

**TABLE 3-3**  
*List of Past and Present Structures at POL Hill*

<b>Building</b>	<b>Year Built</b>	<b>Area (SF)</b>	<b>Historical Use</b>	<b>Current Status</b>
715	Late 1950s	Not known	Not known (may have been guard shelter according to information obtained in interviews)	Removed by IT Corporation during remediation of POL area between 1986 and 1991.
717	Late 1950s	Not known	Water Separator House and Water Control Pit	Demolished by IT Corporation in 1986 during investigation and remediation of POL area.
736 <sup>1</sup>	Late 1950s	1,496	Historically an administration building. Last used for temporary storage of waste oil	Demolished in 1993 prior to construction of LF 26 groundwater treatment plant.
737 <sup>1</sup>	Late 1950s	800	Historically a maintenance building. Last used for temporary storage of waste oil	Demolished in 1993 prior to construction of LF 26 groundwater treatment plant.
738 <sup>1</sup>	Late 1950s	2,596	Historically a maintenance building. Last used for temporary storage of waste oil	Demolished in 1993 prior to construction of LF 26 groundwater treatment plant.
NA	1993	3,812	Groundwater treatment system for LF 26	Building is present but not operating.

NA Not applicable

<sup>1</sup> The Environmental Assessment (EA) prepared by USACE March 1995 indicates buildings 736, 737 and 738 were built after 1950. No other specifics were contained in the EA. Review of aerial photograph confirms 700 series buildings were constructed in the late 1950s.

## 3.3 Property History

### 3.3.1 HAAF

Hamilton Army Airfield was constructed on reclaimed tidal mud flats by the Army Air Corps in 1932. The site, previously known as Marin Meadows, had been used as ranch and farm land since the Mexican Land Grant. Military operations began in December 1932, first as a base for bombers and later as a base for transport and fighter aircraft. The Base played a major role in World War II as a training field and staging area for Pacific operations. During the war, the Base hospital (Building No. 515 at Hospital Hill) served as an acute care and rehabilitation facility for thousands of war casualties per month. The Base was renamed Hamilton Army Air Force Base in 1947, when it was transferred to the newly created U.S. Air Force (USAF). The USAF used the Base primarily as a training and fighter installation until 1975. The USAF ended military operations at the Base in 1976 and the property was declared surplus by the Department of Defense as part of the Base Realignment and Closure Act of 1988. In 1976, with permission from the USAF, the Army began aircraft operations at the airfield and its supporting facilities. In 1984, the airfield property was officially transferred back to the Army and renamed Hamilton Army Airfield. The Army continued to use the airfield for Army Reserve aircraft operations until March 1994. Currently, the BRAC program for Hamilton is managed by Forces Command Headquarters at Fort McPherson, Georgia. The property is on the real property books of I Corps at Fort Lewis, Washington.

### 3.3.2 Hospital Hill

The Hamilton Army Airfield medical facilities were located at Hospital Hill. Interviews with USACE personnel indicated that in recent history the Hospital Hill area was used by the Coast Guard until approximately 1995. Facilities at Hospital Hill included the main installation hospital; a former storage building for Building 515 and former garbage can wash rack; a former medical and dental clinic; a former medical lab; a former administrative building; a former medical command and administration building; a former dental prosthetic lab; and the former hospital warehouse. Although the hospital is no longer active, x-ray facilities remain in the hospital and were used by the U.S. Coast Guard medical lab. The former hospital building was occupied by the Army's facility manager for the base and the Army Medical Department (AMEDD) Unit (a medical recruiting unit that recruited medical personnel for the military). The AMEDD occupied the former hospital building until March or April of 1995.

Although limited information is available on historical practices in these buildings, the CERFA Report (Earth Tech., 1994) suggests that medical supplies such as alcohol, acetone, peroxide, active acid, and disinfectants and cleaners were probably stored in all of the buildings at Hospital Hill. X-ray equipment and materials were used in the main hospital. According to reports, medical and dental wastes generated at the Hamilton facilities were properly disposed. There was no medical waste incinerator at the installation. The exact off-site disposal method for medical waste from Hamilton was not identified (Earth Tech., 1994).

Two USTs were located at Hospital Hill (Section 4.2.1). These tanks supplied diesel fuel to boiler room operations in buildings 510 and 521. All USTs were removed in 1997 as described in Section 4.2.3.

### 3.3.3 POL Hill

POL Hill served as the base fuel center from 1942 to sometime prior to 1986 (IT, 1996). This facility served as the primary receiving and distribution point for aircraft fuel. POL Hill contained one 840,000-gallon above ground storage tank (AST 2) located on the upper hillside bench of POL Hill. The site also contained twenty 25,000-gallon underground storage tanks in a lower tank farm at the base of the hill. The large AST (AST 2) and the twenty USTs contained JP-4 jet fuel. A gravity-fed pipeline connected AST 2 to the lower tank farm. Other features at POL Hill included a series of pipelines, pumps, sumps, meters, and small buildings that supported fuel supply and distribution for aircraft operations.

