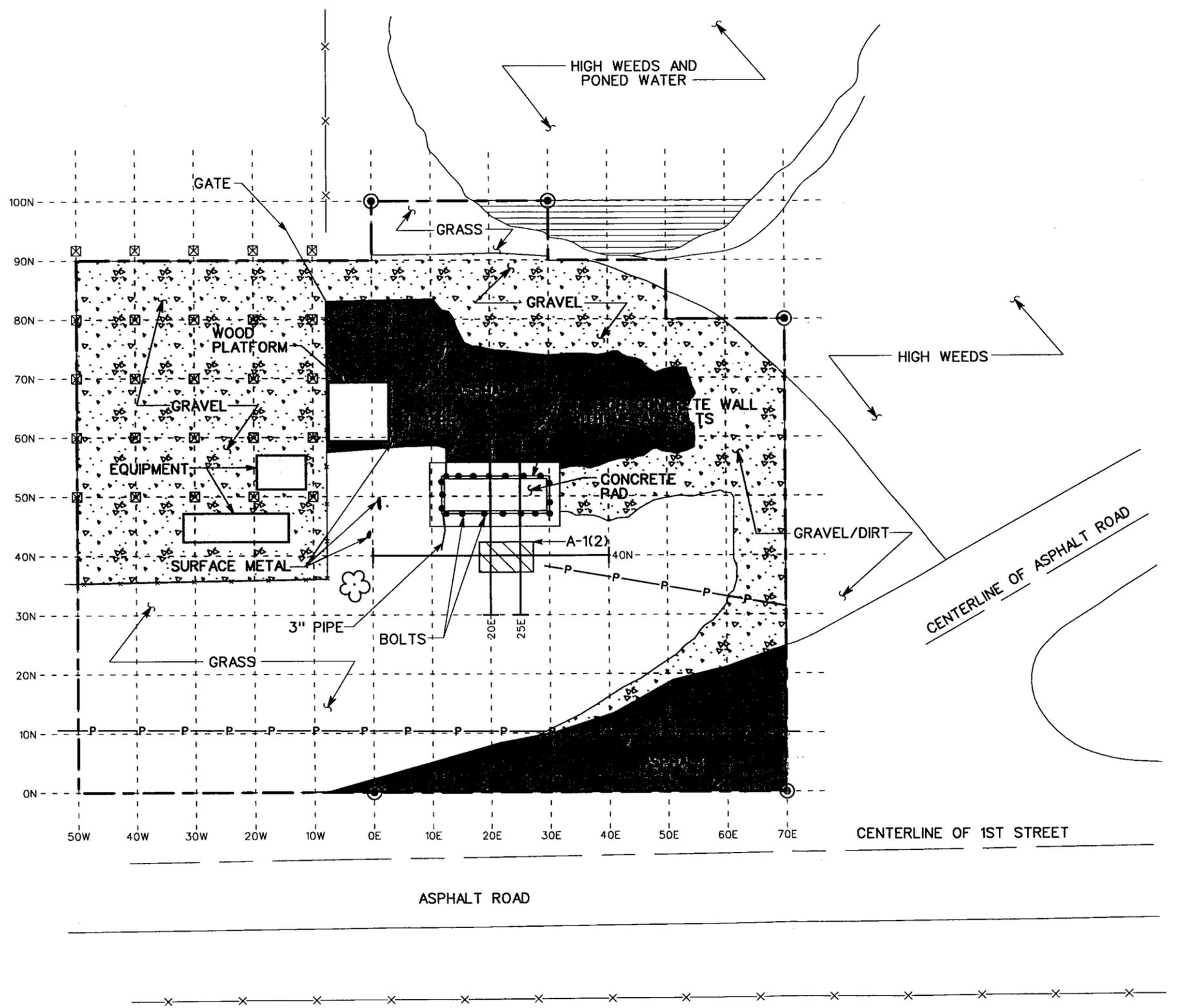
- LEGEND**
- UNIMPROVED ROADS AND PARKING
 - PAVED ROADS AND PARKING
 - BUILDING
 - TOPOGRAPHIC CONTOURS
 - TREES / TREELINE
 - PARCEL BOUNDARY
 - EXTENT OF GEOPHYSICAL SURVEY AREA
 - SURFACE DRAINAGE / CREEK
 - FENCE
 - UTILITY POLE
 - SANITARY SEWER LINE
 - STORM DRAINAGE LINE