Two additional ASTs were located at POL Hill, a 25,000-gallon AST that contained "mogas" (automobile fuel) and later JP-4 jet fuel, and a 20,000-gallon AST that contained JP-4 jet fuel. A 750-gallon UST was also located in the tank farm area near the fuel pump house. The contents of this tank are not known. A 600-gallon AST and 2,500-gallon AST were located near Buildings 737 and 738. The contents of these tanks were not known (Weston, 1990).

All of the ASTs and USTs at POL Hill have been removed. The 840,000-gallon AST (AST 2), the twenty 25,000-gallon USTs, the 750-gallon UST and the 25,000-gallon AST (formerly containing mogas and JP-4) were all removed by IT Corporation and Atlas Hydraulic in 1986. The 20,000-gallon AST that contained JP-4 jet fuel was later removed by IT Corporation in 1990, according to interviews with IT personnel. The 600-gallon and

2,500-gallon ASTs near Buildings 737 and 738 were removed prior to the construction of the Landfill 26 groundwater treatment plant. Additional details are provided in Section 4.2.1.2.

During the period of operation, jet fuel and other petroleum products were released to the soil and groundwater at POL Hill. Extensive investigation and remediation activities have been conducted at POL Hill; details are provided in Sections 4.2.2 and 4.2.3, respectively.

In 1993, a groundwater treatment system for Landfill 26 was constructed on the north end of the POL Hill parcel in a low-lying area that was partially paved. This building currently is not in operation.

### 3.4 Tenant Activities

Historical tenant activities are described in Section 3.3. There are no current tenant activities at Hospital Hill. There are no current tenants at POL Hill except for the presence of the groundwater treatment system for Landfill 26, which is not in operation. Eighteen groundwater monitoring wells are currently in place at POL Hill (IT, 1999a). These wells are monitored by the USACE on a periodic basis. It is planned that these wells will remain in place to facilitate future monitoring of the site.

### 3.5 Permitting Status

The permit status of HAAF is summarized below from information obtained through prior environmental document reviews provided in the CERFA Report (Earth Tech., 1994); the electronic database search of Federal, State and Local databases; and interviews with USACE personnel.

The CERFA Report indicated HAAF records showed that as of 1994 the installation did not have any permits from regulatory agencies to conduct installation operations. The installation did not store waste regulated under the Resource Conservation and Recovery Act (RCRA) in sufficient quantities and for sufficient duration to require a hazardous waste storage permit. Today, HAAF has its own EPA ID Number (USEPA ID No. CA3570024288). However, during the investigation and remediation activities conducted at Hospital Hill and POL Hill, hazardous wastes were reported, manifested and handled under the USEPA ID number for the Presidio of San Francisco (USEPA ID No. CA7210020791), because HAAF was a sub-installation to the Presidio at that time. Hazardous waste generated at HAAF (including hazardous waste manifesting and annual and bi-annual reporting) was handled through the Presidio, which was classified as a small-quantity generator of hazardous waste.

In 1999, the USACE prepared a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of *State Water Resources Control Board Order No. 92-08 DWQ, National Pollutant Discharge Elimination System General Permit No CAS000002, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity* (IT, 1999b). This SWPPP addresses the storm water management and sampling practices specific to construction and remediation activities performed at HAAF. The areas included in the SWPPP include Hospital Hill and POL Hill. Prior to this 1999 SWPPP, the BRAC and General Services Administration (GSA) properties at HAAF were covered under separate plans.

Currently there are no records of Federal, State or Local permits related to activities conducted at Hospital Hill or POL Hill.

## 3.6 Surrounding Environment and Land Uses

### 3.6.1 Demographics

HAAF is located in southeast Novato in eastern Marin County, California. With its closure, the former installation became one of the largest land holdings suitable for development along the U.S. 101 corridor in Marin County. Today the developer, New Hamilton Partners (NHP), has made significant progress in constructing commercial and residential neighborhoods on the former GSA property. New homes are now located southeast of POL Hill along the flank of Reservoir Hill and new homes are present or are being constructed southwest of POL Hill along the opposite flank of Reservoir Hill. When final construction is complete, the new Hamilton facility will have a 136-room hotel, a Lucky Supermarket, 950 new homes, and 550,000 square feet of office space (in seven renovated airplane hangers).