FIGURE 1-13
 SITE MAP, PARCEL 140(7)
 FORMER GAS STATION,
 BUILDING 1294, AT FORMER
 DECONTAMINATION COMPLEX
 PARCEL 93(7)

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 MOBILE DISTRICT
 FORT McCLELLAN
 CALHOUN COUNTY, ALABAMA
 Contract No. DACA21-96-D-0018



DWG. NO.: ...783149es.083
 PROJ. NO.: 783149
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 PROJ. MGR.: J. YACOUB
 DRAFT. CHK. BY:
 ENGR. CHK. BY: J. RAGSDALE
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- LEGEND**
- GEOPHYSICAL SURVEY BOUNDARY
 - ⊙ CIVIL SURVEY STAKE LOCATION
 - 40N → GPR PROFILES PRESENTED
 - ▨ GEOPHYSICAL ANOMALY
A-1(2)
 - ⊠ 5" x 8" CONCRETE FOOTINGS SOME WITH BOLTS AND METAL FLANGES
 - P— PIPE/BURIED UTILITY
 - X— FENCE
 - ☁ TREES / TREELINE

NAD 83 SPHEROID, ALABAMA EAST STATE PLANE DATUM		
LOCAL GRID COORDINATES	STATE PLANE COORDINATES	
0N,0E	1177760.814N	669163.674E
0N,70E	1177766.546N	669233.003E
80N,70E	1177845.893N	669227.028E
100N,30E	1177861.635N	669185.484E
100N,0E	1177861.320N	669154.980E

NOTE:
 1. THIS FIGURE REPRESENTS CONDITIONS AT THE SITE IN 1999 WHEN THE GEOPHYSICAL SURVEY WAS CONDUCTED. THE EQUIPMENT HAS BEEN REMOVED.



FIGURE 1-14
 SITE MAP WITH GEOPHYSICAL INTERPRETATION PARCEL 140(7) FORMER GAS STATION, BUILDING 1294 AT FORMER DECONTAMINATION COMPLEX, PARCEL 93(7)

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 CALHOUN COUNTY, ALABAMA
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Equipment requirements include a CAT 320 excavator, 300 Komatsu excavator, Case 580 backhoe, trucks, decontamination trailer, storage trailer, sampling instruments, and high-pressure cleaning equipment. Site office trailers have been established on Base and will be shared with other task orders along with the project business administrator, telephone, and electrical and water services. Most equipment and material will be procured at the IT-FTMC office through equipment vendors and scientific supply vendors, and shipped directly to the site.

Mobilization activities will occur at the Knoxville office and at the IT-FTMC office. Knoxville office activity will include the procurement of rented items. At the FTMC office, IT will meet with FTMC personnel and conduct on-site job setup. The on-site trailers will be used for field offices, soil preparation, sample coordination, health and safety equipment storage, and break areas. Cabinets and desks will be rented for use in the trailers.

The following are some of the assumptions that were made during the development of this project:

- One 8-hour day for mobilization and one 8-hour day of demobilization will be required.
- One mobilization and demobilization is planned for the completion of all the UST removal work.
- The field crew will work five 10-hour days per week.
- Equipment will be rented from local vendors to minimize mobilization costs.
- Per Alabama Department of Environmental Management (ADEM) a Professional Engineer registered in the State of Alabama or a geologist will be on site during all removal activities.
- There are no unexploded ordnance issues for the UST removal sites.

2.0 Underground Storage Tank Removal

The following sections outline the steps necessary to ensure the safe removal of underground storage tanks utilizing American Petroleum Institute (API) recommended practices API 1604 "Removal and Disposal of Used Underground Petroleum Storage Tanks" and National Fire Prevention Association 327 "Standard Procedures for Cleaning or Safeguarding Small Tanks and Containers Without Entry."

The UST removal team will visually inspect each site to ensure that sufficient space is available to safely conduct the work. Special attention will be given to determine that there are adequate working surfaces to position and support equipment, and to the presence of overhead lines that may hinder the operation of equipment and if local traffic may be affected.

2.1 Tank Contents Verification

It is expected that the tanks will be empty or only contain product. If this is not the case, prior to removing any of the tank contents, the contents will be characterized to determine if they must be disposed of as a hazardous or special waste based on state disposal regulations. Each separate stratified liquid and/or solid phase will be characterized in accordance with 40 Code of Federal Regulations (CFR) 261, Subpart C and ADEM Administrative Code 335-13-4-26 Requirements for Management and Disposal of Special Waste. The waste content determination and accompanying test results for each phase present in the tank shall be submitted to the contracting officer's representative (COR). The tank contents will not be removed until the COR gives approval.

2.2 Removal of Tank Liquid, Residue, and Contaminated Water

Tank liquids, residues, and contaminated water will be removed and disposed of at an off-site treatment facility. Government facilities will not be used for storage or disposal of the wastes. Usable product will be the property of IT. Approved containers, vehicles, equipment, labor, signs, labels, and manifests will be provided as necessary to accomplish the removal including materials necessary for cleaning up spills that could occur during tank removal operations.

2.3 Contaminated Water Disposal

Analyses for contaminated water to be taken to an off-site treatment facility will conform to the requirements of the treatment facility with documentation of all analysis performed furnished to the COR. Liquids will be contained, stored on site, analyzed, and disposed of in accordance with

applicable federal and state disposal regulations. Approved containers, vehicles, equipment, labor, signs, labels, and manifests will be provided as necessary to accomplish the disposal of any contaminated water. Sampling and analyses of contaminated water by IT and the laboratory will be in accordance with the field sampling and analysis plan (FSAP).

Contaminated water will be treated or disposed of off site in accordance with federal and state regulations.

2.4 Excavation

Before starting work, IT will coordinate with the FTMC transition force and appropriate utility companies for an excavation permit, arrange for the location of all subsurface utilities prior to starting excavation, and install a barricade of construction fencing to mark off the work areas and establish the boundaries of the exclusion zone.

After exposing the top of the tank with a Case 580 backhoe, but before excavating the tank, residue, liquids, piping, and ancillary equipment will be removed from the tank, and the tank will be vented in accordance with API 1604.

Uncontaminated topsoil shall be stripped and stockpiled separately for reuse at the tank site if it meets the requirements of clean fill. Tank liquids will be removed and recycled to the greatest extent possible.

Exploratory trenches will be excavated as necessary to determine the tank location, limits, and the location of ancillary equipment. Excavation around the perimeter of the tank will be performed in a manner that will limit the amount of potentially contaminated soil that could be mixed with previously uncontaminated soil. Contaminated soil will be segregated in separate stockpiles. Surface water will be diverted to prevent direct entry into the excavation. Dewatering of the excavation will be limited to that necessary to assure adequate access to the tank and piping and to assure a safe excavation. Free-product will be recovered from the groundwater only as part of necessary dewatering and will be limited to 110 gallons. If a volume of free-product exceeds 110 gallons (two 55-gallon drums), the USACE-Mobile district and the FTMC transition force will be contacted for further instructions.

Open excavations and stockpile areas will be secured while awaiting verification test results from the soil beneath the tank. The excavation will be backfilled after approval from the COR.

Surface water will be diverted around excavations to prevent water from directly entering into the excavation.

Uncontaminated excavated soil will be stockpiled and used for backfill in the tank excavation prior to using borrow material. Excavated material that is visibly stained, has an obvious petroleum odor or for which real-time vapor monitoring instrument readings exceed 100 parts per million (ppm) for volatile and semivolatile hydrocarbons will be considered contaminated and will be stockpiled for sampling. Uncontaminated soil will be stockpiled separately from the contaminated soil, a safe distance away from, but adjacent to, the excavation. Contaminated soil will be placed on an impermeable geomembrane a minimum of 15 millimeters or two 10-millimeter layers thick and covered with a 10-millimeter sheet of geomembrane. The geomembrane will be placed such that the stockpiled soil does not come into contact with surface water runoff. The 10-millimeter geomembrane cover will prevent rain or surface water from coming into contact with the contaminated soil, as well as limit the escape of the volatile constituents in the stockpile.