Urbanized land uses in Marin County are concentrated along Hwy 101 with some urbanized use along the shoreline of the Bay. The urban corridor centered along Hwy 101 is primarily characterized by residential and commercial development. The western portions of Marin County are largely agricultural with significant areas of publicly owned space. The general region is characterized by moderately dense pockets of urban development surrounded by large tracts of open space, including areas with wetlands, floodplains, and steep terrain. (RBF & Associates, 1995).

Census 1990 data show the total population in Marin County was 230,096, with 47,585 people living in the City of Novato. In 1990, the median income in Marin County was \$48,544.

### 3.6.2 Climatology

The climate at HAAF and the surrounding area is Mediterranean, which is characterized by warm, dry summers and cool, wet winters. The temperature is moderated by HAAF's proximity to San Pablo Bay and the Pacific Ocean. The deflection of the sea breeze and fog by coastal mountains gives the region an entirely different temperature regime compared to areas west of the mountains and in San Francisco. Daily variation in temperature is relatively small. Daytime temperatures are more moderate than those of most Bay Area cities (January and July mean maximum temperatures are 56°F and 80°F, respectively); however, 100°F days occur occasionally in late summer. The frequent clear skies (40 percent annually) and light winds enhance convection cooling at night. Thus, nighttime temperatures are relatively low (January and July mean minimum temperatures are 36°F and 50°F, respectively). The average maximum temperature is 72°F; the average minimum temperature is 47°F.

The rainy season extends roughly from November through March; during these months, rainfall averages between 4 to 7 inches per month. The mean annual precipitation is 28 inches. The winter influx of rain has a dramatic effect on this area, resulting in an elevated groundwater table and some surface flooding. During summer months, rainfall averages less than 0.1 inch

per month. This results in the evaporation of surface waters, a drop in the groundwater table, and extensive desiccation of shallow soil horizons (Woodward-Clyde, 1996).

### 3.6.3 Hydrology

Hamilton Army Airfield is situated within the Novato Creek drainage basin, which is comprised of an area of about 44 square miles. This basin is bounded by the Petaluma River basin to the north, San Pablo Bay to the east, the Coast Range hills to the west and southwest, and the Las Gallinas Creek drainage system to the south. The Coast Range hills act as the principal source of groundwater recharge and surface water drainage for the basin.

Hospital Hill and POL Hill are located on outcroppings of relatively steep, higher elevation bedrock knobs, compared to the relatively flat, low elevation areas of the main airfield and other BRAC parcels. The elevation of the knobs is as high as 150 feet above mean sea level. The low-lying portions of HAAF are drained by a system of concrete-lined ditches and storm drains that tie into a perimeter drainage system. This perimeter system directs flows to a pumping station where water is pumped to San Pablo Bay (Earth Tech., 1994).

The only perennial surface water feature at POL Hill is a drainage ditch that lies just outside the northwestern boundary of the area. This ditch collects runoff water that flows northward across the northern portion of the POL Hill area and groundwater seepage. The ditch originates from the area immediately to the east of POL Hill and then drains westward under Aberdeen Road and into the main HAAF perimeter drainage system. (Woodward-Clyde, 1995a). The perimeter drainage system leads to a pump station which pumps the drainage into San Pablo Bay (IT, 1999b).

### 3.6.4 Geology and Hydrogeology

#### 3.6.4.1 HAAF

HAAF lies within the northern coastal range geomorphic province of California, which consists of a series of generally fault-bounded, northwest-trending upland areas separated by intermontane valleys. The installation lies at the eastern margin of Big Rock Ridge, which is largely underlain by bedrock of the Franciscan Complex, a structurally disrupted assemblage of Mesozoic sedimentary, igneous, and metamorphic oceanic rocks. Bedrock knobs present at the installation consist of yellow and buff clastic rocks that have been interpreted as weathered horizons of Franciscan Complex sandstone or possibly younger Tertiary rock.

The lowland areas of HAAF lie on former wetlands bordering San Pablo Bay. The bay occupies a valley between upland bedrock areas described above. The valley has been partially infilled with clastic sediments deposited in alluvial, fluvial, and shallow-marine environments. The principal surficial geology in this area is a dark, organic-rich, highly plastic, silty clay unit that was deposited in intertidal and shallow subtidal depositional environments. In keeping with common nomenclature in the San Francisco Bay area, this unit is referred to as Bay Mud. The Bay Mud may extend to depths as great as 90+ feet below ground surface in the eastern portion of the HAAF BRAC Property.

Soil types found at HAAF include Novato Clay, Reyes Clay, Saurin-Bonnydon Complex, Saurin-Urban Land Bonnydon Complex, Urban Land Xerothenths Complex, Xerothenths Fill, and Xerothenths-Urban Land Complex. A major component of shallow soils at HAAF is artificial fill that has been used for a variety of purposes, including levee construction, landfill cap materials, and road/taxiway base rock. This material is highly heterogeneous, consisting of variable proportions of clay, sand, gravel, and cobble-sized material. (Earth Tech., 1994).