2.5 Removal

Once the top of the tank is exposed and after tank liquids have been pumped out, the interior of the tank will be cleaned using a high pressure, low volume spray from outside of the tank. Rinsate will be pumped into a fuel service tanker truck with a fuels vacuum pump. The internal atmosphere of the tank will be tested with a combustible gas/oxygen concentration meter calibrated to a methane standard. If the meter registers less than 10 percent of the lower explosive limit of the vapors in the interior of the tank, the tank will be removed without treatment. If the meter registers 10 percent or more of the lower explosive limit, it will be inerted prior to removal. To inert the UST internal atmosphere, a riser pipe will be installed to vent vapors. In addition, dry ice will be placed in the tank until the internal atmosphere registers less than 8 percent oxygen. Once this level is reached, the UST internal atmosphere will be continuously monitored until the tank has been removed from the excavation and cut open.

Once an inert tank atmosphere is achieved, attached piping will be removed. Additional soil will be dislodged as necessary to enable the tank to be removed. Slings will be placed around the tank and attached to the excavator or crane boom. The tank will be removed from the excavation and the exterior cleaned to remove all soil and inspected for signs of corrosion, structural damage, or leakage. All materials coming into contact with the tank, or in the vicinity of the excavation such as shovels, slings, and tools will be of the nonsparking type. After removal from the excavation, the tank will be placed on a level surface and secured with wood blocks to

prevent movement. Piping associated with the tank designated to be removed will be drained into the tank prior to removal of the tank.

After the tank has been removed from the ground, the adjacent and underlying soil will be examined for any evidence of leakage. The soil will be visually inspected for staining, and also screened for the presence of volatile and semivolatile hydrocarbon contamination using a real time vapor monitoring instrument. Contaminated soil will be stockpiled onsite. Any evidence that contamination exceeds 30 cubic yards will be reported to the COR the same day it is discovered. The COR will determine the extent of the contaminated soil to be removed from each site. After the known contaminated soil is removed, the excavation will be sampled and analyzed.

Uncontaminated soil will be removed from the tank exterior to eliminate soil falling on roadways during transportation to a temporary storage area, to ensure markings will adhere to the tank surface, and to simplify tank cutting. Soil will be removed using nonsparking tools. Soil removal will be accomplished on a geomembrane or paved area adjacent to the tank removal site. Uncontaminated soil removed from the tank exterior will be recovered and used as backfill in the former tank excavation. Soil believed to be contaminated will be removed and stockpiled with other contaminated soil removed from the excavation.

After the tank exteriors are cleaned and ancillary equipment is removed, the tank will be moved to a concrete decontamination pad for decontamination prior to being cut into sections. Prior to cleaning the tank interior, the tank atmosphere will be monitored for combustible vapors and purged with dry ice if combustible vapors are detected.

The tank interior will be cleaned using a high pressure, low volume water spray and appropriate cleaning solution until all loose scale and residue is removed and contamination in the form of a sheen is no longer visible in the effluent stream. All contaminated water resulting from cleaning operations will be collected. Analyses for contaminated water to be taken to an off-site treatment facility will include total petroleum hydrocarbons (TPH) and lead with documentation of all analysis performed furnished to the COR. Liquids will be contained, stored on site and disposed of in accordance with applicable federal and state disposal regulations. Approved containers, vehicles, equipment, labor, signs, labels, and manifests necessary for accomplishment of the work will be used. Sampling and analyses of contaminated water will be in accordance with the FSAP. Contaminated water will be disposed of off site in accordance with federal and state regulations.

Cleaning will be accomplished in a manner that eliminates the need for personnel to enter the tank to the greatest extent possible. Cleaning will be done using specially designed tank cleaning equipment which allows the tank to be cleaned prior to cutting into sections without requiring personnel to enter the tank or, if less specialized equipment is used, the tank will be partially dissected to overcome confined space entry hazards by removing the end walls. In either case, the cutting operation will be accomplished using hydraulic shears or a power metal chisel.

2.6 Soil Sampling and Analysis

Four general types of samples will be collected during the UST removal activities:

- Soil confirmation samples
- Stockpile soil disposal characterization samples
- Tank cleaning water disposal samples
- Groundwater samples.

The tanks are assumed to be empty or only contain product, no samples will be taken if the tank contains product. ADEM requires groundwater samples to be collected if it is encountered. Groundwater samples will be collected in accordance to ADEM UST removal guidelines, as presented in the FSAP attached as Appendix B of this work plan.

Soil confirmation samples will be collected from the open excavation after the tank has been removed and excavation of any contaminated soil has been completed. Soil samples will be collected from the sides and base of the tank excavation and the bottom of the piping trenches. Excavation wall samples will be collected every 25 feet. One soil sample will be collected per each 10 lineal feet of excavation from the base of the piping trenches. Soil samples will be collected from the lower one-third of each vertical wall of the tank excavation. Additional samples will be collected from the floor of the excavations. Floor samples will be collected from a location directly underneath the tank. If a concrete slab is present in the excavation, floor samples will be collected from a location on the side of the slab at a depth equal to the bottom of the slab. Where groundwater is present in the excavation, soil samples will be collected just above the groundwater elevation from the excavation walls. Samples will be obtained from the excavation using a backhoe. Soil samples from the excavation will be tested in accordance with the FSAP for the following parameters: benzene, toluene, ethylbenzene, and xylenes by U.S. Environmental Protection Agency (EPA) Method 8012B, polynuclear aromatic hydrocarbons by EPA Method 8310, and lead by EPA Method 6010B.

Samples from stockpiled contaminated soil will be as required by ADEM Guidelines for the Disposal of Non-Hazardous Petroleum Contaminated Wastes and include five grab samples composited to one sample for each stockpile. One composite sample will be collected for each approximately 20 cubic yards of stockpile soil. Stockpiled material will be tested in accordance with FSAP for the following parameters: TPH by EPA Method 8015B, lead by EPA Method 6010B, toxicity characteristic leaching procedure lead by EPA Method 1311 when total lead is 100 ppm or greater, and paint filter by EPA Method 9095. The maximum allowable laboratory detection limits will be 100 ppm for TPH and 5 ppm for lead.

Groundwater sampling will be conducted at each UST site where the seasonal high groundwater table is less than 5 feet below the bottom of the tank excavation pit and/or piping trench or where standing water in the excavation pit or piping trench is indicative of the groundwater table elevation. Groundwater samples will be collected at a minimum of one up-gradient and three down-gradient locations just outside the tank perimeter and the excavation, unless directed to do otherwise by the ADEM. Groundwater samples will be analyzed in accordance with the FSAP for the same parameters as the soil confirmation samples listed above.

A summary of the samples planned for off-site analysis and the corresponding analytical program is summarized in the FSAP attached as Appendix B. The analytical parameters, methods, number of field samples, and quality assurance/quality control samples planned for the removals are also summarized in the FSAP.

To ensure consistency in analytical data, all analytical services for the UST removals will be provided under subcontract to IT by Severn Trent Laboratories, Inc., Knoxville, Tennessee. Severn Trent Laboratories is currently validated by the USACE Hazardous, Toxic, and Radioactive Waste Center of Expertise for the applicable methods, and holds state certification by the ADEM.

IT will conduct global positioning system (GPS) surveys to locate soil confirmation sample locations. The GPS used to conduct the surveys will be a survey-grade Trimble 4000 SSI total station system, or equivalent. The GPS surveys will be conducted in the RTK way point mode and be designed to provide submeter accuracy for the coordinate data collected. The GPS surveys will be conducted by IT GPS personnel assisted by a project scientist. The surveys will be conducted in accordance with the IT standard operating procedures for GPS surveys, ITGP-005.

2.7 Backfilling

The tank area and any other excavations will be backfilled only after the soil test results are known and no further action is required. Stockpiled material subjected to chemical confirmation testing will be used as backfill if it is found to contain less than 100 ppm of TPH. The excavation will be backfilled within 48 hours after closure activities are complete. Backfill consisting of clean fill will be placed in layers with a maximum loose thickness of 8 inches, and compacted to 90 percent maximum density for cohesive soils and 95 percent maximum density for cohesionless soils. An approved commercial testing laboratory will perform density tests. A minimum of one density test shall be performed on every other lift. The excavation will not be dewatered. If groundwater is present in the excavation, the initial backfill material will consist of clean, crushed nonporous rock, crushed gravel, or uncrushed gravel with maximum particle size of 1-1/2 inch and no more than 2 percent by weight passing the No. 4 size sieve. No density tests will be taken on the initial gravel backfill when groundwater is encountered in the excavation. The gravel backfill will be compacted by a minimum of two passes of a hand-operated plate-type vibratory compactor prior to placement of the soil backfill. Laboratory tests for moisture density relations will be determined in accordance with American Society for Testing and Materials (ASTM) D 1557, or ASTM D 3017. Field in-place density shall be determined in accordance with ASTM D 1556, ASTM D 2922, or ASTM D 2167.