#### 3.6.4.2 Hospital Hill

A typical cross section of the Hospital Hill area identifies the sandstone core with flanking deposits of sand and silt. At the margins of the hill, the sand and silt deposits interfinger with the Bay Mud that lies under the airfield on the main BRAC Property. The top one to three feet below the ground surface on the bay plain immediately east of the hill is composed of imported fill consisting of silt with sand and gravel. The fill was brought into HAAF when the airfield was constructed.

Groundwater occurs in the weathered bedrock along the flanks of Hospital Hill. Recharge occurs from rainfall on the top and slopes of the hill with groundwater percolating into the weathered material and into fractures in the bedrock. Flow within the bedrock is assumed to be controlled by fractures similar to conditions documented at POL Hill. Production rates are assumed to be generally less than 2 gallons per day based on similar geology to POL Hill. Groundwater at the toe of Hospital Hill, downgradient from Building 510 and former UST location, occurred at an average depth of approximately 6 feet below ground surface during a sampling event in March 1998. Groundwater at the toe of Hospital Hill, downgradient from Building 521 and former UST location, occurred at an average depth of approximately 3.5 feet below ground surface during the same event in March 1998 (IT, 2000). Groundwater flow direction for former UST locations at Building 510 and Building 521, based on one set of three wells at each site, is to the northwest and northeast, respectively.

#### 3.6.4.3 POL Hill

Four distinct geologic units have been identified at POL Hill: two fill units underlain by two lithologic units of bedrock. The fill occurs in the gently sloping low-lying areas surrounding Reservoir Hill. In general, gently dipping bedrock underlies this fill (Woodward-Clyde, 1995a).

Groundwater at POL Hill occurs in the weathered bedrock along the flanks of Reservoir Hill. Recharge occurs as a result of rainfall on the top and slopes of the hill. Groundwater percolates into the weathered material and into fractures in the bedrock. Flow within the bedrock is assumed to be controlled by fractures. Production rates are generally less than 2 gallons per day. Groundwater in the vicinity of the former AST-2 occurs in the bedrock at a depth of approximately 25 feet below ground surface. Groundwater also occurs in the fill material below Reservoir Hill at increasingly shallower depths at lateral distances away from the toe of Reservoir Hill.

The water table surface appears to be unconfined beneath the hill and semiconfined in the gently sloping, low-lying areas that surround the hill. Groundwater data from wells near the drainage ditch along the northern boundary of POL Hill suggest that an upward

hydraulic gradient exists between the shallower and deeper units of the area (IT, 2000, Woodward-Clyde, 1995a).

### 3.6.5 Sensitive Environments

In 1995, Jones & Stokes prepared a Biological Assessment for the disposal and reuse of Hamilton (Jones & Stokes, 1995). The assessment was prepared to evaluate the potential effects of the disposal and reuse on federally proposed and listed species. According to the Biological Assessment, wetland and grassland communities and developed areas make up the dominant areas at HAAF. Two types of grasslands occur at POL Hill: annual grassland and fescue grassland. Vegetation in the annual grassland is dominated by weedy non-native annual grasses and forbs. Vegetation in the fescue grassland is dominated by tall fescue. The grassland habitat at HAAF and POL Hill is considered only moderate-quality wildlife habitat because the areas are fragmented by the runway and roads. However, the grasslands provide important habitat for a variety of wildlife including black-tailed deer, red-tailed hawk, American kestrel, California quail, and coyote. (Jones & Stokes, 1995).

Developed areas occupy a large portion of the western section of HAAF. Much of the developed area around Hospital Hill has been landscaped with vegetation (palm trees, lawn, etc.). Some natural vegetation, including live oaks with annual grassland understory is found at Hospital Hill. Wildlife in the developed areas at HAAF, such as Hospital Hill, commonly includes a variety of common birds and mammals. (Jones & Stokes, 1995).

The Biological Assessment concluded that the Army's disposal action (including the disposal of Hospital Hill and POL Hill) will have no effect on federally listed, proposed, or candidate species (Jones & Stokes, 1995).

Various archaeological studies have been conducted at HAAF. No known archaeological sites are present on Hospital Hill or POL Hill (Jones & Stokes, 1995). In 1992, historical baseline studies were conducted for HAAF as part of the Environmental Assessment for disposal and reuse. The studies concluded that buildings at Hospital Hill (510, 511, 512, 513, 515, 520, 521, and 525) contribute to the historic district. Buildings at POL Hill were constructed during the 1950s and are not contributors to the historic district (Jones & Stokes, 1995).