Site restoration activities will be limited to grading and backfilling the excavation areas as needed to reduce and control erosion. Gravel will be distributed uniformly and spread evenly over disturbed paved areas to an average thickness of 6 inches. New surfaces shall be blended into existing areas. In areas of grass, topsoil will be added as needed and reseeding will be conducted.

3.0 Disposal Requirements

Disposal of hazardous or special wastes will be in accordance with all local, state, and federal solid and hazardous waste laws and regulations as well as the Resource Conservation and Recovery Act. These services will include all necessary personnel, labor, transportation, packaging, detailed analyses (if required for disposal, manifesting or completing waste profile sheets), equipment, and reports. Liquids removed from the tank will be recycled to the greatest degree practicable. All contaminated soil will be treated as a special waste.

The tank will be cut into sections prior to being taken off government property. After the tank, piping, and ancillary equipment have been removed from the excavation and the tank cleaned, the tank will be cut into sections with no dimension greater than 5 feet using hydraulic shears. Tank and piping sections will be disposed of in a state approved off-site disposal facility or in a salvage yard. The tank will not be sold intact. Ancillary equipment will be disposed of at an approved off-site disposal facility or a salvage yard. Piping will be disconnected from the tank and removed to building entrance and capped.

Transportation will be provided in accordance with Department of Transportation Hazardous Material Regulations and state and local requirements, including obtaining all necessary permits, licenses, and approvals. Evidence that a state licensed waste transporter is being used will be included in the SUBMITTALS.

IT will retain the rights to the salvage value of wastes, as long as the requirements of 40 CFR 266, or the applicable state requirements are met.

3.1 Records

Records will be maintained for all waste determinations, including appropriate results of analyses performed, substances and sample location, the time of collection, and other pertinent data as required by 40 CFR 280, Section 74 and 40 CFR 262 Subpart D. Transportation, treatment, disposal methods and dates, the quantities of waste, the names and addresses of each transporter and the disposal or reclamation facility, will also be recorded and available for inspection, as well as copies or originals of the following documents:

- Manifests
- Waste analyses or waste profile sheets

- Certifications of final treatment/disposal signed by the responsible disposal facility official.

Following contract closeout, these records will become the property of the government.

3.2 Hazardous/Special Waste Manifests

For hazardous waste, a State of Alabama approved manifest system, in conformance with the requirements identified in 40 CFR 262 and 40 CFR 263, will be used so that the wastes can be tracked from generation to ultimate disposal. The manifests will comply with all of the provisions of the transportation and disposal regulations. IT will be responsible for preparing manifests for each load and obtaining the appropriate identification numbers and signatures. Two days prior to the day of shipment, a manifest will be supplied to the COR for review. The COR will supply the generator number and sign the generator's certification if the manifest is accepted. If not acceptable, corrections shall be made to the manifest. The wastes will be transported in approved containers by a certified special or hazardous waste hauler (i.e., the hauler must have an EPA or appropriate state special or hazardous waste identification number). All transporters must sign the appropriate portions of the manifest and must comply with all of the provisions established in ADEM Administrative Code R-335-14-4 and Department of Transportation and Resource Conservation and Recovery Act regulations. Special wastes will be disposed of per ADEM Administrative Code R-335-13-4-.26.

3.3 Documentation of Treatment or Disposal

The wastes will be taken to a treatment, storage, or disposal facility which has EPA or appropriate state permits and hazardous or special waste identification numbers and complies with all of the provisions of the disposal regulations. Documentation of acceptance of special waste by return of the original copy of the hazardous waste manifest, signed by the owner or operator of a facility legally permitted to treat or dispose of those materials will be furnished to the COR no later than 5 working days following the delivery of those materials to the facility and a copy included in the tank closure report. Statements of agreement from the proposed treatment, storage, or disposal facility and certified transporters to accept hazardous or special wastes will be furnished as a SUBMITTAL.

4.0 Investigation-Derived Waste Management

Management and disposal of the investigation-derived wastes (IDW) for the activities of the UST removals will follow procedures and requirements as described in Appendix D of the installation-wide sampling and analysis plan (IT, 2000). The IDW generated at the UST removal sites are expected to include decontamination fluids, disposable personal protective equipment, and tank cleaning water. The IDW will be staged in the fenced area surrounding Buildings 335 and 336 while awaiting final disposal.

5.0 Spills

Immediate containment actions will be taken as necessary to minimize the effect of any spill or leak. Cleanup will be in accordance with applicable federal, state, and local laws and regulations.

If a spill occurs on the installation, the COR will immediately be notified. Off the installation, spills related to project activities will be reported to the National Response Center and the COR immediately following discovery and reporting will also comply with applicable State requirements. A written follow-up report will be submitted to the COR no later than 7 days after the initial report. The written report will be in narrative form and as a minimum include the following:

- Description of the material spilled (including identity, quantity, and manifest number)
- Whether amount spilled is EPA/state reportable and when and to whom it was reported
- Exact time and location of spill, including description of the area involved
- Receiving stream or waters
- Cause of incident and equipment and personnel involved
- Injuries or property damage
- Duration of discharge
- Containment procedures initiated
- Summary of any communications contractor has with press, agencies, or government officials other than COR
- Description of cleanup procedures employed or to be employed at the site, including disposal location of spill residue.

6.0 Closure Reports

For each UST site opened, a tank closure report will be prepared in a standard three ring binder and submitted with a copy to the COR within 45 days of completing work at each site. Tank closure reports will include the following information as a minimum:

- A cover letter signed by a geologist or a Professional Engineer registered in the state of Alabama certifying that all services involved have been performed in accordance with the terms and conditions of the specification.
- A narrative report describing what was encountered at each site, including:
 - Condition of the UST
 - Any visible evidence of leaks or stained soils
 - Results of vapor monitoring readings
 - Actions taken including quantities of materials treated or removed
 - Reasons for selecting sample locations
 - Sample locations
 - Collection data such as time of sample collection and method of preservation
 - Reasons for backfilling site
 - If groundwater was encountered.
- ADEM UST Closure Site Assessment Form (Appendix A of the ADEM UST Guidance Manual, Section III, November 1997) (The ADEM Manual is included as Appendix C).
- Copies of all analyses performed for disposal.
- Copies of all waste analyses or waste profile sheets.
- Copies of all certifications of final disposal signed by the responsible disposal facility official.
- Information on who sampled, analyzed, transported, and accepted all wastes encountered and copies of manifests.
- Copies of all analysis performed for verification that underlying soil is not contaminated, with copies of chain-of-custody for each sample. All analysis will give the identification number of the sample used. Sample identification numbers will correspond to those provided on the one-line drawings.
- Scaled one-line drawings showing the following
 - Tank locations

- Limits of excavation
 - Limits of contamination
 - Underground utilities within 50 feet
 - Sample locations
 - Sample identification numbers.
- Progress Photographs. A minimum of four views of the site showing such things as the location of each tank, entrance/exit road, and any other notable site condition before work begins. After work has been started at the site, a photographic record of activities at each work location daily. Photographs will be taken with a digital camera and will include photographs of the following activities:
 - Soil removal, handling, and sampling
 - Unanticipated events such as discovery of additional contaminated areas
 - Soil stockpile area
 - Tank removal
 - Site or task-specific employee respiratory and personal protection
 - Fill placement and grading
 - Post-construction photographs.

After completion of work at each site, a minimum of four views of the site will be photographed. The photographs will illustrate the condition and location of work and the state of progress. The photographs shall be mounted to fit standard three ring binders. Each color print will show an information box beside each photograph. The box will be typewritten and contain the following information:

- Project number
- Contract number
- Location
- Contractor/Photographer
- Photograph number
- Date/Time:
- Description
- Direction of View.

7.0 References

IT Corporation (IT), 2000, *Final Installation-Wide Sampling and Analysis Plan, Fort McClellan, Calhoun County, Alabama*, March.

IT Corporation (IT), 1999, *UST Summary Report, Fort McClellan, Calhoun County, Alabama*, April.

U.S. Army Corps of Engineers (USACE), 1999, *Statement of Work for Modification No. 2 to Task Order CK08, Underground Storage Tank (UST) Removals and Closure Reports*, December.